



## MD520 Series General-Purpose AC Drive Function Guide



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Data code 19011717 A00

# Preface

## About This Guide

The MD520 series AC drive is a general-purpose high-performance current vector control AC drive. It is designed to control and regulate the speed and torque of three-phase AC asynchronous motors. The AC drive can be used to drive textile machines, paper machines, wire drawing machines, machine tools, packaging machines, food machines, fans, water pumps, and other automated production equipment.

This guide introduces function application, fault codes, and parameters of the AC drive.

## More Documents

Document Name	Document No.	Description
Quick Installation and Commissioning Guide	19011712	Describes the installation, wiring, commissioning, troubleshooting, parameters, and fault codes of the AC drive.
Hardware Guide	19011713	Describes the composition, technical specifications, components, dimensions, options (including installation accessories, cables, and peripheral electrical components), and expansion cards of the MD520 series AC drive, as well as routine maintenance and repair, and certification and standard compliance of the AC drive.
Installation Guide	19011714	Describes the installation dimensions, space design, specific installation steps, wiring requirements, routing requirements, and option installation requirements of the AC drive, as well as common EMC troubleshooting recommendations.
Commissioning Guide	19011715	Describes the tools, processes, and specific steps of commissioning of the AC drive, as well as troubleshooting, fault codes, and parameters related to the AC drive.
Communication Guide	19011716	Describes the communication method, networking, and communication settings of the AC drive.
Function Guide (this document)	19011717	Introduces function application, fault codes, and parameters of the AC drive.

## Revision History

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January 2022	A00	First release

## How to Obtain

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# 1 Function Application

## 1.1 Drive Configuration

### 1.1.1 Operation Command Sources


#### 1.1.1.1 Setting Operation Command Source



Operation commands are used to control the start, stop, forward run, reverse run, and jog operations of the AC drive. Four command sources are available: operating panel, terminal I/O, communication, and customization. You can select the operation command source by setting F0-02.

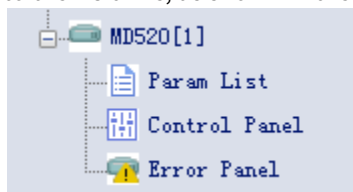
Para.	Name	Default	Value Range	Description
F0-02	Operation command source	0	0: Operating panel control 1: Terminal I/O control 2: Communication control 3: Customization	<p>This parameter defines the source of the AC drive control commands, such as run, stop, forward run, reverse run, and jog.</p> <p>0: Operating panel control Control commands are input using the RUN, STOP/RES, and MF.K keys on the operating panel. This mode is suitable for initial commissioning.</p> <p>1: Terminal I/O control Control commands are input through the DI terminals of the AC drive. The DI terminal control commands can be set based on different scenarios, such as start/stop, forward/reverse run, jog, two-wire/three-wire control, and multi-speed. It is suitable for most applications.</p> <p>2: Communication control Control commands are input through remote communication. The AC drive must be equipped with a communication card to communicate with the host controller. This mode applies to remote control or centralized control of multiple equipment.</p> <p>3: Customization The command source can be selected flexibly. It is used for expansion.</p>

#### 1.1.1.2 Operating Panel Control

1. When F0-02 is set to 0, the start and stop of the AC drive are controlled by pressing keys (  and

 ) on the operating panel.

- When you press , the AC drive starts to run (the RUN indicator is on).
  - When you press  during running, the AC drive stops running (the RUN indicator is off).
2. When F0-02 is set to 0, you can also use commissioning software to control running of the AC drive.
3. Open InoDriverShop and connect to the AC drive, as shown in the following figure.



4. Double-click Control Panel under the AC drive on the commissioning software to open the control panel interface. The following figure shows the control panel interface:
- Enter the set frequency in the input box on the panel and click Update Frequency to change the preset frequency defined by F0-08.
  - Click on the panel. The AC drive starts forward running.
  - Click on the panel. The AC drive starts reverse running.
  - When the AC drive is running, click on the panel. The AC drive stops running.
  - Hold on the panel. The AC drive starts forward jogging. When the key is released, jogging stops.
  - Hold on the panel. The AC drive starts reverse jogging. When the key is released, jogging stops.
  - When the AC drive is faulty, click to reset the fault.

### 1.1.1.3 Terminal I/O Control

When F0-02 is set to 1, the start and stop of the AC drive are controlled through terminals.

You can set F4-11 to select a terminal control mode. Four terminal I/O control modes are available, including two-wire mode 1, two-wire mode 2, three-wire mode 1, and three-wire mode 2.

Para.	Name	Default	Value Range	Description
F4-11	Terminal control mode	0	0: Two-wire mode 1 1: Two-wire mode 2 2: Three-wire mode 1 3: Three-wire mode 2	This parameter defines the mode in which the AC drive is controlled by external terminals.

You can use any of multi-functional input terminals DI1 to DI10 as external input terminals. You can define the functions of DI1 to DI10 by setting F4-00 to F4-09. For details, see the description of F4-00 (DI1) to F4-09 (DI10) in [“5.1 List of Parameters” on page 1315](#).

#### Two-wire mode 1

When F4-11 is set to 0, two-wire mode 1 is used. This is the most commonly used two-wire mode.

For example, DI1 is assigned with the forward run function, and DI2 is assigned with the reverse run function. Connect the forward run switch to DI1 and the reverse run switch to DI2.

## Function Application

Related Parameter	Name	Reference	Function Description
F4-11	Terminal control mode	0	Two-wire mode 1
F4-00	DI1 function	1	Forward RUN (FWD)
F4-01	DI2 function	2	Reverse RUN (REV)

When SW1 is closed and SW2 is open, the motor rotates in the forward direction. When SW1 is open and SW2 is closed, the motor rotates in the reverse direction. When SW1 and SW2 are both open or closed, the motor stops. See the following figure.

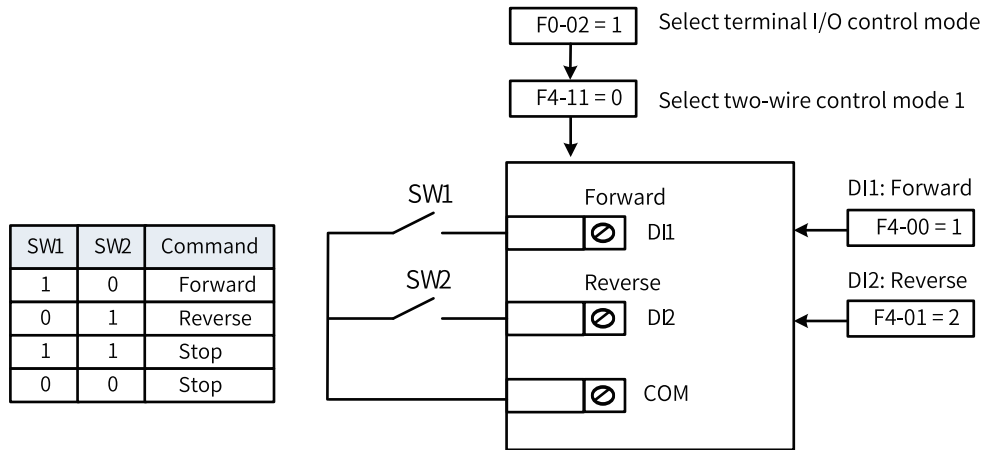


Figure 1-1 Wiring and parameter setting for two-wire mode 1

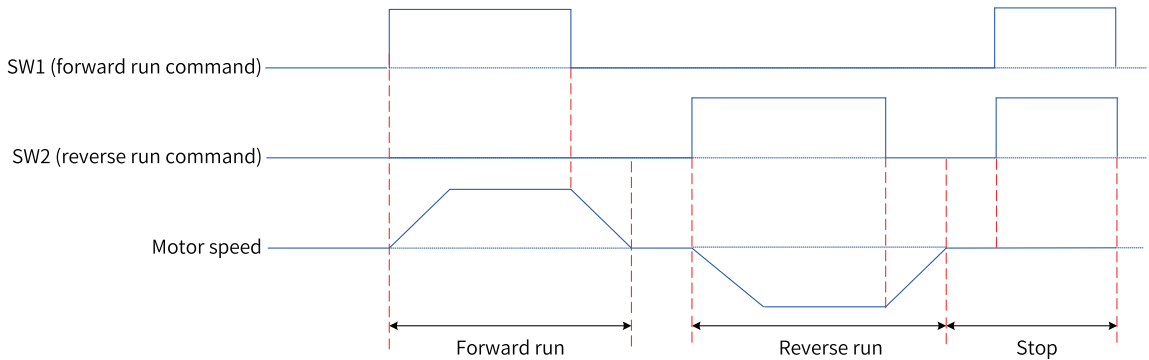


Figure 1-2 Timing diagram of two-wire mode 1 (normal)

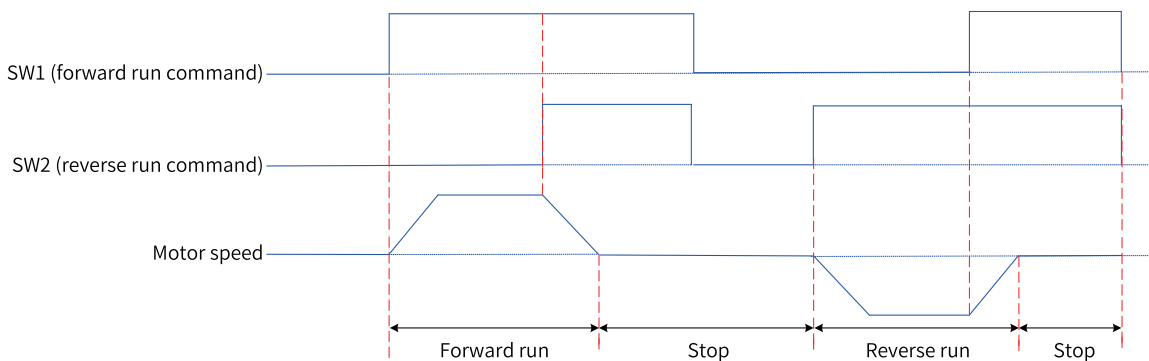


Figure 1-3 Timing diagram of two-wire mode 1 (abnormal)

## Two-wire mode 2

In this mode, DI1 is assigned with the operation command function, and DI2 is assigned with the running direction function. The parameters are set as follows.

Related Parameter	Name	Reference	Function Description
F4-11	Terminal control mode	1	Two-wire mode 2
F4-00	DI1 function	1	Operation command
F4-01	DI2 function	2	Running direction

When SW1 is closed, the motor rotates in the forward direction with SW2 open, and it rotates in the reverse direction with SW2 closed. When SW1 is open, the motor stops regardless of the status of SW2. See the following figure.

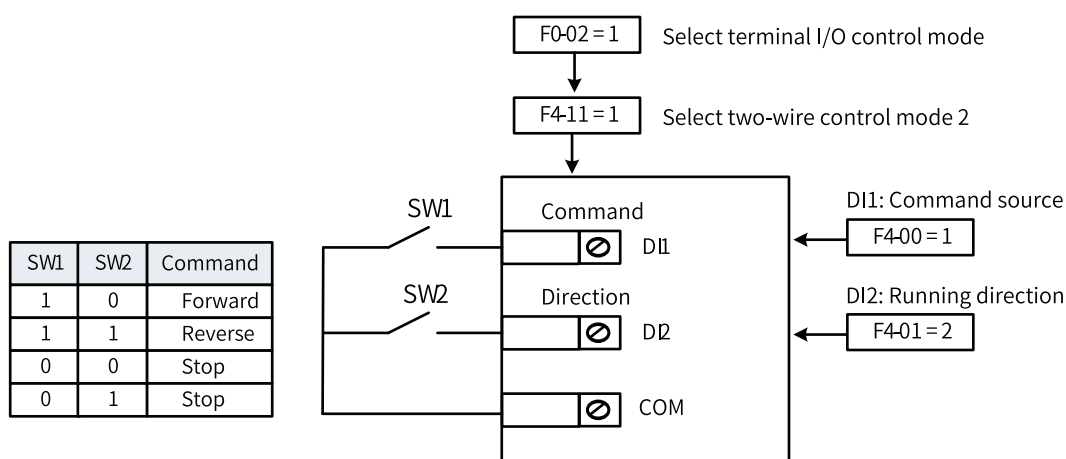


Figure 1-4 Wiring and parameter setting for two-wire mode 2

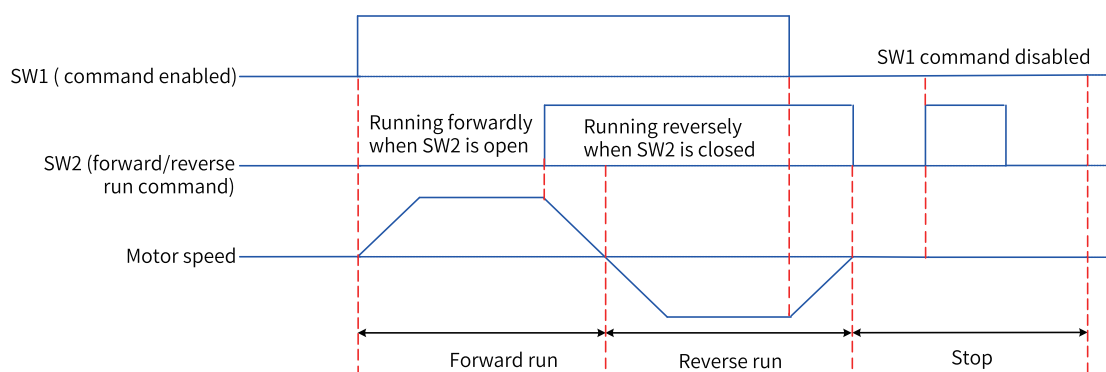


Figure 1-5 Timing diagram of two-wire mode 2

## Three-wire mode 1

In this mode, DI3 is assigned with the three-wire operation control function, DI1 is assigned with the forward run function, and DI2 is assigned with the reverse run function. The AC drive buttons are used as the start/stop switch. The start/stop button is connected to DI3, the forward RUN button is connected to DI1, and the reverse RUN button is connected to DI2. The parameters are set as follows.

Related Parameter	Name	Reference	Function Description
F4-11	Terminal control mode	2	Three-wire mode 1
F4-00	DI1 function	1	Forward RUN (FWD)

Related Parameter	Name	Reference	Function Description
F4-01	DI2 function	2	Reverse RUN (REV)
F4-02	DI3 function	3	Three-wire operation control

SW3 is a normally-closed (NC) button, whereas SW1 and SW2 are normally-open (NO) buttons. If SW3 is closed, the motor rotates in the forward direction when you press down SW1, and it rotates in the reverse direction when you press down SW2. The motor stops immediately when SW3 opens. SW3 must remain closed during normal start and running. A signal from SW1 or SW2 takes effect once SW1 or SW2 is closed.

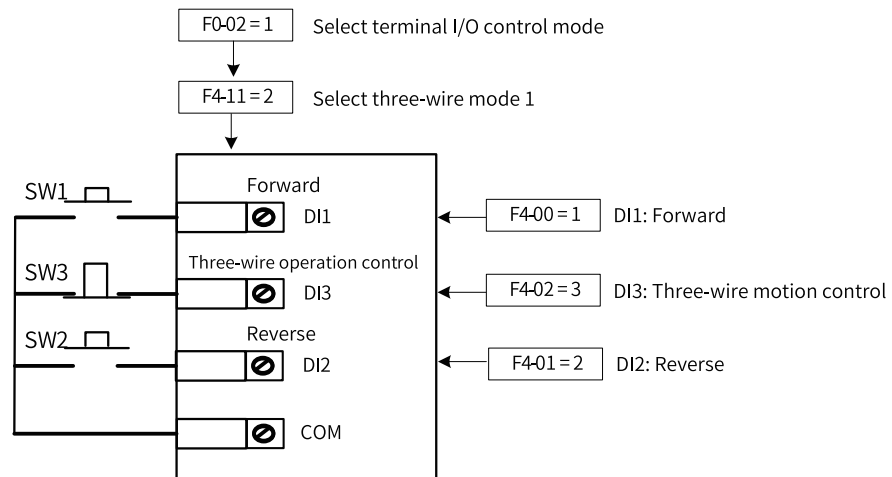


Figure 1-6 Wiring and parameter setting for three-wire mode 1

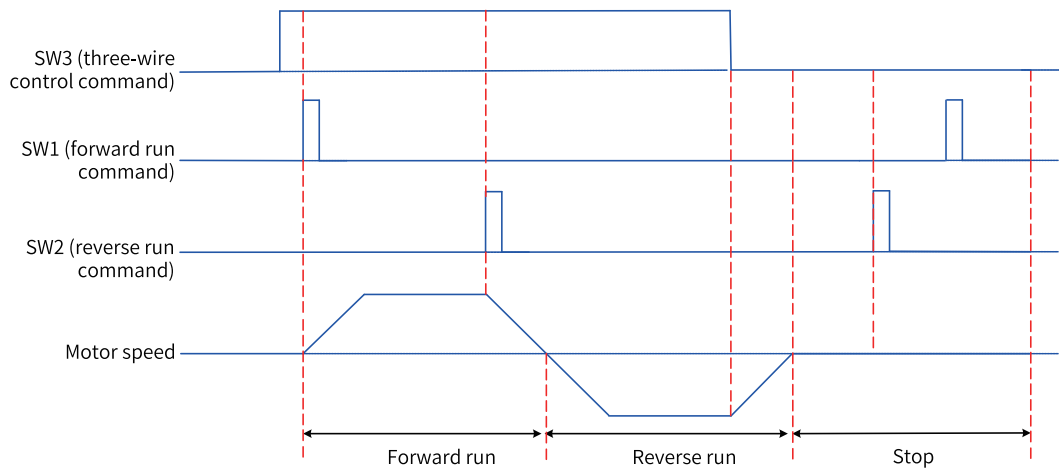


Figure 1-7 Timing diagram of three-wire mode 1

### Three-wire mode 2

For example, DI3 is assigned with the three-wire operation control function, DI1 is assigned with the command function, and DI2 is assigned with the forward/reverse run switchover function. The start/stop button is connected to DI3, the running enable signal is connected to DI1, and the forward/reverse RUN button is connected to DI2. The parameters are set as follows.

Related Parameter	Name	Reference	Function Description
F4-11	Terminal control mode	3	Three-wire mode 2
F4-00	DI1 function	1	Operation command
F4-01	DI2 function	2	Running direction
F4-02	DI3 function	3	Three-wire operation control

If SW3 is closed, the AC drive runs when you press down SW1. The AC drive runs in the forward direction if SW2 is open and in the reverse direction if SW2 is closed. The motor stops immediately after SW3 is open. SW3 must remain closed during normal start and running. A signal from SW1 takes effect once SW1 is closed.

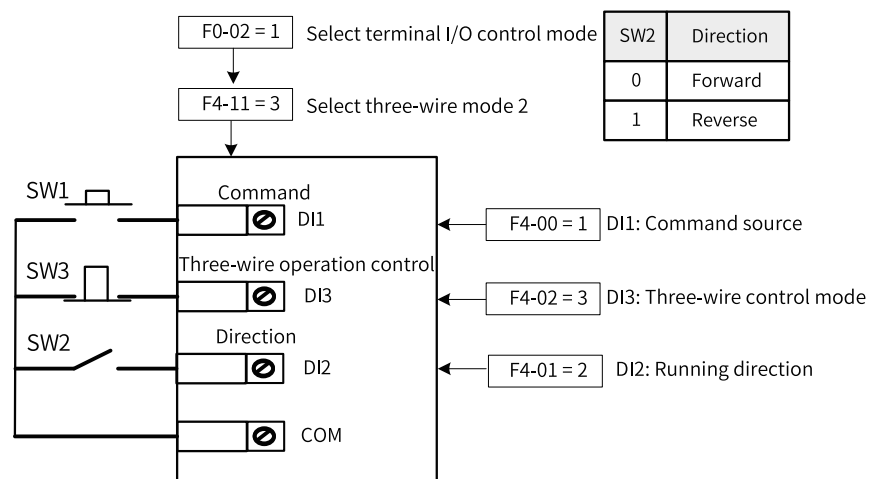


Figure 1-8 Wiring and parameter setting for three-wire mode 2

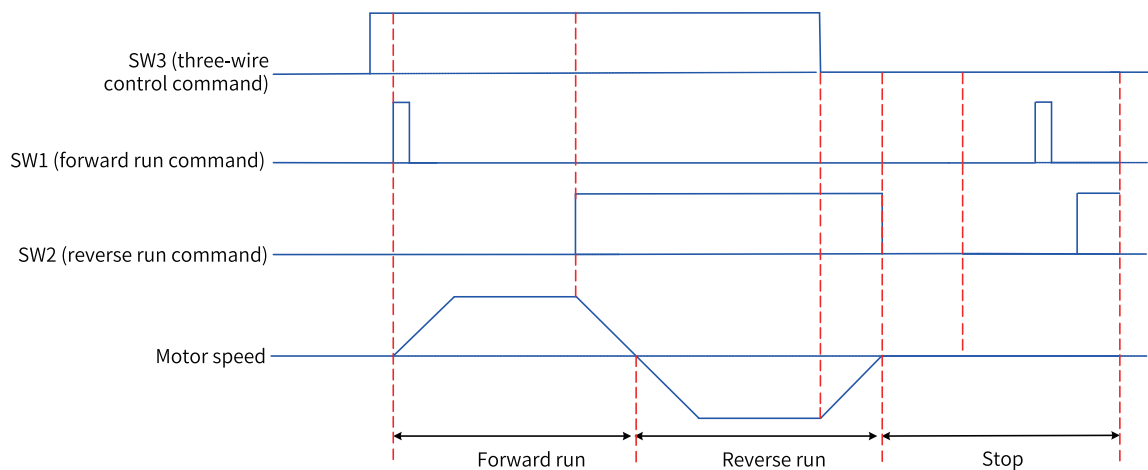


Figure 1-9 Timing diagram of three-wire mode 2

#### 1.1.1.4 Communication Control

When F0-02 is set to 2, the start and stop of the AC drive are controlled through communication.

The AC drive supports six types of communication with the host computer: Modbus (Modbus RTU, Modbus ASCII, and Modbus TCP), PROFIBUS DP, CANlink, CANopen, PROFINET, and EtherCAT, which

cannot be used at the same time. To enable communication as the command source, you must install a communication card. The AC drive supports six optional communication cards. If Modbus, PROFIBUS DP, CANopen, PROFINET, or EtherCAT is used, you need to set F0-28 (communication protocol selection) to select an applicable serial communication protocol. The CANlink protocol is valid all the time.

When the AC drive is controlled through serial communication, the host controller must send a write command to the AC drive. Here takes the Modbus protocol as an example to describe how to control the AC drive through communication.

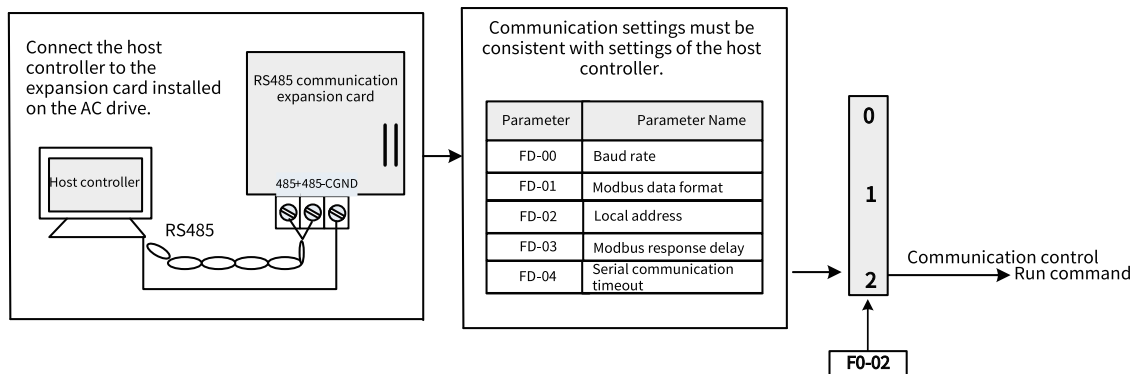


Figure 1-10 Setting commands through communication

For example, to make the AC drive run in reverse direction, the host computer sends the write command 01 06 20 00 00 02 03 CB (hexadecimal). The following table describes the meaning of each byte in the command. The command is in hexadecimal format. For other communication addresses and control commands, see "Appendix B: Communication Data Address Definition and Modbus Protocol".

Command	Description
01H (configurable)	AC drive address
06H	Write command
2000H	Control command communication address
02H (reverse RUN)	Control command
03CBH	CRC check

The following table describes the master and slave communication commands and responses:

Host Command		Slave Response	
ADDR	01H	ADDR	01H
CMD	06H	CMD	06H
High-order bits of parameter address	20H	High-order bits of parameter address	20H
Low-order bits of parameter address	00H	Low-order bits of parameter address	00H
High-order bits of data content	00H	High-order bits of data content	00H
Low-order bits of data content	02H	Low-order bits of data content	02H
CRC high-order bits	03H	CRC high-order bits	03H
CRC low-order bits	CBH	CRC low-order bits	CBH

### 1.1.1.5 Customization

When F0-02 is set to 3, the start and stop of the AC drive are controlled through a custom channel. The AC drive supports two sets of custom channel parameter configurations.

Table 1-1

Para.	Name	Default	Value Range	Description
A4-00	Custom channel selection	0	0: Control channel 1 1: Control channel 2	Selection between two custom channels
A4-01	Custom OFF1 source	0	0: Disabled 3-18: DI1 to DI16 Others: B connector	Source of start/stop control OFF1 for custom channel 1
A4-02	Custom OFF2 source 1	0	0: Enabled 1: Disabled 3-18: DI1 to DI16 Others: B connector	Source 1 of coast to stop command OFF2 for custom channel 1. The coast to stop command OFF2 is valid if any of the three sources is active low.
A4-03	Custom OFF3 source 1	0	0: Enabled 1: Disabled 3-18: DI1 to DI16 Others: B connector	Source 1 of emergency stop command OFF3 for custom channel 1. The emergency stop command OFF3 is valid if any of the three sources is active low.
A4-04	Custom running permission source	0	0: Not permitted 1: Permitted 3-18: DI1 to DI16 Others: B connector	Running permission source for custom channel 1
A4-05	Custom fault reset source 1	0	0: Disabled 1: Enabled 3-18: DI1 to DI16 Others: B connector	Source 1 of the fault reset command for custom channel 1. The fault reset command is valid if any of the three sources is active high.
A4-06	Custom JOG1 source	0	0: Disabled 3-18: DI1 to DI16 Others: B connector	Source of the JOG1 command for custom channel 1



## Function Application

Para.	Name	Default	Value Range	Description
A4-07	Custom JOG2 source	0	0: Disabled 3–18: DI1 to DI16 Others: B connector	Source of the JOG2 command for custom channel 1
A4-08	Custom speed negation source	0	0: Disabled 1: Enabled 3–18: DI1 to DI16 Others: B connector	Source of the negation command for custom channel 1
A4-21	Custom OFF1 source	0	0: Disabled 3–18: DI1 to DI16 Others: B connector	Source of start/stop control OFF1 for custom channel 2
A4-22	Custom OFF2 source 1	0	0: Enabled 1: Disabled 3–18: DI1 to DI16 Others: B connector	Source 1 of coast to stop command OFF2 for custom channel 2. The coast to stop command OFF2 is valid if any of the three sources is active low.
A4-23	Custom OFF3 source 1	0	0: Enabled 1: Disabled 3–18: DI1 to DI16 Others: B connector	Source 1 of emergency stop command OFF3 for custom channel 2. The emergency stop command OFF3 is valid if any of the three sources is active low.
A4-24	Custom running permission source	0	0: Not permitted 1: Permitted 3–18: DI1 to DI16 Others: B connector	Running permission source for custom channel 2
A4-25	Custom fault reset source 1	0	0: Disabled 1: Enabled 3–18: DI1 to DI16 Others: B connector	Source 1 of the fault reset command for custom channel 2. The fault reset command is valid if any of the three sources is active high.
A4-26	Custom JOG1 source	0	0: Disabled 3–18: DI1 to DI16 Others: B connector	Source of the JOG1 command for custom channel 2

Para.	Name	Default	Value Range	Description
A4-27	Custom JOG2 source	0	0: Disabled 3-18: DI1 to DI16 Others: B connector	Source of the JOG2 command for custom channel 2
A4-28	Custom speed negation source	0	0: Disabled 1: Enabled 3-18: DI1 to DI16 Others: B connector	Source of the negation command for custom channel 2

## 1.1.2 Frequency Reference Sources

### 1.1.2.1 Setting Frequency Reference Sources

The AC drive supports three frequency references: main frequency reference, auxiliary frequency reference, and main and auxiliary frequency superposition.

### 1.1.2.2 Selecting Source of Main Frequency Reference

The AC drive supports more than 10 main frequency sources, including digital setting (non-retentive at power failure), digital setting (retentive at power failure), AI1, AI2, AI3, pulse input, multi-reference, simple PLC, PID, communication, and other F connector, which can be selected by setting F0-03 (0 to 9).

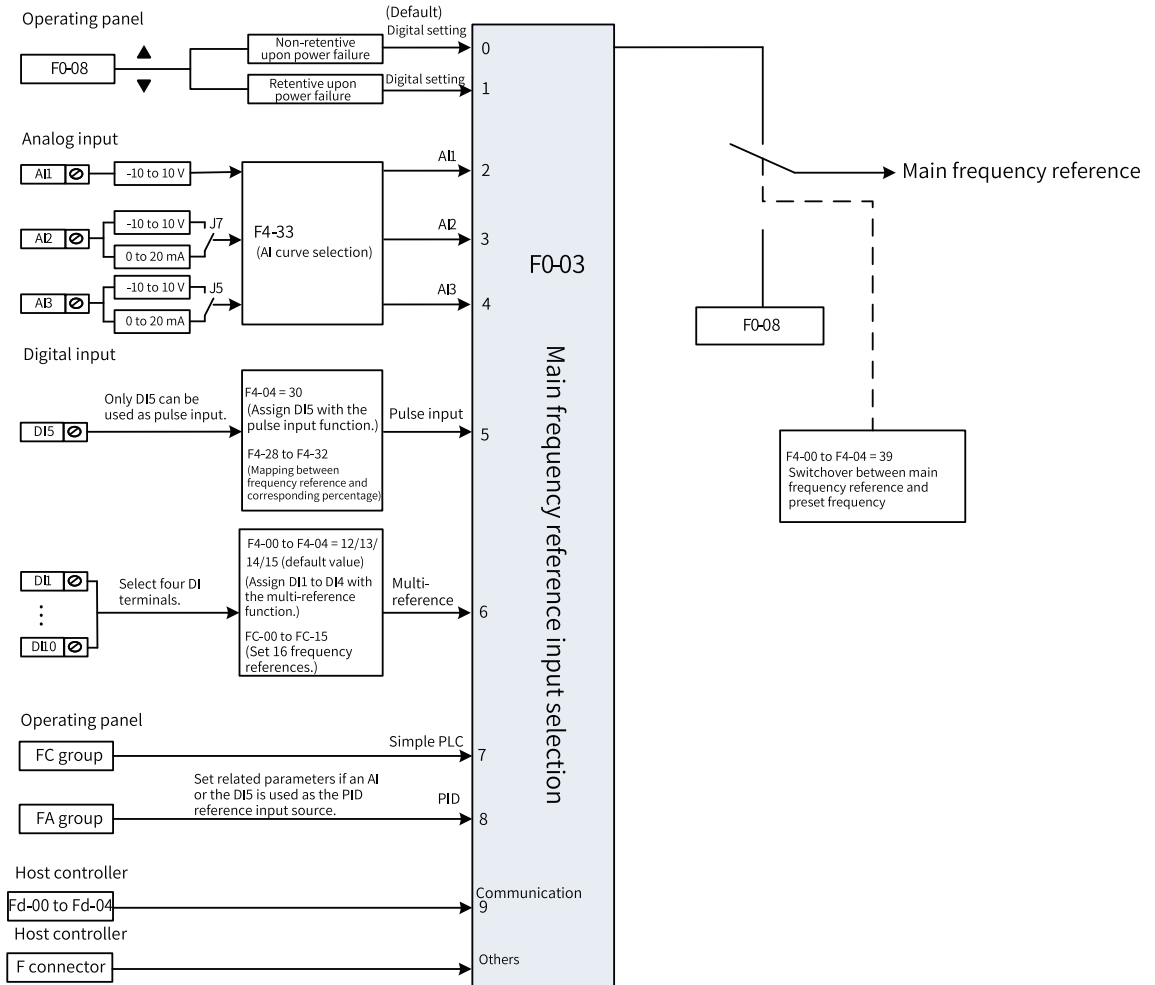




Figure 1-11 Main frequency reference selection



Para.	Name	Value Range	Default
F0-03	Main frequency source X	0: Digital setting (preset frequency (F0-08) that can be changed by pressing UP/DOWN; non-retentive at power failure) 1: Digital setting (preset frequency (F0-08) that can be changed by pressing UP/DOWN; retentive at power failure) 2: AI1 3: AI2 4: AI3 5: Pulse reference (DI5) 6: Multi-reference 7: Simple PLC 8: PID 9: Communication Others: F connector	0


### 1.1.2.3 Setting Main Frequency Through Operating Panel

There are two ways to set the main frequency by using the operating panel:

- Set F0-03 to 0 (non-retentive at power failure). That is, when the AC drive is powered on again after stop or power failure, the frequency reference is restored to the preset frequency (F0-08).

Modifications made to the preset frequency (F0-08) by using the  and  keys or UP and DOWN of terminals are cleared when the AC drive stops.

- Set F0-03 to 1 (retentive at power failure). That is, when the AC drive is powered on again after stop or power failure, the frequency reference is restored to the value memorized at the moment of the last power failure. Modifications made to the preset frequency (F0-08) by using the  and  keys or UP and DOWN of terminals are retained when the AC drive stops.

For example, the preset frequency (F0-08) is set to 40 Hz and is adjusted to 45 Hz by using the  key on the operating panel. If F0-23 is set to 0 (non-retentive), the target frequency is restored to 40 Hz (value of F0-08) after the AC drive stops; if F0-23 is set to 1 (retentive), the target frequency is still 45 Hz after the AC drive stops.

#### Note

Distinguish this parameter from F0-23 (Retentive memory of digital setting frequency upon stop). F0-23 determines whether the frequency setting is retained or cleared after the AC drive stops. F0-23 is related only to the stop state of the AC drive, rather than power failure.

The related parameters are as follows.

Para.	Name	Default	Value Range
F0-08	Preset frequency	50.00 Hz	0.00 Hz to maximum frequency (F0-10)
F0-10	Maximum frequency	50.00 Hz	50.00 Hz to 600.00 Hz

Para.	Name	Default	Value Range
F0-23	Retention of digital setting of frequency upon stop	0	0: Non-retentive 1: Retentive

### 1.1.2.4 Setting Main Frequency Through AI

When the main frequency is set through analog input, AI1, AI2, or AI3 can be used. When F0-03 is set to 2, AI1 is used as the main frequency reference source; when F0-03 is set to 3, AI2 is used as the main frequency reference source; when F0-03 is set to 4, AI3 is used as the main frequency reference source.

When an AI terminal is used as the frequency source, it supports five types of AI curves. The AI curve defines the relationship between the analog input voltage (or current) and the corresponding setpoint.

Step	Related Parameters	Description
(Step 1) Set the AI curve: Set the relationship between the AI voltage/current inputs and frequency setpoints.	F4-13 to F4-16	Curve 1 setting
	F4-18 to F4-21	Curve 2 setting
	F4-23 to F4-26	Curve 3 setting
	A6-00 to A6-07	Curve 4 setting
	A6-08 to A6-15	Curve 5 setting
	F4-34	Setting for AI less than the minimum input (When AI is used as the frequency reference source, the setpoint 100% corresponds to the maximum frequency (F0-10).)
(Step 2) Select an AI curve for the AI terminal: Select a curve and filter time for the AI terminal.	F4-33	AI curve selection (You can select any AI curve for the AI terminal. Typically the default value is used (F4-33 = 0x321). That is, select curve 1 for AI1, curve 2 for AI2, and curve 3 for AI3.)
	F4-17, F4-22, and F4-27	Filter time of AI1 to AI3
(Step 3) Select an AI terminal as the frequency reference source: Select the AI terminal for setting the frequency reference based on terminal characteristics.	F0-03 (main frequency reference source)	F0-03 = 2 Select AI1.
		F0-03 = 3 Select AI2. You can choose voltage input or current input by using the DIP switches S1 to S3 on the control board.
		F0-03 = 4 Select AI3. You can choose voltage input or current input by using the DIP switch S1 on the control board.

### Setting AI Curve

Five types of AI curves are available. Curve 1, curve 2, and curve 3 are two-point curves, which are defined by parameters F4-13 to F4-27. Curves 4 and 5 are four-point curves, which are defined by parameters are in group A6.

The following takes AI curve 1 as an example to describe the settings. The related parameters are F4-13 to F4-16.

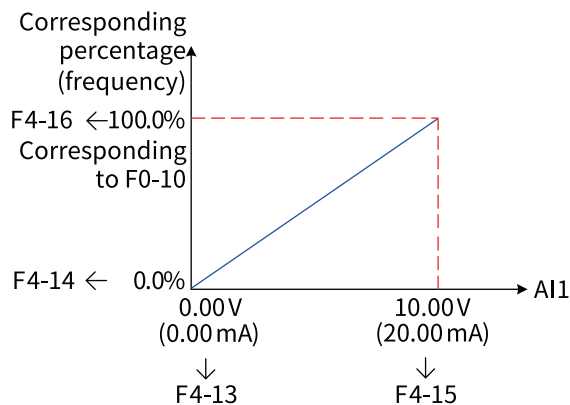


Figure 1-12 Settings of AI curve 1

When an AI terminal is used as the main frequency source, the voltage/current input setpoint 100% indicates the percentage relative to the maximum frequency (F0-10).

When AI current mode 1 input is used, 1 mA current corresponds to 0.5 V voltage, and 0 to 20 mA current correspond to -10 V to +10 V voltage.

When AI current mode 2 input is used, 1 mA current corresponds to 0.25 V voltage, and 0 to 40 mA current correspond to -10 V to +10 V voltage.

Curve 2 and curve 3 are set in a similar way as curve 1. Curve 2 is set by parameters F4-18 to F4-21, and curve 3 is set by parameters F4-23 to F4-26.

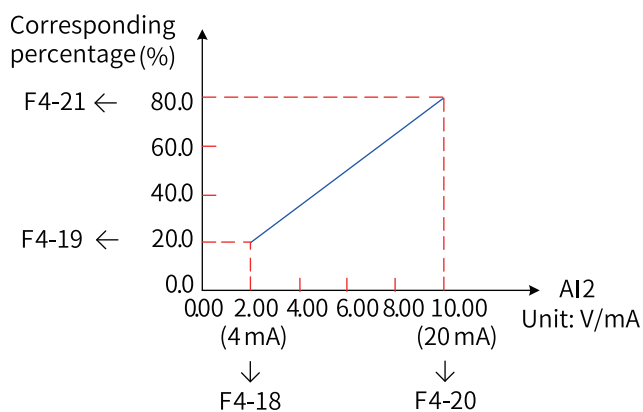


Figure 1-13 Settings of AI curve 2

The function of curve 4 and curve 5 is similar to that of curve 1 to curve 3. However, curve 1 to curve 3 are straight lines, while curve 4 and curve 5 are 4-point curves, which offer more flexible mapping. The x-axis of the AI curves 4 and 5 indicates the analog input voltage (or current), and the y-axis indicates the setpoint corresponding to the analog input, that is, the percentage relative to the maximum frequency (F0-10). The four points on curves 4 and 5 are the minimum input point, inflection 1, inflection 2, and maximum input point. A6-00 corresponds to the x-axis of the minimum input point, that is, the minimum analog input voltage (or minimum analog input current).

When setting curve 4 and curve 5, note that the curve's minimum input voltage, inflexion 1 voltage, inflexion 2 voltage, and maximum voltage must be in ascending order. Curve 4 is set by parameters A6-00 to A6-07, and curve 5 is set by parameters A6-08 to A6-15.

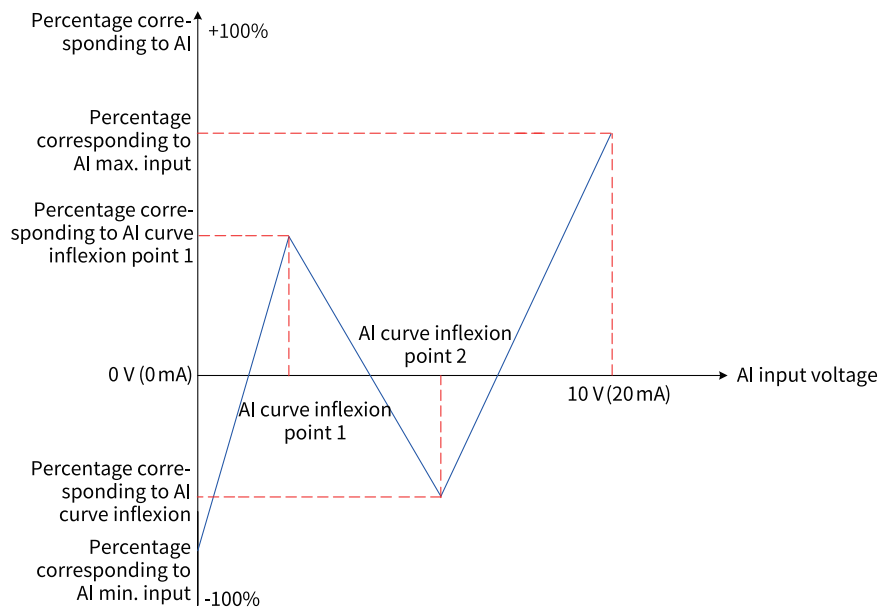


Figure 1-14 Curve 4 and curve 5

### Selecting AI Curve for AI Terminal

The curves of terminals AI1 and AI2 are determined by the ones and tens positions of F4-33, which can be set to any of the five curves.

Longer AI input filter time indicates stronger anti-interference capability but slower adjustment response. Shorter filter time indicates faster adjustment response but weaker anti-interference capability. If the onsite analog input is prone to interference, you can increase the filter time to stabilize the detected analog input. However, increasing the AI filter time will slow down the response to analog detection. Therefore, the filter time must be set properly based on actual conditions.

### Selecting AI Terminal as Frequency Reference Source

The control board provides three AI terminals: AI1, AI2, and AI3. AI1 provides voltage input of  $-10\text{ V}$  to  $+10\text{ V}$ . AI2 and AI3 provide voltage input of  $-10\text{ V}$  to  $+10\text{ V}$  or current input of  $0\text{ mA}$  to  $20/40\text{ mA}$ . You can choose voltage input, current input, or temperature input for AI2 by using the DIP switches S1 to S3 on the control board, and you can select voltage input or temperature input for AI3 by using the DIP switch S1 on the expansion card. (For details, see Chapter 3 "Installation and Wiring".) The following describes how to set each AI terminal as the main frequency source.

For example, assume that curve 1 is selected for AI1 (the ones position of F4-33 is set to 1), and AI1 voltage input is selected as the main frequency source. To set the frequency reference to  $10\text{ Hz}$  to  $40\text{ Hz}$  (corresponding to  $2\text{ V}$  to  $10\text{ V}$ ), set the parameters according to the following figure.

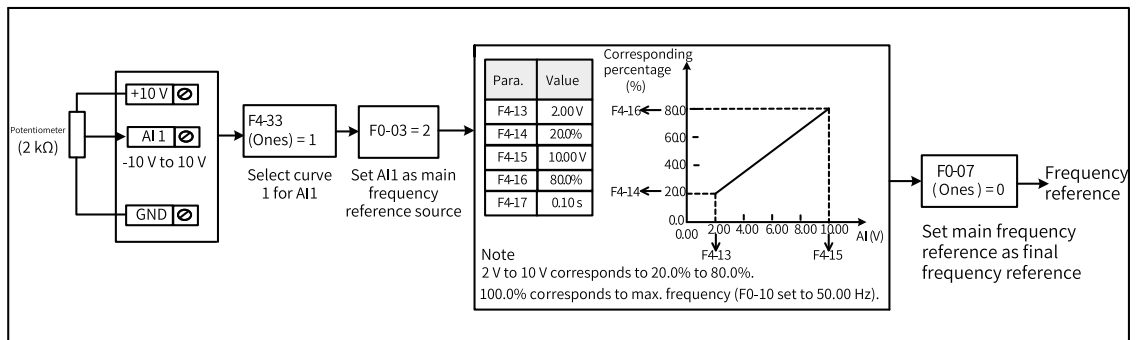


Figure 1-15 Parameter settings for AI1 voltage input as the main frequency source

AI2 can provide analog voltage input (–10 V to +10 V) or analog current input (0 mA to 20 mA).

When AI2 provides analog current input of 0 mA to 20 mA, the corresponding input voltage ranges from 0 V to +10 V. If the input current ranges from 4 mA to 20 mA, the corresponding input voltage ranges from 2 V to 10 V.

For example, assume that curve 2 is selected for AI2 (the tens position of F4-33 is set to 2), and AI2 current input is selected as the main frequency source. To set the frequency reference to 0 Hz to 50 Hz (corresponding to 4 mA to 20 mA), set the parameters according to the following figure.

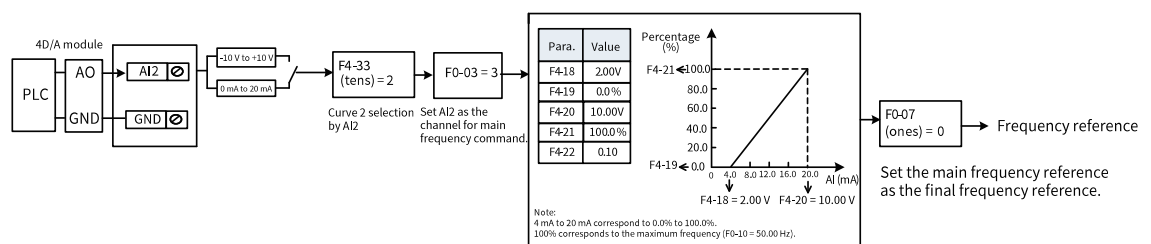


Figure 1-16 Parameter settings for using AI2 current input as main frequency reference

### 1.1.2.5 Setting Main Frequency Through Multi-reference

When F0-03 is set to 6, multi-reference is selected as the main frequency reference source. It is suitable for applications where only several frequency values are required without the need for continuous frequency adjustment.

The AC drive supports a maximum of 16 frequency references, which can be set by using FC-55 to FC-58 or input signal combinations of four DI terminals. Terminal control takes priority. For example, if DI1 is assigned with the function of multi-reference terminal 1, FC-55 does not take effect. You can also use less than four DI terminals, and the missing bits are considered to be 0.

The relationship between the reference quantity and DI terminal quantity is as follows:

- 2 frequency references: one DI terminal (K1); FC-55 to FC-58 are set to 0.
- 3–4 frequency references: two DI terminals (K1 and K2); FC-57 to FC-58 are set to 0.
- 5–8 frequency references: three DI terminals (K1, K2, and K3); FC-58 is set to 0.
- 9–16 frequency references: four DI terminals (K1, K2, K3, and K4).



The required multi-reference frequencies are defined by the multi-reference table in group FC. The following table describes the related parameters.

Para.	Name	Default	Value Range	Description
FC-00	Multi-reference 0	0.00%	-100.0% to +100.0%	The multi-reference value is a relative value, which is a percentage relative to the maximum frequency.  The positive or negative property of the parameter value determines the running direction. If the value is negative, the AC drive runs in the reverse direction.  The acceleration and deceleration time are defined by F0-17 and F0-18 by default.
FC-01	Multi-reference 1	0.00%	-100.0% to +100.0%	
FC-02	Multi-reference 2	0.00%	-100.0% to +100.0%	
FC-03	Multi-reference 3	0.00%	-100.0% to +100.0%	
FC-04	Multi-reference 4	0.00%	-100.0% to +100.0%	
FC-05	Multi-reference 5	0.00%	-100.0% to +100.0%	
FC-06	Multi-reference 6	0.00%	-100.0% to +100.0%	
FC-07	Multi-reference 7	0.00%	-100.0% to +100.0%	
FC-08	Multi-reference 8	0.00%	-100.0% to +100.0%	
FC-09	Multi-reference 9	0.00%	-100.0% to +100.0%	
FC-10	Multi-reference 10	0.00%	-100.0% to +100.0%	
FC-11	Multi-reference 11	0.00%	-100.0% to +100.0%	
FC-12	Multi-reference 12	0.00%	-100.0% to +100.0%	
FC-13	Multi-reference 13	0.00%	-100.0% to +100.0%	
FC-14	Multi-reference 14	0.00%	-100.0% to +100.0%	
FC-15	Multi-reference 15	0.00%	-100.0% to +100.0%	
FC-51	Multi-reference 0 source	0	0 to 6	0: FC-00 1: AI1 2: AI2 3: AI3 4: Pulse (DI5) 5: PID 6: F0-08 (preset frequency), which can be changed by using terminal UP/DOWN

When using multi-reference as the main frequency source, set the DI function selection parameters to 12 to 15 to select the input terminals.

Para.	Name	Reference	Function Description
F4-01	DI2 function	12	Multi-reference terminal 1
F4-03	DI4 function	13	Multi-reference terminal 2
F4-06	DI7 function	14	Multi-reference terminal 3
F4-07	DI8 function	15	Multi-reference terminal 4

## Application

In the following figure, terminals DI2, DI4, DI7, and DI8 are used as multi-reference input terminals. They each contribute one bit to a 4-bit binary value, and different combinations of the bits represent different frequencies. When values of (DI2, DI4, DI7, DI8) are (0, 0, 1, 0), they constitute a value of 2. In this case, the frequency value set by FC-02 is selected. (See Table 6-1 for details about frequency selection.) Then, the target running frequency is calculated automatically by using the formula (FC-02) x (F0-10). The following figure shows the frequency setting.

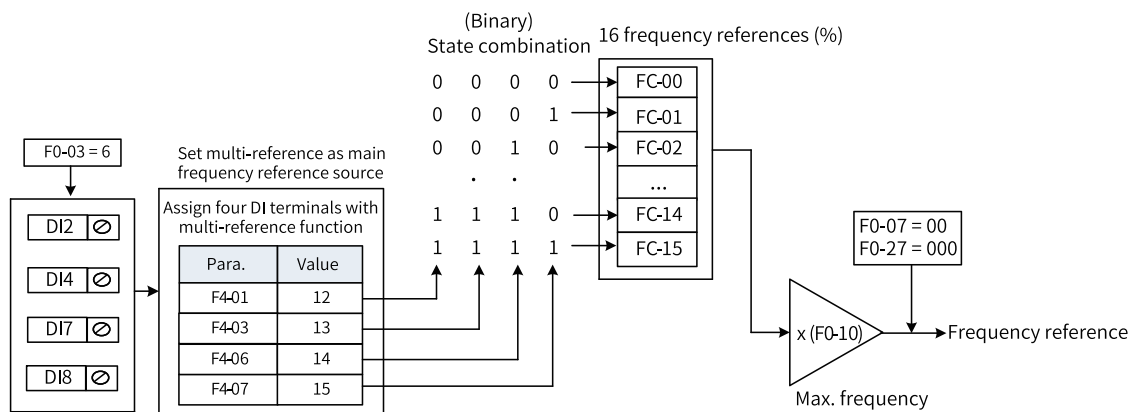


Figure 1-17 Frequency setting in multi-speed mode

The four multi-reference terminals can provide 16 state combinations, corresponding to 16 frequency reference values. See the following table.

Table 1-2 State combinations of the four multi-reference terminals

K4	K3	K2	K1	Reference	Parameter
OFF	OFF	OFF	OFF	Multi-reference 0	FC-00 (FC-51 = 0)
OFF	OFF	OFF	ON	Multi-reference 1	FC-01
OFF	OFF	ON	OFF	Multi-reference 2	FC-02
OFF	OFF	ON	ON	Multi-reference 3	FC-03
OFF	ON	OFF	OFF	Multi-reference 4	FC-04
OFF	ON	OFF	ON	Multi-reference 5	FC-05
OFF	ON	ON	OFF	Multi-reference 6	FC-06
OFF	ON	ON	ON	Multi-reference 7	FC-07
ON	OFF	OFF	OFF	Multi-reference 8	FC-08
ON	OFF	OFF	ON	Multi-reference 9	FC-09
ON	OFF	ON	OFF	Multi-reference 10	FC-10
ON	OFF	ON	ON	Multi-reference 11	FC-11
ON	ON	OFF	OFF	Multi-reference 12	FC-12
ON	ON	OFF	ON	Multi-reference 13	FC-13
ON	ON	ON	OFF	Multi-reference 14	FC-14
ON	ON	ON	ON	Multi-reference 15	FC-15

In the preceding description, the multi-reference values are determined by selecting functions based on terminals using parameters in group F4. You can also set the multi-reference values by selecting terminals using parameters in group FC.

Para.	Name	Reference	Function Description
FC-55	Multi-reference value bit0	4	DI2
FC-56	Multi-reference value bit1	6	DI4
FC-57	Multi-reference value bit2	9	DI7
FC-58	Multi-reference value bit3	10	DI8

### 1.1.2.6 Setting Main Frequency Through Simple PLC

Step 1: Set F0-03 to 7 to select simple PLC as the main frequency source.

Step 2: Set parameters FC-00 to FC-15 and FC-18 to FC-49 to define the running time and acceleration/ deceleration time for each reference.

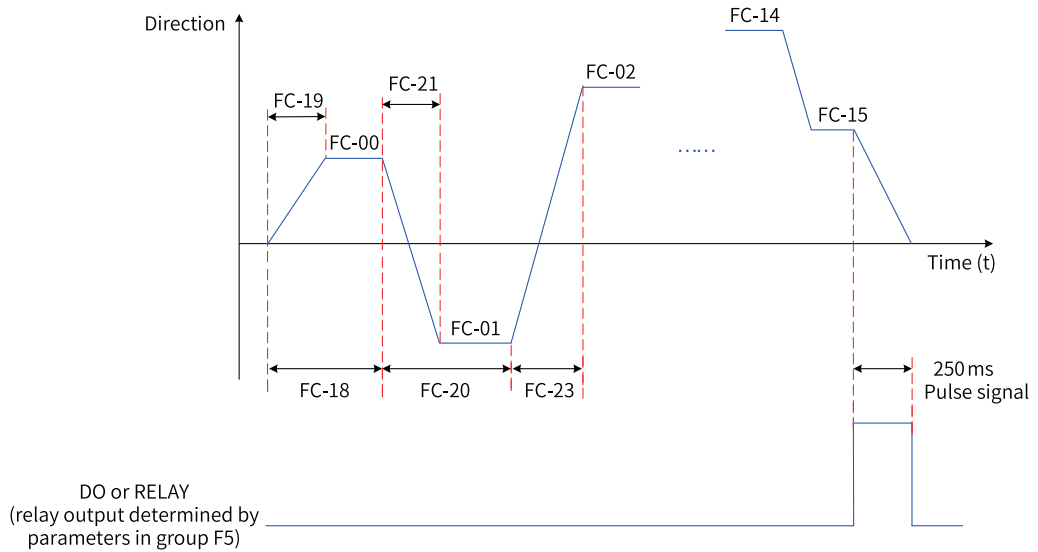


Figure 1-18 Setting simple PLC as the main frequency source

Step 3: Set FC-16 to select the simple PLC running mode.

Step 4: Set FC-17 to determine whether to retain the PLC running stage and running frequency upon a power failure or stop.

### 1.1.2.7 Setting Main Frequency Through PID

As a general process control method, PID control is a closed-loop mechanism in which each controlled variable is stabilized at the target level through proportional, integral, and differential calculation of the difference between the feedback signal and the target signal of the controlled variable. The output of PID control is used as the running frequency, which generally applies to on-site closed-loop control applications, such as constant pressure closed-loop control and constant tension closed-loop control.

- Proportional gain  $K_p$ : Once the deviation between PID output and input occurs, the PID controller adjusts the output to reduce the deviation. The speed at which the deviation decreases depends on the proportional coefficient  $K_p$ . A larger  $K_p$  tends to reduce the deviation faster, but may cause system oscillation, especially at large hysteresis. A smaller  $K_p$  indicates lower possibility of oscillation but also slower adjustment. (The value 100.0 indicates that when the difference between PID feedback and reference is 100.0%, the adjustment amplitude of the PID controller on the output frequency reference is the maximum frequency.)
- Integral time  $T_i$ : It determines the integral adjustment intensity of the PID controller. Shorter integral time indicates greater adjustment intensity. (Integral time refers to the time required for continuous adjustment of the integral regulator to reach the maximum frequency when the deviation between the PID feedback and reference is 100.0%.)
- Derivative time  $T_d$ : It defines the deviation variation adjustment intensity of the PID controller. Longer derivative time indicates greater adjustment intensity. (Derivative time refers to the time within which the feedback value change reaches 100.0%, and the adjustment amplitude reaches the maximum frequency.)

## Application

Step 1: Set F0-03 and F0-04 to 8 to select PID as the main frequency reference input source and auxiliary frequency input source.

Step 2: Set FA-00 to select a source of PID target reference. If FA-00 is set to 0, set FA-01 (digital setting of PID). The value 100% of this parameter corresponds to the maximum value of PID feedback.

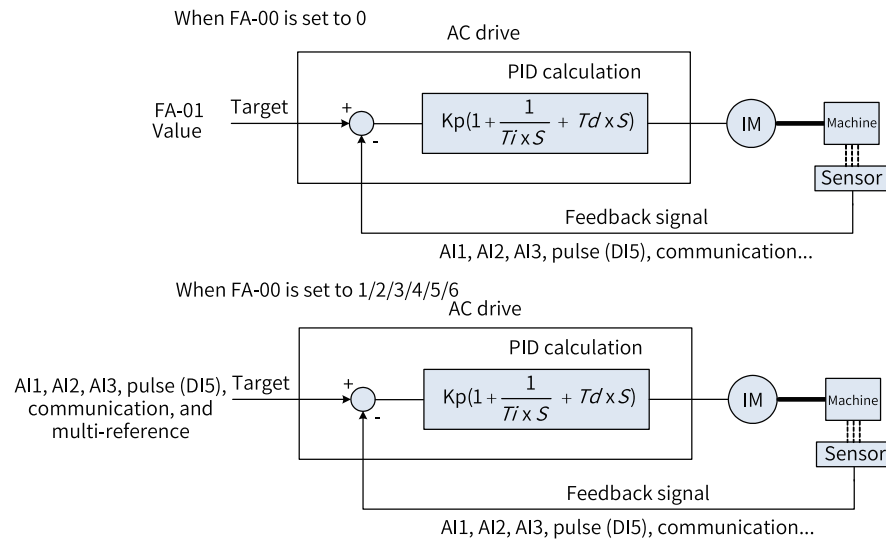


Figure 1-19 Block diagram of process PID control principle

Step 3: Set FA-02 to select a PID feedback source.

Step 4: Set FA-03 to select a PID action direction.

The following figure shows the logic of process PID control parameter configuration.

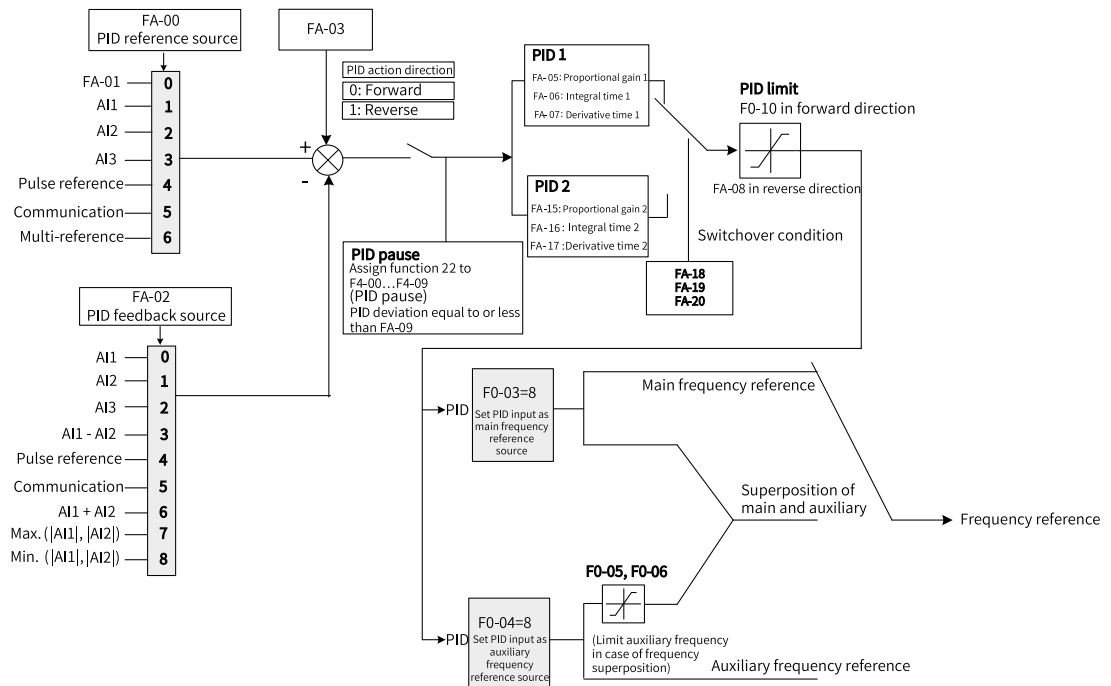


Figure 1-20 Block diagram of process PID control parameter configuration

The upper and lower limits and range of the frequency output when the PID is used as the main frequency source are described as follows (for example, when the frequency source is only PID or main + PID).

- When the reverse cut-off frequency is 0 or reverse running is inhibited (that is, any of the following):
  - ① FA-08 = 0, F8-13 = 0; ② FA-08 = 0, F8-13 = 1; ③ FA-08 ≠ 0, F8-13 = 1

Output upper limit = Frequency upper limit

Output lower limit = Frequency lower limit

Output range = Frequency lower limit to frequency upper limit (that is, F0-14 to F0-12)

- When the reverse cut-off frequency is not 0 and reverse running is allowed (that is, FA-08 ≠ 0, F8-13 = 0):

Output upper limit = Frequency upper limit, Output lower limit = –Reverse cut-off frequency

Output range = –Reverse cut-off frequency to +Frequency upper limit (that is, –FA-08 to +F0-12)

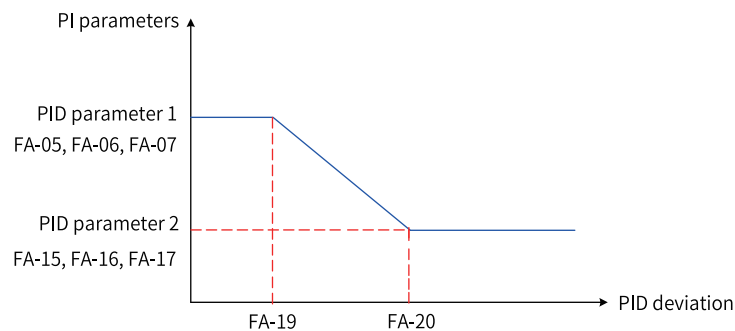


Figure 1-21 PID parameter switchover

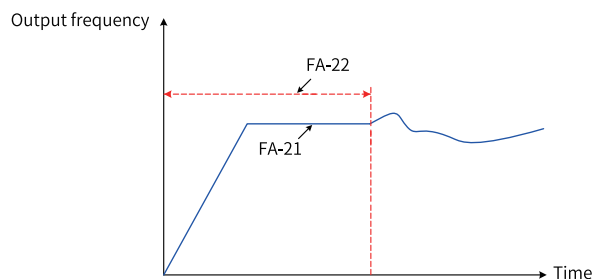


Figure 1-22 PID initial value function

### 1.1.2.8 Setting Main Frequency Through Communication

The following seven communication protocols are supported: Modbus, PROFIBUS DP, CANopen, CANlink, PROFINET, EtherCAT, and EthernetIP.

- When PROFIBUS DP, PROFINET, EtherCAT, EthernetIP, or CANopen (CANopen expansion card) is used, set Fd-00 to 9 and Fd-01 to 3.
- When a CANlink card is used for CANopen communication, set Fd-10 to 1. Set Fd-12 and Fd-13 to specify the CAN communication baud rate and CAN station number, respectively.
- When a CANlink card is used for CANlink communication, set Fd-10 to 2. Set Fd-12 and Fd-13 to specify the CAN communication baud rate and CAN station number, respectively.

- When Modbus is used for communication, set Fd-00, Fd-01, and Fd-02 to specify the baud rate, data format, and local address, respectively.

## Application

Step 1: Set F0-03 to 9 to select communication as the main frequency source.

Step 2: Send a write command to the AC drive from the host controller.

Here takes the Modbus protocol as an example to describe how to set the main frequency through communication. For example, to set the frequency to 10000 through communication, send the write command 01 06 10 00 27 10 97 36.

The bytes are described as follows.

Byte	Description
01H (configurable)	AC drive address
06H	Write command
1000H	Frequency reference address
2710H (10000 in decimal)	Target frequency
9736H	CRC check

Similarly, to set the frequency to -10000 through communication, send the write command 01 06 10 00 D8 F0 D7 4E. In this command, D8F0 is the low-order four bits of the hexadecimal number converted from -10000.

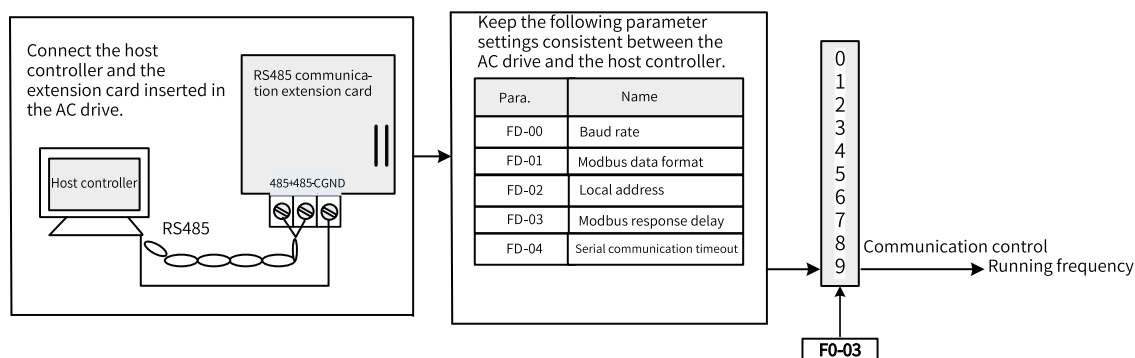


Figure 1-23 Parameter settings when the main frequency is set through communication

Table 1-3 Correspondence between host commands and slave responses

Host Command		Slave Response	
ADDR	01H	ADDR	01H
CMD	06H	CMD	06H
High-order bits of parameter address	10H	High-order bits of parameter address	10H
Low-order bits of parameter address	00H	Low-order bits of parameter address	00H
High-order bits of data content	27H	High-order bits of data content	27H
Low-order bits of data content	10H	Low-order bits of data content	10H

Host Command		Slave Response	
CRC high-order bits	97H	CRC high-order bits	97H
CRC low-order bits	36H	CRC low-order bits	36H

The range of frequency reference set through communication is -10000 to +10000 (in decimal), corresponding to -100.00% (negative max. frequency) to +100.00% (positive max. frequency). Assume that F0-10 (maximum frequency) is set to 50 Hz. If the frequency reference in the write command is 2710H, which is equivalent to 10000 in decimal, the actual written frequency reference is 50 Hz (50 x 100%).

### 1.1.2.9 Selecting Source of Auxiliary Frequency Reference

The AC drive supports 10 auxiliary frequency sources, including digital setting (non-retentive at power failure), digital setting (retentive at power failure), AI1, AI2, AI3, pulse input, multi-reference, simple PLC, PID, and communication, which can be selected by setting F0-04 (0 to 9).

When used as an independent frequency reference source, the auxiliary frequency reference source is used in the same way as the main frequency reference source. The following figure shows the block diagram. When the auxiliary frequency reference is used together with the main frequency reference to set the frequency reference, see "Setting Frequency Based on Main and Auxiliary Frequency References".

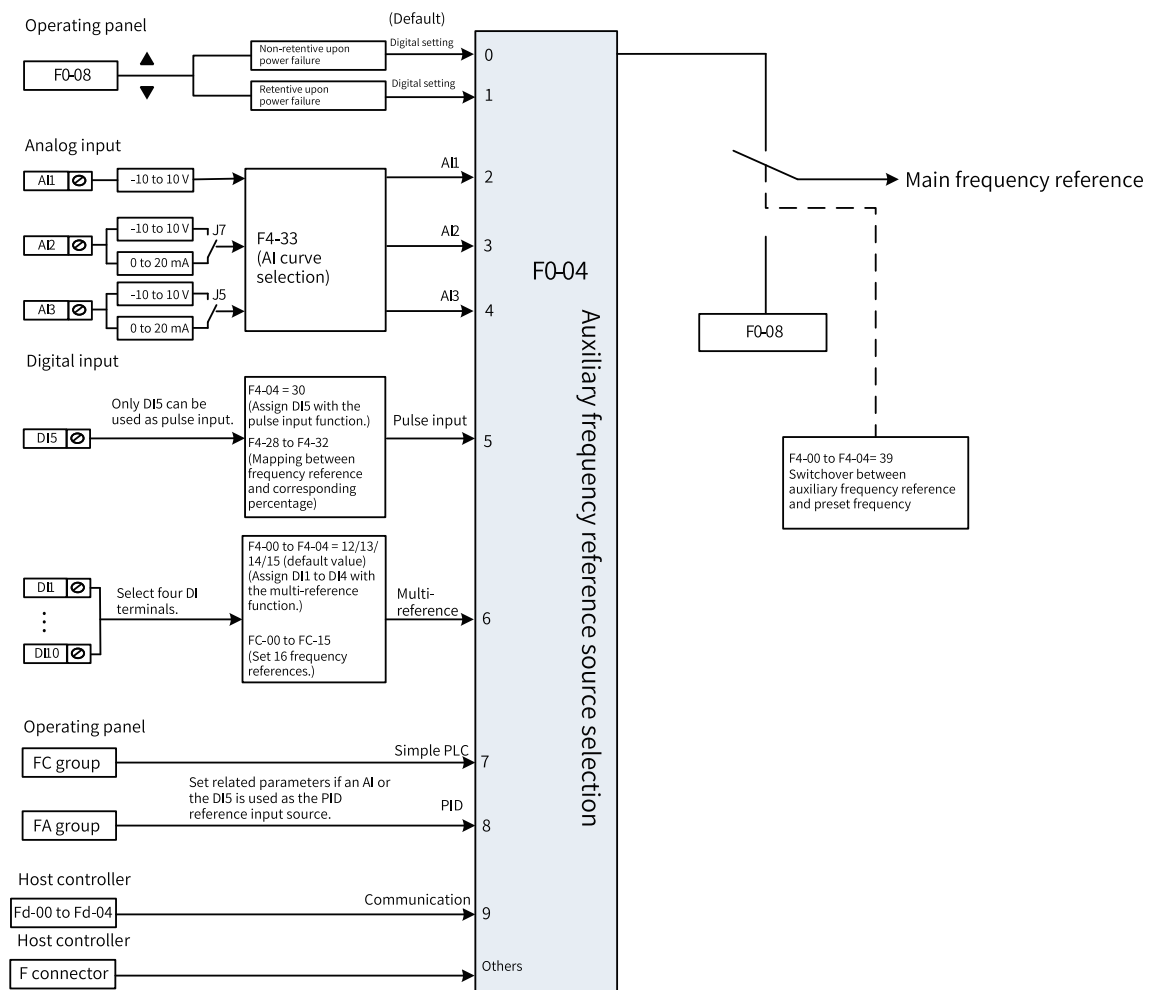


Figure 1-24 Setting auxiliary frequency reference source

Para.	Name	Value Range	Default
F0-04	Auxiliary frequency source Y	0: Digital setting (preset frequency (F0-08) that can be changed by pressing UP/DOWN; non-retentive at power failure) 1: Digital setting (preset frequency (F0-08) that can be changed by pressing UP/DOWN; retentive at power failure) 2: AI1 3: AI2 4: AI3 5: Pulse (DI5) 6: Multi-reference 7: Simple PLC 8: PID 9: Communication Others: F connector	0

### 1.1.2.10 Setting Frequency Based on Main and Auxiliary Frequency References

Main and auxiliary frequency reference superposition is used to set the frequency reference by combining the main frequency reference and auxiliary frequency reference. F0-07 defines the relationship between the target frequency and the main and auxiliary frequency references, which is described as follows.

Table 1-4 Relationship between target frequency and main and auxiliary frequency references

No.	Relationship Between Target Frequency and Main and Auxiliary Frequency References	
1	Main frequency reference	The main frequency reference is directly used as the target frequency.
2	Auxiliary frequency reference	The auxiliary frequency reference is directly used as the target frequency.
3	Main and auxiliary operation	There are four main and auxiliary operation results: main frequency reference + auxiliary frequency reference, main frequency reference – auxiliary frequency reference, larger value between main frequency reference and auxiliary frequency reference, and smaller value between main frequency reference and auxiliary frequency reference.
4	Frequency switchover	Any of the preceding three frequency sources selected or switched by using the DI terminal. The DI terminal must be assigned with function 18 (frequency reference switchover).



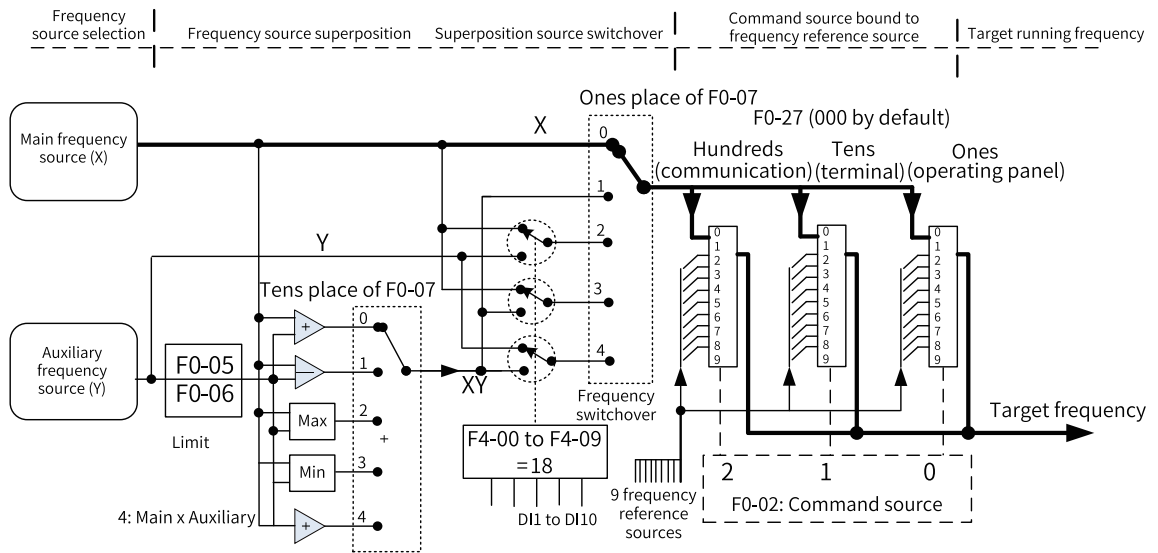


Figure 1-25 Selecting main and auxiliary frequency reference superposition result as frequency reference

Table 1-5 Main and auxiliary frequency reference superposition

Para.	Name	Default	Value Range
F0-05	Base value of range of auxiliary frequency source Y for superposition	0	0: Relative to the maximum frequency 1: Relative to main frequency reference
F0-06	Range of auxiliary frequency source Y for superposition	100%	0% to 150%

Para.	Name	Default	Value Range
F0-07	Frequency source superposition	0	<p>Ones: Frequency source selection</p> <p>0: Main frequency source X</p> <p>1: Main and auxiliary operation result (based on the tens)</p> <p>2: Switchover between main frequency source X and auxiliary frequency source Y</p> <p>3: Switchover between main frequency source X and main and auxiliary operation result</p> <p>4: Switchover between auxiliary frequency source Y and main and auxiliary operation result</p> <p>Tens: Main and auxiliary frequency source operation</p> <p>0: Main + Auxiliary</p> <p>1: Main – Auxiliary</p> <p>2: Max. (main, auxiliary)</p> <p>3: Min. (main, auxiliary)</p> <p>4: Main x Auxiliary</p>
F0-27	Frequency source bound to the command source	0	<p>Ones: Frequency source bound to operating panel control</p> <p>0: No binding</p> <p>1: Frequency digital setting</p> <p>2: AI1</p> <p>3: AI2</p> <p>4: AI3</p> <p>5: Pulse (DI5)</p> <p>6: Multi-reference</p> <p>7: Simple PLC</p> <p>8: PID</p> <p>9: Communication</p> <p>Tens: Frequency source bound to terminal I/O control</p> <p>Hundreds: Frequency source bound to communication control</p>

F0-05 and F0-06 are used to limit the auxiliary frequency reference range and are only valid when the main + auxiliary operation is used.

F0-27 allows you to set the frequency sources for the three command sources of the AC drive, as shown in the preceding figure. When the specified command source (F0-02) is bound to a frequency source (corresponding bit of F0-27), the frequency is determined by the frequency reference source set in F0-27. In this case, both main and auxiliary frequency sources are ineffective.

### 1.1.2.11 Setting Offset Frequency and Supplementary Frequency

The offset frequency is defined by F0-21. It is directly superimposed on the raw main and auxiliary frequency operation result as a correction value before the ramp function generator (RFG).

Para.	Name	Value Range	Default
F0-21	Frequency offset for the frequency source	50.00 Hz to 600.00 Hz	50.00 Hz

The supplementary frequency is defined by A4-61. It is used in scenarios where speed adjustment needs to take effect directly without the acceleration and deceleration time. The supplementary frequency is only effective during normal operation, and the effective value is directly added to the RFG output.

Para.	Name	Value Range	Default
A4-61	Supplementary frequency	0: 0 1: AI1 2: AI2 3: AI3 4: Pulse 5: Communication 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0

### 1.1.2.12 Setting Frequency Reference Limits

Frequency upper limit: Limits the maximum operating frequency for motors.

Frequency lower limit: Limits the minimum operating frequency for motors.

Maximum frequency: Defines the maximum output frequency.

Frequency upper limit source: Defines the reference source of the frequency upper limit.

Frequency upper limit offset: Defines the offset of the frequency upper limit. This parameter is valid only when the frequency upper limit source is set to AI.

Para.	Name	Default	Value Range
F0-10	Maximum frequency	50.00 Hz	50.00 Hz to 600.00 Hz
F0-11	Source of frequency upper limit	0	0: F0-12 1: AI1 2: AI2 3: AI3 4: Pulse (DI5) 5: Communication 6: Multi-reference Others: F connector
F0-12	Frequency upper limit	50.00 Hz	Frequency lower limit (F0-14) to maximum frequency (F0-10)
F0-13	Frequency upper limit offset	0.00 Hz	0.00 Hz to maximum frequency (F0-10)
F0-14	Frequency lower limit	0.00 Hz	0.00 Hz to frequency upper limit (F0-12)

### 1.1.2.13 Setting Action to Take When Frequency Is Below Lower Limit

The frequency lower limit defines the minimum running frequency for the motor.

If the frequency of the AC drive is set to a value below the frequency lower limit (F0-14), you need to set F8-14 to select the action of the AC drive. The actions include the following: run at frequency lower limit, stop, run at zero speed, and coast to stop.

- 0: Run at frequency lower limit  
When the running frequency is lower than the frequency lower limit, the AC drive runs at the frequency lower limit.
- 1: Stop  
When the running frequency is lower than the frequency lower limit, the AC drive stops.
- 2: Run at zero speed  
When the running frequency is lower than the frequency lower limit, the AC drive runs at zero speed.
- 3. Coast to stop  
If the running frequency is below the frequency lower limit, the AC drive coasts to stop.

Para.	Name	Default	Value Range	Description
F8-14	Action to take when frequency is below lower limit	0	0: Run at frequency lower limit 1: Stop 2: Run at zero speed 3. Coast to stop	-

### 1.1.2.14 Setting Main Frequency Through Pulse Input

When F0-03 is set to 5, the pulse input is selected as the main frequency source. When the main frequency source is set to pulse (DI5), the pulse reference must be obtained from multi-functional input terminal DI5. The pulse reference signal specifications are 9–30 V (voltage range) and 0–100 kHz (frequency range).

The procedure for setting the main frequency through pulse input is as follows:

Step 1: Set F0-03 to 5 to select pulse input as the main frequency source. In this mode, the pulse reference must be obtained from multi-functional input terminal DI5.

Step 2: Set F4-04 to 30 to assign DI5 with the pulse frequency input function.

Step 3: Set F0-07 to 00 to select the main frequency reference as the final frequency reference setting selection.

Step 4: Set the pulse reference curve. This curve defines the mapping between the pulse input of DI5 and the frequency setpoint, which is set by F4-28 to F4-31. It is a 2-point straight line.

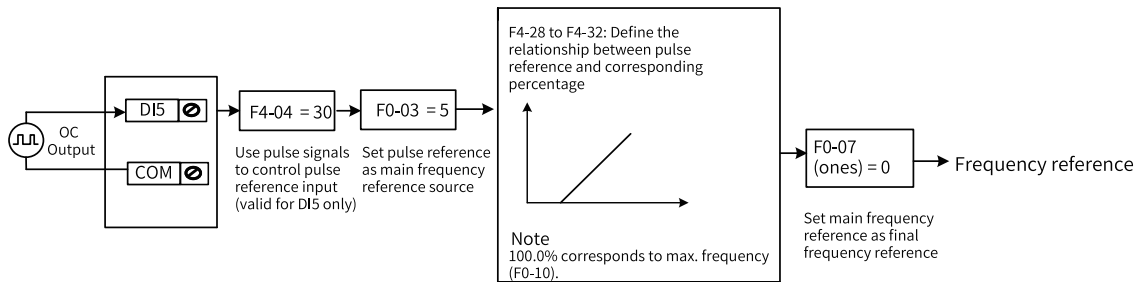


Figure 1-26 Parameter settings for pulse input as the main frequency source

Step 5: Set F4-32 to specify the filter time of the pulse frequency reference.

Set this parameter to well balance the response speed and anti-interference capability. If quick response is required, reduce the parameter value. If the onsite interference is high, increase the parameter value.

A large value of this parameter enhances the anti-interference capability, but slows down the response to adjustments. A small value of this parameter speeds up the response to adjustments, but weakens the anti-interference capability. If the onsite pulse signal is prone to interference, you can increase the filter time to stabilize the detected pulse signal. However, increasing the filter time will slow down the response to pulse signal detection. Therefore, the filter time must be set properly based on actual conditions.

## 1.1.3 Startup/Stop Modes

### 1.1.3.1 Startup Modes

The AC drive supports four startup modes: direct start, flying start, pre-excitation start, and SVC quick start. You can set F6-00 to select the startup mode of the AC drive.

### Direct Start

When F6-00 is set to 0, the direct start mode is adopted, which applies to most load applications.

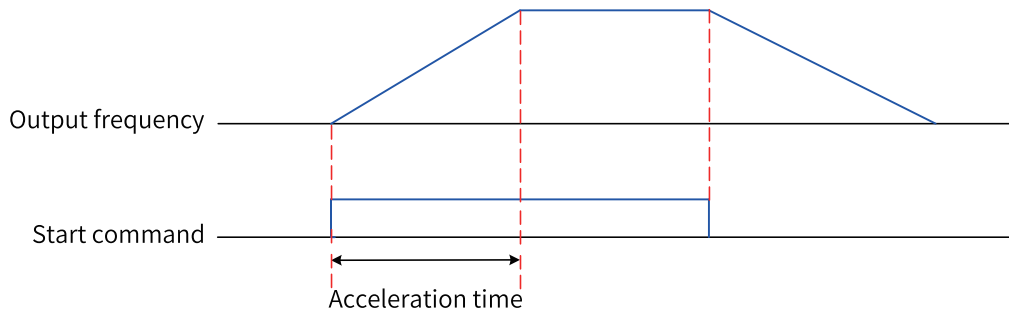


Figure 1-27 Timing diagram of direct start

Startup with startup frequency is applicable to applications with lifting loads, such as elevators and cranes.

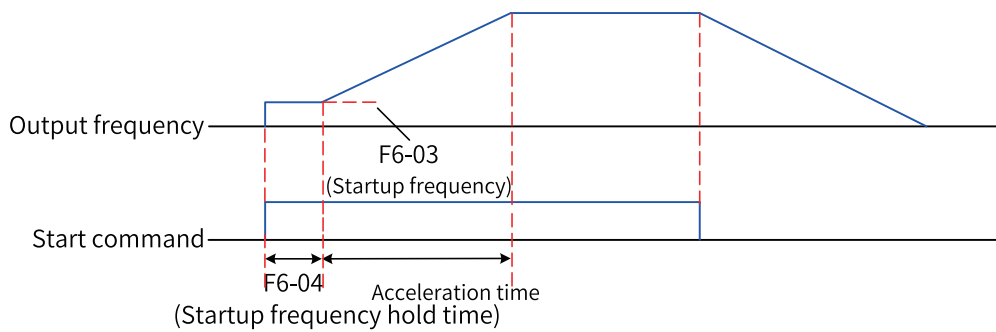


Figure 1-28 Timing diagram of startup with startup frequency

Startup with DC braking is applicable to applications where the motor may rotate at startup.

If the DC braking time is set to 0, the AC drive starts to run at the startup frequency. If the DC braking time is not 0, the AC drive performs DC braking first and then starts to run at the startup frequency. This mode applies to most small-inertia load applications where the motor is likely to rotate at startup.

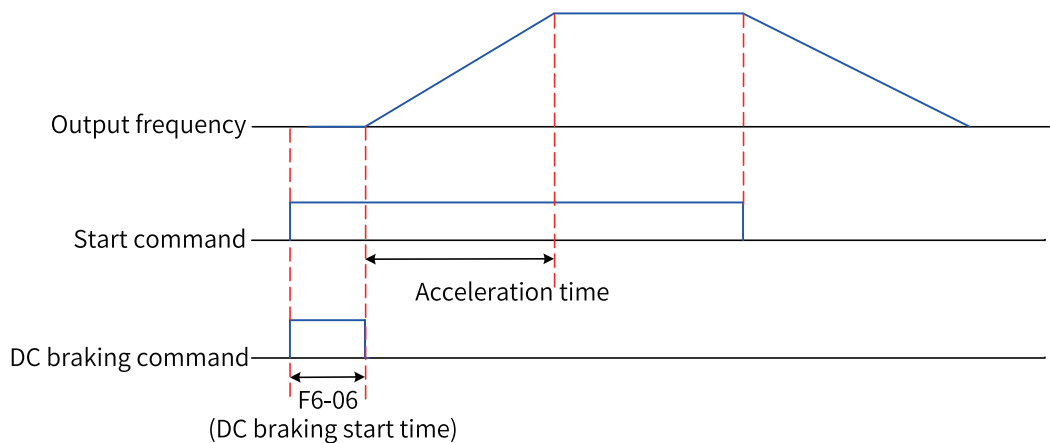


Figure 1-29 Timing diagram of startup with DC braking

Startup with DC braking is applicable to drives of elevators and cranes. Startup with startup frequency is applicable to equipment drives that require burst startup under startup torque, such as cement mixers. The following figure shows the frequency curve during startup.

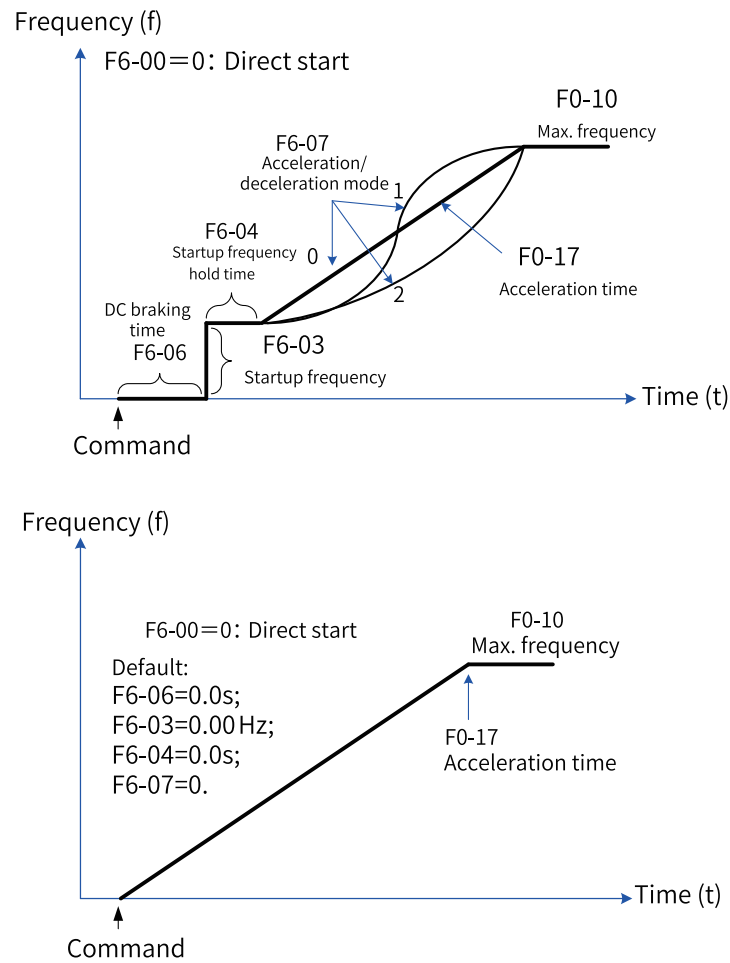


Figure 1-30 Direct start mode

## Flying Start

When F6-00 is set to 1, the AC drive uses the flying start mode. In this mode, the AC drive first determines the motor rotation speed and direction, and then starts at the detected frequency of the motor. It is applicable when the AC drive is used to drive large-inertia machinery loads.

If the AC drive needs to be started again when the motor is still rotating due to inertia, the flying start mode can prevent overcurrent at startup. The following figure shows the frequency curve during startup.

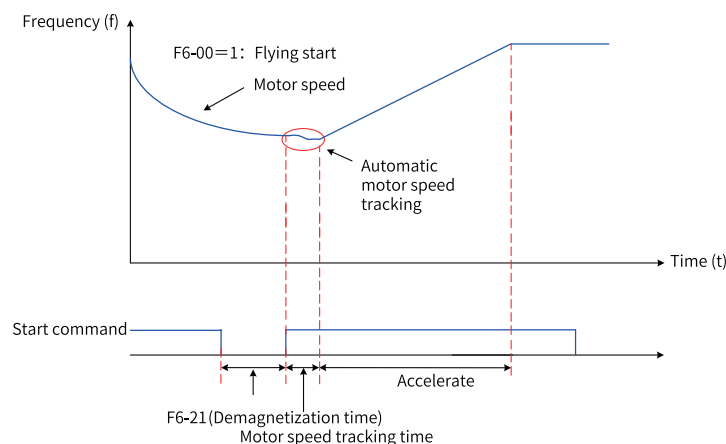


Figure 1-31 Flying start mode

## Pre-excitation Start

When F6-00 is set to 0, 2, or 3 and the DC braking time (F6-06) is 0, the AC drive enters the pre-excitation start mode. This mode applies only to asynchronous motors in SVC or FVC mode. Performing pre-excitation on the motor before start improves the responsiveness of the motor and reduces the starting current.

You can change the pre-excitation mode by modifying bit 11 and bit 12 of the flux linkage control command word (AB-32 for motor 1 and B9-32, BE-32, and CE-32 for other motors). Pre-excitation by current is used by default. The pre-excitation current (AB-51, B9-51, BE-51, and CE-51) is the percentage relative to the rated current. A larger pre-excitation current setpoint indicates shorter pre-excitation time.

## SVC Quick Start

SVC quick start is also called quick pre-excitation start.

---

### Note

- Flying start is recommended if you need to start a motor that is rotating at a high speed.
  - Pre-excitation start and SVC quick start apply only to AC asynchronous motors.
- 

### 1.1.3.2 Stop Modes

The AC drive supports three stop modes: decelerate to stop, coast to stop, and stop at maximum capability.

You can set F6-10 to select a stop mode as required.



Para.	Name	Default	Value Range	Description
F6-10	Stop mode	0	0: Decelerate to stop 1: Coast to stop 2: Stop at maximum capability	0: Decelerate to stop Once the stop command takes effect, the AC drive decreases the output frequency to 0 based on the deceleration time and stops. 1: Coast to stop Once the stop command takes effect, the AC drive immediately stops output, and the motor coasts to stop under the action of mechanical inertia. 2: Stop at maximum capability The motor deceleration time is fixed at 20 ms, and the output torque may reach the torque limit during the deceleration process.
F6-11	Start frequency of DC braking at stop	0.00 Hz	0.00 Hz to maximum frequency (F0-10)	The AC drive starts DC braking when the running frequency decreases to the value of this parameter during deceleration to stop.
F6-12	DC braking delay at stop	0.0s	0.0s to 100.0s	When the running frequency decreases to the start frequency of DC braking at stop, the AC drive stops output for a period of time and then starts DC braking. This prevents faults such as overcurrent caused due to DC braking at a high speed.
F6-13	DC braking current at stop	0%	0% to 150%	A larger DC braking current indicates stronger braking force. 100% corresponds to the rated motor current (the current upper limit is 80% of the rated current of the AC drive). The current upper limit can be set in F6-34, and its maximum value is 135% of the rated current of the AC drive.
F6-14	DC braking time at stop	0.0s	0.0s to 100.0s	This parameter indicates the hold time of DC braking. If it is set to 0, DC braking is disabled.

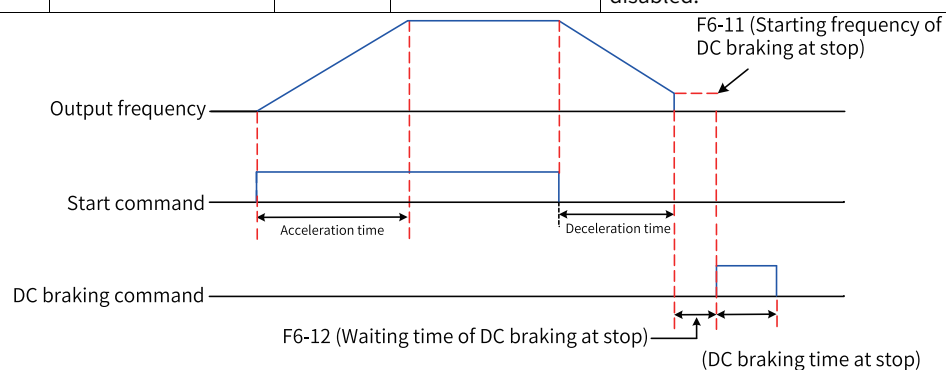


Figure 1-32 Timing diagram of DC braking at stop

## Decelerate to Stop

When F6-10 is set to 0, the AC drive decelerates to stop. Once the stop command takes effect, the AC drive decreases the output frequency to 0 based on the deceleration time and stops.

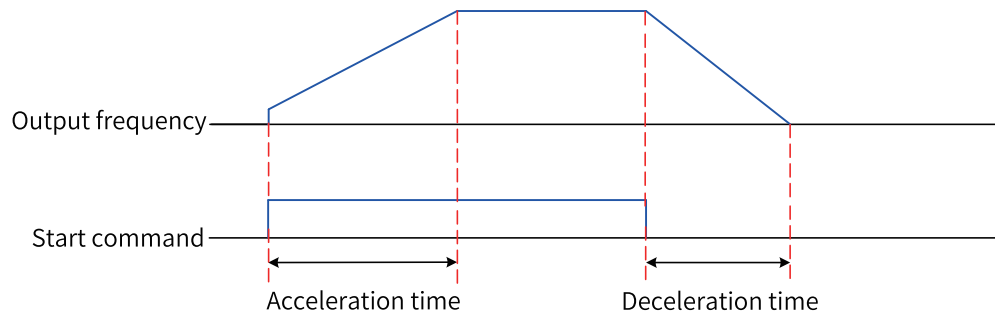


Figure 1-33 Timing diagram of decelerating to stop

### Coast to Stop

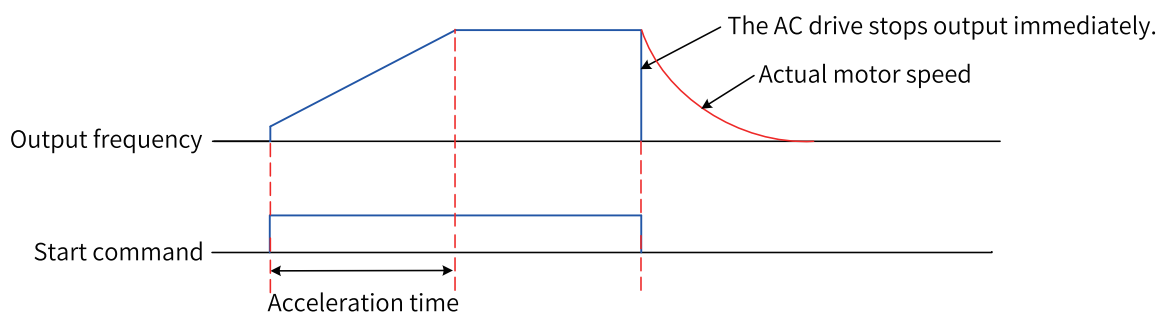


Figure 1-34 Timing diagram of coasting to stop

#### 1.1.3.3 Acceleration/Deceleration Time

The acceleration time indicates the time required for the output frequency of the AC drive to rise from 0 to the acceleration/deceleration base frequency (F0-25). The deceleration time indicates the time required for the output frequency of the AC drive to decrease from the acceleration/deceleration base frequency (F0-25) to 0 Hz.

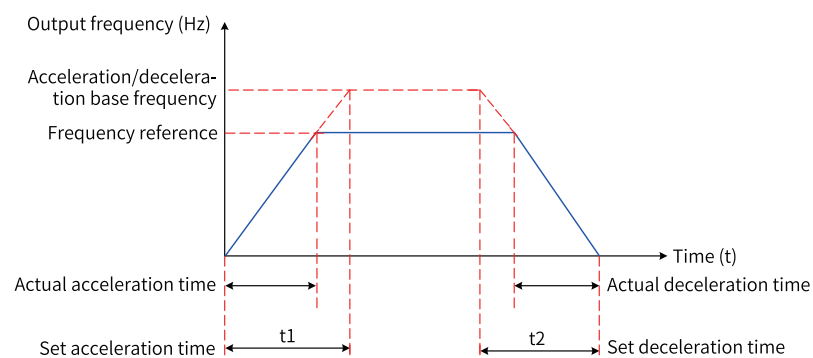


Figure 1-35 Acceleration/Deceleration time

The AC drive provides totally four groups of acceleration/deceleration time, which can be selected by using a DI terminal (assigned with function 16/17). The acceleration/deceleration time is defined by the following parameters:

Group 1: F0-17, F0-18

Group 2: F8-03, F8-04

Group 3: F8-05, F8-06

Group 4: F8-07, F8-08

## Application

The following takes DI7 and DI8 as the input switchover terminals to describe how to set the acceleration/deceleration time.

1. Set F4-06 and F4-07 to select DI7 and DI8 for switchover.

Para.	Name	Reference	Function Description
F4-06	DI7 function	16	Acceleration/deceleration time selection terminal 1
F4-07	DI8 function	17	Acceleration/deceleration time selection terminal 2

2. Set the acceleration/deceleration time by using the four groups of acceleration/deceleration time parameters.

DI8 State	DI7 State	Acceleration/Deceleration Time
OFF	OFF	Group 1: F0-17, F0-18 (Acceleration time 1)
OFF	ON	Group 2: F8-03, F8-04 (Acceleration time 2. For details, see F0-17 and F0-18.)
ON	OFF	Group 3: F8-05, F8-06 (Acceleration time 3. For details, see F0-17 and F0-18.)
ON	ON	Group 4: F8-07, F8-08 (Acceleration time 4. For details, see F0-17 and F0-18.)

3. Set F0-19 (acceleration/deceleration time unit). Note that when this parameter is modified, the decimal places of the four groups of acceleration/deceleration time will change, and the corresponding acceleration/deceleration time will also change.
4. Set F6-07 (acceleration/deceleration mode) to select the frequency change mode during the start and stop process of the AC drive.
  - 0: The output frequency increases or decreases linearly.
  - 1: The output frequency increases or decreases according to the S-curve (select the arc symmetry mode or acceleration/deceleration segmentation in F6-20) when the target frequency changes dynamically. This mode is applicable to applications requiring supreme comfort and fast real-time response.
5. Set F6-08 and F6-09 to select the time proportions of S-curve start segment and end segment. The values of F6-08 and F6-09 must meet the following condition:  $F6-08 + F6-09 \leq 100.0\%$ .
6. Select the arc type.

When the acceleration/deceleration is abrupt, the RFG output frequency change is unsmooth, and the output frequency acceleration is discontinuous, which will lead to torque oscillation of the motor and may damage the mechanical gear.

If A4-65 is set to 0 (incontinuous smoothing), acceleration/deceleration is executed immediately when the input value changes.

If A4-65 is set to 1 (continuous smoothing), even if the input value decreases suddenly during acceleration, the AC drive will execute the end arc (causing overshoot) and then decelerate; even if

the input value increases suddenly during deceleration, the AC drive will execute the end arc (causing overshoot) and then accelerate.

Take sudden deceleration in the forward acceleration process as an example. As shown in the figure, the target frequency at  $t_0$  is  $F_3$ . The AC drive accelerates to  $F_2$  at  $t_1$ , and the target frequency is  $F_1$  at this time. The RFG output frequency changes according to curve 3 (execute the end arc of the acceleration segment to reduce acceleration  $v$  to 0 and then start deceleration) rather than curve 2 (set acceleration to 0 immediately and directly start deceleration) to cope with sudden change in acceleration  $v$  at  $t_1$ , thereby reducing the impact of sudden changes on mechanical equipment.

## 1.2 Motor Configuration

The simple commissioning procedure of the AC drive is as follows:

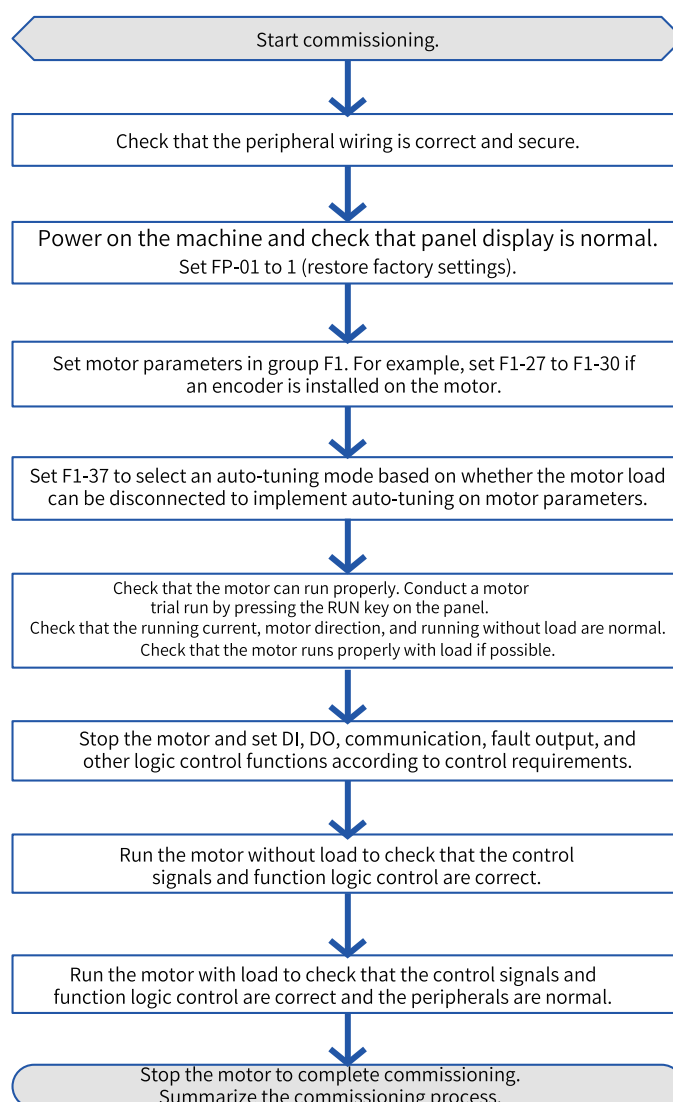


Figure 1-36 Quick commissioning process

The commissioning steps are as follows:

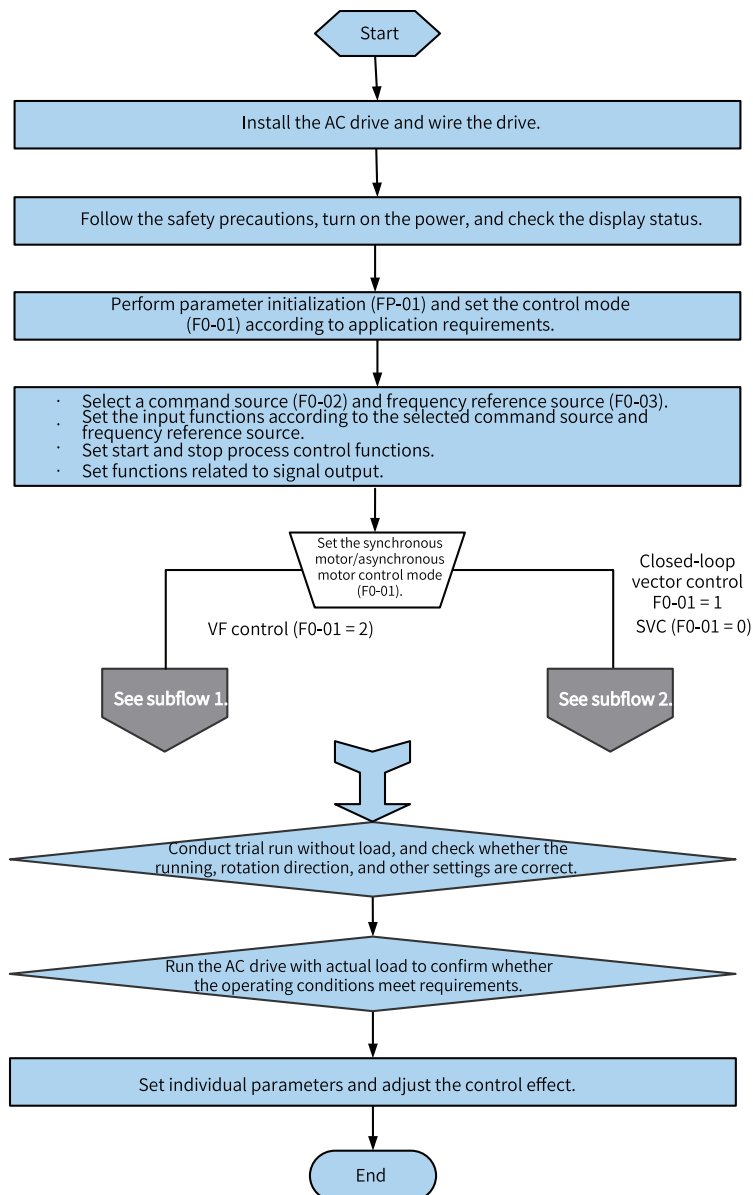


Figure 1-37 Commissioning flowchart

You can set F1-37 to select different auto-tuning modes:

- 1: Static auto-tuning on partial parameters of asynchronous motor
- 2: Dynamic auto-tuning on asynchronous motor
- 3: Static auto-tuning on all parameters of asynchronous motor
- 4: Inertia auto-tuning
- 5: Deadzone auto-tuning
- 11: With-load auto-tuning on synchronous motor
- 12: No-load dynamic auto-tuning on synchronous motor
- 13: Static auto-tuning on all parameters of synchronous motor

For permanent magnet synchronous motors and excited synchronous motors, select 11, 12, or 13.

### 1.2.1 Auto-tuning on Asynchronous Motor

Auto-tuning is required in vector control mode; otherwise, faults such as overcurrent will occur during running. Auto-tuning is also recommended in V/f control mode. The control performance of speed tracking (at least static auto-tuning on all parameters of the asynchronous motor), overcurrent suppression, and torque boost is enhanced when the parameters are accurate. The following table compares the application scenarios and performance of different auto-tuning methods.

Auto-tuning Method	Application Scenario	Auto-tuning Effect
Static auto-tuning on some parameters of asynchronous motor	Scenarios where the motor cannot be disconnected from the load and dynamic auto-tuning is not allowed	Ordinary
Dynamic auto-tuning on all parameters of asynchronous motor	Scenarios where the motor can be easily disconnected from the load. If the motor load is a roller type load (pure inertia load), you can perform auto-tuning directly without removing the roller.	Optimal
With-load auto-tuning on all parameters of asynchronous motor	Scenarios where the motor cannot be disconnected from the load and dynamic auto-tuning on all parameters is not allowed	Good

The following figure shows subflow 1 (V/f control mode) in the commissioning flowchart.

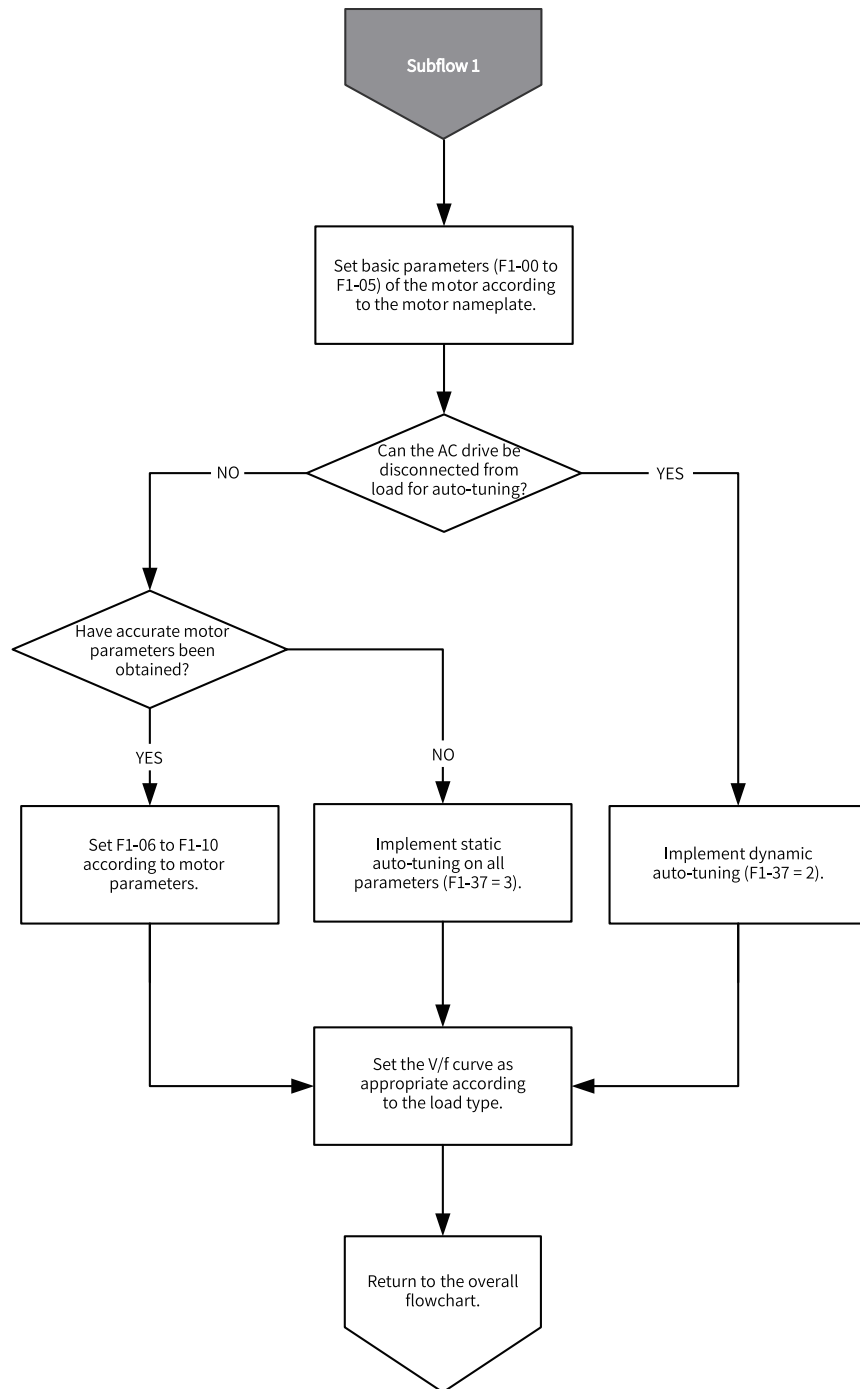


Figure 1-38 AC drive commissioning subflow 1 (V/f control)

The following figure shows subflow 2 (vector control mode) in the commissioning flowchart.

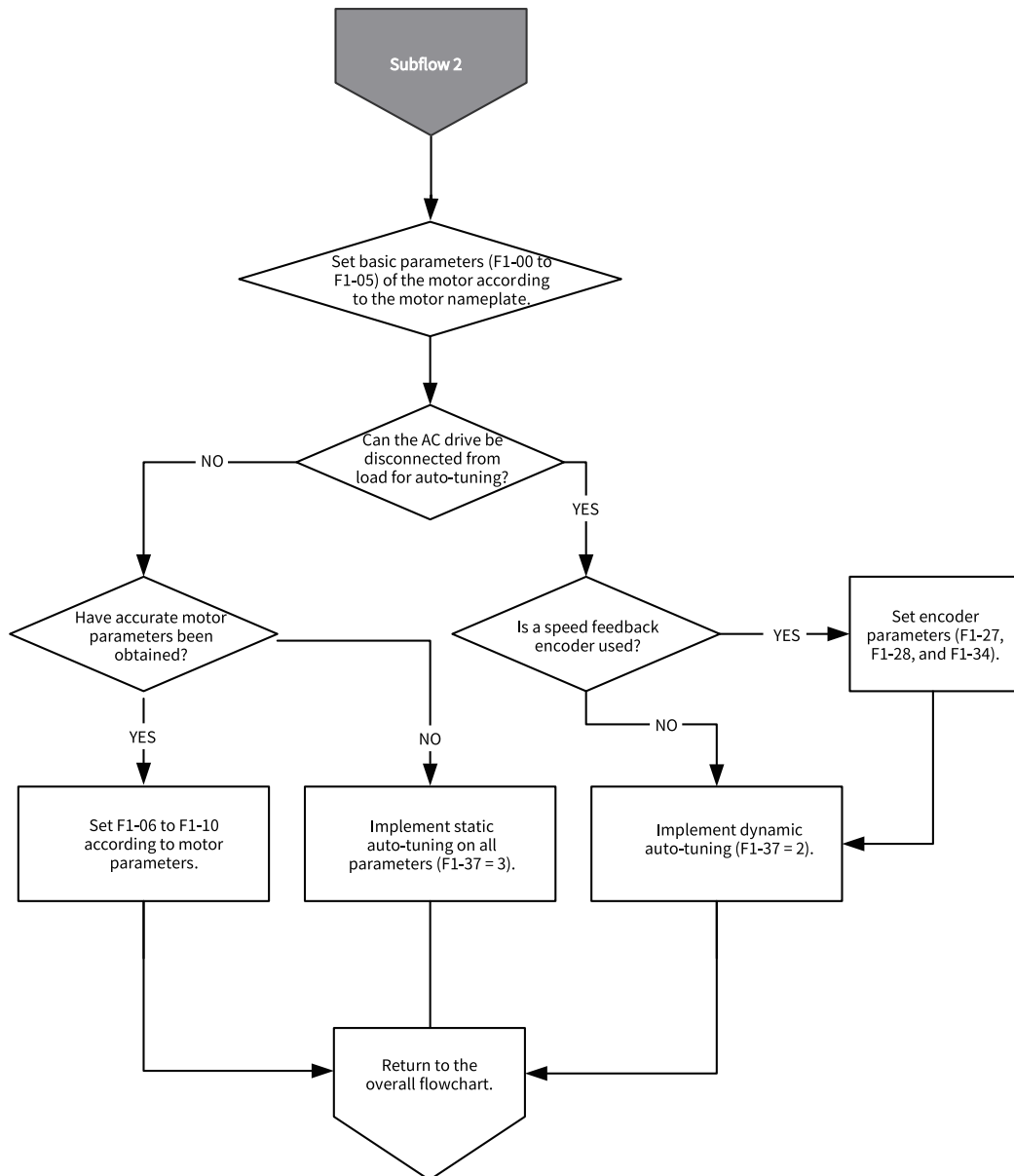


Figure 1-39 AC drive commissioning subflow 2 (vector control)

Taking motor parameter group 1 as an example, the following table lists the parameters obtained by using different auto-tuning methods.

Para.	Name	F1-37 = 1	F1-37 = 2	F1-37 = 3	F1-37 = 4 <sup>[2]</sup>
F1-06	Motor stator resistance	√	√	√	-
F1-07	Asynchronous motor rotor resistance	√	√	√	-
F1-08	Asynchronous motor leakage inductance	√	√	√	-
F1-09	Asynchronous motor mutual inductance	√ <sup>[4]</sup>	√	√ <sup>[3]</sup>	-



## Function Application

Para.	Name	F1-37 = 1	F1-37 = 2	F1-37 = 3	F1-37 = 4 <sup>[2]</sup>
F1-10	Asynchronous motor no-load current	√ <sup>[4]</sup>	√	√ <sup>[3]</sup>	-
F1-31	Encoder phase sequence	-	√ <sup>[1]</sup>	-	-
A9-19	Asynchronous magnetic field saturation current coefficient 1	-	√	-	-
A9-20	Asynchronous magnetic field saturation current coefficient 2	-	√	-	-
A9-21	Asynchronous magnetic field saturation current coefficient 3	-	√	-	-
A9-22	Asynchronous magnetic field saturation current coefficient 4	-	√	-	-
A9-23	Asynchronous magnetic field saturation flux coefficient 1	-	√	-	-
A9-24	Asynchronous magnetic field saturation flux coefficient 2	-	√	-	-
A9-25	Asynchronous magnetic field saturation flux coefficient 3	-	√	-	-
A9-26	Asynchronous magnetic field saturation flux coefficient 4	-	√	-	-
F1-30	Input A/B phase sequence	-	√	-	-
A9-16	Inertia ratio	-	√	-	√
A9-17	Inertia	-	√	-	√
A9-18	Friction torque	-	√	-	√
F2-00	FVC speed loop Kp	-	√	-	√
F2-01	FVC speed loop Ti	-	√	-	√
F2-03	SVC speed loop Kp	-	√	-	√
F2-04	SVC speed loop Ti	-	√	-	√

Note [1]: If the encoder detection corresponding to the first bit of A9-09 is enabled or the motor control mode is set to FVC mode, the corresponding encoder phase sequence will be detected, and the detection result will be written into the corresponding function code in F1-30.

Note [2]: Inertia auto-tuning is performed when the motor control mode is set to V/f, FVC, or SVC mode.

Note [3]: No-load auto-tuning on all parameters (F1-37 = 2) is preferred if allowed. When F1-37 is set to 2, the motor mutual inductance and no-load current obtained from rotation auto-tuning are more accurate, and the magnetic field saturation coefficient of the asynchronous motor is also auto-tuned to improve the torque control accuracy. In scenarios where the motor cannot rotate during auto-tuning, the obtained motor mutual inductance and no-load current are more accurate when F1-37 is set to 3 (however, the saturation coefficient cannot be auto-tuned and the auto-tuning accuracy is lower, compared with the situation in which F1-37 is set to 2).

Note [4]: When F1-37 is set to 1, static auto-tuning is performed. In this case, the calculated mutual inductance and no-load current will be used. The accuracy is lower than when F1-37 is set to 2 or 3.

Note [5]: You can optimize auto-tuning items by setting AA-09.

Note [6]: In addition to the abovementioned auto-tuning methods, you can also manually input motor parameters or download the entire parameter file.

Note [7]: Motor auto-tuning can also be performed through communication in addition to the operating panel. You can set F0-02 to select the command source. For the Modbus, PROFIBUS, and CANopen protocols, the PKW parameters support auto-tuning but the PZD parameters do not. To perform motor auto-tuning through communication, set F1-37 or A2-37 to select an auto-tuning mode, and then enter the command.

When F1-37 is set to 2 (no-load auto-tuning on all parameters), the motor will rotate at a high speed during auto-tuning. Be sure to perform auto-tuning under the premise that mechanical safety is guaranteed. Meanwhile, ensure that the load torque of the motor at constant speed is as close to no load as possible. A smaller load indicates more accurate auto-tuning results. If the load is too heavy, AC drive overload or overcurrent may occur.


## Application

The following uses the parameters of motor 1 (set F0-24 to 0 to select motor parameter group 1) as an example to describe the motor auto-tuning methods. If you need to perform auto-tuning on parameters of motor 2, set F0-24 to 1 (motor parameter group 2). The auto-tuning method for motor 2 is similar to that for motor 1. For details about the related parameters, see parameter group A2.

- Static auto-tuning on some parameters of asynchronous motor


Table 1-6 Static auto-tuning on some parameters of asynchronous motor

Step	Description
Step 1	Power on the AC drive, and then set F0-02 to 0 to select the operating panel as the command source.
Step 2	Set F1-00 to F1-05 to input motor nameplate parameters correctly.

Step	Description
Step 3	Set F1-37 to 1 to select static auto-tuning on some parameters of the asynchronous motor, and press Enter on the operating panel. The operating panel displays: 
Step 4	Press the RUN key on the operating panel for more than 3 seconds to start motor auto-tuning. The RUN indicator is steady on. The TUNE/TC indicator blinks. The motor does not rotate but the AC drive energizes the motor.  After the preceding display disappears and the operating panel returns to normal parameter display state, auto-tuning is completed.  Parameters F1-06 to F1-08 are obtained.

- Dynamic auto-tuning on all parameters of asynchronous motor  
If the motor has constant output or is used for high-accuracy applications, perform dynamic auto-tuning on all parameters after disconnecting the motor from the load for optimal auto-tuning effect.


Table 1-7 Dynamic auto-tuning on all parameters of asynchronous motor

Step	Description
Step 1	Power on the AC drive, and then set F0-02 to 0 to select the operating panel as the command source.
Step 2	Set F1-00 to F1-05 to input motor nameplate parameters correctly.
Step 3	If F0-01 is set to 1 (FVC control), enter the encoder parameters (F1-27, F1-28, and F1-30).
Step 4	Set F1-37 to 2 to select dynamic auto-tuning on all parameters of the asynchronous motor, and press Enter on the operating panel. The operating panel displays: 
Step 5	Press the RUN key on the operating panel for more than 3 seconds to start motor auto-tuning. The RUN indicator is steady on. The TUNE/TC indicator blinks. The AC drive drives the motor to accelerate/decelerate and run in the forward/reverse direction, and performs auto-tuning.  After the preceding display disappears and the operating panel returns to normal parameter display state, auto-tuning is completed.  Parameters F1-06 to F1-10 and F1-30 are obtained.

- With-load auto-tuning on all parameters of asynchronous motor  
If the motor cannot be disconnected from the load, perform auto-tuning on all parameters of the asynchronous motor with load, that is, static auto-tuning on all parameters of the asynchronous motor.

Table 1-8 Static auto-tuning on all parameters of asynchronous motor

Step	Description
Step 1	Power on the AC drive, and then set F0-02 to 0 to select the operating panel as the command source.
Step 2	Set F1-00 to F1-05 to input motor nameplate parameters correctly.

Step	Description
Step 3	Set F1-37 to 3 to select static auto-tuning on all parameters of the asynchronous motor, and press Enter on the operating panel. The operating panel displays: 
Step 4	Press the RUN key on the operating panel for more than 3 seconds to start motor auto-tuning. The RUN indicator is steady on. The TUNE/TC indicator blinks. The motor does not rotate but the AC drive energizes the motor.  After the preceding display disappears and the operating panel returns to normal parameter display state, auto-tuning is completed.  Parameters F1-06 to F1-10 are obtained.

## 1.2.2 Auto-tuning on Synchronous Motor

Motor auto-tuning is the process by which the AC drive obtains the parameters of the controlled motor.

Synchronous motor auto-tuning includes static auto-tuning on some parameters (excluding back EMF) of synchronous motor, no-load dynamic auto-tuning on all parameters of synchronous motor, and static auto-tuning on all parameters of synchronous motor.

The following table compares the effect of different auto-tuning methods.

Table 1-9 Motor auto-tuning effect

Auto-tuning Method	Application Scenario	Auto-tuning Effect
Static auto-tuning on some parameters of synchronous motor	Scenarios where the motor cannot be disconnected from the load and dynamic auto-tuning is not allowed  After auto-tuning, the back EMF (SVC and PMVC) and encoder phase sequence need to be set manually.	Good
No-load dynamic auto-tuning on all parameters of synchronous motor	Scenarios where the motor can be disconnected from the application system easily	Optimal
Static auto-tuning on all parameters of synchronous motor	The motor cannot be disconnected from the load and motor rotation is not allowed.  After auto-tuning, the back EMF (SVC and PMVC), encoder zero position angle (FVC), and encoder phase sequence (FVC) need to be set manually.	Ordinary

The rated frequency of the motor is limited by the maximum frequency and the frequency upper and lower limits. The default maximum frequency is 50 Hz. Before motor commissioning, you need to set F0-10 (maximum frequency), F0-12 (frequency upper limit), and F0-14 (frequency lower limit). If the rated frequency of the motor is greater than 50 Hz, ensure that the maximum frequency is no lower than the frequency upper limit, and the rated frequency falls between the upper and lower frequency limits.

Synchronous motors support both vector control and V/f (VVC) control. The vector control mode is preferred. V/f (VVC) control can be used if the load is a high-speed steady load. The commissioning steps are as follows.

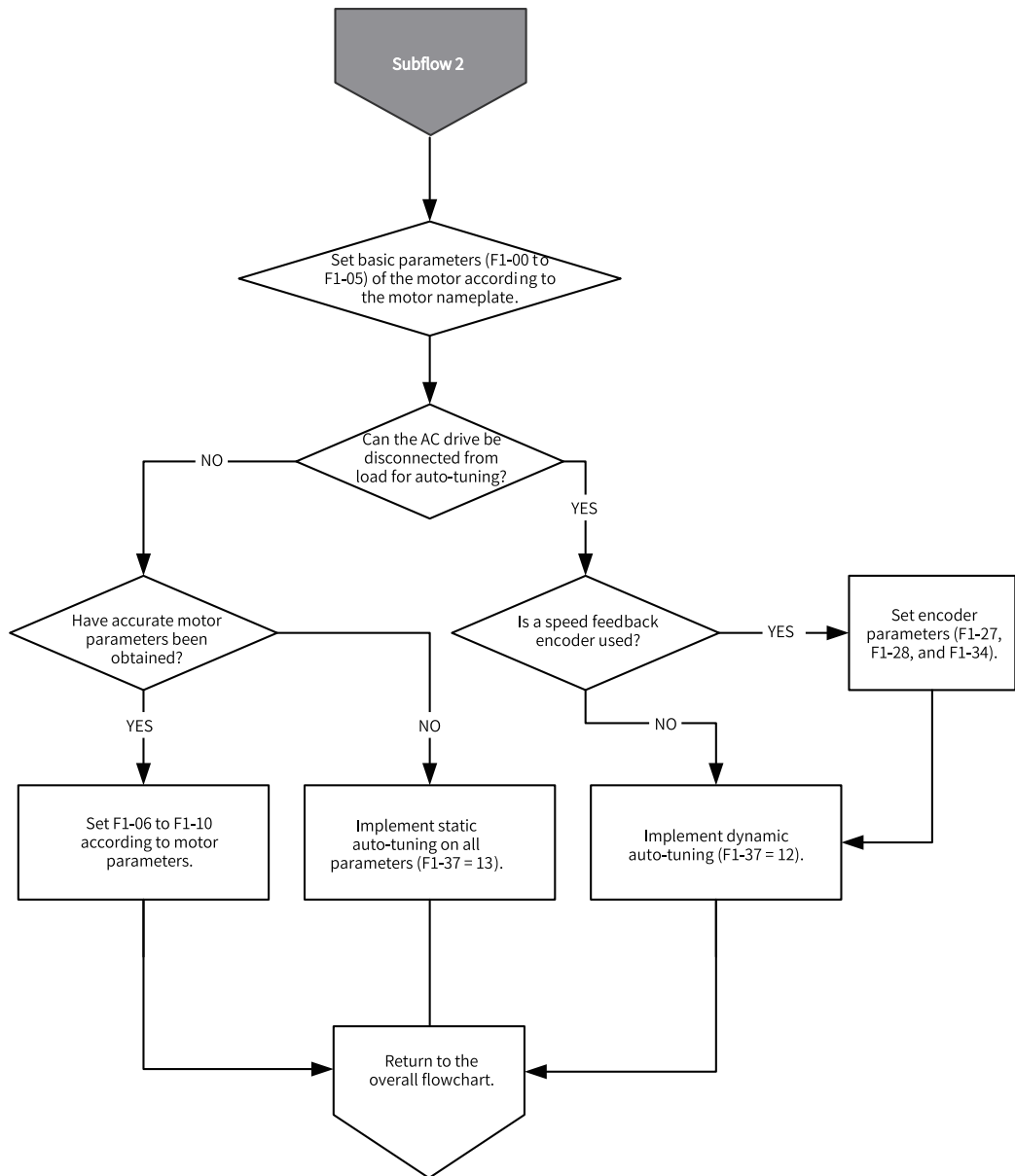


Figure 1-40 Synchronous motor commissioning subflow 1 (vector control FVC/SVC)

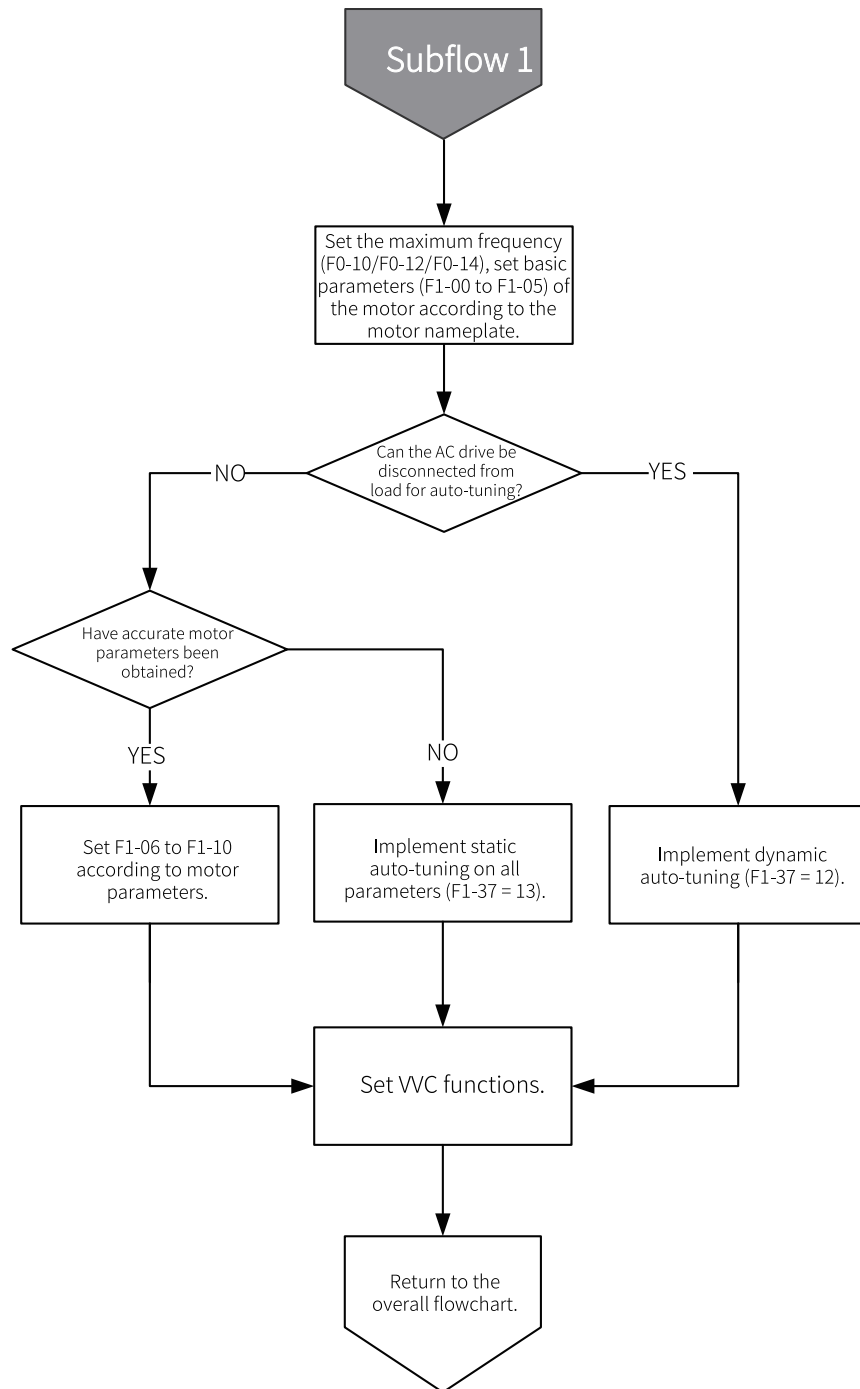


Figure 1-41 Synchronous motor commissioning subflow 2 (vector control FVC/SVC)

Para.	Name	F1-37 = 11	F1-37 = 12	F1-37 = 13	F1-37 = 4
F1-16	Motor stator resistance	√	√	√	-
F1-17	Synchronous motor D axis inductance	√	√	√	-
F1-18	Synchronous motor Q axis inductance	√	√	√	-

Para.	Name	F1-37 = 11	F1-37 = 12	F1-37 = 13	F1-37 = 4
F1-20	Synchronous motor CEMF voltage	√ <sup>[1]</sup>	√	-	-
F1-30	Encoder input A/B phase sequence	-	√ <sup>[3]</sup>	-	-
F1-31	Encoder installation position angle	√ <sup>[2]</sup>	√ <sup>[3]</sup>	-	-
A9-16	Inertia	-	√	-	√
A9-17	Inertia ratio	-	√	-	√
A9-18	Friction torque	-	√	-	√
F2-00	FVC speed loop Kp	-	√	-	√
F2-01	FVC speed loop Ti	-	√	-	√
F2-03	SVC speed loop Kp	-	√	-	√
F2-04	SVC speed loop Ti	-	√	-	√

Note [1]: When F1-37 is set to 11 (with-load auto-tuning on synchronous motor), the obtained back EMF is an estimated value, of which the accuracy is lower than when F1-37 is set to 12 or 13.

Note [2]: When F1-37 is set to 11 (with-load auto-tuning on synchronous motor), the encoder phase sequence cannot be auto-tuned. Make sure that the encoder direction is consistent with the motor rotation direction before auto-tuning. System inertia is also not auto-tuned.

Note [3]: In SVC or V/f (PMVVC) control mode, if encoder detection (first bit of A9-09) is disabled, the zero position angle of the encoder is not auto-tuned.

Note [4]: If a resolver or 23-bit encoder is used, the motor does not rotate during the auto-tuning process. If an ABZ encoder is used, the motor rotates briefly during the auto-tuning process.

Note [5]: You can also manually input motor parameters or download the parameter file (to ensure accurate motor direction and encoder direction).

Note [6]: Motor auto-tuning can also be performed through the LCD operating panel (F0-02 = 0), DI terminal (F0-02 = 1), and communication (F0-02 = 2) in addition to the LED operating panel. For the Modbus, PROFIBUS, and CANopen protocols, the PKW parameters support auto-tuning but the PZD parameters do not. To perform motor auto-tuning through communication, set F1-37 to select an auto-tuning mode, and then enter the command.


When F1-37 is set to 12 (no-load auto-tuning on all parameters), the motor will rotate at a high speed during auto-tuning. Be sure to perform auto-tuning under the premise that mechanical safety is guaranteed. Meanwhile, ensure that the load torque of the motor at constant speed is as close to no load as possible. A smaller load indicates more accurate auto-tuning results. If the load is too heavy, AC drive overload or overcurrent may occur.

**Note** In FVC control mode of the synchronous motor, the encoder installation position angle must be set or auto-tuned correctly before running. If no-load auto-tuning on all parameters (F1-37 = 12) cannot be performed because the load cannot be disconnected, with-load auto-tuning (F1-37 = 11) is required.

## Application

- Static auto-tuning on some parameters of synchronous motors


Table 1-10 Static auto-tuning on some parameters of synchronous motors

Step	Description
Step 1	Power on the AC drive, and then set F0-02 to 0 to select the operating panel as the command source.
Step 2	Set F1-00 to F1-05 to input motor nameplate parameters correctly.
Step 3	Set F1-37 to 11 to select static auto-tuning on some parameters of the synchronous motor, and press Enter on the operating panel. The operating panel displays: 
Step 4	Press the RUN key on the operating panel for more than 3 seconds to start motor auto-tuning. The RUN indicator is steady on, the TUNE/TC indicator blinks, and the AC drive energizes the motor.  After the preceding display disappears and the operating panel returns to normal parameter display state, auto-tuning is completed.  Parameters F1-06, F1-17, F1-18, and F1-31 (FVC) are obtained.  Manually set F1-19 (SVC and PMWV) and F1-30 (FVC).

- No-load dynamic auto-tuning on all parameters of synchronous motors

If the motor has constant output or is used for high-accuracy applications, perform dynamic auto-tuning on all parameters after disconnecting the motor from the load for optimal auto-tuning effect.

Table 1-11 Dynamic auto-tuning on all parameters of synchronous motors


Step	Description
Step 1	Power on the AC drive, and then set F0-02 to 0 to select the operating panel as the command source.
Step 2	Set F1-00 to F1-05 to input motor nameplate parameters correctly.
Step 3	If F0-01 is set to 1 (FVC control), enter encoder parameters (F1-27 and F1-28).
Step 4	Set F1-37 to 12 to select no-load dynamic auto-tuning on all parameters of the synchronous motor, and press Enter on the operating panel. The operating panel displays: 
Step 5	Press the RUN key on the operating panel for more than 3 seconds to start motor auto-tuning. The RUN indicator is steady on, the TUNE/TC indicator blinks, and the AC drive energizes the motor.  After the preceding display disappears and the operating panel returns to normal parameter display state, auto-tuning is completed.  Parameters F1-06, F1-17, F1-18, F1-19, F1-30 (FVC), and F1-31 (FVC) are obtained.

- Static auto-tuning on all parameters of synchronous motors

You can use this method in scenarios where the motor is not allowed to rotate at all.



Table 1–12 Static auto-tuning on all parameters of synchronous motors

Step	Description
Step 1	Power on the AC drive, and then set F0-02 to 0 to select the operating panel as the command source.
Step 2	Set F1-00 to F1-05 to input motor nameplate parameters correctly.
Step 3	Set F1-37 to 13 to select static auto-tuning on all parameters of the synchronous motor, and press Enter on the operating panel. The operating panel displays: 
Step 4	Press the RUN key on the operating panel for more than 3 seconds to start motor auto-tuning. The RUN indicator is steady on, the TUNE/TC indicator blinks, and the AC drive energizes the motor.  After the preceding display disappears and the operating panel returns to normal parameter display state, auto-tuning is completed.  Parameters F1-06, F1-17, and F1-18 are obtained.  Manually set F1-19 (SVC and PMVVC), F1-31 (FVC), and F1-30 (FVC).

### 1.2.3 Motor Parameters

MD520 supports four groups of motor parameters, as listed in the following table.

Motor Parameter Group	Function Code
Motor parameter group 1	F0, F1, F2, F3, F6, F8, A9, AA, AB
Motor parameter group 2	A2, A3, B6, B7, B8, B9
Motor parameter group 3	BA, BB, BC, BD, BE
Motor parameter group 4	CA, CB, CC, CD, CE

The motor parameter group can be switched in the following two ways:

- Set F0-24 to select a motor parameter group. Set F0-24 to 0 to select motor parameter group 1, set F0-24 to 1 to select motor parameter group 2, set F0-24 to 2 to select motor parameter group 3, and set F0-24 to 3 to select motor parameter group 4.
- Set DI terminal functions to select a motor parameter group. Set the functions of any two DI terminals among DI1 to DI10 (F4-00 to F4-09) to 41 (motor selection terminal 1) and 76 (motor selection terminal 2) respectively. The following table describes the correspondence between DI terminal states and motor parameter group selection.

State of DI Terminal Assigned with Function 41	State of DI Terminal Assigned with Function 76	Motor parameter group
0	0	1
1	0	2
0	1	3
1	1	4

If any of F4-00 to F4-09 is set to 41 (motor selection terminal 1) or 76 (motor selection terminal 2), the DI terminal determines motor selection. The motor parameter group is selected by F0-24 only when no DI terminal (F4-00 to F4-09) is assigned with the motor selection function.

You can also obtain the current motor parameter group in U2-00. When U2-00 is 0, motor parameter group 1 is selected; when U2-00 is 1, motor parameter group 2 is selected; when U2-00 is 2, motor parameter group 3 is selected; when U2-00 is 3, motor parameter group 4 is selected.

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**Note** The motor parameter group switching command is invalid during running. You need to switch the motor parameter group after the AC drive stops.

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## 1.3 Control Interfaces

### 1.3.1 DI

The AC drive is equipped with a number of multi-functional DI terminals (among which DI5 can be used as the pulse input terminal). Each DI terminal can be assigned with a DI function.

Table 1–13 Related parameters

Para.	Name	Default	Value Range	Description
F4-00	DI1 function	1	0 to 80 (The value 30 (pulse frequency input function) is unavailable for F4-00.)	See <a href="#">“Table 1–14 Functions of DI terminals”</a> on page 60.
F4-01	DI2 function	4		
F4-02	DI3 function	9		
F4-03	DI4 function	12		
F4-04	DI5 function	13		
F4-05	DI6 function	0		
F4-06	DI7 function	0		
F4-07	DI8 function	0		
F4-08	DI9 function	0		
F4-09	DI10 function	0		
F4-10	DI filter time	0.010s	0.000s to 1.000s	This parameter defines the delay upon DI terminal state change.  It is available only for DI1 and DI2 currently.

## Function Application







Para.	Name	Default	Value Range	Description
F4-38	DI active mode setting 1	00000	Ones: DI1 active mode	The ones, tens, hundreds, thousands, and ten thousands of this parameter define the active modes for terminals DI1 to DI5.  0: Active high The DI terminal (DI1 to DI5) is active when being connected to COM and inactive when being disconnected from COM.  1: Active low The DI terminal (DI1 to DI5) is inactive when being connected to COM and active when being disconnected from COM.
F4-39	DI active mode setting 2	00000	0: Active high 1: Active low  Tens: DI2 active mode (0 or 1, the options are the same as those of DI1).  Hundreds: DI3 active mode (0 or 1, the options are the same as those of DI1).  Thousands: DI4 active mode (0 or 1, the options are the same as those of DI1).  Ten thousands: DI5 active mode (0 or 1, the options are the same as those of DI1).	
F4-41	DI1 switch-on delay	0.0s	0.0s to 3600.0s	-
F4-42	DI1 switch-off delay	0.0s	0.0s to 3600.0s	-
F4-43	DI2 switch-on delay	0.0s	0.0s to 3600.0s	-
F4-44	DI2 switch-off delay	0.0s	0.0s to 3600.0s	-
F4-45	DI3 switch-on delay	0.0s	0.0s to 3600.0s	-
F4-46	DI3 switch-off delay	0.0s	0.0s to 3600.0s	-
F4-47	DI4 switch-on delay	0.0s	0.0s to 3600.0s	-
F4-48	DI4 switch-off delay	0.0s	0.0s to 3600.0s	-
F4-49	DI force data	0x0	0x0 to 0x03FF	This parameter is used to set the level states of DI1 to DI10 (arranged by bit) forcibly. If the bit value is 0, the corresponding level is forced to be inactive; otherwise, it is active.
F4-50	DI communication data	0x0	0x0 to 0xFFFF	This parameter is used to set the level states of DI1 to DI10 and VDI1 to VDI6 (arranged by bit) through communication. If the bit value is 0, the corresponding level is inactive; otherwise, it is active.

Para.	Name	Default	Value Range	Description
F4-51	DI1 hardware source	0	0: Hardware 1: Force value	-
F4-52	DI2 hardware source	0	0: Hardware 1: Force value	-
F4-53	DI3 hardware source	0	-	-
F4-54	DI4 hardware source	0	-	-
F4-55	DI5/HDI hardware source	0	-	-
F4-56	DI6 hardware source	0	0: Hardware 1: Force value 2: Communication 4: AI1 5: AI2 6: AI3 11: DI1 12: DI2 13: DI3 14: DI4 15: DI5/HDI 17: DI7 18: DI8 19: DI9 20: DI10 21: VDI1 22: VDI2 23: VDI3 24: VDI4 25: VDI5 26: VDI6 31: Relay 1 32: Relay 2 33: DO1 (To be continued)	-

Para.	Name	Default	Value Range	Description
(Continued)	(Continued)	(Continued)	(Continued) 34: Expansion card relay 35: Expansion card DO2 36: VDO1 37: VDO2 38: VDO3 39: VDO4 40: VDO5 41: VDO6 42: VDO7 43: VDO8 44: VDO9 45: VDO10 46: VDO11	-
F4-57	DI7 hardware source	0	Same as F4-56	-
F4-58	DI8 hardware source	0	Same as F4-56	-
F4-59	DI9 hardware source	0	Same as F4-56	-
F4-60	DI10 hardware source	0	Same as F4-56	-
F4-61	DI5/HDI terminal type	1	0: HDI 1: DI	-

Table 1–14 Functions of DI terminals

Reference	Function	Description
0	No function	Set 0 for reserved terminals to avoid malfunction.
1	Forward RUN (IN1)	The terminal is used to set the operation mode of the AC drive to forward run. (FWD indicates forward.) In two-wire mode 1 (F4-11 = 0), the terminal is used to set the operation mode of the AC drive to forward run. In two-wire mode 2 (F4-11 = 1), the terminal is used to issue a running command.
2	Reverse RUN (IN2)	The terminal is used to set the operation mode of the AC drive to reverse run. (REV indicates reverse.) In three-wire mode 1 (F4-11 = 2), the terminal is used to set the operation mode of the AC drive to reverse run. In three-wire mode 2 (F4-11 = 3), the terminal is used to set the forward/reverse run direction.
3	Three-wire control mode (IN3)	The terminal is used to set the AC drive to run in three-wire control mode. To use a terminal as the command source, set F4-11 (terminal control mode) to 2 (three-wire mode 1) or 3 (three-wire mode 2), and set this parameter to 3. The three-wire control modes include three-wire mode 1 and three-wire mode 2.
4	Forward jogging (FJOG)	The terminal is used to set the operation mode of the AC drive to forward jogging. In jogging mode, the AC drive runs at low speed for a short time, which is typically used for maintenance and commissioning of field equipment.

Reference	Function	Description
5	Reverse jogging (RJOG)	The terminal is used to set the operation mode of the AC drive to reverse jogging. In jogging mode, the AC drive runs at low speed for a short time, which is typically used for maintenance and commissioning of field equipment.
6	Terminal UP	The terminal is used to increase the frequency when terminal I/O is used as the frequency reference source. When the terminal is active, it works as if the  key is pressed and held. When the terminal is inactive, it works as if the  key is released.
7	Terminal DOWN	The terminal is used to decrease the frequency when terminal I/O is used as the frequency reference source. When the terminal is active, it works as if the  key is pressed and held. When the terminal is inactive, it works as if the  key is released.
8	Coast to stop	When the terminal is active, a coast to stop command is issued, upon receiving which the AC drive stops output immediately, allowing the load to stop following mechanical inertia. The AC drive stops by stopping the output. At this time, the power supply of the motor is cut off and the drive system is in a free braking state. Since the stop time is determined by the inertia of the drive system, it is also called inertia stop.
9	Fault reset (RESET)	The terminal is used to reset faults of the AC drive, which functions the same as the STOP/RES key on the operating panel. Remote fault reset can be implemented by using this function.
10	Running pause	When the terminal is active, the AC drive decelerates to stop with all running parameters memorized (such as PLC, wobble, and PID parameters). When the terminal is inactive, the AC drive resumes its running state as recorded.
11	External fault NO input	When the terminal is active, the AC drive reports E015.1 upon receiving an external signal.
12	Multi-reference terminal 1	Multi-reference is selected as the main frequency source. You can set the 16 states of the four terminals to define 16 speeds or 16 other references. This function is applicable to applications where continuous adjustment of the AC drive running frequency is not required and only several frequency values are required.
13	Multi-reference terminal 2	
14	Multi-reference terminal 3	
15	Multi-reference terminal 4	
16	Acceleration/deceleration time selection terminal 1	The AC drive supports four groups of acceleration/deceleration time, which can be selected through combinations of four states of these two terminals.  The acceleration time indicates the time required for the output frequency of the AC drive to rise from 0 to the acceleration/ deceleration base frequency (F0-25). The deceleration time indicates the time required for the output frequency of the AC drive to decrease from the acceleration/deceleration base frequency (F0-25) to 0 Hz.
17	Acceleration/deceleration time selection terminal 2	
18	Frequency source switchover	The terminal is used to switch between different frequency reference sources. The frequency reference is set in F0-07 (frequency source superposition).
19	UP and DOWN setting clear	When the main frequency is set through the operating panel and this terminal is active, the frequency set by using the  or  key on the operating panel or terminal UP/DOWN (6 or 7) can be cleared and the frequency will be reset to the value of F0-08.

## Function Application

Reference	Function	Description
20	Command source switchover terminal 1	When the command source is set to terminal control (F0-02 = 1), activating the terminal switches from terminal control to operating panel control. When the command source is set to communication control (F0-02 = 2), activating the terminal switches from communication control to operating panel control.
21	Acceleration/Deceleration inhibition	The terminal is used to keep the AC drive at the current running frequency regardless of changes of the external input frequency (unless a stop command is received).
22	PID pause	The terminal is used to suspend PID control temporarily, so that the AC drive retains the current output frequency with no more PID tuning on the frequency source.
23	Simple PLC state reset	The terminal is used to reset the AC drive to the initial state of the simple PLC.
24	Wobble pause	In the wobble process, when the terminal is active, the wobble function is paused (the AC drive outputs at the center frequency).
25	Counter input	In the counting process, a counting pulse is input when the terminal is active.
26	Counter reset	In the counting process, the counter state is cleared when the terminal is active.
27	Length count input	In the fixed length process, the length count is input when the terminal is active.
28	Length reset	In the fixed length process, the length is cleared when the terminal is active.
29	Torque control inhibition	When the terminal is active, the AC drive switches from the torque control mode to speed control mode. When the terminal is inactive, the AC drive resumes the torque control mode.
30	Pulse input	This function must be selected when DI5 is used for pulse input.
32	Immediate DC braking	When the terminal is active, the AC drive switches to the DC braking state directly. During DC braking, the AC drive feeds DC into the stator winding of the asynchronous motor to form a static magnetic field to set the motor to braking with energy consumption. In this state, the rotor cuts the static magnetic field to generate braking torque, which stops the motor quickly.
33	External fault NC input	When the terminal is active, the AC drive reports E015.2 upon receiving an external signal.
34	Frequency modification enable	When the terminal is active, the frequency can be modified. When the terminal is inactive, the frequency cannot be modified.
35	PID action direction reversal	The terminal is used to reverse the direction set by FA-03 (PID action direction).
36	External stop terminal 1	When the command source is set to operating panel control (F0-02 = 0), the terminal is used to stop the AC drive, which functions the same as the STOP/RES key on the operating panel.
37	Control command switchover terminal 2	The terminal is used for switchover between terminal control and communication control. If the command source is set to terminal control, the system switches to communication control when the terminal is active. If the command source is set to communication control, the system switches to terminal control when the terminal is active.
38	PID integral pause	The integral adjustment function pauses when the terminal is active. However, the proportional and derivative adjustment functions are still valid.

Reference	Function	Description
39	Switchover between main frequency and preset frequency	The terminal is used to switch from the main frequency X to the preset frequency (F0-08).
40	Switchover between auxiliary frequency and preset frequency	The terminal is used to switch from the auxiliary frequency Y to the preset frequency (F0-08).
41/76	Motor selection	The terminal is used to select the motor. Assume that DI1 and DI2 are assigned with functions 41 and 76. Motor 1 is selected when both DI1 and DI2 are inactive; motor 2 is selected when DI1 is active and DI2 is inactive; motor 3 is selected when DI1 is inactive and DI2 is active; and motor 4 is selected when both DI1 and DI2 are active.
43	PID parameter switchover	If the PID parameter switchover condition is set to "switchover by DI" (FA-18 = 1), the PID parameters are FA-05 to FA-07 (proportional gain Kp1, integral time Ti1, and derivative time Td1) when the terminal is inactive, or FA-15 to FA-17 (proportional gain Kp2, integral time Ti2, and derivative time Td2) when the terminal is active.
44	User-defined fault 1	When E027.1 is reported, the AC drive will take measures according to the value of F9-49 (fault protection action).
45	User-defined fault 2	When E28.1 is reported, the AC drive will take measures according to the value of F9-49 (fault protection action).
46	Switchover between speed control and torque control	The terminal is used to switch between speed control and torque control.  When A0-00 (speed/torque control mode) is set to 0, the torque control mode is used when the terminal is active, and the speed control mode is used when the terminal is inactive.  When A0-00 (speed/torque control mode) is set to 1, the speed control mode is used when the terminal is active, and the torque control mode is used when the terminal is inactive.
47	Emergency stop	Upon an emergency, the AC drive decelerates according to the deceleration time for emergency stop set in F8-59, or it decelerates according to the minimum unit time when the deceleration time for emergency stop is 0s in V/f mode. The terminal does not need to be kept in the closed state. Even if it stays closed only for an instant, the AC drive will come to an emergency stop. Different from general deceleration, the emergency stop action prevents the AC drive from restarting even if the emergency stop input terminal is opened after the deceleration time for emergency stop expires and the run signal is still valid on the AC drive terminal. To restart the AC drive in this case, disconnect the running terminal and input the run command.
48	External stop terminal 2	The terminal is used to make the AC drive decelerate to stop in any control mode (operating panel, terminal, or communication control). In this case, the deceleration time is fixed to deceleration time 4 (F8-08).
49	Deceleration DC braking	The terminal is used to make the AC drive decelerate to the start frequency of DC braking during stop (F6-11) before entering the DC braking state.
50	Current running duration clear	The terminal is used to clear the current running duration of the AC drive. If the current running duration is less than the setpoint of F8-53 (current running duration threshold, which is greater than 0) and the terminal is active in the process, the current running duration is cleared. If the current running duration is greater than the setpoint of F8-53 (greater than 0) and the terminal is active, the current running duration is not cleared.



## Function Application

Reference	Function	Description
51	Switchover between two-wire and three-wire control	<p>The terminal is used to switch between two-wire and three-wire control.</p> <p>If F4-11 is set to 0 (two-wire mode 1), the AC drive switches to three-wire mode 1 when the terminal is active. When the terminal is inactive, two-wire mode 1 is used.</p> <p>If F4-11 is set to 1 (two-wire mode 2), the AC drive switches to three-wire mode 2 when the terminal is active.</p> <p>If F4-11 is set to 2 (three-wire mode 1), the AC drive switches to two-wire mode 1 when the terminal is active.</p> <p>If F4-11 is set to 3 (three-wire mode 2), the AC drive switches to two-wire mode 2 when the terminal is active.</p>
52	Reverse running inhibition	When the terminal is active, even if the reverse frequency is set, the actual frequency reference of the AC drive is fixed to 0. This function is the same as F8-13.

### 1.3.2 DO

Table 1–15 Related parameters

Para.	Name	Default	Value Range	Description
F5-01	FMR output function	0	0 to 43	See <a href="#">“Table 1–16 Functions of DO terminals” on page 67.</a>
F5-02	Control board relay (DO3) output function	2		
F5-03	Expansion card relay (DO4) output function	0		
F5-04	DO1 function	1		
F5-05	Expansion card DO2 function	4		
F5-17	FMR output delay (invalid)	0.0s	0.0s to 3600.0s	These parameters are reserved for compatibility with MD500. The settings are invalid.
F5-18	Relay 1 (DO3) output delay (invalid)	0.0s	0.0s to 3600.0s	
F5-19	Relay 2 (DO4) output delay (invalid)	0.0	0.0s to 3600.0s	
F5-20	DO1 output delay (invalid)	0.0s	0.0s to 3600.0s	
F5-21	DO2 output delay (invalid)	0.0s	0.0s to 3600.0s	

Para.	Name	Default	Value Range	Description
F5-22	DO active mode	0	Ones: FMR 0: Positive logic active 1: Negative logic active Tens: Relay 1 (DO3) 0: Positive logic active 1: Negative logic active Hundreds: Relay 2 (DO4) 0: Positive logic active 1: Negative logic active Thousands: DO1 0: Positive logic active 1: Negative logic active Ten thousands: DO2 0: Positive logic active 1: Negative logic active	The ones, tens, hundreds, thousands, and ten thousands of this parameter define the active modes for DO terminals corresponding to F5-01 to F5-05. 0: Positive logic (same as NO contact) Active: The DO terminal and COM/CME terminal are connected inside the AC drive. Inactive: The DO terminal and COM/CME terminal are disconnected. 1: Negative logic (same as NC contact) Active: The DO terminal and COM/CME terminal are disconnected. Inactive: The DO terminal and COM/CME terminal are connected inside the AC drive.
F5-24	Control board relay (DO3) switch-on delay	0.0s	0.0s to 3600.0s	Output delay of the relay on the expansion card. F5-01 outputs the active signal only after the set delay time expires.
F5-25	Control board relay (DO3) switch-off delay	0.0s	0.0s to 3600.0s	
F5-26	FMR output switch-on delay	0.0	0.0s to 3600.0s	Output delay of relay 1 on the control board. F5-02 outputs the active signal only after the set delay time expires.
F5-27	FMR output switch-off delay	0.0s	0.0s to 3600.0s	
F5-28	DO1 output switch-on delay	0.0s	0.0s to 3600.0s	Output delay of relay 2 on the control board. F5-03 outputs the active signal only after the set delay time expires.
F5-29	DO1 output switch-off delay	0.0s	0.0s to 3600.0s	
F5-30	Expansion card relay (DO4) switch-on delay	0.0s	0.0s to 3600.0s	DO1 output delay. F5-04 outputs the active signal only after the set delay time expires.
F5-31	Expansion card relay (DO4) switch-off delay	0.0s	0.0s to 3600.0s	
F5-32	Expansion card DO2 output switch-on delay	0.0s	0.0s to 3600.0s	Output delay of DO2 on the expansion card. F5-05 outputs the active signal only after the set delay time expires.
F5-33	Expansion card DO2 output switch-off delay	0.0s	0.0s to 3600.0s	

## Function Application

Para.	Name	Default	Value Range	Description
F5-34	DO/RO source	0x0	Bit00: Relay 1 (DO3) output source 0: Output function 1: Communication Bit01: FMR output source 0: Output function 1: Communication Bit02: DO1 output source 0: Output function 1: Communication Bit03: Relay 2 (DO4) output source 0: Output function 1: Communication Bit04: DO2 output source 0: Output function 1: Communication Bit05: VDO1 output source 0: Output function 1: Communication Bit06: VDO2 output source 0: Output function 1: Communication Bit07: VDO3 output source 0: Output function 1: Communication Bit08: VDO4 output source 0: Output function 1: Communication (To be continued)	-

Para.	Name	Default	Value Range	Description
(Continued)	(Continued)	(Continued)	(Continued) Bit09: VDO5 output source 0: Output function 1: Communication Bit10: VDO6 output source 0: Output function 1: Communication Bit11: VDO7 output source 0: Output function 1: Communication Bit12: VDO8 output source 0: Output function 1: Communication Bit13: VDO9 output source 0: Output function 1: Communication Bit14: VDO10 output source 0: Output function 1: Communication Bit15: VDO11 output source 0: Output function 1: Communication	-
F5-35	DO/RO terminal communication control	0x0	Same as F5-34	-

Table 1-16 Functions of DO terminals

Reference	Function	Description
0	No output	The output terminal has no function.
1	AC drive running	The DO terminal outputs an active signal when the AC drive is running with an output frequency (which can be zero).
2	Fault output	The DO terminal outputs an active signal when the AC drive stops due to a fault.
3	Frequency-level detection FDT1	When the running frequency is higher than the detected value, the DO terminal outputs an active signal. When the running frequency is lower than the result of the detected value minus the FDT hysteresis value (F8-19 x F8-20), the active signal is canceled.
4	Frequency reach	The DO terminal outputs an active signal when the running frequency of the AC drive is within a certain range (target frequency $\pm$ setpoint of F8-21 x Maximum frequency).

## Function Application

Reference	Function	Description
5	Running at zero speed (no output at stop)	The DO terminal outputs an active signal when the AC drive is running with the output frequency of 0. When the AC drive stops, the signal becomes inactive.
6	Motor overload pre-warning	The AC drive determines whether the motor load exceeds the overload pre-warning threshold according to the overload pre-warning coefficient (F9-02) before performing the protection action. The terminal outputs an active signal when the overload pre-warning threshold is exceeded. (For the calculation of the pre-warning threshold, see description of the motor overload protection function.)
7	AC drive overload pre-warning	The DO terminal outputs an active signal 10 seconds before AC drive overload protection is performed.
8	Reference count value reach	The DO terminal outputs an active signal when the count value reaches the setpoint of FB-08.
9	Designated count value reach	The DO terminal outputs an active signal when the count value reaches the setpoint of FB-09.
10	Length reach	The DO terminal outputs an active signal when the detected actual length exceeds the setpoint of FB-05.
11	Simple PLC cycle completion	The terminal outputs a pulse signal with a width of 250 ms when the simple PLC completes one cycle.
12	Accumulative running duration reach	The terminal outputs an active signal when the accumulative running duration of the AC drive exceeds the setpoint of F8-17 (accumulative running duration threshold).
13	Wobble limit reach	The DO terminal outputs an active signal when the frequency reference exceeds the frequency upper or lower limit and the output frequency of AC drive reaches the upper or lower limit.
14	Torque limit reach	The DO terminal outputs an active signal when the output torque reaches the torque limit in speed control mode.
15	Ready to run	The DO terminal outputs an active signal when the AC drive is ready for running without any fault after power-on.
16	AI1 > AI2	The DO terminal outputs an active signal when the value of AI1 is greater than that of AI2.
17	Frequency upper limit reach	The DO terminal outputs an active signal when the running frequency reaches the upper limit (F0-12).
18	Frequency lower limit reach (no output at stop)	If F8-14 (running mode when frequency reference lower than lower limit) is set to 1 (stop), the terminal outputs an inactive signal no matter whether the running frequency reaches the frequency lower limit. If F8-14 (running mode when frequency reference lower than lower limit) is set to 0 (run at frequency lower limit) or 2 (run at zero speed), the terminal outputs an active signal when the running frequency reaches the frequency lower limit.
19	Undervoltage state	The DO terminal outputs an active signal when undervoltage occurs on the AC drive.
20	Communication control	Whether the terminal is active or inactive is determined by the setpoint in communication address 0x2001.
23	Running at zero speed 2 (output at stop)	The DO terminal outputs an active signal when the AC drive is running with the output frequency of 0. The DO terminal also outputs an active signal when the AC drive is stopped.
24	Accumulative power-on duration reach	The DO terminal outputs an active signal when the accumulative power-on duration (F7-13) of the AC drive exceeds the accumulative power-on duration threshold (F8-16).

Reference	Function	Description
25	Frequency-level detection FDT2	When the running frequency is higher than the detected value, the DO terminal outputs an active signal. When the running frequency is lower than the result of the detected value minus the frequency detection hysteresis value (F8-28 x F8-29), the active signal is canceled.
26	Frequency 1 reach	The DO terminal outputs an active signal when the running frequency of the AC drive is within the frequency detection range of F8-30 (detection value 1 for frequency reach). The frequency detection range is as follows: (F8-30 – F8-31 x F0-10) to (F8-30 + F8-31 x F0-10).
27	Frequency 2 reach	The DO terminal outputs an active signal when the running frequency of the AC drive is within the frequency detection range of F8-32 (detection value 2 for frequency reach). The frequency detection range is as follows: (F8-32 – F8-33 x F0-10) to (F8-32 + F8-33 x F0-10).
28	Current 1 reach	The DO terminal outputs an active signal when the output current of the AC drive is within the detection range of F8-38 (detection level of current 1). The current detection range is as follows: (F8-38 – F8-39 x F1-03) to (F8-38 + F8-39 x F1-03).
29	Current 2 reach	The DO terminal outputs an active signal when the output current of the AC drive is within the detection range of F8-40 (detection level of current 2). The current detection range is as follows: (F8-40 – F8-41 x F1-03) to (F8-40 + F8-41 x F1-03).
30	Timing reach	When the timing function (F8-42) is enabled, the DO terminal outputs an active signal when the current running duration of the AC drive reaches the timing duration defined by F8-43 and F8-44.
31	AI1 input overlimit	The DO terminal outputs an active signal when the AI1 input is higher than the setpoint of F8-46 (AI1 input voltage upper limit) or lower than the setpoint of F8-45 (AI1 input voltage lower limit).
32	Load loss	The DO terminal outputs an active signal when load loss occurs.
33	Reverse running	The DO terminal outputs an active signal when the AC drive runs in the reverse direction.
34	Zero current state	The DO terminal outputs an active signal when the output current of the AC drive is within the zero-current range for a period longer than the setpoint of F8-35 (zero current detection delay). The zero current detection range is 0 to (F8-34 x F1-03).
35	IGBT temperature reach	The DO terminal outputs an active signal when the IGBT heatsink temperature (F7-07) reaches the IGBT temperature threshold (F8-47).
36	Output overcurrent	The DO terminal outputs an active signal when the output current of the AC drive remains higher than the setpoint of F8-36 (output overcurrent threshold) for a period longer than the setpoint of F8-37 (output overcurrent detection delay).
37	Frequency lower limit reach (output at stop)	The DO terminal outputs an active signal when the running frequency reaches the frequency lower limit (F0-14). The DO terminal also outputs an active signal when the AC drive is stopped.
38	Alarm (all faults)	The DO terminal outputs an active signal when a fault occurs on the AC drive and the AC drive continues to run upon the fault.  For details about fault protection actions, see the description of parameters F9-47 to F9-50.
39	Motor overtemperature	The DO terminal outputs an active signal when the motor temperature reaches the setpoint of F9-58 (motor overtemperature pre-warning threshold). (You can check the motor temperature in U0-34.)
40	Current running duration reach	The DO terminal outputs an active signal when the current running duration of the AC drive exceeds the setpoint of F8-53 (current running duration threshold).

Reference	Function	Description
41	Fault output (no output at undervoltage)	The DO terminal outputs an active signal when an AC drive fault (except the undervoltage fault) occurs.
42	STO output	The DO terminal outputs an active signal when the AC drive triggers STO.
43	Running with limits	The DO terminal outputs an active signal when the AC drive generates a minor fault of running with limits and the operating panel displays "LXXX.XX".

### 1.3.3 VDI

The virtual digital input (VDI) terminals have similar functions as those of DI terminals on the control board and can be used as multi-function DI terminals.

The AC drive supports four VDI sources:

- A1-06 and A1-42. You can directly set A1-06 and A1-42 to activate the DI. This mode mainly applies to communication scenarios in which physical DIs are not used and DI functions are implemented by writing to A1-06 and A1-42. The ones place of A1-06 corresponds to VDI1, the tens place corresponds to VDI2, and so on. The ten thousands place of A1-06 corresponds to VDI5, and A1-42 corresponds to VDI6.
- VDO state. There are six VDOs, and VDOx corresponds to VDIx (x = 1, 2, 3, 4, 5, or 6).
- DI state. DI1 corresponds to VDI1, DI2 corresponds to VDI2, and so on.
- AI state. AI1 corresponds to VDI1, AI2 corresponds to VDI2, and AI3 corresponds to VDI3. The other three virtual terminals are AI1AsDI, AI2AsDI, and AI3AsDI

### Application

The following examples illustrate how to use the VDI.

- Example 1: When A1-05 (VDI1 active state source) is set to 00001 (DO is used as the source), to enable the AC drive to generate an alarm and stop when the AI1 input exceeds the upper limit or lower limit, set as follows.

Step	Settings
1	Set A1-00 to 44 to assign VDI1 with the function of "user-defined fault 1".
2	Set F5-04 to 31 to assign DO1 with the function of "AI input overlimit".
3	Set A1-05 to 00001 to use DO as the VDI1 state source.

After the setting, when the AI1 input exceeds the upper or lower limit, DO1 becomes ON. At this moment, VDI1 becomes active and the AC drive receives user-defined fault 1. Then the AC drive reports E27.00 and stops.

- Example 2: To use the VDI to implement the emergency stop function without physical DIs in a communication scenario, set as follows:

Step	Settings
1	Set A1-00 to 47 to assign VDI1 with the function of "emergency stop".
2	Set A1-05 to 00000 to use the parameter as the VDI1 active state source.
3	Change the value of the ones place of A1-06 through communication.

After the setting, the emergency stop function can be implemented when the ones place of A1-06 is set to 1 through communication.

### Related Parameters

Para.	Name	Default	Value Range	Description
A1-00	VDI1 function	0	0 to 80	Same as F4-00
A1-01	VDI2 function	0		
A1-02	VDI3 function	0		
A1-03	VDI4 function	0		
A1-04	VDI5 function	0		
A1-05	VDI active state source	00000	<p>Ones: VDI1</p> <p>0: VDO1</p> <p>1: A1-06</p> <p>2: DI1</p> <p>3: Communication setpoint (bit10 of F4-50)</p> <p>4: AI1</p> <p>5: Reserved</p> <p>Tens: VDI2</p> <p>0: VDO2</p> <p>1: A1-06</p> <p>2: DI2</p> <p>3: Communication setpoint (bit11 of F4-50)</p> <p>4: AI2</p> <p>5: Reserved</p> <p>(To be continued)</p>	<p>This parameter defines the state of VDIx (x ranges from 1 to 5).</p> <p>0: VDOx</p> <p>The VDI state depends on the corresponding VDO output. VDIx (x ranges from 1 to 5) is uniquely bound to VDOx (x ranges from 1 to 5).</p> <p>1: A1-06</p> <p>The state of VDIx (x ranges from 1 to 5) is set through the binary bits of A1-06.</p> <p>2: DIx (x ranges from 1 to 5)</p> <p>The VDI state depends on the corresponding DI output. VDIx (x ranges from 1 to 5) is uniquely bound to DIx (x ranges from 1 to 5).</p> <p>3: Communication setpoint (bit10 to bit14 of F4-50)</p> <p>4: AIx (x ranges from 1 to 3)</p> <p>The VDI state depends on the corresponding AI output. VDIx (x ranges from 1 to 3) is bound to AIx (x ranges from 1 to 3).</p> <p>5: Reserved</p>



## Function Application

Para.	Name	Default	Value Range	Description
(Continued)	(Continued)	(Continued)	(continued) Hundreds: VDI3 0: VDO3 1: A1-06 2: DI3 3: Communication setpoint (bit12 of F4-50) 4: AI3 5: Reserved Thousands: VDI4 0: VDO4 1: A1-06 2: DI4 3: Communication setpoint (bit13 of F4-50) 4-5: Reserved Ten thousands: VDI5 0: VDO5 1: A1-06 2: DI5 3: Communication setpoint (bit14 of F4-50) 4-5: Reserved	(Continued)
A1-06	VDI state	00000	Ones: VDI1 0: Inactive 1: Active Tens: VDI2 0: Inactive 1: Active Hundreds: VDI3 0: Inactive 1: Active Thousands: VDI4 0: Inactive 1: Active Ten thousands: VDI5 0: Inactive 1: Active	This parameter defines whether VDIx (x ranges from 1 to 5) is active or inactive.
A1-40	VDI6 function	0	0 to 80	Same as F4-00

Para.	Name	Default	Value Range	Description
A1-41	VDI6 hardware source	0	Ones: VDI6 0: VDO6 1: A1-42 2: DI6 3: Communication setpoint (bit15 of F4-50) 4-5: Reserved	Same as A1-05
A1-42	VDI6 state	0	Ones: VDI6 0: Inactive 1: Active	Same as A1-06
A1-43	VDI1-VDI5 active mode	0	Ones: VDI1 0: Active low 1: Active high Tens: VDI2 0: Active low 1: Active high Hundreds: VDI3 0: Active low 1: Active high Thousands: VDI4 0: Active low 1: Active high Ten thousands: VDI5 0: Active low 1: Active high	This parameter defines the active mode of VDIx (x ranges from 1 to 5).
A1-44	VDI6 active mode	0	Ones: VDI6 0: Active low 1: Active high	Same as A1-43

### 1.3.4 VDO

The virtual digital output (VDO) terminals have similar functions as those of DO terminals on the control board. They can be used together with VDI terminals to implement some simple logic control.

VDO and VDI terminals can work together to implement flexible control. For details about the usage, see the examples in the VDI section.

#### Related Parameters

## Function Application

Para.	Name	Default	Value Range	Description
A1-11	VDO1 function	0	0 to 43	Same as F5-01
A1-12	VDO2 function	0		
A1-13	VDO3 function	0		
A1-14	VDO4 function	0		
A1-15	VDO5 function	0		
A1-21	VDO active mode	0	Ones: VDO1 0: Positive logic active 1: Negative logic active Tens: VDO2 0: Positive logic active 1: Negative logic active Hundreds: VDO3 0: Positive logic active 1: Negative logic active Thousands: VDO4 0: Positive logic active 1: Negative logic active Ten thousands: VDO5 0: Positive logic active 1: Negative logic active	Positive logic: The terminal outputs 0 when it is inactive. The terminal outputs 1 when it is active. Negative logic: The terminal outputs 1 when it is inactive. The terminal outputs 0 when it is active.
A1-22	VDO1 output switch-on delay	0.0	0.0s to 3600.0s	-
A1-23	VDO2 output switch-on delay	0.0	0.0s to 3600.0s	
A1-24	VDO3 output switch-on delay	0.0	0.0s to 3600.0s	
A1-25	VDO4 output switch-on delay	0.0	0.0s to 3600.0s	
A1-26	VDO5 output switch-on delay	0.0	0.0s to 3600.0s	
A1-27	VDO1 output switch-off delay	0.0	0.0s to 3600.0s	
A1-28	VDO2 output switch-off delay	0.0	0.0s to 3600.0s	
A1-29	VDO3 output switch-off delay	0.0	0.0s to 3600.0s	
A1-30	VDO4 output switch-off delay	0.0	0.0s to 3600.0s	
A1-31	VDO5 output switch-off delay	0.0	0.0s to 3600.0s	
A1-32	VDO6 function	0	0 to 43	
A1-33	VDO7 function	0		
A1-34	VDO8 function	0		
A1-35	VDO9 function	0		
A1-36	VDO10 function	0		
A1-37	VDO11 function	0		

Para.	Name	Default	Value Range	Description
A1-38	VDO6-VDO10 active mode	0	Ones: VDO6 0: Positive logic active 1: Negative logic active Tens: VDO7 0: Positive logic active 1: Negative logic active Hundreds: VDO8 0: Positive logic active 1: Negative logic active Thousands: VDO9 0: Positive logic active 1: Negative logic active Ten thousands: VDO10 0: Positive logic active 1: Negative logic active	Positive logic: The terminal outputs 0 when it is inactive. The terminal outputs 1 when it is active. Negative logic: The terminal outputs 1 when it is inactive. The terminal outputs 0 when it is active.
A1-39	VDO11 active mode	0	0: Positive logic active 1: Negative logic active	

### 1.3.5 DIO

The DIO counting function, that is, DIO edge statistics, can help users to record the number of active level actions (retentive at power failure), so as to meet application requirements such as device lifetime measurement and level jump count pre-warning.

#### Application

The following example illustrates how to use the DIO counting function.

The AC drive provides four counting modules (which can count at the same time without affecting each other) and 32 counting channels (DI/VDI/DO/RO/VDO). They are used as follows.

Step	Settings
1	1. Select a target counting module (out of 4 modules) and reset it by setting A1-50. 2. Set A1-50 to 0 (not reset).
2	Specify the pre-warning threshold for the target counting module by using A1-55/A1-56/A1-57/A1-58.
3	Select a target counting channel (out of 32 channels) and set its active mode (that is, level jump direction, "from inactive to active/positive logic" or "from active to inactive/negative logic") by using F4-38/F4-39/A1-43/A1-44/F5-22/A1-21/A1-38/A1-39.
4	Set the target counting channel by using A1-51/A1-52/A1-53/A1-54.
5	After the program runs for a period of time, check the count value in A1-59/A1-60/A1-61/A1-62 and check the comparison result in L1-03/L1-04/L1-05/L1-06.

· Example 1: To use counting module 1 to count the times that DO1 level jumps from active to inactive with a pre-warning threshold of 100, set as follows.

Step	Settings
1	1. Set A1-50 to 1 to reset counting module 1. 2. After the reset, set A1-50 to 0 (not reset).
2	Set A1-55 to 100 (pre-warning threshold of counting module 1).
3	Set F5-22 to 1 (negative logic).
4	Set A1-51 to 19 (counting channel DO1 of counting module 1).
5	After the program runs for a period of time, check the count value in A1-59 and check the comparison result in L1-03.

### Related Parameters

Para.	Name	Default	Value Range	Description
A1-50	DIO edge count reset	0	0: Not reset 1: Counting module 1 2: Counting module 2 3: Counting module 3 4: Counting module 4 5: All counting modules	This parameter is used to reset the counting modules. You can select the corresponding value to clear a counting module.  Note: Set this parameter again after the reset.
A1-51	DIO edge counting channel selection 1	0	0: None 1: DI1 2: DI2 3: DI3 4: DI4 5: DI5 6: DI6 7: DI7 8: DI8 9: DI9 10: DI10 11: VDI1 12: VDI2 13: VDI3 14: VDI4 15: VDI5 16: VDI6 17: Relay 1 (DO3) 18: FMR 19: DO1 20: Relay 2 (DO4) 21: DO2 22: VDO1 23: VDO2 24: VDO3 25: VDO4 26: VDO5 27: VDO6 28: VDO7 29: VDO8	This parameter is used to select the channel (counting object) for counting module 1.
A1-52	DIO edge counting channel selection 2	0	30: VDO9	This parameter is used to select the channel (counting object) for counting module 2.

Para.	Name	Default	Value Range	Description
A1-53	DIO edge counting channel selection 3	0	31: VDO10	This parameter is used to select the channel (counting object) for counting module 3.
A1-54	DIO edge counting channel selection 4	0	32: VDO11	This parameter is used to select the channel (counting object) for counting module 4.
A1-55	DIO edge counting comparison value 1	0	0 to 65535	This parameter is used to set the comparison value.
A1-56	DIO edge counting comparison value 2	0	0 to 65535	-
A1-57	DIO edge counting comparison value 3	0	0 to 65535	-
A1-58	DIO edge counting comparison value 4	0	0 to 65535	-
A1-59	DIO edge counting module count value 1	0	0 to 65535	This parameter is used to display the current count value.
A1-60	DIO edge counting module count value 2	0	0 to 65535	-
A1-61	DIO edge counting module count value 3	0	0 to 65535	-
A1-62	DIO edge counting module count value 4	0	0 to 65535	-

### 1.3.6 AI

MD520 provides two AI terminals. If the AI terminals cannot meet requirements of field application, you can install an I/O expansion card. (For the quantity of AI terminals on the expansion card, see the optional expansion card section.) For example, MD38IO1 provides one AI terminal (AI3).

To use AIs as DIs, the following parameters need to be set. When an AI is used as a DI, the AI state is high level if the input voltage is higher than 7 V and is low level if the input voltage is lower than 3 V. The AI is in hysteresis state if the input voltage is between 3 V and 7 V. The following figure shows the relationship between AI input voltages and DI states.

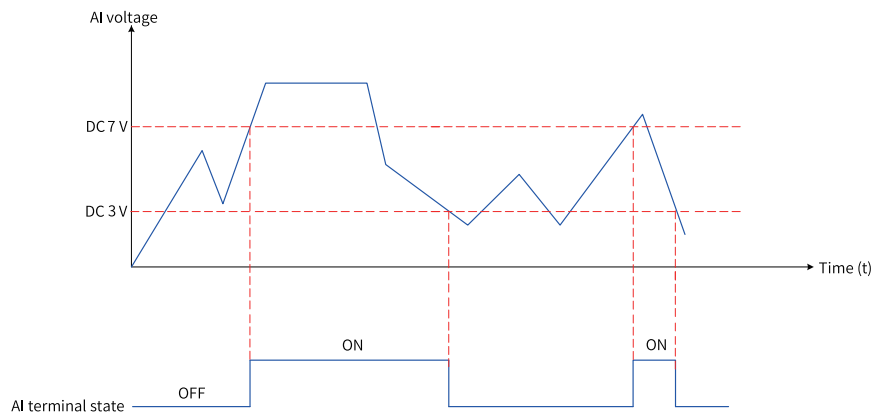


Figure 1-42 Relationship between AI input voltages and DI states

Table 1-17 Related parameters

Terminal	Name	Type	Input Voltage Range
AI1-GND	Control board AI terminal 1	Voltage type	0 V to 10 V DC
AI2-GND	Control board AI terminal 2	Voltage type	0 V to 10 V DC
		Current type (impedance: 500 $\Omega$ )	0 mA to 20 mA
		Current type (impedance: 250 $\Omega$ )	0 mA to 40 mA
		Temperature type	Select different input types and temperature sensors by using the DIP switch on the main control board and F9-75: PT100: -25°C to +200°C PT1000: -25°C to +200°C KTY84-130: -40°C to +260°C PTC130: -20°C to +180°C
AI3-GND	I/O expansion card AI terminal	Voltage type	0 V to 10 V DC
		Temperature type	Select different input types and temperature sensors by using the DIP switch on the expansion board and F9-56: PT100: 0°C to 200°C PT1000: 0°C to 200°C

Functions of the AI terminals are switched by using the DIP switches on the main control board.

Table 1-18 DIP switches

Pin	Port Definition			Pin Description
	1	2	3	
S1	NC	AI_I	AI_I1	1-2: AI2 uses the voltage input mode. 2-3: AI2 uses the current input mode (impedance: 500 $\Omega$ ).
S2	NC	AI_I1	AI_I2	1-2: The input mode of AI2 is controlled by S1. 2-3: AI2 uses the current input mode (impedance: 25 $\Omega$ ).
S3	NC	AI_I	AI_T1	1-2: The input mode of AI2 is controlled by S1 and S2. 2-3: AI2 uses the temperature sensor input mode.
S4	AO_U	AO1	AO_I	1-2: The AO mode is the voltage output mode. 2-3: The AO mode is the current output mode.

**Note** S2 and S3 cannot be set to 2-3 at the same time; otherwise, a sampling error may occur.

The sensors for temperature-type AI terminals can be switched by using F9-56 and F9-75. Note that if AI2/AI3 is not used for temperature input, these two parameters need to be set to 0 (no sensor type).



Table 1–19 Related parameters

Para.	Name	Default	Value Range	Description
A1-07	AI1 (used as DI) function	0	0 to 80	Same as F4-00; function selection for AIs used as DIs.
A1-08	AI2 (used as DI) function	0		
A1-09	AI3 (used as DI) function	0		
A1-10	AI (used as DI) active mode	000	Ones: AI1 0: Active low 1: Active high Tens: AI2 0: Active low 1: Active high Hundreds: AI3 0: Active low 1: Active high	If the AI terminal inputs high level, it is inactive when the corresponding bit of A1-10 is set to 0 and active when set to 1.  If the AI terminal inputs low level, it is active when the corresponding bit of A1-10 is set to 0 and inactive when set to 1.
F4-13	Minimum input of AI curve 1	0.00 V	-10.00 V to F4-15	These parameters are used to set AI curve 1. F4-13 and F4-15 are interlocked.
F4-14	Percentage corresponding to minimum input of AI curve 1	0.0%	-100.0% to +100.0%	
F4-15	Maximum input of AI curve 1	10.00 V	F4-13 to 10.00 V	
F4-16	Percentage corresponding to maximum input of AI curve 1	100.0%	-100.0% to +100.0%	
F4-17	AI1 filter time	0.10s	0.00s to 10.00s	This parameter is used to set the time coefficient of AI1 filtering.
F4-18	Minimum input of AI curve 2	0.00 V	-10.00 V to F4-20	These parameters are used to set AI curve 2. F4-18 and F4-20 are interlocked.
F4-19	Percentage corresponding to minimum input of AI curve 2	0.0%	-100.0% to +100.0%	
F4-20	Maximum input of AI curve 2	10.00 V	F4-18 to 10.00 V	
F4-21	Percentage corresponding to maximum input of AI curve 2	100.0%	-100.0% to +100.0%	
F4-22	AI2 filter time	0.10s	0.00s to 10.00s	This parameter is used to set the time coefficient of AI2 filtering.
F4-23	Minimum input of AI curve 3	0.00 V	-10.00 V to F4-25	These parameters are used to set AI curve 3. F4-23 and F4-25 are interlocked.
F4-24	Percentage corresponding to minimum input of AI curve 3	0.0%	-100.0% to +100.0%	
F4-25	Maximum input of AI curve 3	10.00 V	F4-23 to 10.00 V	
F4-26	Percentage corresponding to maximum input of AI curve 3	100.0%	-100.0% to +100.0%	
F4-27	AI3 filter time	0.10s	0.00s to 10.00s	This parameter is used to set the time coefficient of AI3 filtering.

Para.	Name	Default	Value Range	Description
F4-33	AI curve	0x321	<p>Ones: AI1 curve</p> <p>1: Curve 1 (2-point curve; F4-13 to F4-16)</p> <p>2: Curve 2 (2-point curve; F4-18 to F4-21)</p> <p>3: Curve 2 (2-point curve; F4-23 to F4-26)</p> <p>4: Curve 4 (4-point curve; A6-00 to A6-07)</p> <p>5: Curve 5 (4-point curve; A6-08 to A6-15)</p> <p>Tens: AI2 curve</p> <p>1: Curve 1 (2-point curve; F4-13 to F4-16)</p> <p>2: Curve 2 (2-point curve; F4-18 to F4-21)</p> <p>3: Curve 3 (2-point curve; F4-23 to F4-26)</p> <p>4: Curve 4 (4-point curve; A6-00 to A6-07)</p> <p>5: Curve 5 (4-point curve; A6-08 to A6-15)</p> <p>(To be continued)</p>	This parameter defines the curve model of AIx (x ranges from 1 to 3).

Para.	Name	Default	Value Range	Description
(Continued)	(Continued)	(Continued)	(continued) Hundreds: AI3 curve 1: Curve 1 (2-point curve; F4-13 to F4-16) 2: Curve 2 (2-point curve; F4-18 to F4-21) 3: Curve 3 (2-point curve; F4-23 to F4-26) 4: Curve 4 (4-point curve; A6-00 to A6-07) 5: Curve 5 (4-point curve; A6-08 to A6-15)	This parameter defines the curve model of AIx (x ranges from 1 to 3).
F4-34	AI lower limit	0x0	Ones: Setting for AI less than minimum input 0: Percentage corresponding to minimum input 1: 0.0% Tens: Setting for AI2 less than minimum input 0: Percentage corresponding to minimum input 1: 0.0% Hundreds: Setting for AI3 less than minimum input 0: Percentage corresponding to minimum input 1: 0.0%	This parameter defines the lower limit of AIx (x ranges from 1 to 3).
F9-56	AI3 temperature mode - motor temperature sensor type	0	0: No temperature sensor (AI channel used as analog input) 1: PT100 2: PT1000	This parameter is used to select the sensor type when AI3 is used for temperature input.
F9-57	AI3 temperature mode - motor overheat protection threshold	110°C	0°C to 200°C	This parameter is used to define the overheat protection threshold when AI3 is used for temperature sampling.

Para.	Name	Default	Value Range	Description
F9-58	AI3 temperature mode - motor overheat pre-warning threshold	90°C	0°C to 200°C	This parameter is used to define the overheat pre-warning threshold when AI3 is used for temperature sampling.
F9-75	AI2 temperature mode - motor temperature sensor type	0	0: No temperature sensor (AI channel used as analog input) 1: PT100 2: PT1000 3: KTY84-130 4: PTC130	This parameter is used to select the sensor type when AI2 is used for temperature input.
F9-76	AI2 temperature mode - motor overheat protection threshold	110°C	0°C to 200°C	This parameter is used to define the overheat protection threshold when AI2 is used for temperature sampling.
F9-77	AI2 temperature mode - motor overheat pre-warning threshold	90°C	0°C to 200°C	This parameter is used to define the overheat pre-warning threshold when AI2 is used for temperature sampling.
F9-78	AI2 temperature mode - motor temperature reach	75°C	0°C to 100°C	This parameter is used to define the temperature threshold when AI2 is used for temperature sampling.
F9-80	AI3 temperature mode - motor temperature reach	75°C	0°C to 100°C	This parameter is used to define the temperature threshold when AI3 is used for temperature sampling.
A6-00	Minimum input of AI curve 4	0.00 V	-10.00 V to A6-02	These parameters are used to set AI curve 4. A6-00, A6-02, A6-04, and A6-06 are interlocked.
A6-01	Percentage corresponding to minimum input of AI curve 4	0.0%	-100.0% to +100.0%	
A6-02	Inflection 1 input of AI curve 4	3.00 V	A6-00 to A6-04	
A6-03	Percentage corresponding to inflection 1 input of AI curve 4	30.0%	-100.0% to +100.0%	
A6-04	Inflection 2 input of AI curve 4	6.00 V	A6-02 to A6-06	
A6-05	Percentage corresponding to inflection 2 input of AI curve 4	60.0%	-100.0% to +100.0%	
A6-06	Maximum input of AI curve 4	10.00 V	A6-04 to 10.00 V	
A6-07	Percentage corresponding to maximum input of AI curve 4	100.0%	-100.0% to +100.0%	

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Para.	Name	Default	Value Range	Description
A6-08	Minimum input of AI curve 5	-10.00 V	-10.00 V to A6-10	These parameters are used to set AI curve 5. A6-08, A6-10, A6-12, and A6-14 are interlocked.
A6-09	Percentage corresponding to minimum input of AI curve 5	-100.0%	-100.0% to +100.0%	
A6-10	Inflection 1 input of AI curve 5	-3.00 V	A6-08 to A6-12	
A6-11	Percentage corresponding to inflection 1 input of AI curve 5	-30.0%	-100.0% to +100.0%	
A6-12	Inflection 2 input of AI curve 5	3.00 V	A6-10 to A6-14	
A6-13	Percentage corresponding to inflection 2 input of AI curve 5	30.0%	-100.0% to +100.0%	
A6-14	Maximum input of AI curve 5	10.00 V	A6-12 to 10.00 V	
A6-15	Percentage corresponding to maximum input of AI curve 5	100.0%	-100.0% to +100.0%	
A6-24	AI1 skip point	0.0%	-100.0% to +100.0%	This parameter is used to set the AI1 skip point. If the input relative skip point falls within the skip amplitude defined by A6-25, the value of the skip point is output.
A6-25	AI1 skip amplitude	0.1%	0.0% to +100.0%	This parameter is used to set the AI1 skip amplitude. If the input relative skip point defined by A6-24 falls within the skip amplitude defined by A6-25, the value of the skip point is output.
A6-26	AI2 skip point	0.0%	-100.0% to +100.0%	This parameter is used to set the AI2 skip point. If the input relative skip point falls within the skip amplitude defined by A6-27, the value of the skip point is output.
A6-27	AI2 skip amplitude	0.1%	0.0% to +100.0%	This parameter is used to set the AI2 skip amplitude. If the input relative skip point defined by A6-26 falls within the skip amplitude defined by A6-27, the value of the skip point is output.
A6-28	AI3 skip point	0.0%	-100.0% to +100.0%	This parameter is used to set the AI3 skip point. If the input relative skip point falls within the skip amplitude defined by A6-29, the value of the skip point is output.
A6-29	AI3 skip amplitude	0.1%	0.0% to +100.0%	This parameter is used to set the AI3 skip amplitude. If the input relative skip point defined by A6-28 falls within the skip amplitude defined by A6-29, the value of the skip point is output.

Para.	Name	Default	Value Range	Description
A6-30	AI automatic curve calibration	0	<p>Ones: Point selection (for setting)</p> <p>0: Disabled</p> <p>1: Point 1</p> <p>2: Point 2</p> <p>3: Point 3</p> <p>4: Point 4</p> <p>Tens: AI channel selection (for setting)</p> <p>0: Disabled</p> <p>1: AI1</p> <p>2: AI2</p> <p>3: AI3</p> <p>Hundreds: Enable control (for setting)</p> <p>0: Disabled</p> <p>1: Enabled</p> <p>Thousands: X-point curve (for display)</p> <p>0: The function is disabled or the channel is not selected.</p> <p>2: 2-point curve</p> <p>4: 4-point curve</p> <p>Ten thousands: Reserved</p>	-
A6-31	AI1 input enable	0	<p>0: Disabled</p> <p>1: Enabled</p> <p>Others: B connector</p>	-
A6-32	AI2 input enable	0	<p>0: Disabled</p> <p>1: Enabled</p> <p>Others: B connector</p>	-
A6-33	AI3 input enable	0	<p>0: Disabled</p> <p>1: Enabled</p> <p>Others: B connector</p>	-

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Para.	Name	Default	Value Range	Description
A6-34	AI polarity	0	Ones: AI1 0: Normal 1: Absolute value 2: Negated value 3: Negated absolute value Tens: AI2 0: Normal 1: Absolute value 2: Negated value 3: Negated absolute value Hundreds: AI3 0: Normal 1: Absolute value 2: Negated value 3: Negated absolute value	-
A6-35	AI hardware source	0	Ones: AI1 source 0: Hardware sampling 1: Force setpoint Tens: AI2 source 0: Hardware sampling 1: Force setpoint Hundreds: AI3 source 0: Hardware sampling 1: Force setpoint	When this parameter is set to 0, the AI values are obtained by hardware sampling.  When this parameter is set to 1, the AI values can be set forcibly by using A6-36 to A6-38.
A6-36	AI1 force setpoint	0.00 V	-10.00 V to +10.00 V	When the ones place of A6-35 is set to 1, the AI1 value can be set forcibly by using A6-36.
A6-37	AI2 force setpoint	0.00 V	-10.00 V to +10.00 V	When the tens place of A6-35 is set to 1, the AI2 value can be set forcibly by using A6-37.
A6-38	AI3 force setpoint	0.00 V	-10.00 V to +10.00 V	When the hundreds place of A6-35 is set to 1, the AI3 value can be set forcibly by using A6-38.
A6-39	High level for AI used as DI	7.0 V	5.5 V to 9.0 V	This parameter is used to set the threshold of high level for AI used as DI.
A6-40	Low level for AI used as DI	3.0 V	1.0 V to 4.5 V	This parameter is used to set the threshold of low level for AI used as DI.
A6-41	AI1 gain	1.00	-10.00 to +10.00	This parameter defines the gain for AI1 analog sampling.

Para.	Name	Default	Value Range	Description
A6-42	AI1 offset	0.00 V	-10.00 V to +10.00 V	This parameter defines the offset for AI1 analog sampling.
A6-43	AI1 denoising threshold	0.5%	0.0% to +100.0%	This parameter defines the AI1 denoising threshold. If the absolute value of the difference between the current input and the last input does not exceed the threshold, denoising is performed.
A6-44	AI1 deadzone width	0.5%	0.0% to +100.0%	This parameter defines the AI1 deadzone width. The output within the zone is 0.0%, which is used to eliminate fluctuations near zero.
A6-47	AI2 gain	1.00	-10.00 to +10.00	This parameter defines the gain for AI2 analog sampling.
A6-48	AI2 offset	0.00 V	-10.00 V to +10.00 V	This parameter defines the offset for AI2 analog sampling.
A6-49	AI2 denoising threshold	0.5%	0.0% to +100.0%	This parameter defines the AI2 denoising threshold. If the absolute value of the difference between the current input and the last input does not exceed the threshold, denoising is performed.
A6-50	AI2 deadzone width	0.5%	0.0% to +100.0%	This parameter defines the AI2 deadzone width. The output within the zone is 0.0%, which is used to eliminate fluctuations near zero.
A6-53	AI3 gain	1.00	-10.00 to +10.00	This parameter defines the gain for AI3 analog sampling.
A6-54	AI3 offset	0.00 V	-10.00 V to +10.00 V	This parameter defines the offset for AI3 analog sampling.
A6-55	AI3 denoising threshold	0.5%	0.0% to +100.0%	This parameter defines the AI3 denoising threshold. If the absolute value of the difference between the current input and the last input does not exceed the threshold, denoising is performed.
A6-56	AI3 deadzone width	0.5%	0.0% to +100.0%	This parameter defines the AI3 deadzone width. The output within the zone is 0.0%, which is used to eliminate fluctuations near zero.



Table 1-20 Setting AI as the frequency reference source

Step	Related Parameters	Description	
Select an AI terminal: Select the AI terminal for setting the frequency reference based on terminal characteristics.	F0-03	F0-03 = 2	Select AI1.
		F0-03 = 3	Select AI2.
		F0-03 = 4	Select AI3.
Select a curve that defines mapping between AI voltages <sup>[1]</sup> and frequencies: Select a curve out of five curves.	F4-33	Typically the default value is used (F4-33 = 321). That is, select curve 1 for AI1, curve 2 for AI2, and curve 3 for AI3.	
Set the curve that defines mapping between the AI voltages <sup>[1]</sup> and frequencies: Set the correspondence between AI voltage inputs and frequency setpoints.	F4-13 to F4-16 <sup>[2]</sup>	Set curve 1.	Typical curve <sup>[3]</sup>
	F4-18 to F4-21	Set curve 2.	Typical curve <sup>[4]</sup>
	F4-23 to F4-27	Set curve 3.	Typical curve <sup>[5]</sup>
	A6-00 to A6-07	Set curve 4.	
	A6-08 to A6-15	Set curve 5.	
	F4-34	Define setting for AI less than minimum input <sup>[2]</sup> .	
	F0-10	When an AI terminal is used as the frequency source, the voltage/current input setpoint 100% indicates the percentage relative to the maximum frequency (F0-10).	
Set AI filter time.	F4-17	The default value is 0.1s. Set this parameter based on onsite signal interference and requirements on responsiveness. Decrease the value if quick response is required, and increase it if onsite interference is large.	

<sup>[1]</sup> For the current type AI curve, 1 mA current corresponds to 0.5 V voltage, and 20 mA current corresponds to 10 V voltage.

<sup>[2]</sup> When the analog input voltage exceeds the maximum input defined by F4-15, the maximum input is used as the analog voltage. When the analog input voltage is lower than the minimum input defined by F4-13, the minimum input or 0.0% is used as the analog voltage according to the setpoint of F4-34 (setting for AI less than minimum input).

<sup>[3]</sup> The following figure shows the typical curves for AI1.

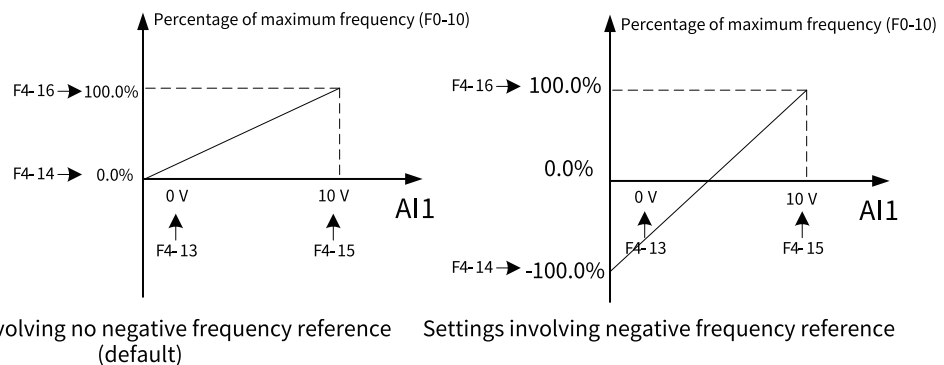


Figure 1-43 Typical curves for AI1

<sup>[4]</sup> When AI2 is used for voltage input, the typical curve is the same as that for AI1. When it is used for current input, the input range is 4 mA to 20 mA, corresponding to 0 to 50 Hz or -50 Hz to +50 Hz.

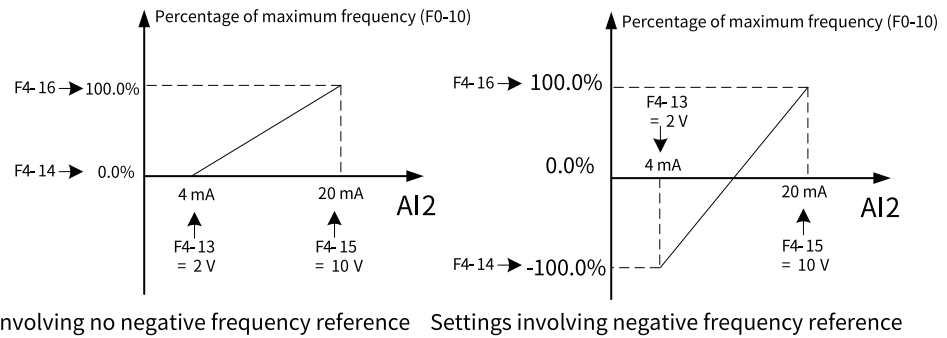


Figure 1-44 Typical curves for AI2

[5] The following figure shows the typical curves for AI3. The mappings of the two setting modes within the range of 0 to 10 V are consistent. However, when a negative voltage is input, it is considered 0 V (minimum voltage defined by F4-24) in the setting mode shown on the left.

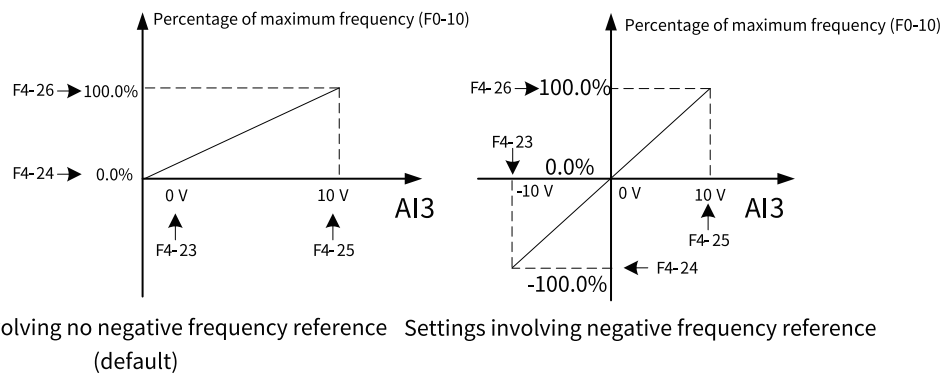


Figure 1-45 Typical curves for AI3

Compared with manual curve calibration by users, the automatic calibration of AI curves enables automatic fill-in of voltage values at the calibration points. The parameter for setting automatic curve calibration is A6-30. The following figure shows the function of each bit of the parameter.

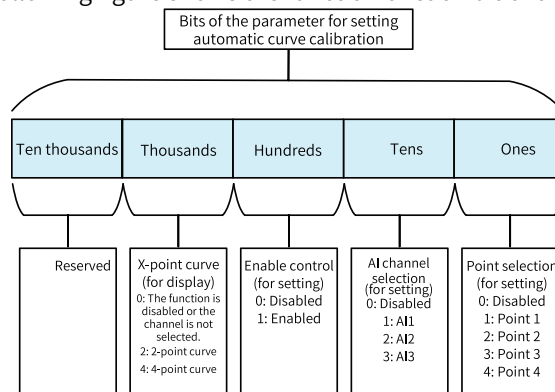


Figure 1-46 Bits of the parameter for setting automatic curve calibration

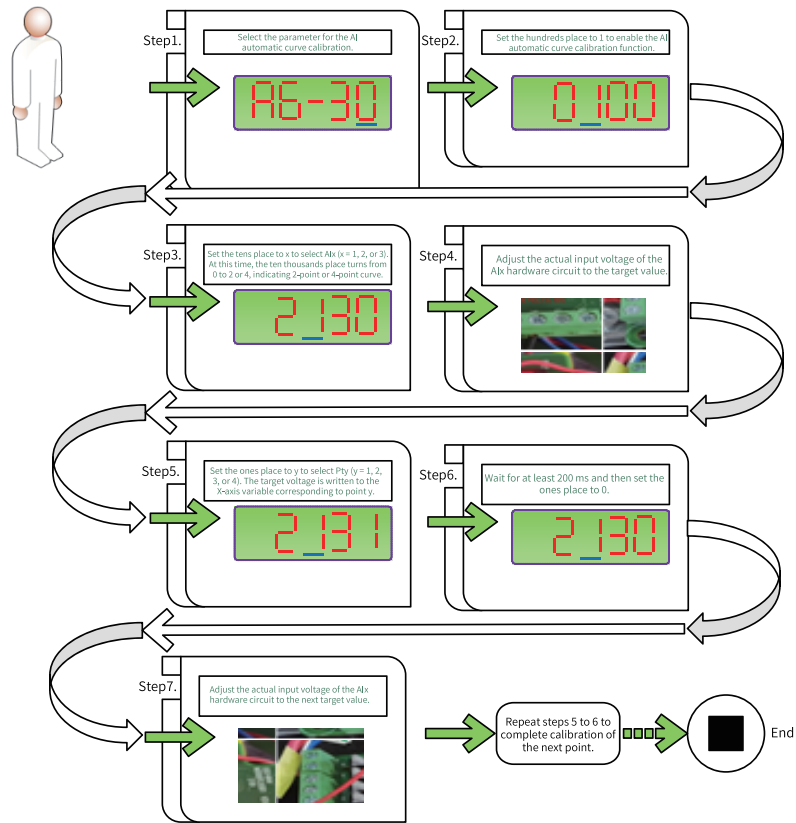


Figure 1-47 Automatic calibration of AI curves

### 1.3.7 AO and HDO

MD520 is equipped with one analog output (AO) terminal and one high-speed pulse output (HDO) terminal. If the AO terminal cannot meet requirements of field application, you can install an I/O expansion card. (For the quantity of AO terminals on the expansion card, see the optional expansion card section.) For example, MD38IO1 provides one AO terminal (AO2).

The following parameters are generally used to correct the zero drift of the analog output and the deviation of the output amplitude, and they can also be used to customize the required AO/HDO output curve.

Table 1–21 Related parameters

Para.	Name	De fault	Value Range	Description
F5-00	FM multi-function terminal output	0	0: Pulse output (FMP) 1: Digital output (FMR)	The FM terminal is a programmable multiplexing terminal, which functions as either a high-speed pulse output terminal (FMP) or an open-collector digital output terminal (FMR).  When used as a high-speed pulse output terminal (FMP), the maximum frequency of the output pulse is 100 kHz. For details about the FMP function, see the description of F5-06.
F5-06	FMP output function	0	0: Running frequency 1: Frequency reference	See <a href="#">“Table 1-22 Relationship between pulse output/analog output functions and ranges” on page 95.</a>
F5-07	AO1 function	0	2: Output current	
F5-08	Expansion card AO2 function	1	3: output torque (absolute value) 4: Output power 5: Output voltage 6: Pulse input 7: AI1 8: AI2 9: AI3 10: Length 11: Count value 12: Communication control 13: Motor speed 14: Output current 15: Bus voltage 16: Output torque (actual value) Others: F connector	
F5-09	Maximum FMP output frequency	50.00 kHz	0.01 kHz to 100.00 kHz	This parameter defines the maximum pulse output frequency when the FM terminal is used for pulse output.

Para.	Name	De fault	Value Range	Description
F5-10	AO1 zero offset coefficient	0.0%	-100.0% to +100.0%	On the AO curve, if b indicates zero offset, k indicates gain, and X indicates standard output, the actual output Y is (kX + b).
F5-11	AO1 gain	1.00	-10.00 to +10.00	<p>The zero offset coefficient 100% of AO1 and AO2 corresponds to 10 V (or 20 mA). The standard output refers to the value corresponding to the analog output of 0 to 10 V (or 0 to 20 mA) with no zero offset or gain adjustment.</p> <p>Zero offset = Zero offset coefficient x 10 V (or 20 mA)</p> <p>The AC drive supports two AO output channels, of which AO1 is equipped on the control board, and AO2 needs to be provided through an expansion card. AO1 and AO2 can be used to indicate the internal running parameters in the analog mode. The indicated parameters are defined by F5-07 and F5-08.</p>
F5-12	AO2 zero offset coefficient	0.0%	-100.0% to +100.0%	<p>On the AO curve, if b indicates zero offset, k indicates gain, and X indicates standard output, the actual output Y is (kX + b).</p> <p>The zero offset coefficient 100% of AO1 and AO2 corresponds to 10 V (or 20 mA). The standard output refers to the value corresponding to the analog output of 0 to 10 V (or 0 to 20 mA) with no zero offset or gain adjustment.</p> <p>Zero offset = Zero offset coefficient x 10 V (or 20 mA)</p> <p>The AC drive supports two AO output channels, of which AO1 is equipped on the control board, and AO2 needs to be provided through an expansion card. AO1 and AO2 can be used to indicate the internal running parameters in the analog mode. The indicated parameters are defined by F5-07 and F5-08.</p>
F5-13	AO2 gain	1.00	-10.00 to +10.00	<p>On the AO curve, if b indicates zero offset, k indicates gain, and X indicates standard output, the actual output Y is (kX + b).</p> <p>The zero offset coefficient 100% of AO1 and AO2 corresponds to 10 V (or 20 mA). The standard output refers to the value corresponding to the analog output of 0 to 10 V (or 0 to 20 mA) with no zero offset or gain adjustment.</p> <p>Zero offset = Zero offset coefficient x 10 V (or 20 mA)</p> <p>The AC drive supports two AO output channels, of which AO1 is equipped on the control board, and AO2 needs to be provided through an expansion card. AO1 and AO2 can be used to indicate the internal running parameters in the analog mode. The indicated parameters are defined by F5-07 and F5-08.</p>

Para.	Name	De fault	Value Range	Description
F5-36	Minimum input of AO1 curve	0.0%	-100.0% to F5-38	These parameters are used to set the AO1 curve. F5-36 and F5-38 are interlocked.
F5-37	Setpoint corresponding to minimum input of AO1 curve	0.00 V	0.00 V to 10.00 V	
F5-38	Maximum input of AO1 curve	100.0-%	F5-36 to 100.0%	
F5-39	Setpoint corresponding to maximum input of AO1 curve	10.00 V	0.00 V to 10.00 V	
F5-40	AO1 output offset	0.00 V	-10.00 V to +10.00 V	-
F5-41	Minimum input of AO2 curve	0.0%	-100.0% to F5-43	These parameters are used to set the AO2 curve. F5-41 and F5-43 are interlocked.
F5-42	Setpoint corresponding to minimum input of AO2 curve	0.00 V	0.00 V to 10.00 V	
F5-43	Maximum input of AO2 curve	100.0-%	F5-41 to 100.0%	
F5-44	Setpoint corresponding to maximum input of AO2 curve	10.00 V	0.00 V to 10.00 V	
F5-45	AO2 output offset	0.00 V	-10.00 V to +10.00 V	-
F5-46	AO curve	11	Ones: AO1 curve 0: 2-point curve 1: Gain+offset Tens: AO2 curve 0: 2-point curve 1: Gain+offset	When this parameter is set to 0, you can set the AO curves by using F5-36 to F5-39 and F5-41 to F5-44. When this parameter is set to 1, you can set the AO curves by using F5-10 to F5-13.

Para.	Name	De fault	Value Range	Description
44F5-47	AO polarity	00	Ones: AO1 0: Normal 1: Absolute value 2: Negated value 3: Negated absolute value Tens: AO2 0: Normal 1: Absolute value 2: Negated value 3: Negated absolute value	-
F5-48	AO hardware source	00	Ones: AO1 source 0: Output function 1: Force setpoint Tens: AO2 source 0: Output function 1: Force setpoint	When this parameter is set to 0, the AO values are determined by function setting. When this parameter is set to 1, the AO values can be set forcibly by using F5-49 and F5-50.
F5-49	AO force setpoint 1	0.00 V	0.00 V to 10.00 V	When the ones place of A5-48 is set to 1, the AO1 force output value can be set by using A5-49.
F5-50	AO force setpoint 2	0.00 V	0.00 V to 10.00 V	When the tens place of A5-48 is set to 1, the AO2 force output value can be set by using A5-50.
F5-51	Minimum input of HDO curve	0.00%	-100.00% to F5-53	These parameters are used to set the HDO curve. F5-51 and F5-53 are interlocked.
F5-52	Percentage corresponding to minimum input of HDO curve	0.00%	0.00% to 100.00%	
F5-53	Maximum input of HDO curve	100.0-0%	F5-51 to 100.00%	
F5-54	Percentage corresponding to maximum input of HDO curve	100.0-0%	0.00% to 100.00%	
F5-55	HDO polarity	0	Ones: 0: Normal 1: Absolute value 2: Negated value 3: Negated absolute value	-
F5-56	HDO hardware source	0	0: Output function 1: Force value	When this parameter is set to 0, the HDO output value is determined by function setting. When this parameter is set to 1, the HDO output value can be set forcibly by using F5-57.
F5-57	HDO force setpoint	0	0.00% to 100.00%	When F5-56 is set to 1, the HDO force output value can be set by using F5-57.

The analog output (AO) 0 to 10 V corresponds to 0% to 100%. When the AO function is set to 1 (frequency reference), if the frequency reference of the AC drive is 50% of the maximum frequency, the AO output voltage is calculated as follows: 50% x 10 V = 5 V.

The pulse output (FM) 0 to 100 kHz corresponds to 0% to 100%. When the FM output function is set to 1 (frequency reference), if the frequency reference of the AC drive is 50% of the maximum frequency and F5-09 is set to 100 kHz, the FM output frequency is calculated as follows: 50% x 100 kHz = 50 kHz.

Table 1–22 Relationship between pulse output/analog output functions and ranges

Reference	Name	Value Range
0	Running frequency	0 to maximum output frequency; 100.0% corresponds to the maximum frequency (F0-10)
1	Frequency reference	0 to maximum output frequency
2	Output current	0 to twice the rated motor current; 100.0% corresponds to twice the rated motor current
3	Motor output torque	0 to rated motor torque; 100.0% corresponds to the rated motor torque (absolute value, percentage relative to the rated torque)
4	Output power	0 to twice the rated power; 100.0% corresponds to twice the rated motor power
5	Output voltage	0 to 1.2 times the rated motor voltage; 100.0% corresponds to 1.2 times the rated motor voltage
6	Pulse input	0.01 kHz to 100.00 kHz; 100.0% corresponds to 100.0 kHz
7	AI1	-10 V to +10 V; 100.0% corresponds to 10 V
8	AI2	-10 V to +10 V (or 0 to 20 mA or 0 to 40 mA); 100.0% corresponds to 10 V
9	AI3	-10 V to +10 V; 100.0% corresponds to 10 V
10	Length	0 to maximum length; 100.0% corresponds to FB-05
11	Count value	0 to maximum count value; 100.0% corresponds to FB-08
12	Communication control	0.0% to 100.0%; 100.0% corresponds to AO communication control
13	Motor speed	0 to rotation speed corresponding to the maximum output frequency; 100.0% corresponds to the maximum frequency (F0-10)
14	Output current	0.0 A to 1000.0 A; 100.0% corresponds to 1000.0 A
15	Output voltage	0.0 V to 1000.0 V; 100.0% corresponds to 1000.0 V
16	Output torque of the motor (actual value, percentage relative to the rated motor torque)	-2 times the rated motor torque to 2 times the rated motor torque; 100.0% corresponds to 2 times the rated motor torque, 50% corresponds to 0, and 0 corresponds to -2 times the rated motor torque

The following describes how to calculate the AO zero offset coefficient (F5-10) and AO gain (F5-11):

Assume that the AO terminal is used for output of the running frequency and you want to obtain the output of 8 V (Y1) at 0 Hz (X1) and output of 4 V (Y2) at 40 Hz (X2).

The gain is calculated as follows:

$$K = \frac{(Y1-Y2) \times X_{max}}{(X1-X2) \times Y_{max}}$$

The zero offset coefficient is calculated as follows:



$$b = \frac{(X1 \times Y2) - (X2 \times Y1)}{(X1 - X2) \times Y_{max}} \times 100\%$$

Xmax (maximum output frequency) is 50 Hz (assuming that the maximum frequency F0-10 is 50 Hz), and Ymax (voltage) is 10 V.

In this case, the AO gain (F5-11) is -0.5 and AO zero offset coefficient (F5-10) is 80%.

Table 1-23 Relationship between AO signal types and maximum values (Ymax)

Output Signal	Maximum Value (Ymax)
Voltage	10 V
Current	20 mA/40 mA

Table 1-24 Relationship between AO outputs and maximum values (Xmax)

AO Output	Maximum Value (Xmax)
Running frequency	Maximum output frequency
Frequency reference	Maximum output frequency
Output current	Twice the rated motor current
Output torque (absolute value)	Twice the rated motor torque
Output power	Twice the rated power
Output voltage	1.2 times the rated AC drive voltage
Pulse input	100.00 kHz
AI1	10 V
AI2	10 V or 20 mA or 40 mA
AI3	10 V
Length	Maximum length
Count value	Maximum count value
Communication	100.0%
Motor speed	Rotation speed corresponding to the maximum output frequency
Output current	1000.0 A
Output voltage	1000.0 V
Output torque (actual value)	Twice the rated motor torque

## 1.4 Control Performance

### 1.4.1 V/f Curve

Table 1–25 Straight-line, multi-point, and square V/f curve setting parameters

Para.	Name	Default	Value Range	Description
F3-00	V/f curve	0	0: Straight-line V/f curve 1: Multi-point V/f curve 2–9: Reserved 10: V/f complete separation 11: V/f half separation	<p>0: Straight-line V/f curve</p> <p>Below the rated frequency, the output voltage of the AC drive changes linearly with the output frequency. This curve is applicable to general mechanical drive applications such as large-inertia fan acceleration, punch presses, centrifuges, and water pumps.</p> <p>1: Multi-point V/f curve</p> <p>The range of the frequency points is 0.00 Hz to the rated motor frequency. The range of the voltage points is 0.0% to 100.0%, which corresponds to the range of 0 V to the rated motor voltage. The multi-point V/f curve references are typically determined based on load characteristics of the motor. Ensure that the following conditions are met: F3-03 ≤ F3-05 ≤ F3-07.</p> <p>2–9: Reserved</p> <p>10: V/f complete separation</p> <p>The output frequency and output voltage of the AC drive are independent of each other. The output frequency is determined by the frequency source, and the output voltage is determined by voltage source for V/f separation. This curve is generally applicable to scenarios such as motor torque control.</p> <p>11: V/f half separation</p> <p>In this mode, the voltage (V) is proportional to the frequency (f). The relationship between V and f can be set by the voltage source, and it is also related to the rated motor voltage and rated motor frequency in group F1. Assuming that the voltage source input is X (X ranges from 0% to 100%), the relationship between V and f is as follows: <math>V/f = 2 \times X \times (\text{Rated motor voltage})/(\text{Rated motor frequency})</math>.</p>
F3-01	Torque boost	Model dependent	0.0 to 30.0 0.0%: Automatic torque boost	<p>The torque boost function generally applies to the AC drive at low frequency. The output torque of the AC drive in V/f control mode is proportional to the frequency. Under the condition of low frequency, the torque is very low when the motor is running at a low speed. In this case, you can set this parameter to increase the output voltage of the AC drive, thereby increasing the current and output torque.</p> <p>Do not set this parameter to a large value, otherwise, overload protection may be triggered.</p>
F3-02	Cut-off frequency of torque boost	50.00 Hz	0.00 Hz to maximum frequency	When the running frequency reaches the cutoff frequency of torque boost, the torque boost function is disabled.

Para.	Name	Default	Value Range	Description
F3-03	Multi-point V/f frequency 1	0.00 Hz	0.00 Hz to F3-05	
F3-04	Multi-point V/f voltage 1	0.0%	0.0% to +100.0%	
F3-05	Multi-point V/f frequency 2	0.00 Hz	F3-03 to F3-07	
F3-06	Multi-point V/f voltage 2	0.0%	0.0% to +100.0%	
F3-07	Multi-point V/f frequency 3	0.00 Hz	F3-05 to F1-04 (rated motor frequency)	
F3-08	Multi-point V/f voltage 3	0.0%	0.0% to +100.0%	

### Straight-line V/f Curve

The following figure shows the general constant-torque straight-line V/f curve.

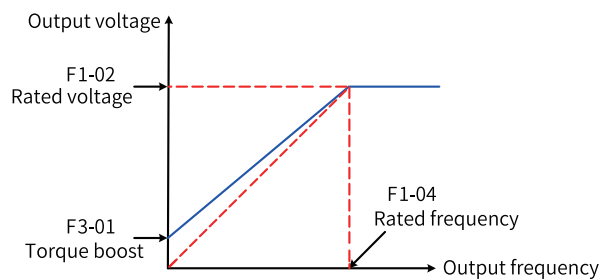


Figure 1-48 General constant-torque straight-line V/f curve

Below the rated frequency, the output voltage changes linearly with the frequency. This curve is applicable to general mechanical drive applications such as large-inertia fan acceleration, punch presses, centrifuges and water pumps.

### Multi-point V/f Curve

The following figure shows a user-defined multi-point V/f curve.

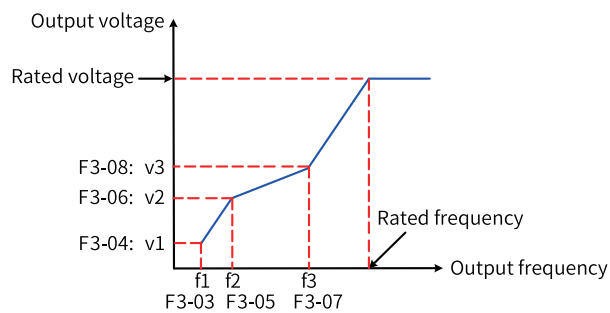


Figure 1-49 User-defined multi-point V/f curve

The multi-point V/f curve is defined by F3-03 to F3-08. The range of the frequency points is 0.00 Hz to the rated motor frequency. The range of the voltage points is 0.0% to 100%, which corresponds to the range of 0 V to the rated motor voltage. The multi-point V/f curve references are typically determined based on load characteristics of the motor. Ensure that the following conditions are met:  $F3-03 \leq F3-05 \leq F3-07$ . To ensure correct setting, this AC drive has restrictions on the relationship between the upper and lower limits of the frequency points F3-03, F3-05, and F3-07. F3-07, F3-05, and F3-03 must be set in sequence.

Table 1-26 V/f separation curve parameters

Para.	Name	De fault	Value Range	Description
F3-13	Voltage source for V/f separation	0	0: F3-14 1: AI1 2: AI2 3: AI3 4: Pulse reference (DI5) 5: Multi-reference 6: Simple PLC 7: PID 8: Communication Others: F connector	<p>This parameter defines the source of the target voltage in V/f separation mode.</p> <p>0: F3-14 The V/f separation voltage is set by F3-14 (voltage digital setting of V/f separation).</p> <p>1: AI1 The V/f separation voltage is input with current or voltage signals through the AI1 terminal. The frequency is calculated according to the preset AI curve.</p> <p>2: AI2 The V/f separation voltage is input with current or voltage signals through the AI2 terminal. The frequency is calculated according to the preset AI curve.</p> <p>3: AI3 The V/f separation voltage is input with current or voltage signals through the AI3 terminal. The frequency is calculated according to the preset AI curve.</p> <p>4: Pulse reference (DI5) The V/f separation voltage is set through DI5. The frequency is calculated based on the curve reflecting the relationship between the pulse frequency and running frequency.</p> <p>5: Multi-reference When multi-reference is used as the source of the V/f separation voltage, different combinations of DI terminal states correspond to different reference values. The four multi-reference terminals can provide 16 state combinations, corresponding to 16 reference values (percentage x maximum frequency) of parameters in group FC.</p> <p>6: Simple PLC The V/f separation voltage is set by simple PLC. For details, see the function description of simple PLC.</p> <p>7: PID The V/f separation voltage is set by PID. For details, see the PID function description.</p> <p>8: Communication The main frequency is set through communication. The running frequency is input through remote communication. The AC drive must be equipped with a communication card to implement communication with the host controller. This mode applies to remote control or centralized control of multiple equipment.</p> <p>Others: F connector</p>
F3-14	V/f separation voltage	0 V	0 V to rated motor voltage (F1-02)	The reference value is between 0 V and the rated voltage.

Para.	Name	De fault	Value Range	Description
F3-15	Voltage rise time of V/f separation	0.0s	0.0s to 1000.0s Note: This parameter indicates the time required for the voltage to change from 0 V to the rated motor voltage.	This parameter indicates the time required for the output voltage to rise from 0 to the V/f separation voltage reference.
F3-16	Voltage fall time of V/f separation	0.0s	0.0s to 1000.0s Note: This parameter indicates the time required for the voltage to change from 0 V to the rated motor voltage.	This parameter indicates the time required for the output voltage to fall from the V/f separation voltage reference to 0.
F3-17	Stop mode for V/f separation	0	0: The frequency and voltage decrease to 0 independently. 1: The frequency decreases to 0 after the voltage decreases to 0.	0: The frequency and voltage decrease to 0 independently. 1: The frequency decreases to 0 after the voltage decreases to 0.

The voltage rise time of V/f separation indicates the time required for the voltage to rise from 0 to the rated motor voltage. See  $t_1$  in the following figure.

The voltage fall time of V/f separation indicates the time required for the voltage to fall from rated motor voltage to 0. See  $t_2$  in the following figure.

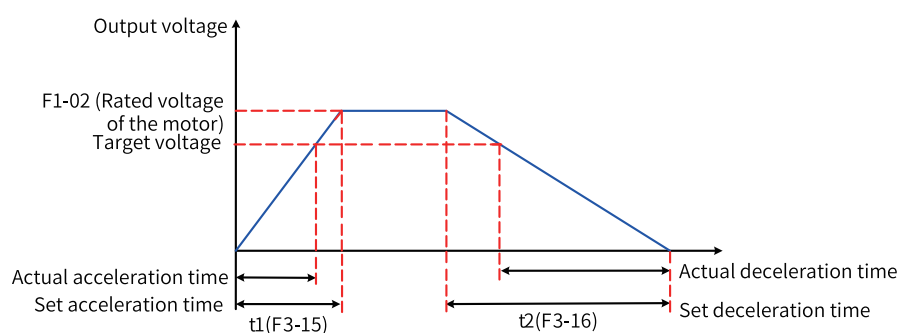


Figure 1-50 Schematic diagram of V/f separation

## 1.4.2 Output Current (Torque) Limit

During acceleration, operation at constant speed, or deceleration, if the current exceeds the overcurrent stall suppression action current (150% by default, indicating 1.5 times the rated AC drive

current), the overcurrent stall suppression mechanism is activated. In this case, the output frequency decreases until the current drops below the overcurrent stall suppression action current. Then, the output frequency increases toward the target frequency. Therefore, the acceleration is prolonged. If the actual acceleration time cannot meet your requirement, increase the value of F3-18 (overcurrent stall suppression action current) accordingly.

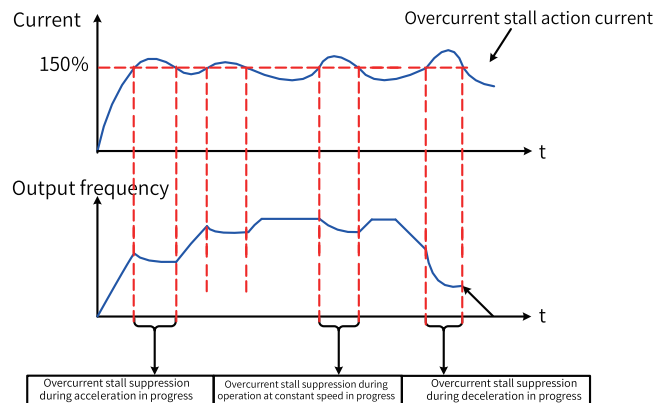


Figure 1-51 Overcurrent stall suppression action

Table 1-27 Related parameters

Para.	Name	Default	Value Range	Description
F3-18	V/f overcurrent stall suppression action current	150%	50% to 200%	When the motor current reaches the value of this parameter, the AC drive starts overcurrent stall suppression. The default value is 150%, indicating 1.5 times the rated current of the AC drive.
F3-19	V/f overcurrent stall suppression	1	0: Disabled 1: Enabled	This parameter defines whether to enable V/f overcurrent stall suppression.
F3-20	V/f overcurrent stall suppression gain	20	0 to 100	When the current exceeds the overcurrent stall suppression action current, the overcurrent stall suppression function is triggered. The output frequency decreases until the current drops below the overcurrent stall suppression action current, and then the output frequency increases to the target frequency, which prolongs the actual acceleration time automatically. A larger setpoint indicates better suppression effect.
F3-21	Compensation coefficient of V/f speed multiplying overcurrent stall suppression action current	50%	50% to 200%	This parameter is used to reduce the overcurrent stall suppression action current during high-speed operation. It is invalid when set to 50%. The recommended value for F3-18 in the field-weakening range is 100%.

When the frequency is high, the motor drive current is small, and the overcurrent stall suppression action current can result in greater motor speed dip compared with situations when the frequency is below the rated level. To improve motor running performance, you can lower the overcurrent stall suppression action current for situations when the frequency is above the rated level. This helps to improve acceleration performance and prevent motor stall in high-frequency applications with large load inertia and multiple field weakening requirements, such as centrifuges.

Overcurrent stall suppression action current when the frequency is above the rated level =  $(f_n/f_s) \times k \times \text{LimitCur}$

In the formula,  $f_s$  is the running frequency,  $f_n$  is the rated motor frequency,  $k$  is the value of F3-21 (compensation coefficient of V/f speed multiplying overcurrent stall suppression action current), and  $\text{LimitCur}$  is the value of F3-18 (overcurrent stall suppression action current).

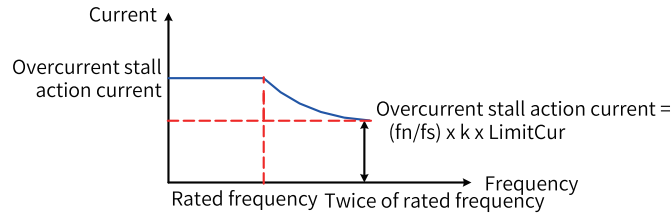


Figure 1-52 Speed multiplying overcurrent stall suppression action current

**Note**

For high-power motors with carrier frequency below 2 kHz, lower the overcurrent stall action current. Otherwise, the pulse-by-pulse current limit function is enabled before the overcurrent stall prevention function as ripple current increases, resulting in insufficient torque output.

**1.4.3 Overvoltage Stall Suppression**

When the bus voltage rises above the overvoltage stall suppression action voltage (F3-22), the motor becomes regenerative (motor speed > output frequency). In this case, overvoltage stall suppression is triggered to prevent overvoltage trips by adjusting the output frequency to extend the deceleration time. If the actual deceleration time cannot satisfy the requirement, increase the overexcitation gain as appropriate.

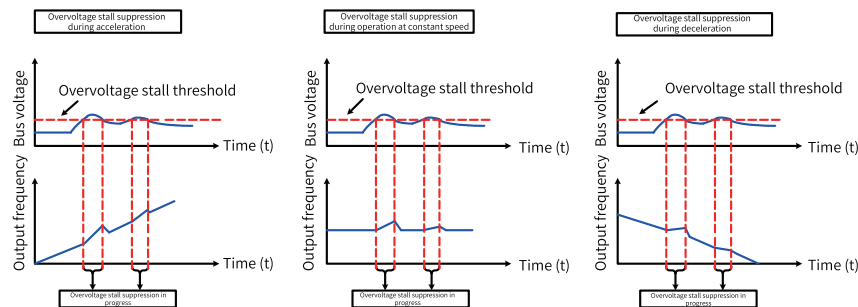


Figure 1-53 Overvoltage stall suppression action

Para.	Name	Default	Value Range	Description
F3-22	V/f overvoltage stall suppression action voltage	770.0 V	200.0 V to 2000.0 V	F3-22 functions the same as F9-04.
F3-23	V/f overvoltage stall suppression	1	0: Disabled 1: Enabled	0: Disabled 1: Enabled (default)



Para.	Name	Default	Value Range	Description
F3-24	Frequency gain for V/f overvoltage stall suppression	30	0 to 100	Increasing F9-03 will improve the control effect of the bus voltage but cause fluctuations in the output frequency. If the output frequency fluctuates greatly, you can reduce F3-24 as appropriate.
F3-25	Voltage gain for V/f overvoltage stall suppression	30	0 to 100	This parameter is used to suppress the bus voltage. Increasing the parameter value reduces the overshoot of the bus voltage.
F3-26	Frequency rise threshold during overvoltage stall suppression	5 Hz	0 Hz to 50 Hz	The running frequency may increase when overvoltage stall suppression is enabled. This parameter limits the increase of the running frequency.
F3-10	V/f overexcitation gain	64	0 to 200	A larger overexcitation gain indicates better suppression effect. When a braking resistor, braking unit, or energy feedback unit is used, set this parameter to 0. Otherwise, overcurrent may occur during operation.
F3-11	V/f oscillation suppression gain	Model dependent	0 to 100	A larger oscillation gain indicates better suppression effect.

**Note**

Observe the following requirements when using the braking resistor or energy feedback unit.

- Set F3–10 (Overexcitation gain) to 0. Failure to comply may lead to overcurrent during operation.
- Set F3–23 (Overvoltage stall selection) to 0. Failure to comply may prolong the deceleration time.

**1.4.4 Speed Loop**

The speed loop PI parameters are divided into two groups: low speed and high speed. When the running frequency is lower than switchover frequency 1 (F2-02), the speed loop PI is adjusted by F2-00 and F2-01. When the running frequency is higher than switchover frequency 2 (F2-05), the speed loop PI is adjusted by F2-03 and F2-04. When the running frequency is between switchover frequency 1 and switchover frequency 2, PI parameters are obtained from linear switchover between the two groups of PI parameters, as shown in the following figure.

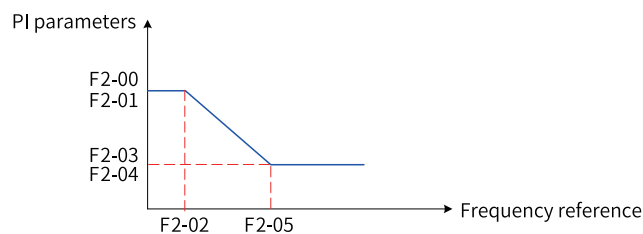


Figure 1-54 Speed loop PI parameters

By setting the proportional gain and integral time of the speed regulator, you can adjust the dynamic response to speed changes in vector control.

Increasing the proportional gain or reducing the integral time can speed up dynamic response of the speed loop. However, excessively large proportional gain or excessively short integral time may cause system oscillation.

In this case, you are advised to perform dynamic auto-tuning on all parameters of the motor to obtain a set of parameters. If the parameters obtained by auto-tuning cannot meet the requirements, make fine adjustments based on the parameter values. Increase the proportional gain first to ensure that the system does not oscillate, and then reduce the integral time to ensure that the system has quick response and small overshoot.

### Note

Improper PI parameter settings may lead to a high overshoot. Even worse, overvoltage may occur when overshoot drops.

Increasing the value of F2-07 can improve motor stability, but this may also slow dynamic response. Decreasing it will bring faster system response but also motor oscillation if the value is too small. No adjustment is required under normal circumstances.

Para.	Name	Default	Value Range	Description
F2-00	Low-speed speed loop Kp	30	1 to 300	This parameter indicates the speed loop PID control parameter Kp, which affects the response to the motor speed. A larger Kp value indicates higher adjustment sensitivity and adjustment intensity. A smaller Kp value indicates lower adjustment sensitivity and adjustment intensity. The low-speed speed loop Kp is used in the case of low speed.
F2-01	Low-speed speed loop Ti	0.500s	0.001s to 10.000s	The reciprocal of the speed loop integral time constant is the integral gain. The speed loop integral time constant affects the steady-state speed error of the motor and the stability of the speed loop system. Increasing the speed loop integral time constant slows down the response of the speed loop. In this case, increase the speed loop proportional gain to shorten the response time of the speed loop. The low-speed speed loop Ti is used in the case of low speed.
F2-02	Switchover frequency 1	5.00 Hz	0.00 to F2-05	The speed loop PI parameters are divided into two groups: low speed and high speed. When the running frequency is lower than switchover frequency 1 (F2-02), the speed loop PI is adjusted by F2-00 and F2-01. When the running frequency is higher than switchover frequency 2 (F2-05), the speed loop PI is adjusted by F2-03 and F3-04. When the running frequency falls between switchover frequency 1 and switchover frequency 2, PI parameters are obtained from linear switchover between the two groups of PI parameters. The value of this parameter must be smaller than F2-05 (switchover frequency 2).

Para.	Name	Default	Value Range	Description
F2-03	High-speed speed loop Kp	20	1 to 300	This parameter indicates the speed loop PID control parameter Kp, which affects the response to the motor speed. A larger Kp value indicates higher adjustment sensitivity and adjustment intensity. A smaller Kp value indicates lower adjustment sensitivity and adjustment intensity. The high-speed speed loop Kp is used in the case of high speed.
F2-04	High-speed speed loop Ti	1.00s	0.01s to 10.00s	The reciprocal of the speed loop integral time constant is the integral gain. The speed loop integral time constant affects the steady-state speed error of the motor and the stability of the speed loop system. Increasing the speed loop integral time constant slows down the response of the speed loop. In this case, increase the speed loop proportional gain to shorten the response time of the speed loop. The high speed loop Ti is used in the case of high speed.
F2-05	Switchover frequency 2	10.00 Hz	F2-02 to F0-10	The speed loop PI parameters are divided into two groups: low speed and high speed. When the running frequency is lower than switchover frequency 1 (F2-02), the speed loop PI is adjusted by F2-00 and F2-01. When the running frequency is higher than switchover frequency 2 (F2-05), the speed loop PI is adjusted by F2-03 and F3-04. When the running frequency falls between switchover frequency 1 and switchover frequency 2, PI parameters are obtained from linear switchover between the two groups of PI parameters. The value of this parameter must be smaller than F2-05 (switchover frequency 2).
F2-07	Speed feedback filter time	0.004s	0.000s to 0.100s	In FVC control mode (F0-01 = 1), the speed loop feedback filter time is valid. You can improve the stability of the motor by adjusting this parameter. Increasing the speed loop feedback filter time can enhance motor stability but slow down dynamic response. Decreasing it will bring faster dynamic response. An excessively small parameter value may lead to motor oscillation. Generally, the motor stability meets requirements, and no adjustment is required.

### 1.4.5 Vector Control Slip Auto-tuning

In vector control mode (F0-01 = 0 or 1), this parameter is used to adjust the speed stability accuracy of the motor. For example, when the running frequency of the motor is lower than the output frequency of the AC drive, you can increase the value of this parameter.

In FVC control mode (F0-01 = 1), this parameter is used to adjust the output current of the AC drive with the same load. For example, you can decrease the value of this parameter gradually when a high-rate AC drive is used to control a motor with low load capacity. Note: No adjustment is required under normal circumstances.

Para.	Name	Default	Value Range	Description
F2-06	VC slip compensation gain	100%	50% to 200%	In SVC control mode, this parameter is used to adjust the speed stability accuracy of the motor. For example, when the running frequency of the motor is lower than the output frequency of the AC drive, you can increase the value of this parameter. In FVC control mode, this parameter is used to adjust the output current of the AC drive with the same load. For example, you can decrease the value of this parameter gradually when a high-rate AC drive is used to control a motor with low load capacity. No adjustment is required under normal circumstances.

### 1.4.6 Vector Control Overexcitation

In the case of large inertia, over-excitation in vector control mode can speed up the deceleration process of the motor. A larger overexcitation gain indicates better improvement. However, overexcitation in vector control mode increases the output current of the AC drive.

The following table describes the parameters of motor 1 as an example. The parameters of other motors need to be modified in the corresponding motor parameter group.

Para.	Name	De fault	Value Range	Description
F6-23	Overexcitation active mode	0	0 to 2	This parameter defines the active mode of overexcitation in vector control mode for asynchronous motors. When it is set to 2, overexcitation takes effect during acceleration, operation at constant speed, and deceleration.
F6-24	Overexcitation suppression current	100	0 to 150	This parameter defines the target current after overexcitation takes effect and is a percentage relative to the rated motor current.
F6-25	Overexcitation gain	1.25	0.01 to 2.5	-

### 1.4.7 Torque Upper Limit

The following table describes the torque upper limit settings in vector control mode (FVC or SVC).

## Function Application

Para.	Name	De fault	Value Range	Description
F2-09	Torque upper limit source in speed control (motoring)	0	0: F2-10 1: AI1 2: AI2 3: AI3 4: Pulse reference (DI5) 5: Communication 6: MIN (AI1, AI2) 7: MAX (AI1, AI2) Others: F connector	0: F2-10 The torque upper limit in speed control mode is set by F2-10 (digital setting of torque upper limit in speed control). 1: AI1 The torque upper limit is input with the current or voltage signal through the AI1 terminal. The frequency is calculated according to the preset AI curve. 2: AI2 The torque upper limit is input with the current or voltage signal through the AI2 terminal. The frequency is calculated according to the preset AI curve. 3: AI3 The torque upper limit is input with the current or voltage signal through the AI3 terminal. The frequency is calculated according to the preset AI curve. 4: Pulse reference (DI5) The torque upper limit in speed control is set through DI5. The frequency is calculated based on the curve reflecting the relationship between the pulse frequency and running frequency. 5: Communication The main frequency is set through communication. The running frequency is input through remote communication. The AC drive must be equipped with a communication card to implement communication with the host controller. This mode applies to remote control or centralized control of multiple equipment. 6: MIN (AI1, AI2) The torque upper limit in speed control mode is the smaller value between AI1 and AI2 inputs. 7: MAX (AI1, AI2) The torque upper limit in speed control mode is the larger value between AI1 and AI2 inputs. Others: F connector
F2-10	Torque upper limit reference in speed control (motoring)	150.0-%	0.0% to 200.0%	The torque upper limit under motoring state takes the rated current of the motor as the base value. <b>Note:</b> When the AC drive and the motor are well-matched, the limit value must be smaller than the default value. The limit can be set to 200% only when the power class of the AC drive is higher than that of the motor.

Para.	Name	De fault	Value Range	Description
F2-11	Torque upper limit source in speed control (generating)	0	0: F2-10 1: AI1 2: AI2 3: AI3 4: Pulse reference (DI5) 5: Communication 6: MIN (AI1, AI2) 7: MAX (AI1, AI2) 8: F2-12 Others: F connector	0: F2-10 The torque upper limit in speed control mode is set by F2-10 (digital setting of torque upper limit in speed control). 1: AI1 The torque upper limit is input with the current or voltage signal through the AI1 terminal. The frequency is calculated according to the preset AI curve. 2: AI2 The torque upper limit is input with the current or voltage signal through the AI2 terminal. The frequency is calculated according to the preset AI curve. 3: AI3 The torque upper limit is input with the current or voltage signal through the AI3 terminal. The frequency is calculated according to the preset AI curve. 4: Pulse reference (DI5) The torque upper limit in speed control is set through DI5. The frequency is calculated based on the curve reflecting the relationship between the pulse frequency and running frequency. 5: Communication The main frequency is set through communication. The running frequency is input through remote communication. The AC drive must be equipped with a communication card to implement communication with the host controller. This mode applies to remote control or centralized control of multiple equipment. 6: MIN (AI1, AI2) The torque upper limit in speed control mode is the smaller value between AI1 and AI2 inputs. 7: MAX (AI1, AI2) The torque upper limit in speed control mode is the larger value between AI1 and AI2 inputs. 8: F2-12 The torque upper limit in speed control mode is set by F2-12 (torque upper limit reference in speed control (generating)). Others: F connector
F2-12	Torque upper limit reference in speed control (generating)	150.0-%	0.0% to 200.0%	The torque upper limit under generating state takes the rated current of the motor as the base value.

There are eight torque upper limit sources available in speed control mode. In motoring state, the torque upper limit source is determined by F2-09; in generating state, the torque upper limit source is defined by F2-11.

In speed control mode, if F2-11 is set to 1 to 8, the torque upper limit differs in motoring state and generating state. The torque upper limit FS in motoring state is defined by F2-10, and that in generating state is defined by F2-12, as shown in the following figure.

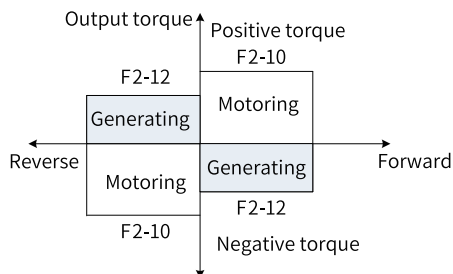


Figure 1-55 Torque upper limit in speed control mode

Para.	Name	Default	Value Range	Description
F2-53	Generating power limiting	0	0: Disabled 1: Enabled	-
F2-54	Generating power upper limit	Model dependent	0.0% to 200.0%	-

For scenarios with cam load, quick acceleration/deceleration, and sudden unloading in which braking resistors are not used, enabling power limit during generating can effectively reduce bus voltage overshoot during motor braking so as to prevent overvoltage. F2-54 (generating power upper limit) is a percentage relative to the rated motor power. If overvoltage still occurs after power limit during generating is enabled, decrease the value of F2-54.

## 1.4.8 Torque Control

### 1. Selecting speed/torque control mode (A0-00)

The speed or torque control mode is defined by A0-00.

The multi-function DI terminals have two functions related to torque control: torque control disable (function 29) and switchover between speed control and torque control (function 46). The two DI terminals work with A0-00 to implement switchover between speed control and torque control.

When the terminal assigned with function 46 (switchover between speed control and torque control) is inactive, the control mode is determined by A0-00; when it is active, the control mode is reverse to A0-00.

When the terminal assigned with function 29 (torque control disable) is active, the AC drive always runs in speed control mode.

### 2. Selecting torque mode (A0-00)

The AC drive supports two torque control modes: speed loop output limiting torque mode (A0-10 = 0) and direct torque setting mode (A0-10 = 1).

#### a. Speed loop output limiting torque mode

You can select this mode by setting A0-10 to 0.

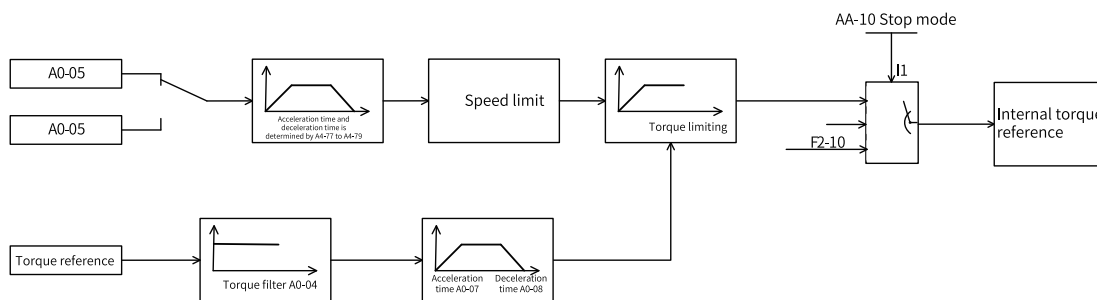


Figure 1-56 System diagram of speed loop limiting torque control mode

The following table describes the related parameters.

Para.	Name	Default	Value Range	Description
A0-01	Torque reference source	0	0: A0-03 1: AI1 2: AI2 3: AI3 4: Pulse 5: Communication (1000H) 6: MIN (AI1, AI2) 7: MAX (AI1, AI2) Others: F connector	This parameter defines the torque reference source. There are a total of nine torque reference sources. Extension by using connectors is supported.
A0-03	Torque digital setting	100.0%	-200.0% to +200.0%	This parameter defines the torque in torque control mode. The torque reference is a relative value. The value 100.0% corresponds to the rated torque of the AC drive. The value range is -200.0% to +200.0%, indicating that the maximum torque is twice the rated torque.  When the torque reference is a positive value, the AC drive runs in the forward direction. When it is a negative value, the AC drive runs in the reverse direction. When the torque reference is a positive value, the AC drive runs in the forward direction. When it is a negative value, the AC drive runs in the reverse direction.
A0-04	Torque filter time	0.000s	0 to 5.000s	This parameter defines the torque reference filter time.
A0-05	Maximum forward frequency in torque control	0 Hz	0.00 to F0-10	This parameter defines the maximum running frequency of the AC drive in forward direction in torque control mode.
A0-06	Maximum reverse frequency in torque control	0 Hz	0.00 to F0-10	This parameter defines the maximum running frequency of the AC drive in reverse direction in torque control mode.
A0-07	Torque rising filter time	0.00s	0.00s to 650.00s	This parameter defines the torque reference ramp-up time (relative to the rated torque).



Para.	Name	Default	Value Range	Description
A0-08	Torque falling filter time	0.00s	0.00s to 650.00s	This parameter defines the torque reference ramp-down time (relative to the rated torque).
A4-77	Frequency acceleration time in torque control	0.00s	0.00s to 650.00s	This parameter defines the frequency acceleration time in torque control mode. It is invalid when A4-79 is set to 1.
A4-78	Frequency deceleration time in torque control	0.00s	0.00s to 650.00s	This parameter defines the frequency deceleration time in torque control mode. It is invalid when A4-79 is set to 1.
A4-79	Forced use of the fourth set of time in torque control	0	0: Disabled 1: Enabled	This parameter specifies the frequency acceleration/deceleration time in torque control mode. When it is active, the fourth set of acceleration/deceleration time is used. Otherwise, the time set by A4-77 and A4-78 is used.

b. Direct torque setting mode

You can select this mode by setting A0-10 to 1.

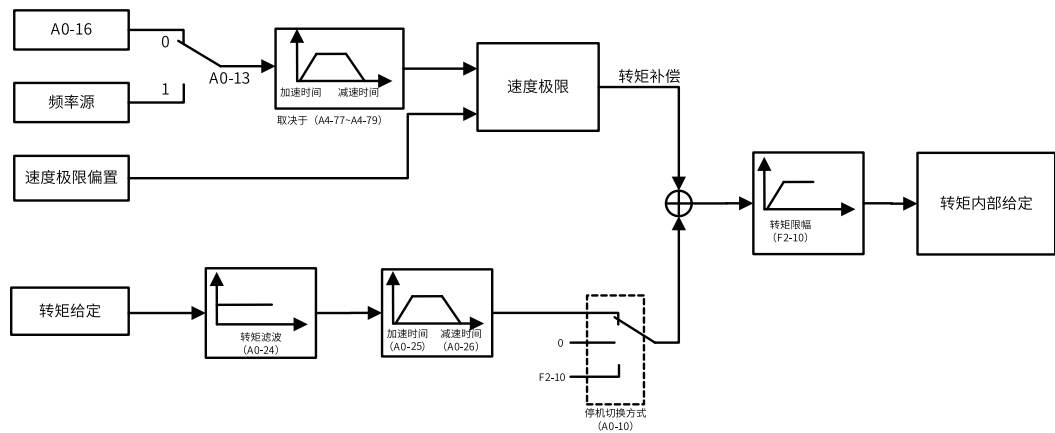


Figure 1-57 System diagram of direct torque setting control mode

Table 1-28 Speed limit/speed limit offset

Item	Operation Conditions			
	Forward RUN	Forward RUN	Forward RUN	Forward RUN
Operation command	Forward RUN	Forward RUN	Forward RUN	Forward RUN
Torque reference direction	+	-	-	+
Speed limit direction	+	-	+	-
Normal running direction	Forward RUN	Reverse RUN	Forward RUN	Reverse RUN
Uni-directional speed limit offset (A0-17 = 1)				

Item	Operation Conditions			
Bidirectional speed limit offset (A0-17 = 0)				
Application	Winding machine 		Unwinding machine 	

### 3. Setting torque reference in torque control mode

A0-13 and A0-14 are used to set the torque reference in direct torque setting mode. In addition, this mode also supports setting of the supplementary torque by using A0-20 and A0-23.

The torque reference is a relative value. The value 100.0% corresponds to the rated motor torque. (The output torque of the motor can be viewed in U0-06, where the value 100% corresponds to the rated torque of the motor.)

A0-05, A0-09, A0-10, and A0-11 define the frequency upper limit in torque control mode.

In torque control mode, the frequency upper limit can be set by A0-05 or the frequency source and switched by A0-09.

### 4. Setting frequency upper limit in torque control mode

In torque control mode, if the load torque is smaller than the output torque of the motor, the motor speed keeps rising. Therefore, to prevent accidents such as runaway in the mechanical system, the maximum motor speed must be controlled within a proper range. That is, the frequency upper limit must be set in torque control mode.

In speed loop output limiting mode, the frequency upper limit is defined by A0-05 and A0-06.

In direct torque setting mode, the frequency limit and limit offset are set by using A0-15, A-16, A0-17, A0-18, and A0-19.

The torque upper limit acceleration and deceleration time are defined by A4-77, A4-78, and A4-79.

### 5. Setting torque reference acceleration/deceleration time

In speed loop output limiting mode, the torque reference filter time and acceleration/deceleration time are defined by A0-04, A0-07, and A0-08.

In direct torque setting mode, the torque reference filter time and acceleration/deceleration time are defined by A0-24, A0-25, and A0-26.

In torque control mode, the difference between the output torque of the motor and the torque of the load determines the speed change rate of the motor and load. The motor speed may change rapidly, causing excessive noise or mechanical stress. Setting the acceleration and deceleration time in torque control mode as appropriate can ensure smooth change of the motor speed. The torque acceleration time corresponds to the time required for the torque to rise from 0 to the rated torque of the motor, and the deceleration time corresponds to the time required for the torque to fall from the rated torque to 0.

However, setting the torque acceleration/deceleration time is not recommended in scenarios in which the startup torque is small. For scenarios where rapid torque response is required, set the torque acceleration/deceleration time to 0.00s.

For example, when two motors are rigidly connected to drive the same load, one AC drive is set as the master in speed control and the other is set as the slave in torque control to ensure balanced load distribution. The slave uses the master's output torque as its torque reference, which requires quick response to the output torque. In this case, the acceleration/deceleration time of the slave in torque control needs to be set to 0.00s.

In torque control mode, the difference between the output torque of the motor and the torque of the load determines the speed change rate of the motor and load. The motor speed may change rapidly, causing excessive noise or mechanical stress. Setting the acceleration and deceleration time in torque control mode as appropriate can ensure smooth change of the motor speed. The torque acceleration time corresponds to the time required for the torque to rise from 0 to the setpoint of A0-03.

However, setting the torque acceleration/deceleration time is not recommended in scenarios in which the startup torque is small. For scenarios where rapid torque response is required, set the torque acceleration/deceleration time to 0.00s.

For example, when two motors are rigidly connected to drive the same load, one AC drive is set as the master in speed control and the other is set as the slave in torque control to ensure balanced load distribution. The slave uses the master's output torque as its torque reference, which requires quick response to the output torque. In this case, the acceleration/deceleration time of the slave in torque control needs to be set to 0.00s.

### 1.4.9 Current Loop

Current loop PI parameters for vector control are automatically calculated based on motor parameters and do not need not be modified in normal cases. The parameters indicate magnification relative to the calculated values, and 1.0 corresponds to the calculated value.

Note that an excessively large current loop PI gain may lead to oscillation of the entire control loop. Therefore, when current oscillation or torque fluctuation is large, you can manually decrease the proportional gain or integral gain here.

The following table describes the parameters of motor 1 as an example. The parameters of other motors need to be modified in the corresponding motor parameter group.

Para.	Name	De fault	Value Range	Description
AB-59	Low-speed current loop Kp adjustment	1.0	0.1 to 10.0	The AC drive automatically calculates the current loop gain based on motor parameters. You can decrease the value of this parameter as appropriate when low-speed current oscillation or torque fluctuation is large.
AB-60	High-speed current loop Kp adjustment	1.0	0.1 to 10.0	The AC drive automatically calculates the current loop gain based on motor parameters. You can decrease the value of this parameter as appropriate when low-speed current oscillation or torque fluctuation is large.

Para.	Name	De fault	Value Range	Description
AB-61	Low-speed current loop Ki adjustment	1.0	0.1 to 10.0	The AC drive automatically calculates the current loop gain based on motor parameters. You can decrease the value of this parameter as appropriate when low-speed current oscillation or torque fluctuation is large.
AB-62	High-speed current loop Ki adjustment	1.0	0.1 to 10.0	The AC drive automatically calculates the current loop gain based on motor parameters. You can decrease the value of this parameter as appropriate when low-speed current oscillation or torque fluctuation is large.
AB-63	D-axis current loop complex vector adjustment	1.0	0.1 to 10.0	-
AB-64	Q-axis current loop complex vector adjustment	1.0	0.1 to 10.0	-

#### 1.4.10 Performance of Field Weakening Region

Para.	Name	Default	Value Range	Description
F2-19	Field weakening gain	5	1 to 50	This parameter corresponds to the voltage loop bandwidth. Increasing the setpoint can improve dynamic response. However, an excessively large setpoint may also cause current oscillation.
A5-05	Voltage overmodulation coefficient	105%	100% to 110%	This parameter indicates the boost capacity of the maximum output voltage of the AC drive.  Increasing the setpoint can improve the maximum load capacity of the motor field weakening region but also increase current harmonics and aggravate motor heating. Decreasing the setpoint will reduce the maximum load capacity of the motor field weakening region but also alleviate motor heating. No adjustment is required under normal circumstances.
AB-33	Output voltage upper limit margin for field weakening adjustment	5	1 to 50	Decreasing the setpoint can improve voltage utilization. The current is smaller under the same load in the field weakening region. However, an excessively small setpoint will affect dynamic performance.  The parameter for motor 2 is B9-33. The parameter for motor 3 is BE-33. The parameter for motor 4 is CE-33.

### 1.4.11 FVC Control Mode and Performance Improvement

Table 1–29 Setting FVC speed control mode

Step	Related Parameters	Description
Check the AC drive wiring.	-	Check the AC drive wiring and motor parameter setting if E19.xx is reported during auto-tuning.
Set motor parameters.	F1-01, F1-02, F1-03, F1-04, and F1-05	
Set the encoder type and pulses per revolution.	F1-27 and F1-28	Check the encoder and PG card if E20.xx is reported.
Select a control mode.	F0-01	-
Select a motor auto-tuning method.	F1-37	Select dynamic auto-tuning on all parameters (set the parameter to 2 for asynchronous motors or 12 for synchronous motors) if possible, and disconnect the load to allow the motor to run at a high speed. Select static auto-tuning on all parameters if the load cannot be disconnected (such as hoisting scenarios).  Dynamic auto-tuning on all parameters may take some time. Wait until auto-tuning is complete before proceeding to the next step.
Set the command source and frequency reference source.	F0-02, F0-03, and F0-08	-
Perform a trial run.	A0-00 = 0	-

Table 1–30 Setting FVC torque control mode

Step	Related Parameters	Description
Check the AC drive wiring.	-	Check the AC drive wiring and motor parameter setting if E19.00 is reported during auto-tuning.
Set motor parameters.	F1-01, F1-02, F1-03, F1-04, and F1-05	
Set the encoder type and pulses per revolution.	F1-27 and F1-28	Check the encoder and PG card if E20.00 is reported.
Select a control mode.	F0-01	-
Select a motor auto-tuning method.	F1-37	Select dynamic auto-tuning on all parameters (set the parameter to 2 for asynchronous motors or 12 for synchronous motors) if possible, and disconnect the load to allow the motor to run at a high speed. Select static auto-tuning on all parameters if the load cannot be disconnected (such as hoisting scenarios).  Dynamic auto-tuning on all parameters may take some time. Wait until auto-tuning is complete before proceeding to the next step.
Set the command source.	F0-02	-
Set the torque control parameters.	A0-00, A0-01, A0-03, and A0-05	-
Perform a trial run.	-	-

#### Setting Speed Loop

The motor may oscillate or generate abnormal noise when running below the rated frequency if the speed loop gains are set too high. In this case, reduce the speed loop gains (decrease the values of F2-00 and F2-03 and increase the values of F2-01 and F2-04).

If the system speed overshoot is high during rapid acceleration, increase the speed loop proportional gain Kp (increase the values of F2-00 and F2-03) and reduce the speed loop integral gain Ki (increase the values of F2-01 and F2-04).

In a winding/unwinding scenario, the roll diameter changes in inverse proportion to the motor speed. Therefore, when the roll diameter is large, increase the speed loop gain at low speed to ensure dynamic response of the system (increase the value of F2-00 and reduce the value of F2-01).

For a load running at an extremely low speed (for example, a milling machine running at 0.01 Hz), increase the speed loop gains, especially the integral gain (increase the value of F2-00 and reduce the value of F2-01) to ensure smooth running.

---

### **Note**

In scenarios with poor encoder feedback signals, the speed loop gains cannot be too high. Otherwise, the dynamic response speed of the system is affected. In this case, first take measures to improve the quality of encoder feedback signals (for example, separate power cables of the motor from signal cables of the encoder, and ensure good grounding of the system). Otherwise, directly reducing the speed loop gains will slow down dynamic response of the system, degrading the system operation performance.

---

## **Setting Current Loop**

Current loop parameters are automatically obtained through complete auto-tuning and do not need to be modified. However, you can fine tune these parameters in the following conditions:

The motor oscillates or generates abnormal noise in FVC mode, and the situation does not improve much after the speed loop parameters are reduced. In this case, decrease the values of current loop parameters as appropriate.

The system requires a small overshoot, and therefore the speed loop gains cannot be too small. In this case, if the motor oscillates or generates abnormal noise in FVC mode, decrease the values of current loop parameters as appropriate.

## **Troubleshooting Exceptions During High-Speed Running in FVC Control Mode**

Oscillation or running exceptions may occur when a motor runs at a high frequency (for example, above 200 Hz) in FVC mode. In this case, run the motor at the same frequency in V/f control mode and check whether the feedback frequency (U0-29) is the same as the frequency reference. If the deviation is large (for example, more than 4 Hz), the exceptions are caused by encoder signal distortion (quadrature distortion or abnormal duty cycle). Do as follows:

Replace the encoder. Check whether the encoder is damaged or installed incorrectly, and whether the encoder model supports the current pulse frequency.

## **Shortening Acceleration/Deceleration Time in FVC Control Mode**

During rapid acceleration/deceleration, the actual acceleration/deceleration time is longer than the preset value. To shorten the acceleration/deceleration time, take the following measures:

To shorten the motor acceleration time, increase the torque upper limit in FVC control mode (moderately increase the value of F2-10, but in no case greater than 180%).

Although increasing the torque upper limit can shorten the motor acceleration time, this operation leads to an increase of the motor current, which is more likely to cause faults such as overload.

### Limiting Bus Voltage to Prevent Overvoltage in FVC Control Mode

In high inertia or rapid deceleration scenarios, overvoltage often occurs during deceleration. The solutions are the same as those in V/f control mode:

1. Enable overvoltage suppression. For motor 1, set bit01 of AB-25 to 1. For other motors, set B9-25, BE-25, or CE-25 accordingly.
2. Enable overexcitation by setting F6-23.
3. Select a suitable braking resistor to reduce the deceleration time.

### 1.4.12 Auxiliary Control

Para.	Name	Default	Value Range	Description
A5-00	DPWM switchover frequency upper limit	12.00 Hz	0 to maximum frequency (F0-10)	The AC drive supports two PWM modes: CPWM and DPWM. When the running frequency is higher than A5-00 (switchover frequency), the DPWM mode is used. When the running frequency is lower than A5-00 (switchover frequency), the CPWM mode is used. The DPWM mode can improve the AC drive efficiency, whereas the CPWM mode can reduce the motor noise.  Increasing the value of this parameter to the maximum frequency will reduce the motor noise.
A5-01	PWM modulation mode	0	0: Asynchronous modulation 1: Synchronous modulation	Output current oscillation or high harmonics can occur if the carrier frequency divided by the running frequency is less than 10. In this case, you can use the synchronous modulation mode to reduce current harmonics.  0: Asynchronous modulation  In this mode, the carrier frequency and signal wave frequency are not synchronized. The carrier frequency usually remains unchanged. The carrier ratio changes with the signal wave frequency.  1: Synchronous modulation  In this mode, the carrier frequency and signal wave frequency are synchronized.  The carrier frequency and signal frequency change simultaneously, and the carrier ratio remains unchanged. Therefore, the number of transverse SPWM pulses formed in one cycle is fixed, and the equivalent sine wave has good symmetry.

Para.	Name	Default	Value Range	Description
A5-02	Deadzone compensation	1	0: Disabled 1: Enabled (compensation mode 1)	<p>During PWM modulation of the AC drive, a deadzone is set to ensure turn-off before turn-on, so as to avoid bridge arm shoot-through. However, this deadzone causes additional voltage loss during PWM modulation, resulting in output current distortion. The lower the running frequency, the more obvious the current distortion. Therefore, deadzone compensation is required to alleviate the impact exerted by the deadzone.</p> <p>0: Disabled</p> <p>In conditions where current sampling is inaccurate, such as power mismatch between the AC drive and motor and running at ultra-high speed (with a small carrier frequency ratio), deadzone compensation can be disabled to additional current distortion caused by false compensation.</p> <p>1: Enabled (compensation mode 1)</p> <p>Deadzone compensation is performed based on the deadzone effect of the AC drive.</p>
A5-03	Random PWM depth	0	0: Random PWM inactive 1 to 10: Random PWM depth	<p>If the motor noise is strong, setting A5-03 to a non-zero value can suppress the motor noise. A larger value indicates better noise suppression effect. However, an excessively high value may affect motor control. Therefore, set this parameter to 1 at the beginning of commissioning and then increase it by 1 each time as required.</p>
A5-04	Pulse-by-pulse current limit protection	0	0: Disabled 1: Enabled	<p>When pulse-by-pulse current limit protection is enabled, the output is blocked in the case of occasional or short-term large current to prevent overcurrent; modulation output continues automatically after the current reduces. If pulse-by-pulse current limit protection is triggered for several consecutive times, a pulse-by-pulse current limit fault is reported. This function is only valid in V/f control mode.</p>
A5-05	Voltage overmodulation coefficient	105	100 to 110: Overmodulation depth	<p>Increasing the voltage overmodulation coefficient can enhance the voltage output capacity and effectively improve the load capacity of the motor in the field weakening region, but will increase output current distortion at the same time. Therefore, you need to make a trade-off between improving the output voltage capacity and controlling current distortion when setting this parameter.</p>



Para.	Name	Default	Value Range	Description
A5-08	Low speed carrier frequency upper limit	0	0 to 8.0 kHz: Carrier frequency upper limit	This parameter defines the upper limit of the carrier frequency when the AC drive is running at a low speed. The limit takes effect when the setpoint is greater than 0. In SVC control mode, the smaller one between A5-08 and F2-37 is used. In non-SVC control mode, A5-08 is used.
A5-10	Energy conservation control	0: Disabled	1: Enabled	This function is only valid for asynchronous motors in V/f control mode. Enabling energy conservation control can reduce energy consumption of the asynchronous motor when running with no load or light load. Note that this function applies to working conditions with stable loads. In scenarios with frequent sudden loading and unloading, exercise caution when enabling this function.

### 1.4.13 Encoder Signal Processing

The following table describes the parameters of motor 1 as an example. The parameters of other motors need to be modified in the corresponding motor parameter group.

Para.	Name	Default	Value Range	Description
A9-07	Encoder speed measurement filter time constant	0.004s	0.000 to 10.000s	This parameter is used to adjust the filter time of encoder signals.

Adjusting the encoder speed measurement filter time constant can change the encoder signal filtering effect. Longer filter time indicates smoother encoder feedback speed but longer feedback delay. Shorter filter time indicates shorter feedback delay but larger encoder feedback speed fluctuations. The filter time constant needs to be adjusted based on the actual working conditions and encoder signal quality. It cannot be too small if the signal quality of the resolver and other encoders is poor.

Table 1-31 Encoder wire breakage detection

Para.	Name	Default	Value Range	Description
F1-36	PG wire breakage detection	0	0: Disabled 1: Enabled	-

The PG card provides the function of hardware detection of encoder wire breakage. This function only supports encoders with differential interfaces. To use this function, you need to enable PG fault detection by using bit02 of AA-30. When the AC drive detects a wire breakage fault and the fault lasts for a period longer than the time specified by F1-36, it reports ERR20.

## 1.4.14 Synchronous Motor PMVC

Para.	Name	Value Range	Default	Description
F0-01	Motor 1 control mode	0: SVC	0	The SVC mode is a type of open-loop vector control applicable to high-performance control applications in which one AC drive can drive only one motor, such as machine tools, centrifuges, wire drawing machines, and injection molding machines.
		1: FVC		The FVC mode is a type of closed-loop vector control. An encoder must be installed at the motor end, and the AC drive must be equipped with a PG card of the same type as the encoder. This mode is applicable to scenarios requiring high-precision speed control and torque control, in which one AC drive can drive only one motor, such as high-speed paper machines, cranes, and elevators.
		2: V/f control		The V/f control mode (open-loop speed control) is applicable to scenarios with no high requirement on loads (such as fans and pumps). The V/f control mode is the only choice if one AC drive needs to drive multiple motors.
F3-01	Torque boost	0.0%: Automatic torque boost 0.1% to 30.0%	Model dependent	The torque boost function generally applies to the AC drive at low frequency. The output torque of the AC drive in V/f control mode is proportional to the frequency. Under the condition of low frequency, the torque is very low when the motor is running at a low speed. In this case, you can set this parameter to increase the output voltage of the AC drive, thereby increasing the current and output torque.  Do not set this parameter to a large value, otherwise, overload protection may be triggered.
A9-40	Low-speed closed-loop current selection (for VVC)	0: Disabled 1: Enabled	0	-
A9-41	Low-speed closed-loop current (for VVC)	30% to 200% (rated motor current as the base value)	50%	-

Para.	Name	Value Range	Default	Description
A9-42	Oscillation suppression damping coefficient (for VVC)	0 to 500	100%	-
A9-43	Initial position compensation angle (for VVC)	0 to 5	0	-

**Note**

- When F1-00 is set to 0 or 1 (asynchronous motor) and F0-01 is set to 2, the V/f control mode is used.
- When F1-00 is set to 2 (synchronous motor) and F0-01 is set to 2, the PMVVC mode is used.

**1.4.15 PID Adjustment**

This section describes general rules for PID parameter adjustment, which can be used as reference for adjusting closed-loop control PID parameters (FA-05 to FA-07 and FA-15 to FA-17) and speed loop PI parameters (F2-00, F2-01, F2-03, and F2-04).

1. If the response is slow, increase  $K_p$ .

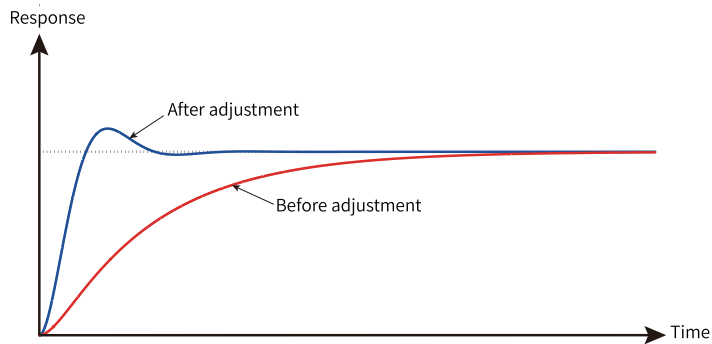


Figure 1-58 Response-time trend after increasing  $K_p$

2. If fast oscillation occurs, decrease  $K_p$ .

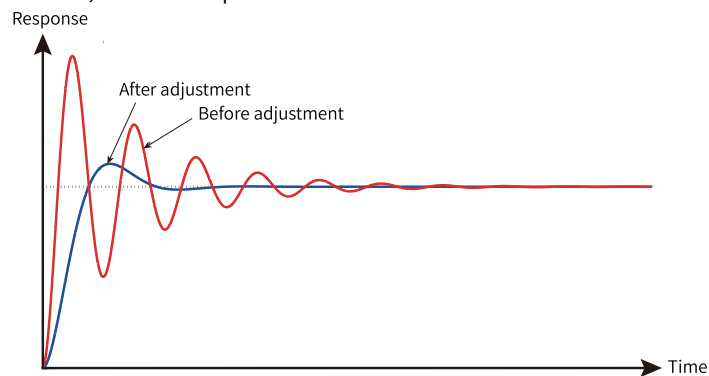
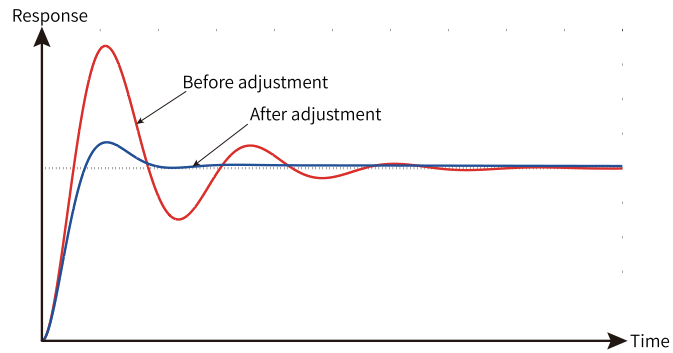
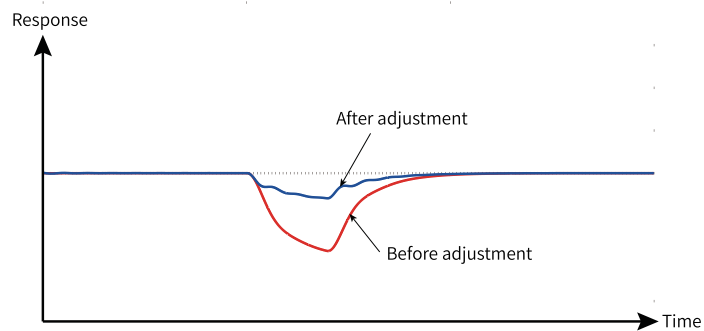
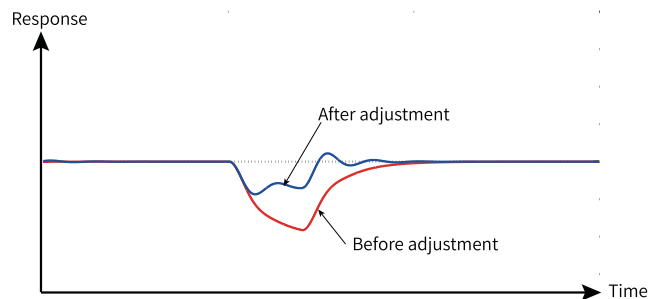


Figure 1-59 Response-time trend after decreasing  $K_p$

3. If the overshoot is large and the fluctuation is slow, increase  $T_i$ .

Figure 1-60 Response-time trend after increasing  $T_i$ 

4. If the static difference is large and the recovery is slow when the load fluctuates, increase  $K_p$  or decrease  $T_i$ .

Figure 1-61 Response-time trend after increasing  $K_p$  at load fluctuationFigure 1-62 Response-time trend after decreasing  $T_i$  at load fluctuation

5. The system stability can be improved by incorporating derivative time  $T_d$  properly (excessive proportion may cause interference and oscillation).

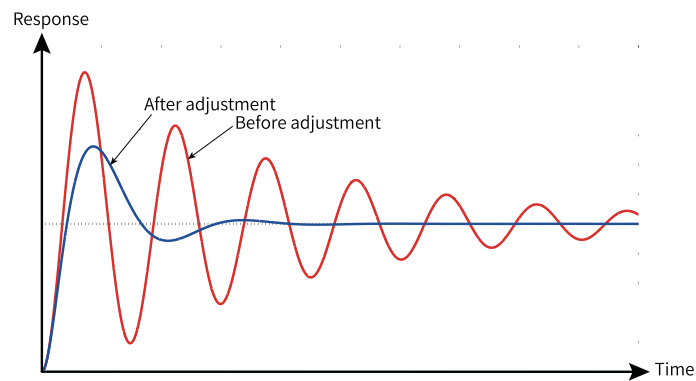


Figure 1-63 Response-time trend after incorporating Td

## 1.5 Application Control

### 1.5.1 Jogging

Jogging applies to applications in which the AC drive needs to run at low speed temporarily to facilitate equipment testing. The following figure shows the relationship between the output frequency and acceleration/deceleration time during running.

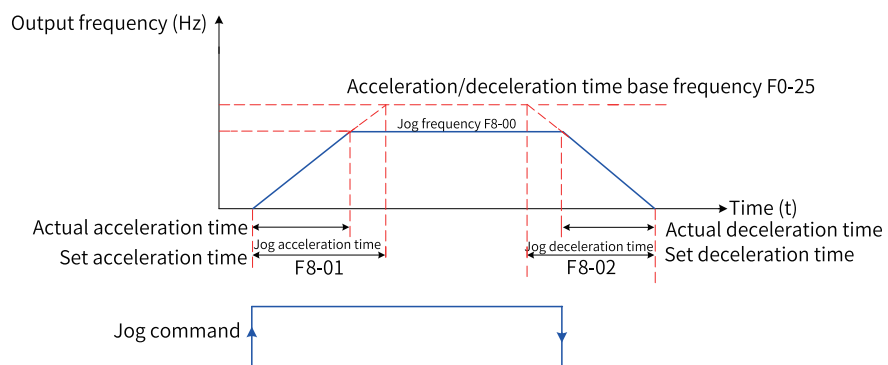


Figure 1-64 Schematic diagram of jogging

### Related Parameters

Para.	Name	Default	Value Range	Description
F0-02	Operation command source	0	0: Operating panel control 1: Terminal I/O control 2: Communication control	-
F0-25	Acceleration/Deceleration time base frequency	1	0: Maximum frequency (F0-10) 1: Target frequency 2: 100 Hz	-

Para.	Name	Default	Value Range	Description
F7-01	MF.K key function	0	0: MF.K key disabled 1: Switchover between operating panel control and remote control (terminal I/O control or communication control) 2: Switchover between forward and reverse run 3: Forward jogging 4: Reverse jogging	-
F8-00	Jog frequency	2.00 Hz	0 to maximum frequency (F0-10)	-
F8-01	Jog acceleration time	20.0s	0.0s to 6500.0s	-
F8-02	Jog deceleration time	20.0s	0.0s to 6500.0s	-
F8-13	Reverse frequency inhibition	0	0: Disabled 1: Enabled	-
F8-27	Jog preferred	0	0: No priority (Respond to the operation command that arrives first) 1: Jog preferred 2: OFF1 preferred	-
A4-62	JOG1 speed source	0	0: F8-00 1: AI1 2: AI2 3: AI3 4: Pulse 5: Communication 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	-
A4-66	Jog ramp source	1	0: Normal running ramp time 1: Jog ramp time	-

## Application

The following introduces how to set parameters related to jogging by taking implementation of jogging using the operating panel as an example.

Table 1-32 Setting parameters related to jogging

Step	Forward Jogging	Reverse Jogging
1	Set F7-01 to 3 to assign the forward jogging function to the MF.K key.	Set F7-01 to 4 to assign the reverse jogging function to the MF.K key. Set F8-13 (reverse frequency inhibition) to 0 to allow reverse run.
2	Set F0-02 to 0 to select the operating panel as the command source.	Set F0-02 to 0 to select the operating panel as the command source.

Step	Forward Jogging	Reverse Jogging
3	Set F8-00 (jog frequency), F8-01 (jog acceleration time), and F8-02 (jog deceleration time) properly.	Set F8-00 (jog frequency), F8-01 (jog acceleration time), and F8-02 (jog deceleration time) properly.
4	Press down the MF.K key when the AC drive is in stop state. The AC drive starts to jog in the forward direction. Release the MF.K key. The AC drive decelerates to stop.	Press down the MF.K key when the AC drive is in stop state. The AC drive starts to jog in the reverse direction. Release the MF.K key. The AC drive decelerates to stop.

## 1.5.2 Frequency Detection

### 1.5.2.1 Multi-speed Reference

In the multi-reference mode, different combinations of DI terminal states correspond to different frequency references.

Table 1-33 Using multi-reference as the frequency reference source

Step	Related Parameters	Description
Step 1: Select multi-reference as the frequency reference source.	F0-03	Set F0-03 to 6.
Step 2: Determine the number of speed references required.	None	A total of 16 speed references are supported, which are defined by using four DI terminals. The relationship between the number of speed references and the number of DI terminals is as follows: 2 speed references: 1 DI terminal (K1) 3 to 4 speed references: 2 DI terminals (K1 and K2) 5 to 8 speed references: 3 DI terminals (K1, K2, and K3) 9 to 16 speed references: 4 DI terminals (K1, K2, K3, and K4)
Step 3-1: Assign the DI terminals with the multi-reference function by setting parameters in group F4.	F4-00 to F4-09	Multi-reference terminal K1: Set the parameter to 12.
		Multi-reference terminal K2: Set the parameter to 13.
		Multi-reference terminal K3: Set the parameter to 14.
		Multi-reference terminal K4: Set the parameter to 15.

Step	Related Parameters	Description
Step 3-2: Assign the DI terminals with the multi-reference function by setting parameters in group F4.	FC-55	0: Disabled 1: Enabled 2: Terminal function input 3–18: DI1 to DI16 Others: B connector
	FC-56	0: Disabled 1: Enabled 2: Terminal function input 3–18: DI1 to DI16 Others: B connector
	FC-57	0: Disabled 1: Enabled 2: Terminal function input 3–18: DI1 to DI16 Others: B connector
	FC-58	0: Disabled 1: Enabled 3–18: DI1 to DI16 Others: B connector
Step 4: Set the frequency corresponding to each speed reference. <sup>[Note]</sup>	FC-00 to FC-15	The frequency corresponding to each speed reference is set to a percentage value. 100% corresponds to the maximum frequency (F0-10).
	F0-10	When multi-reference is used as the frequency reference source, the value 100% of FC-00 to FC-15 corresponds to the maximum frequency (F0-10).

[Note] The four multi-reference terminals can provide 16 state combinations, corresponding to 16 frequency reference values, as listed in the following table.

Table 1–34 State combinations of the four multi-speed reference terminals

K4	K3	K2	K1	Reference	Percentage Relative to Max. Frequency
OFF	OFF	OFF	OFF	Multi-reference 0	FC-00
OFF	OFF	OFF	ON	Multi-reference 1	FC-01
OFF	OFF	ON	OFF	Multi-reference 2	FC-02
OFF	OFF	ON	ON	Multi-reference 3	FC-03
OFF	ON	OFF	OFF	Multi-reference 4	FC-04
OFF	ON	OFF	ON	Multi-reference 5	FC-05
OFF	ON	ON	OFF	Multi-reference 6	FC-06
OFF	ON	ON	ON	Multi-reference 7	FC-07
ON	OFF	OFF	OFF	Multi-reference 8	FC-08
ON	OFF	OFF	ON	Multi-reference 9	FC-09
ON	OFF	ON	OFF	Multi-reference 10	FC-10



K4	K3	K2	K1	Reference	Percentage Relative to Max. Frequency
ON	OFF	ON	ON	Multi-reference 11	FC-11
ON	ON	OFF	OFF	Multi-reference 12	FC-12
ON	ON	OFF	ON	Multi-reference 13	FC-13
ON	ON	ON	OFF	Multi-reference 14	FC-14
ON	ON	ON	ON	Multi-reference 15	FC-15

### 1.5.2.2 Frequency Detection (FDT)

This function allows you to set the detection value of the output frequency as well as the hysteresis value upon output cancellation. The hysteresis value is valid only during deceleration. Hysteresis does not occur in detection during acceleration. The following figure shows the frequency detection function.

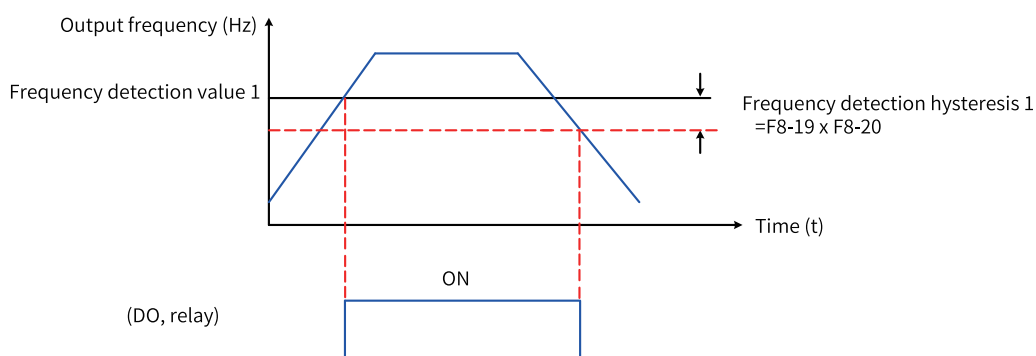


Figure 1-65 Frequency detection

Table 1-35 Parameters related to frequency detection

Para.	Name	Default	Value Range	Description
F8-19	Frequency detection value (FDT1)	50.00 Hz	0 to maximum frequency (F0-10)	When the running frequency is higher than the frequency detection value (FDT1), the DO terminal outputs an active signal; when the running frequency is lower than the result of the frequency detection value (FDT1) minus the frequency detection hysteresis (FDT1), the DO terminal outputs an inactive signal. The valid value range is 0.00 Hz to F0-10 (maximum frequency).
F8-20	Frequency detection hysteresis (FDT1)	5.0%	0.0% to +100.0%	The frequency detection hysteresis (FDT1) is F8-19 multiplied by F8-20. When the running frequency is higher than F8-19, the DO terminal outputs an active signal. When the running frequency is lower than a specific value (F8-19 – F8-19 x F8-20), the DO terminal outputs an inactive signal.

Para.	Name	Default	Value Range	Description
F8-28	Frequency detection value (FDT2)	50.00 Hz	0 to maximum frequency (F0-10)	When the running frequency is higher than the frequency detection value (FDT2), the DO terminal outputs an active signal; when the running frequency is lower than the result of the frequency detection value (FDT2) minus the frequency detection hysteresis (FDT2), the DO terminal outputs an inactive signal. The valid value range is 0.00 Hz to F0-10 (maximum frequency).
F8-29	Frequency detection hysteresis (FDT2)	5.0%	0.0% to +100.0%	The frequency detection hysteresis (FDT2) is F8-28 multiplied by F8-29. When the running frequency is higher than F8-28, the DO terminal outputs an active signal. When the running frequency is lower than a specific value (F8-28 - F8-28 x F8-29), the DO terminal outputs an inactive signal.

### 1.5.2.3 Skip Frequency

The skip frequency enables the AC drive to avoid any frequency at which a mechanical resonance may occur. The AC drive supports four skip frequencies. If they are all set to 0, the frequency skip function is disabled.

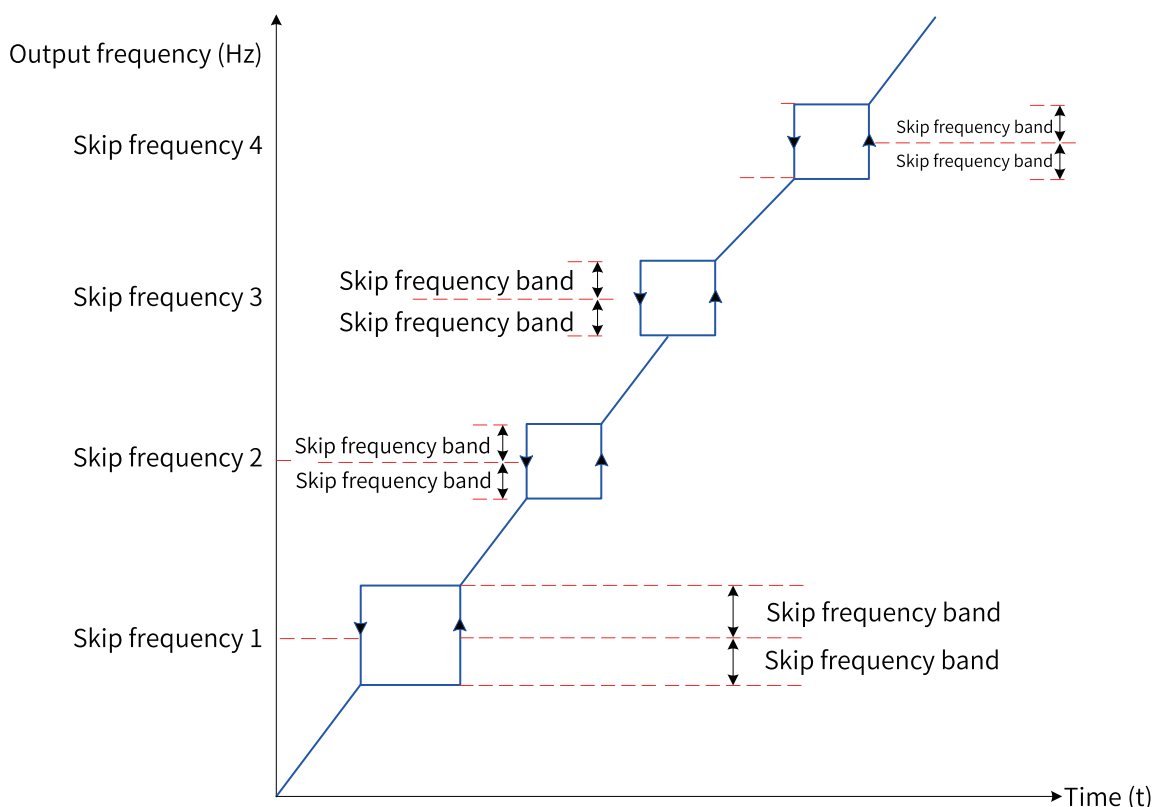


Figure 1-66 Skip frequency

During acceleration, when the running frequency increases to a value that is close to the skip frequency, the AC drive runs for a period at the current frequency and then skips over the skip frequency. The skip range is twice the value of F8-11 (skip frequency band).

During deceleration, when the running frequency decreases to a value that is close to the skip frequency, the AC drive runs for a period at the current frequency and then skips over the skip frequency. The skip range is twice the value of F8-11 (skip frequency band).

### Related Parameters

Para.	Name	Default	Value Range	Description
F8-09	Skip frequency 1	0.00 Hz	0.00 to maximum frequency (F0-10)	The skip frequency enables the AC drive to avoid any frequency at which a mechanical resonance may occur. This parameter defines the first skip frequency. If it is set to 0, the first skip frequency is canceled.
F8-10	Skip frequency 2	0.00 Hz	0.00 to maximum frequency (F0-10)	The skip frequency enables the AC drive to avoid any frequency at which a mechanical resonance may occur. This parameter defines the second skip frequency. If it is set to 0, the second skip frequency is canceled.
F8-72	Skip frequency 3	0.00 Hz	0.00 to maximum frequency (F0-10)	The skip frequency enables the AC drive to avoid any frequency at which a mechanical resonance may occur. This parameter defines the third skip frequency. If it is set to 0, the third skip frequency is canceled.
F8-73	Skip frequency 4	0.00 Hz	0.00 to maximum frequency (F0-10)	The skip frequency enables the AC drive to avoid any frequency at which a mechanical resonance may occur. This parameter defines the fourth skip frequency. If it is set to 0, the fourth skip frequency is canceled.
F8-11	Skip frequency band	0.00 Hz	0.00 Hz to 5.00 Hz	During acceleration, when the running frequency increases to a value that is close to the skip frequency, the AC drive runs for a period at the current frequency and then skips over the skip frequency. The skip range is twice the value of F8-11 (skip frequency band).  During deceleration, when the running frequency decreases to a value that is close to the skip frequency, the AC drive runs for a period at the current frequency and then skips over the skip frequency. The skip range is twice the value of F8-11 (skip frequency band).
F8-22	Skip frequency enable during acceleration/ deceleration	0	0: Disabled 1: Enabled	This parameter defines whether the skip frequency function is enabled during acceleration/deceleration.  0: During acceleration/deceleration, when the running frequency reaches the skip frequency boundary, the AC drive continues to run at the running frequency.  1: During acceleration/deceleration, when the running frequency reaches the skip frequency boundary, the AC drive skips over the skip frequency. The skip range is twice the value of F8-11 (skip frequency band).

#### 1.5.2.4 Reverse Frequency Inhibition

You can set F8-13 to inhibit reverse frequency. The following figure shows the diagram of reverse frequency inhibition.

F0-09 defines the running direction of the motor. You can change the rotation direction of the motor by modifying this parameter without changing the motor wiring. Modifying this parameter is equivalent to exchanging any two of the motor's U, V, W wires.

**Note**

After the parameter is initialized, the original rotation direction of the motor is resumed. Exercise cautions when using this function if motor rotation direction change is prohibited after system commissioning is complete.

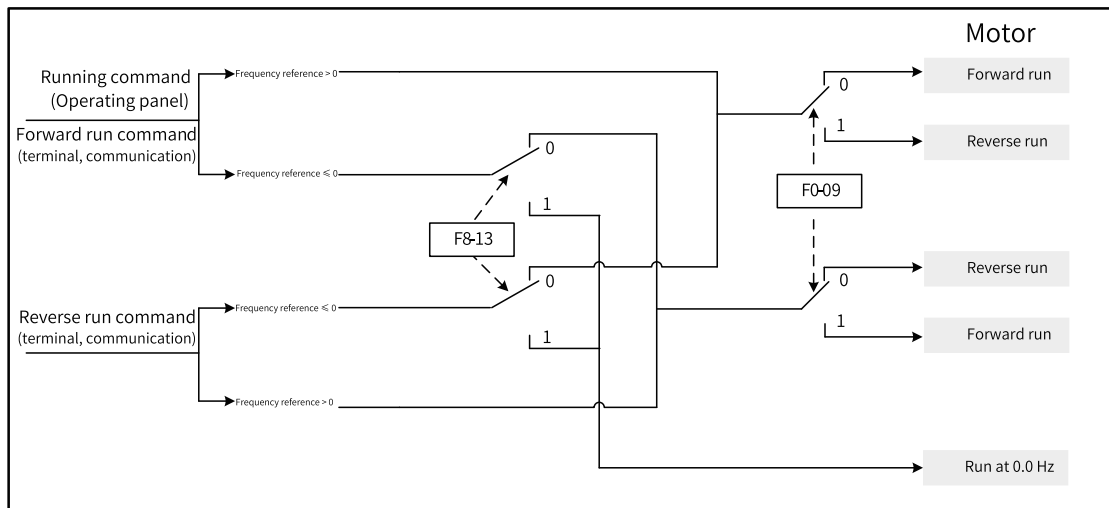


Figure 1-67 Reverse frequency inhibition

**Related Parameters**

Para.	Name	Default	Value Range	Description
F8-13	Reverse frequency inhibition	0	0: Disabled 1: Enabled	When F8-13 is set to 1, the motor runs at zero frequency when a reverse run command is input to the AC drive.
F0-09	Running direction	0	0: Default direction 1: Direction opposite to the default direction	You can change the rotation direction of the motor by modifying this parameter without changing the motor wiring. Modifying this parameter is equivalent to exchanging any two of the motor's U, V, W wires.

**1.5.2.5 Frequency Reach Detection Range**

F8-21 defines the frequency reach detection range. The following figure shows the timing diagram of this function.

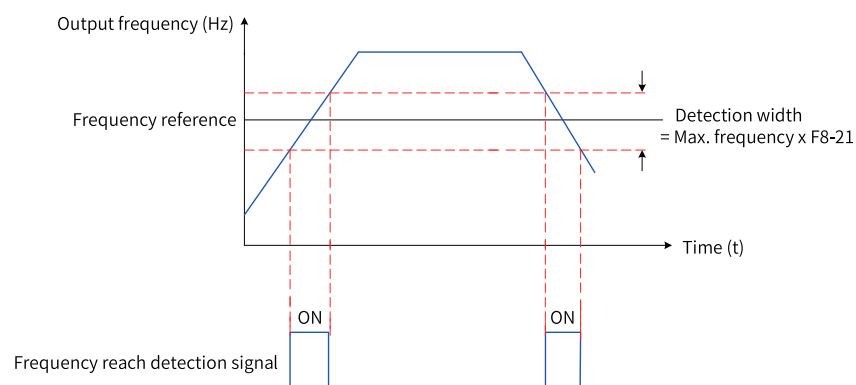


Figure 1-68 Timing diagram of the frequency reach detection range

## Related Parameters

Para.	Name	Default	Value Range	Description
F8-21	Frequency reach detection range	0.00%	0.00% to 100% (maximum frequency)	Frequency reach detection limit is F8-21 (frequency reach detection range) multiplied by F0-10 (maximum frequency). The DO terminal outputs an active signal when the running frequency of the AC drive falls within the specific range (Frequency reference $\pm$ F0-10 x F8-21).

### 1.5.2.6 Acceleration/Deceleration Time Switchover Frequency

This function is used to switch the acceleration/deceleration time based on the running frequency range when the AC drive is running.

The following figure shows the schematic diagram of acceleration/deceleration time switchover. During acceleration, acceleration time 2 is selected if the running frequency is lower than F8-25, and acceleration time 1 is selected if the running frequency is higher than F8-25. During deceleration, deceleration time 1 is selected if the running frequency is higher than F8-26, and deceleration time 2 is selected if the running frequency is lower than F8-26.

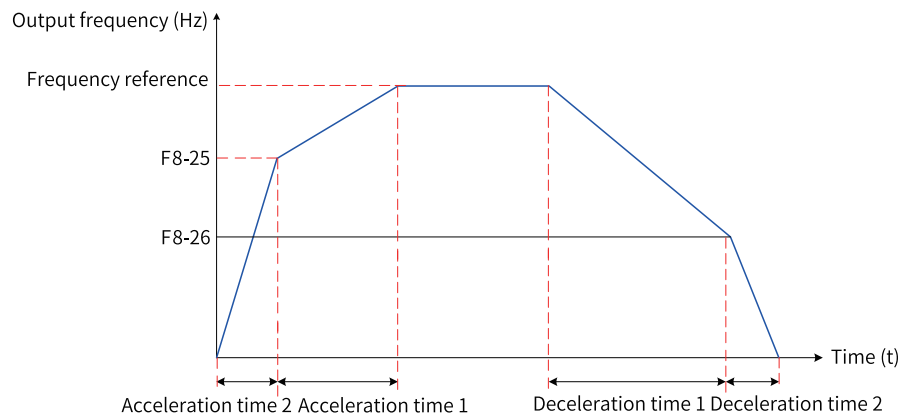


Figure 1-69 Acceleration/Deceleration time switchover

This function is valid only when the DI terminal is not assigned with function 16 (acceleration/deceleration time selection terminal 1) or 17 (acceleration/deceleration time selection terminal 2).

## Related Parameters

Para.	Name	Default	Value Range	Description
F8-25	Switchover frequency of acceleration time 1 and acceleration time 2	0.00 Hz	0 to maximum frequency (F0-10)	This function is used to switch the acceleration/deceleration time based on the running frequency range when the AC drive is running. This function is valid only when the DI terminal is not assigned with function 16 (acceleration/deceleration time selection terminal 1) or 17 (acceleration/deceleration time selection terminal 2).  The valid value range is 0.00 Hz to F0-10 (maximum frequency).
F8-26	Switchover frequency of deceleration time 1 and deceleration time 2	0.00 Hz	0 to maximum frequency (F0-10)	

### 1.5.2.7 Frequency Reach Detection Value

When the running frequency of the AC drive is within the range of frequency reach detection value  $\pm$  frequency reach detection range, the DO terminal outputs an active signal.

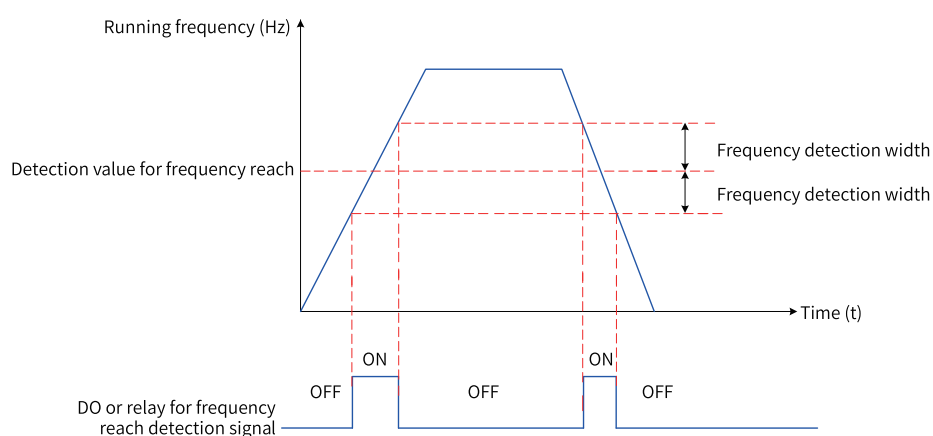


Figure 1-70 Frequency reach detection

### Related Parameters

Para.	Name	Default	Value Range	Description
F8-30	Frequency reach detection value 1	50.00 Hz	0 to maximum frequency (F0-10)	When the running frequency of the AC drive is within the frequency detection range, the DO terminal outputs an active signal. The valid value range is 0.00 Hz to F0-10 (maximum frequency).
F8-31	Frequency reach detection range 1	0.0%	0.0% to +100.0%	Frequency reach detection range 1 is F0-10 (maximum frequency) multiplied by F8-31, and the frequency detection range is F8-30 (frequency reach detection value 1) $\pm$ F8-31 (frequency reach detection range 1), that is, F8-30 $\pm$ F8-31 $\times$ F0-10.
F8-32	Frequency reach detection value 2	50.00 Hz	0 to maximum frequency (F0-10)	When the running frequency of the AC drive is within the frequency detection range, the DO terminal outputs an active signal. The valid value range is 0.00 Hz to F0-10 (maximum frequency).
F8-33	Frequency reach detection range 2	0.0%	0.0% to +100.0%	Frequency reach detection range 2 is F0-10 (maximum frequency) multiplied by F8-33, and the frequency detection range is frequency reach detection value $\pm$ frequency reach detection range, that is, (F8-32 - F8-33 $\times$ F0-10) to (F8-32 + F8-33 $\times$ F0-10).

### 1.5.3 Current Detection

#### 1.5.3.1 Zero Current Detection

When the output current of the AC drive is lower than or equal to F8-34 (zero current detection level) for a period longer than the time defined by F8-35 (zero current detection delay), the DO terminal outputs an active signal.

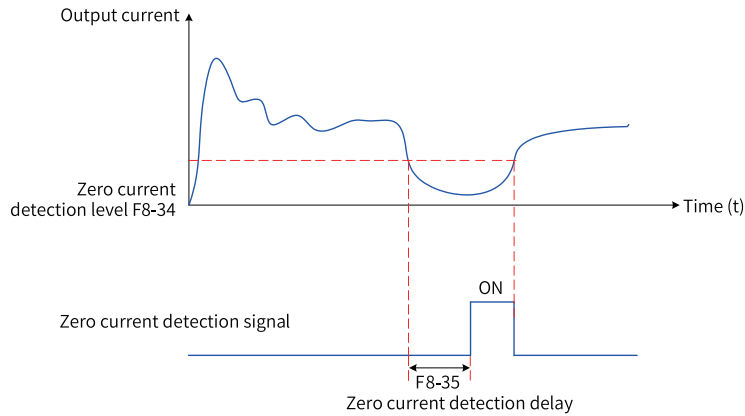


Figure 1-71 Zero current detection

#### Related Parameters

Para.	Name	Default	Value Range	Description
F8-34	Zero current detection level	5.0%	0.0% to 300.0% (rated motor current)	When the output current of the AC drive is lower than or equal to F8-34 (zero current detection level) for a period longer than the time defined by F8-35 (zero current detection delay), the DO terminal outputs an active signal.
F8-35	Zero current detection delay	0.10s	0.00s to 600.00s	

#### 1.5.3.2 Output Overcurrent Threshold

When the output current of the AC drive is higher than F8-36 (output current threshold) for a period longer than the time defined by F8-37 (output overcurrent detection delay), the DO terminal outputs an active signal.

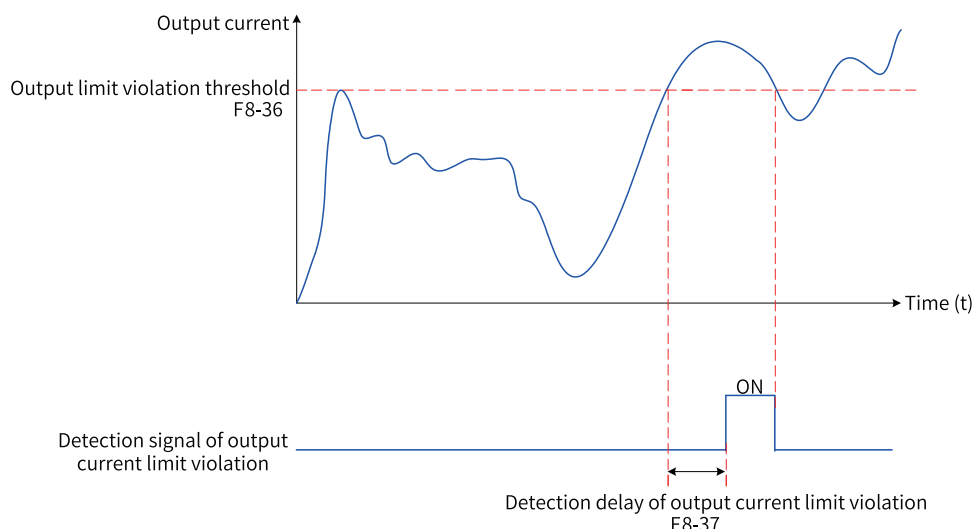


Figure 1-72 Output overcurrent threshold

### Related Parameters

Para.	Name	Default	Value Range	Description
F8-36	Output overcurrent threshold	200.0%	0.0% (no detection) 0.1% to 300.0% (rated motor current)	When the output current of the AC drive is higher than F8-36 (output current threshold) for a period longer than F8-37 (output overcurrent detection delay), the DO terminal outputs an active signal.
F8-37	Output overcurrent detection delay	0.00s	0.00s to 600.00s	

### 1.5.3.3 Current Detection Level

When the output current of the AC drive is within the range of Detection level of current  $1 \pm$  Detection width of current  $1 \times$  Rated motor current, the DO terminal outputs an active signal.

The AC drive provides two groups of current detection level and width parameters. The following figure shows the timing diagram.

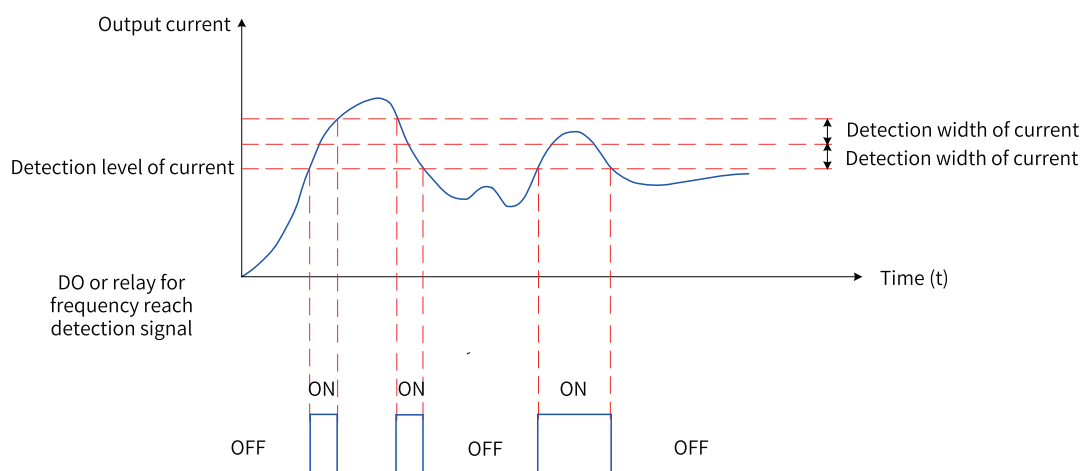


Figure 1-73 Current detection timing diagram



### Related Parameters

Para.	Name	Default	Value Range	Description
F8-38	Detection level of current 1	100.0%	0.0% to 300.0% (rated motor current)	When the output current of the AC drive is within the range of F8-38 (detection level of current 1) $\pm$ F8-39 (detection width of current 1) x F1-03 (rated motor current), the DO terminal outputs an active signal.
F8-39	Detection width of current 1	0.0%	0.0% to 300.0% (rated motor current)	The detection width of current 1 is F8-39 (detection width of current 1) multiplied by F1-03 (rated motor current).
F8-40	Detection level of current 2	100.0%	0.0% to 300.0% (rated motor current)	When the output current of the AC drive is within the range of F8-40 (detection level of current 2) $\pm$ F8-41 (detection width of current 2) x F1-03 (rated motor current), the DO terminal outputs an active signal.
F8-41	Detection width of current 2	0.0%	0.0% to 300.0% (rated motor current)	The detection width of current 2 is F8-41 (detection width of current 2) multiplied by F1-03 (rated motor current).

### 1.5.2 FWD/REV Switchover Deadzone Time

FWD/REV switchover deadzone time (F8-12) indicates the transition time at 0 Hz output during transition between forward running and reverse running of the AC drive.

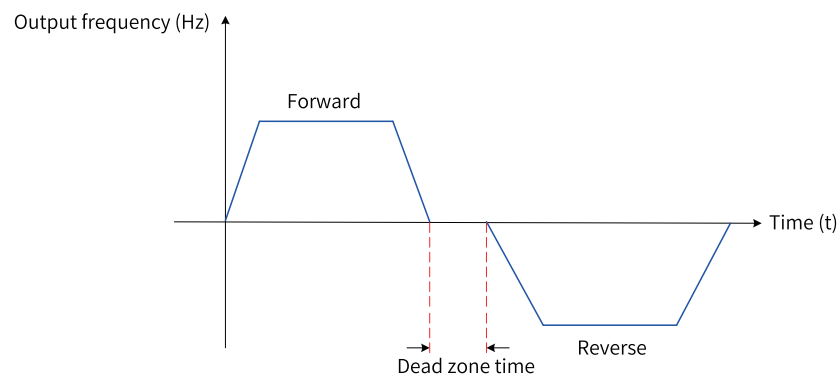


Figure 1-74 FWD/REV switchover deadzone time

### Related Parameters

Para.	Name	Default	Value Range	Description
F8-12	FWD/REV switchover deadzone time	0.0s	0.0s to 3000.0s	This parameter defines the transition time at 0 Hz output during transition between forward running and reverse running.

### 1.5.3 Timing Function

The AC drive starts timing from 0 each time it starts. When the timing duration defined by F8-44 is reached, the AC drive stops automatically and the DO terminal outputs an active signal. You can view the remaining timing duration by using U0-20.

#### Related Parameters

Para.	Name	Default	Value Range	Description
F8-42	Timing function	0	0: Disabled 1: Enabled	If F8-42 (timing function) is set to 1, the DO terminal outputs an active signal when the current running duration of the AC drive reaches the timing duration defined by F8-43 and F8-44.
F8-43	Timing duration source	0	0: F8-44 1: AI1 2: AI2	0: The timing duration is defined by F8-44. 1: Timing duration = (AI1 voltage/10 V) x F8-44. 100% of analog input corresponds to the value of F8-44. 2: Timing duration = (AI2 voltage/10 V) x F8-44. 100% of analog input corresponds to the value of F8-44.
F8-44	Timing duration	0.0 min	0.0 min to 6500.0 min	The timing duration is defined by F8-43 and F8-44.

### 1.5.4 Accumulative Duration Reach

The DO terminal outputs an active signal when the following condition is met: F7-13 (accumulative power-on duration (hour)) x 3600 + F7-29 (accumulative power-on duration (second)) > F8-16 (power-on duration threshold (hour)) x 3600 + F8-74 (power-on duration threshold (second)).

#### Related Parameters

Para.	Name	Default	Value Range	Description
F8-16	Power-on duration threshold (hour)	0 h	0 h to 65000 h	The DO terminal outputs an active signal when the following condition is met: F7-13 (accumulative power-on duration (hour)) x 3600 + F7-29 (accumulative power-on duration (second)) > F8-16 (power-on duration threshold (hour)) x 3600 + F8-74 (power-on duration threshold (second)).
F8-74	Power-on duration threshold (second)	0s	0s to 3599s	

The DO terminal outputs an active signal when the following condition is met: F7-09 (accumulative running duration (hour)) x 3600 + F7-28 (accumulative running duration (second)) > F8-17 (running duration threshold (hour)) x 3600 + F8-75 (running duration threshold (second)).

#### Related Parameters

Para.	Name	Default	Value Range	Description
F8-17	Running duration threshold (hour)	0 h	0 h to 65000 h	The DO terminal outputs an active signal when the following condition is met: F7-09 (accumulative running duration (hour)) x 3600 + F7-28 (accumulative running duration (second)) > F8-17 (running duration threshold (hour)) x 3600 + F8-75 (running duration threshold (second)).
F8-75	Running duration threshold (second)	0s	0s to 3599s	

### 1.5.5 Current Running Duration Threshold

#### Current Running Duration Threshold

Para.	Name	Default	Value Range	Description
F8-53	Current running duration threshold	0.0 min	0.0 min to 6500.0 min	The DO terminal outputs an active signal when the current running duration reaches the value of F8-53. Only the current running duration counts. The previous running duration is not included.

### 1.5.6 AI1 Voltage Upper/Lower Limit

Para.	Name	Default	Value Range	Description
F8-45	AI1 input voltage lower limit	3.10 V	0.00 V to F8-46	When the AI1 input is greater than F8-46 or smaller than F8-45, the DO terminal of the AC drive outputs an "AI1 input overlimit" active signal to indicate whether the AI1 input voltage is within the setting range.
F8-46	AI1 input voltage upper limit	6.80 V	F8-45 to 10.00 V	
A6-51	AI2 input voltage lower limit	8.00 V	A6-52 to 10.00 V	When the AI2 input is greater than A6-51 or smaller than A6-52, the DO terminal of the AC drive outputs an "AI2 input overlimit" active signal to indicate whether the AI2 input voltage is within the setting range.
A6-52	AI2 input voltage upper limit	2.00 V	0.00 V to A6-51	
A6-57	AI3 input voltage lower limit	8.00 V	A6-58 to 10.00 V	When the AI3 input is greater than A6-57 or smaller than A6-58, the DO terminal of the AC drive outputs an "AI3 input overlimit" active signal to indicate whether the AI3 input voltage is within the setting range.
A6-58	AI3 input voltage upper limit	2.00 V	0.00 V to A6-57	
A6-59	AI input protection time	0.01s	0.00s to 1.00s	The fault flag is set only when the AI input exceeds the limit for a continuous duration greater than or equal to the setpoint of this parameter.

## 1.5.7 IGBT Temperature

Para.	Name	Default	Value Range	Description
F8-47	IGBT temperature reach	75°C	0°C to 100°C	The DO terminal outputs an active signal when the heatsink temperature of the IGBT reaches the setpoint of F8-47.
F7-07	IGBT heatsink temperature	-	-20°C to +120°C	This parameter defines the heatsink temperature of the IGBT.

## 1.5.8 Cooling Fan Control

Para.	Name	Default	Value Range	Description
F8-48	Cooling fan control	0	0: Working during drive running	When the AC drive is running, the fan keeps working until the AC drive stops for 10s. When the AC drive is in stop state, the fan works if the heatsink temperature is higher than 40°C and stops if the heatsink temperature is lower than 40°C.
			1: Working always	The fan keeps working after power-on.
			2: Working under temperature-based control	The fan works when the temperature is higher than 45°C and stops when the temperature is lower than 43°C regardless of the AC drive state.

## 1.5.9 Output Power Correction

Para.	Name	Default	Value Range	Description
F8-54	Output power correction coefficient	100.0%	0.0% to 200.0%	This parameter defines the correction coefficient of linear correction on the output power when the output power (U0-05) is not equal to expected value.

## 1.5.10 User-defined Parameters

Group FE consists of user-defined parameters (FE-00 to FE-31). Users can define commonly used parameters for easier check and modification. Up to 30 user-defined parameters are supported.

- If F0.00 is displayed, the corresponding user-defined parameter is empty. In the user-defined parameter mode, the displayed parameters are defined by FE-00 to FE-31, and the sequence is consistent with that in group FE. The parameters are skipped if the displayed value is F0.00.
- Displayed values U3-17 and U3-16 indicate PZD1 (AC drive command word) in communication control and PZD2 (AC drive target frequency) in communication control, respectively.

**Related Parameters**

Para.	Name	Default	Value Range	Description
FP-03	Display of individualized parameters	111	Ones:	This parameter determines whether to display the user-defined parameters, user-modified parameters, and error menus on the operating panel.
			0: Hide user mode	
			1: Display user mod	
			Tens:	
			0: Hide correction mode	
			1: Display correction mode	
			Hundreds:	
			0: Hide error menu	
1: Display error menu				
FE-00	User-defined parameter 0	F0-00	F0-00 to FP-xx A0-00 to Ax-xx U0-xx to U0-xx U3-00 to U3-xx	-
FE-01	User-defined parameter 1	Same as FE-00	Same as FE-00	-
FE-02	User-defined parameter 2	Same as FE-00	Same as FE-00	-
FE-03	User-defined parameter 3	Same as FE-00	Same as FE-00	-
FE-04	User-defined parameter 4	Same as FE-00	Same as FE-00	-
FE-05	User-defined parameter 5	Same as FE-00	Same as FE-00	-
FE-06	User-defined parameter 6	Same as FE-00	Same as FE-00	-
FE-07	User-defined parameter 7	Same as FE-00	Same as FE-00	-
FE-08	User-defined parameter 8	Same as FE-00	Same as FE-00	-
FE-09	User-defined parameter 9	Same as FE-00	Same as FE-00	-
FE-10	User-defined parameter 10	Same as FE-00	Same as FE-00	-
FE-11	User-defined parameter 11	Same as FE-00	Same as FE-00	-
FE-12	User-defined parameter 12	Same as FE-00	Same as FE-00	-
FE-13	User-defined parameter 13	Same as FE-00	Same as FE-00	-
FE-14	User-defined parameter 14	Same as FE-00	Same as FE-00	-
FE-15	User-defined parameter 15	Same as FE-00	Same as FE-00	-
FE-16	User-defined parameter 16	Same as FE-00	Same as FE-00	-

Para.	Name	Default	Value Range	Description
FE-17	User-defined parameter 17	Same as FE-00	Same as FE-00	-
FE-18	User-defined parameter 18	Same as FE-00	Same as FE-00	-
FE-19	User-defined parameter 19	Same as FE-00	Same as FE-00	-
FE-20	User-defined parameter 20	Same as FE-00	Same as FE-00	-
FE-21	User-defined parameter 21	Same as FE-00	Same as FE-00	-
FE-22	User-defined parameter 22	Same as FE-00	Same as FE-00	-
FE-23	User-defined parameter 23	Same as FE-00	Same as FE-00	-
FE-24	User-defined parameter 24	Same as FE-00	Same as FE-00	-
FE-25	User-defined parameter 25	Same as FE-00	Same as FE-00	-
FE-26	User-defined parameter 26	Same as FE-00	Same as FE-00	-
FE-27	User-defined parameter 27	Same as FE-00	Same as FE-00	-
FE-28	User-defined parameter 28	Same as FE-00	Same as FE-00	-
FE-29	User-defined parameter 29	Same as FE-00	Same as FE-00	-
FE-30	User-defined parameter 30	Same as FE-00	Same as FE-00	-
FE-31	User-defined parameter 31	Same as FE-00	Same as FE-00	-

### 1.5.11 Hibernation and Wakeup

Hibernation is also known as sleep. Any time period within 24 hours can be set as a hibernation period, during which the AC drive stops running and enters hibernation state.

Wakeup is a process that the AC drive wakes up from the hibernation state and starts to run.

Parameters related to hibernation and wakeup include the wakeup frequency, hibernation frequency, and hibernation time. Generally, the wakeup frequency (F8-49) should be higher than or equal to the hibernation frequency (F8-51). The hibernation and wakeup function is disabled if both the wakeup frequency and hibernation frequency are set to 0.00 Hz.

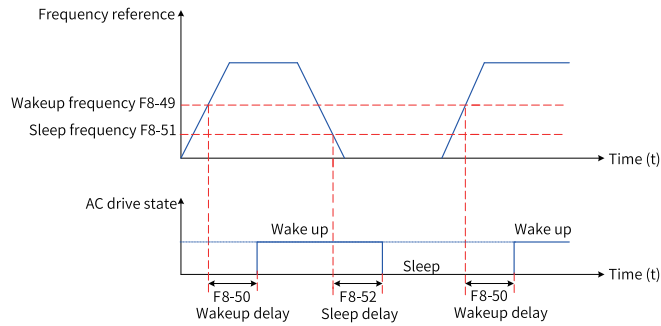


Figure 1-75 Hibernation and wakeup

**Note**

When sleep is enabled during PID operation, you can set FA-28 (selection of PID operation at stop) to 1 to continue the PID operation or to 0 to stop PID operation.

**Related Parameters**

Para.	Name	Default	Value Range	Description
F8-49	Wakeup frequency	0.00 Hz	Hibernation frequency (F8-51) to maximum frequency (F0-10)	In hibernation state, when the frequency reference is greater than or equal to F8-49 (wakeup frequency) and the current running command is valid, the AC drive starts directly after the delay defined by F8-50 (wakeup delay) elapses.
F8-50	Wakeup delay	0.0s	0.0s to 6500.0s	
F8-51	Hibernation frequency	0.00 Hz	0.00 Hz to wakeup frequency (F8-49)	When the frequency reference is lower than or equal to F8-51 (hibernation frequency) during running, the AC drive enters the hibernation state and stops after the time defined by F8-52 (hibernation delay) elapses.
F8-52	Hibernation delay	0.0s	0.0s to 6500.0s	

## 1.6 Faults and Protection

### 1.6.1 Startup Protection

When F8-18 is set to 1, startup protection is enabled to prevent the motor from responding to a command upon unexpected power-on or fault reset of the AC drive.

The startup protection works in the following two scenarios:

- If a command is issued upon power-on of the AC drive (for example, the terminal used as the command source are ON before power-on), the AC drive does not respond to the command. Instead, the AC drive responds only after the command is revoked and re-issued.
- If a command is issued upon fault reset of the AC drive, the AC drive does not respond to the command. Instead, the AC drive responds only after the command is revoked and re-issued.

#### Related Parameters

Para.	Name	Default	Value Range	Description
F8-18	Startup protection	0	0: Disabled 1: Enabled	The AC drive is equipped with the startup protection function to prevent the motor from responding to a command upon unexpected power-on or fault reset.

### 1.6.2 Undervoltage/Overvoltage Threshold and Fast Current Limiting

When the bus voltage falls below A5-06 or exceeds A5-09, the AC drive reports a fault.

#### Related Parameters

Para.	Name	Default	Value Range	Description
A5-06	Undervoltage threshold	350.0 V	140.0 V to 420.0 V	When the bus voltage is lower than the setpoint of A5-06, the AC drive reports E005.1.
A5-09	Overvoltage threshold	820 V	330.0 V to 820.0 V	When the bus voltage is higher than the setpoint of A5-09, the AC drive reports E009.1/E009.3.
A5-04	Fast current limiting	1	0: Disabled 1: Enabled	This function is used to minimize the overcurrent faults, ensuring normal operation of the AC drive. You are advised to disable this function in hoist applications such as cranes. This function applies only to asynchronous motors in V/f control mode. The AC drive reports E40.1 after it works in fast current limiting state for some time.



### 1.6.3 Phase Loss Protection

Para.	Name	De fault	Value Range	Description
F9-12	Input phase loss/ Contactor pickup protection	11	Ones: Input phase loss protection 0: Disabled 1: Enabled Tens: Contactor pickup protection 0: Disabled 1: Enabled	This parameter defines whether to enable input phase loss or contactor pickup protection.
F9-13	Output phase loss protection	01	Ones: Output phase loss protection 0: Disabled 1: Enabled Tens: Output phase loss protection before running 0: Disabled 1: Enabled	Ones: This bit defines whether to enable output phase loss protection. If the protection is disabled and output phase loss occurs, the AC drive will not report the fault. In this case, the actual current is larger than the current displayed on the operating panel, which is risky. Exercise caution when disabling this function. Tens: Output phase loss detection during running takes about several seconds. For low-frequency running applications or applications where risks exist in start with phase loss, this function enables quick detection of output phase loss during startup. However, it is not recommended for applications that have strict requirements on startup time.

### 1.6.4 Motor Overheat Protection

You can view motor temperature by using U0-34. Parameters related to motor overheat protection are described as follows.

#### Related Parameters

Para.	Name	Default	Value Range	Description
F9-56	Motor temperature sensor type	0	0: No temperature sensor 1: PT100 2: PT1000	The motor temperature sensor signal needs to connect to AI3 and PGND on the MD38IO1 expansion card. The drive supports both PT100 and PT1000. You must set the sensor type correctly. You can view motor temperature by using U0-34.
F9-57	Motor overheat protection threshold	110°C	0°C to 200°C	When the motor temperature exceeds the motor overheat protection threshold (f9-57), the AC drive reports Err45 and handles the fault according to the fault protection action defined by F9-48.
F9-58	Motor overheat pre-warning threshold	90°C	0°C to 200°C	When the motor temperature exceeds the motor overheat pre-warning threshold (F9-58), the DO terminal assigned with function 39 (motor overheat pre-warning) outputs an active signal.

## 1.6.5 Motor Overload Protection

### Related Parameters

Para.	Name	Default	Value Range	Description
F9-00	Motor overload protection	1	0: Disabled	Motor overload protection is disabled. In this case, you are advised to install a thermal relay before the motor.
			1: Enabled	The AC drive determines whether the motor is overloaded according to the inverse time delay curve of motor overload protection.
F9-01	Motor overload protection gain	1	0.20 to 10.00	This parameter can be used to adjust the motor overload current level and overload protection time.
F9-02	Motor overload pre-warning coefficient	80%	50% to 100%	The pre-warning coefficient is used to determine how early to send the pre-warning signal before the motor overload protection starts. The larger the value is, the later the pre-warning signal is sent.

To effectively protect motors with different loads, you need to set the overload protection gain of motors based on their overload capacity. The motor overload protection curve is an inverse time delay curve, as shown in the following figure.

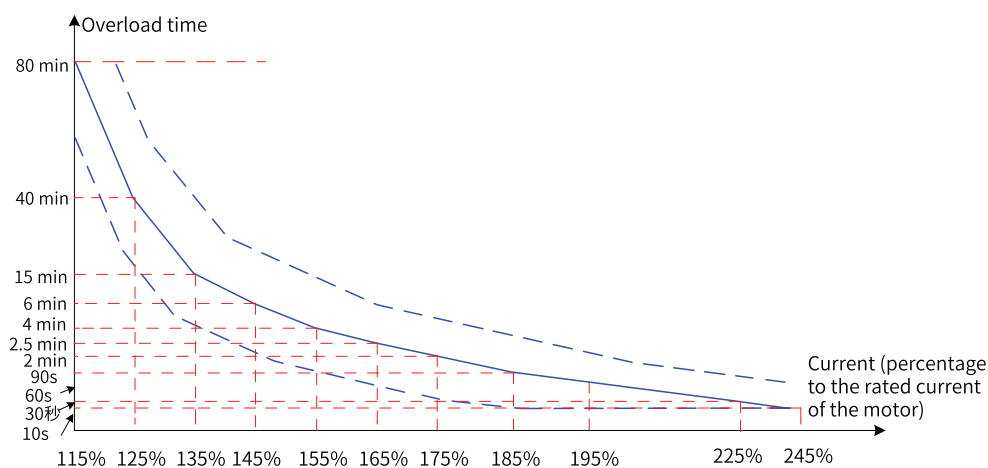


Figure 1-76 Inverse time delay curve of protection

When the motor runs at 175% of the rated motor current for 2 minutes, or when it runs at 115% of the rated motor current for 80 minutes, the AC drive reports the motor overload fault (E11.00).

#### 1. Example 1

- Assume that the rated motor current is 100 A. If F9-01 is set to 1.00, the AC drive reports a motor overload fault (E11.00) after the motor runs at 125 A (125% of 100 A) continuously for 40 minutes, according to the preceding curve.
- If F9-01 is set to 1.20, the AC drive reports a motor overload fault (E11.00) after the motor runs at 125 A (125% of 100 A) continuously for 48 minutes ( $40 \times 1.2$ ), according to the preceding curve.

### Note

The maximum overload time is 80 minutes and the minimum overload time is 10 seconds.

### 2. Example 2

The AC drive reports a motor overload fault after the motor runs at 150% of the rated current for 2 minutes. As shown in the overload curve, 150% (I) of the rated current falls between 145% (I1) and 155% (I2) of the rated current. The overload fault report delay for 145% of the rated current is 6 minutes (T1), and that for 155% of the rated current is 4 minutes (T2). Therefore, the overload fault report delay for 150% of the rated current is 5 minutes by default. The calculation is as follows.

$$"T = T1 + (T2 - T1) \times (I - I1) / (I2 - I1) = 4 + (6 - 4) \times (150\% - 145\%) / (155\% - 145\%) = 5 \text{ (minutes)}"$$

To report the overload fault after the motor runs continuously at 150% of the rated current for 2 minutes, set the motor overload protection gain as follows:  $F9-01 = \text{Desired overload protection time} / \text{Default overload protection delay} = 2/5 = 0.4$ .



Set F9-01 properly based on the actual overload capacity of the motor. Note that setting F9-01 to an excessively high value may easily result in motor damage caused by overtemperature without warning.

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When the motor overload detection level reaches the set motor overload pre-warning coefficient, the DO or fault relay outputs the motor overload pre-warning signal. The motor overload pre-warning coefficient is the percentage of time during which the motor runs at an overload threshold continuously without reporting an overload fault.

For example, if the motor overload protection gain is set to 1.00 and the motor overload pre-warning coefficient is set to 80%, the DO terminal or fault relay outputs the motor overload pre-warning signal after the motor runs at 145% of the rated motor current for 4.8 minutes (80% x 6).

The motor overload pre-warning function enables the AC drive to send a pre-warning signal to the control system through the DO before motor overload protection starts. The pre-warning coefficient is used to determine how early to send the pre-warning signal before the motor overload protection starts. The larger the value is, the later the pre-warning signal is sent. When the accumulative output current of the AC drive is greater than the overload time (value Y of the motor overload protection inverse time delay curve) multiplied by the motor overload pre-warning coefficient (F9-02), the multi-function DO terminal of the AC drive outputs a motor overload pre-warning signal. When F9-02 is set to 100%, motor overload pre-warning and motor overload protection are performed simultaneously.

## Related Parameters

Para.	Name	Default	Value Range	Description
F9-00	AC drive overload protection	0	0: Disabled 1: Enabled	<p>This parameter specifies whether to enable or disable the motor overload protection function. The AC drive determines whether the motor is overloaded according to the inverse time delay curve. When motor overload is detected, the AC drive will report an overload fault.</p> <p>0: Disabled The motor overload protection function is disabled. If this parameter is set to 0, you are advised to install a thermal relay before the motor for protection.</p> <p>1: Enabled The motor overload protection function is enabled.</p>
F9-01	Motor overload protection gain	1.00	0.20 to 10.00	<p>The motor overload protection gain is calculated according to the percentage of time during which the motor runs continuously at an overload threshold without reporting an overload fault.</p> <p>It is used to adjust the actual overload fault report time of the AC drive when motor overload occurs.</p>
F9-02	Motor overload pre-warning coefficient	80%	50% to 100%	<p>The motor overload pre-warning coefficient is the percentage of time during which the motor runs at an overload threshold continuously without reporting an overload fault. The AC drive sends a pre-warning signal to the control system through DO before motor overload protection starts.</p> <p>This signal is used to determine how early to send the pre-warning signal before the motor overload protection starts. The larger the value is, the later the pre-warning signal is sent.</p> <p>When the accumulative output current of the AC drive is greater than the overload time (value Y of the motor overload protection inverse time delay curve) multiplied by the motor overload pre-warning coefficient (F9-02), the multi-function DO terminal of the AC drive outputs a motor overload pre-warning signal.</p>

### 1.6.6 Load Loss Protection

You can set the ten thousands place of F9-51 to enable load loss detection. When the output current of the AC drive stays below F9-64 (load loss detection level) for a period longer than the time set by F9-65 (load loss detection time), the AC drive performs the load loss protection action. Once the load recovers during protection, the AC drive automatically runs at the reference frequency.

Para.	Name	Default	Value Range	Description
F9-51	Fault protection action 4	10111	-	
F9-64	Load loss detection level	10.0%	0.0% to +100.0%	
F9-65	Load loss detection time	1.0s	0.1s to 60.0s	

## 1.6.7 Overspeed Protection

Overspeed protection is valid only when the AC drive works in FVC mode (F0-01 = 1).

When this protection is enabled, if the AC drive detects that the actual motor speed exceeds the maximum frequency (F0-10) by a percentage greater than the overspeed detection level (F9-67) for a period longer than the overspeed detection time (F9-68), the AC drive reports the motor overspeed fault (E43.00) and acts according to the fault protection action defined by F9-50.

When F9-68 (overspeed detection time) is set to 0.0s, overspeed detection is disabled.

### Related Parameters

Para.	Name	Default	Value Range	Description
F9-67	Over-speed detection level	20.0%	0.0% to 50.0% (maximum frequency)	When the AC drive detects that the actual motor speed exceeds the maximum frequency (F0-10) by a percentage greater than the overspeed detection level (F9-67) for a period longer than the overspeed detection time (F9-68), the AC drive reports Err43.1 and acts according to the fault protection action defined by F9-50.
F9-68	Over-speed detection time	1.0s	0.0s to 60.0s	When F9-68 is set to 0, motor overspeed detection is disabled.  The overspeed detection time automatically decreases to 0.1s when the back EMF converted from the actual speed of the synchronous motor exceeds the overvoltage threshold of the AC drive.

## 1.6.8 Protection Against Excessive Speed Deviation

The excessive speed deviation protection function is valid only when the FVC mode is selected for the AC drive (F0-01 is set to 1).

When this protection is enabled, if the AC drive detects that the deviation between the actual motor running frequency and the frequency reference stays above the detection level of excessive speed deviation (F9-69) for a period longer than the detection time of excessive speed deviation (F9-70), the AC drive reports E42.00 (excessive speed deviation) and acts according to the fault protection action defined by F9-50.

If F9-70 (detection time of excessive speed deviation) is set to 0.0s, the excessive speed deviation detection function is disabled.

### Related Parameters

Para.	Name	Default	Value Range	Description
F9-69	Detection level of excessive speed deviation	20.0%	0.0% to 50.0% (maximum frequency)	-
F9-70	Detection time of excessive speed deviation	5.0s	0.0s to 60.0s	

## 1.6.9 Motor Locked-rotor Protection

Take motor 1 as an example:

Para.	Name	Default	Value Range	Description
AA-30	Bit05: motor locked-rotor protection	0	0-01	When motor locked-rotor protection is enabled by setting bit05 of AA-30, the motor locked-rotor fault E093.1 is reported when the output torque of the motor has reached the torque limit and the feedback speed stays lower than AA-32 (percentage relative to the rated motor speed) for a time period defined by AA-31.  This fault is reported only in vector control mode.
AA-31	Motor locked-rotor protection time	2s	0.0s to 65.0s	
AA-32	Motor locked-rotor protection speed	6.0%	0.0% to 600.0%	

## 1.6.10 Motor Stall Protection

Para.	Name	Default	Value Range	Description
AA-30	Bit04: motor stall protection	1	0-01	When motor stall protection is enabled by setting bit04 of AA-30, E093.2 is reported when the stall protection threshold (AA-34) and stall protection time (AA-33) are reached.
AA-33	Motor stall protection time	0.5s	0.0s to 10.0s	
AA-34	Motor stall protection threshold	30.0%	0.0% to 100.0%	

## 1.6.11 Current Control Fault Protection

Para.	Name	Default	Value Range	Description
AA-30	Bit03: current control fault protection	1	0-01	When current control fault protection is enabled by setting bit03 of AA-30, E093.3 is reported when the current control fault protection threshold (AA-36) and protection time (AA-35) are reached.
AA-35	Motor control fault protection time	0.05s	0.0s to 1.00s	
AA-36	Motor control fault protection threshold	25.0%	0.0% to 200.0%	

## 1.6.12 Power Dip Ride-Through

The power dip ride-through function ensures continuous system running upon instantaneous power failure. When instantaneous power failure occurs, the AC drive keeps the motor in the power generating state to keep the bus voltage around the "voltage threshold for enabling power dip ride-through". This prevents the AC drive from stopping due to undervoltage. See the following figure.

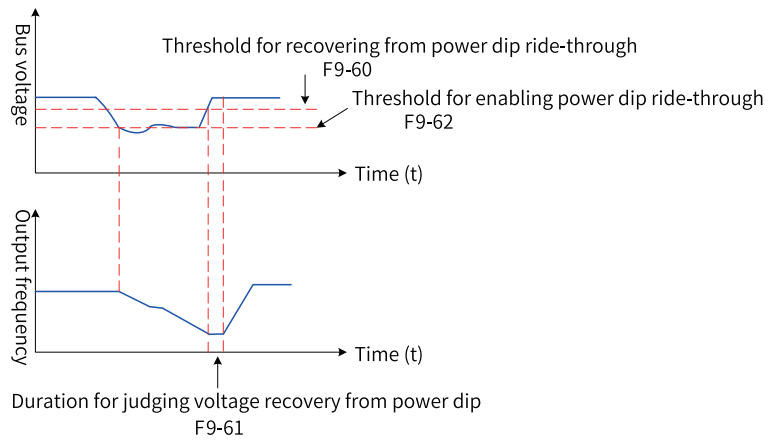


Figure 1-77 Power dip ride-through

In the "keep bus voltage constant" mode, when the grid resumes power supply, the AC drive restores the target output frequency based on the acceleration time. In the "decelerate to stop" mode, when the grid resumes power supply, the AC drive continues to decelerate to 0 Hz and stops, and will restart only after receiving a start command.

## Related Parameters

Para.	Name	Default	Value Range	Description
F9-59	Power dip ride-through	0	0: Disabled 1: Keep bus voltage constant 2: Decelerate to stop 3: Suppress voltage dip	<p>This parameter defines whether the AC drive runs continuously upon instantaneous power failure. When instantaneous power failure occurs, the AC drive keeps the motor in the power generating state to keep the bus voltage around the "voltage threshold for enabling power dip ride-through". This prevents the AC drive from stopping due to undervoltage.</p> <p>0: Disabled Power dip ride-through is disabled.</p> <p>1: Keep bus voltage constant When power failure occurs, the bus voltage stays around the "voltage threshold for enabling power dip ride-through". In this mode, when the grid resumes power supply, the AC drive accelerates to the target frequency based on the acceleration time.</p> <p>2: Decelerate to stop When power failure occurs, the AC drive decelerates to stop. In this mode, when the grid resumes power supply, the AC drive decelerates to 0 Hz and stops. The AC drive will start again only when a new start command is received.</p> <p>3: Suppress voltage dip In this mode, the AC drive will not stop due to undervoltage caused by voltage dip. The voltage dip suppression time is set by F9-66.</p>
F9-60	Voltage threshold for disabling power dip ride-through	85%	80% to 100%	<p>This parameter defines the voltage threshold for disabling power dip ride-through. 100% corresponds to 540 V. This value is slightly lower than the bus voltage before power failure.</p> <p>Upon grid power failure, the bus voltage is maintained around F9-62 (voltage threshold for enabling power dip ride-through). When the power supply recovers, the bus voltage rises from F9-62 (voltage threshold for enabling power dip ride-through) to F9-60 (voltage threshold for disabling power dip ride-through). During this period, the output frequency of the AC drive keeps decreasing until the bus voltage reaches F9-60 (voltage threshold for disabling power dip ride-through).</p>
F9-61	Delay of voltage recovery from power dip	0.5s	0.0 to 100.0s	<p>This parameter defines the time required for the bus voltage to rise from F9-60 (voltage threshold for disabling power dip ride-through) to the voltage before power failure.</p>



Para.	Name	Default	Value Range	Description
F9-62	Voltage threshold for enabling power dip ride-through	80%	60% to 100%	This parameter defines the voltage level at which the bus voltage is maintained upon power failure. Upon power failure, the bus voltage is maintained around F9-62 (voltage threshold for enabling power dip ride-through).
F9-71	Power dip ride-through gain	0 to 100	40	This parameter is valid only in the "keep bus voltage constant" mode (F9-59 = 1).
F9-72	Power dip ride-through integral coefficient	0 to 100	30	If undervoltage occurs frequently during power dip ride-through, increase the power dip ride-through gain and integral coefficient.
F9-73	Deceleration time of power dip ride-through	0 to 300.0s	20.0s	This parameter is valid only in the "decelerate to stop" mode (F9-59 = 2).  When the bus voltage is lower than the value of F9-62, the AC drive decelerates to stop. The deceleration time is determined by this parameter but not F0-18.

### 1.6.13 Fault Reset

The undervoltage fault (E009.1) is automatically reset when the bus voltage resumes normal, and the reset is not included in the auto reset count. The short-to-ground fault (E023.1) and STO buffer chip fault (E047.5) cannot be reset automatically or manually. They can only be reset after the AC drive is completely powered off and then powered on again. Fault protection action selection is required when the set number of fault auto reset times is reached.

#### Related Parameters

Para.	Name	Default	Value Range	Description
F9-09	Auto reset attempts	0	0 to 20	This parameter defines the maximum number of auto resets allowed for the AC drive when the fault protection action is set to auto reset. If the number of reset attempts exceeds the value of this parameter, the AC drive will remain in the faulty state.
F9-10	DO action during auto reset	1	0: Disabled 1: Enabled	This parameter defines whether the faulty DO (assigned with function 2) acts during auto fault reset if the auto fault reset function is enabled.
F9-11	Auto reset interval	1.0s	0.1s to 100.0s	This parameter defines the delay of auto reset after the AC drive reports a fault.
H2-12	Auto reset enable	1	0: Disabled 1: Enabled	This parameter defines whether to enable the auto fault reset function.
H2-15	Auto reset disabled upon manual reset	1	0: Yes 1: No	This parameter defines the effect of manual reset on auto reset.  When it is set to 0, faults are not reset automatically after manual reset.  When it is set to 1, faults are still reset automatically after manual reset.
H2-16	Interval for clearing auto reset count	10 min	0 min to 6000 min	After the interval for clearing auto reset count, the number of auto reset attempts is restored to that defined by F9.09.

Para.	Name	Default	Value Range	Description
H2-17	Active fault reset attempt count	0	0 to 65535	This parameter shows the number of auto resets that have occurred so far.
H2-18	Clearing upon fault reset count reach	0	0: Enabled 1: Disabled	This parameter defines whether to automatically clear the auto reset count when the set number of auto reset attempts is reached after the interval defined by H2-16.

You can set an auto reset blacklist to forbid auto reset of some faults. The AC drive supports 10 non-resettable fault codes, which can be set as required.

## Related Parameters

Para.	Name	Default	Value Range	Description	
H2-10	Code of non-resettable exception 1	0	0 to 200	The AC drive supports 10 groups of main codes and subcodes of non-resettable faults. The main codes and subcodes are combined to form specific fault codes. These faults cannot be reset automatically.	
H2-11	Subcode of non-resettable exception 1	0	0 to 9		
H2-12	Code of non-resettable exception 2	0	0 to 200		
H2-13	Subcode of non-resettable exception 2	0	0 to 9		
H2-14	Code of non-resettable exception 3	0	0 to 200		
H2-15	Subcode of non-resettable exception 3	0	0 to 9		
H2-16	Code of non-resettable exception 4	0	0 to 200		Continued
H2-17	Subcode of non-resettable exception 4	0	0 to 9		
H2-18	Code of non-resettable exception 5	0	0 to 200		
H2-19	Subcode of non-resettable exception 5	0	0 to 9		
H2-20	Code of non-resettable exception 6	0	0 to 200		

Para.	Name	Default	Value Range	Description
H2-21	Subcode of non-resettable exception 6	0	0 to 9	Continued
H2-20	Code of non-resettable exception 7	0	0 to 200	
H2-21	Subcode of non-resettable exception 7	0	0 to 9	
H2-20	Code of non-resettable exception 8	0	0 to 200	
H2-21	Subcode of non-resettable exception 8	0	0 to 9	
H2-20	Code of non-resettable exception 9	0	0 to 200	Continued
H2-21	Subcode of non-resettable exception 9	0	0 to 9	
H2-20	Code of non-resettable exception 10	0	0 to 200	
H2-21	Subcode of non-resettable exception 10	0	0 to 9	

### 1.6.14 Auto Restart Upon Fault

If auto reset and restart upon fault is enabled, when a fault is reported during running and reset automatically, the AC drive automatically restarts after the delay of restart after auto reset. During restart, the AC drive will stop if a stop or manual reset command is received.

#### Related Parameters

Para.	Name	Default	Value Range	Description
H2-42	Restart after auto reset	0	0: Disabled 1: Enabled	This parameter defines whether to enable restart after auto reset. The AC drive can restart upon auto fault reset only after this function is enabled (on the premise that an operation command is received and fault auto reset is successful).
H2-43	Waiting time of restart after auto reset	0.5s	0 to 600.0s	This parameter defines the waiting time of auto restart of the AC drive after auto reset.
H2-44	Forced flying start during auto restart	0	0 to 1	This parameter defines whether to force flying start during auto restart upon fault.

You can set an auto restart blacklist or whitelist to forbid or allow auto restart upon auto reset of some faults. The AC drive supports 6 fault codes for which auto restart upon auto reset is allowed, which can be set as required.

## Related Parameters

Para.	Name	Default	Value Range	Description
H2-45	Source of exceptions that allow restart		0: Whitelist 0: Blacklist	This parameter defines the source for allowing restart after fault auto reset. When it is set to 0, restart after fault auto reset is allowed only for faults with fault codes defined by H2-46 to H2-57. When it is set to 1, restart after fault auto reset is not allowed for faults with fault codes defined by H2-46 to H2-57.  The AC drive supports 6 groups of main codes and subcodes of special faults. The main codes and subcodes are combined to form specific fault codes. H2-45 (source of exceptions that allow restart) determines whether restart after fault auto reset is allowed for these faults.
H2-46	Code of specified exception 1	0	0 to 200	
H2-47	Subcode of specified exception 1	0	0 to 9	
H2-48	Code of specified exception 2	0	0 to 200	
H2-49	Subcode of specified exception 2	0	0 to 9	
H2-50	Code of specified exception 3	0	0 to 200	
H2-51	Subcode of specified exception 3	0	0 to 9	
H2-52	Code of specified exception 4	0	0 to 200	
H2-53	Subcode of specified exception 4	0	0 to 9	
H2-54	Code of specified exception 5	0	0 to 200	
H2-55	Subcode of specified exception 5	0	0 to 9	
H2-56	Code of specified exception 6	0	0 to 200	
H2-57	Subcode of specified exception 6	0	0 to 9	

## 1.6.15 Fault Protection Actions

The AC drive supports six fault protection actions: coast to stop, stop according to the stop mode, continue to run, run with power limit, run with current limit, and ignore.

The protection actions are arranged as follows based on severity (from high to low) of corresponding faults: coast to stop, stop according to the stop mode, run with limit (continue to run, run with power limit, and run with current limit), and ignore.

Continue to run, run with power limit, and run with current limit correspond to the same severity.

When the fault protection action is continue to run, run with power limit, or run with current limit, the operating panel displays Lxxx.x, such as **L042.1**.

When the fault protection action is set to ignore, no message is displayed on the operating panel when a fault occurs. Exercise caution when setting this action.

## Related Parameters

Para.	Name	Default	Value Range	Description
F9-47	Fault protection action selection 1	10000	<p>Ones: Motor overload (Err11)</p> <p>0: Coast to stop</p> <p>1: Stop according to the stop mode</p> <p>2: Continue to run</p> <p>3: Run with power limit</p> <p>4: Run with current limit</p> <p>5: Ignore</p> <p>Tens: Input phase loss (Err12)</p> <p>0: Coast to stop</p> <p>1: Stop according to the stop mode</p> <p>2: Continue to run</p> <p>3: Run with power limit</p> <p>4: Run with current limit</p> <p>5: Ignore</p> <p>Hundreds: Output phase loss (Err13)</p> <p>0: Coast to stop</p> <p>1: Stop according to the stop mode</p> <p>2: Continue to run</p> <p>3: Run with power limit</p> <p>4: Run with current limit</p> <p>Thousands: External fault (Err15)</p> <p>0: Coast to stop</p> <p>1: Stop according to the stop mode</p> <p>2: Continue to run</p> <p>3: Run with power limit</p> <p>4: Run with current limit</p> <p>Ten thousands: Communication exception (Err16)</p> <p>0: Coast to stop</p> <p>1: Stop according to the stop mode</p> <p>2: Continue to run</p> <p>3: Run with power limit</p> <p>4: Run with current limit</p> <p>5: Ignore</p>	<p>This parameter defines the fault protection actions for different types of faults.</p> <p>0: Coast to stop</p> <p>The AC drive coasts to stop.</p> <p>1: Stop according to the stop mode</p> <p>The AC drive stops according to the stop mode defined by F6-10.</p> <p>2: Continue to run</p> <p>The AC drive continues to run without stop. The running frequency is defined by A4-40 to A4-42, F9-54, and F9-55.</p> <p>3: Run with power limit</p> <p>The AC drive continues to run without stop. The power limit is defined by A4-83 and A4-84.</p> <p>4: Run with current limit</p> <p>The AC drive continues to run without stop. The current limit is defined by A4-87.</p> <p>5: Ignore</p> <p>The fault is ignored.</p>

## Function Application

Para.	Name	Default	Value Range	Description
F9-48	Fault protection action selection 2	0	<p>Ones: Encoder/PG card exception (Err20)</p> <p>0: Coast to stop</p> <p>1: Stop according to the stop mode</p> <p>2: Continue to run</p> <p>3: Run with power limit</p> <p>4: Run with current limit</p> <p>5: Ignore</p> <p>Tens: Parameter read-write exception (Err21)</p> <p>0: Coast to stop</p> <p>1: Stop according to the stop mode</p> <p>Hundreds: Reserved (Err24)</p> <p>0: Coast to stop</p> <p>Thousands: Reserved (Err25)</p> <p>0: Coast to stop</p> <p>Ten thousands: Running duration reach (Err26)</p> <p>0: Coast to stop</p> <p>1: Stop according to the stop mode</p> <p>2: Continue to run</p> <p>3: Run with power limit</p> <p>4: Run with current limit</p>	Same as F9-47

Para.	Name	Default	Value Range	Description
F9-49	Fault protection action selection 3	220	<p>Ones: User-defined fault 1 (Err27)</p> <p>0: Coast to stop</p> <p>1: Stop according to the stop mode</p> <p>2: Continue to run</p> <p>3: Run with power limit</p> <p>4: Run with current limit</p> <p>Tens: User-defined fault 2 (Err28)</p> <p>0: Coast to stop</p> <p>1: Stop according to the stop mode</p> <p>2: Continue to run</p> <p>3: Run with power limit</p> <p>4: Run with current limit</p> <p>Hundreds: Power-on duration reach (Err29)</p> <p>0: Coast to stop</p> <p>1: Stop according to the stop mode</p> <p>2: Continue to run</p> <p>3: Run with power limit</p> <p>4: Run with current limit</p> <p>Thousands: Load loss (Err30)</p> <p>0: Coast to stop</p> <p>1: Stop according to the stop mode</p> <p>2: Continue to run</p> <p>3: Run with power limit</p> <p>4: Run with current limit</p> <p>5: Ignore</p> <p>Ten thousands: PID loss during running (Err31)</p> <p>0: Coast to stop</p> <p>1: Stop according to the stop mode</p> <p>2: Continue to run</p> <p>3: Run with power limit</p> <p>4: Run with current limit</p>	Same as F9-47



## Function Application

Para.	Name	Default	Value Range	Description
F9-50	Fault protection action selection 4	55	<p>Ones: Excessive speed deviation (Err42)</p> <p>0: Coast to stop</p> <p>1: Stop according to the stop mode</p> <p>2: Continue to run</p> <p>3: Run with power limit</p> <p>4: Run with current limit</p> <p>5: Ignore</p> <p>Tens: Motor overspeed (Err43)</p> <p>0: Coast to stop</p> <p>1: Stop according to the stop mode</p> <p>2: Continue to run</p> <p>3: Run with power limit</p> <p>4: Run with current limit</p> <p>5: Ignore</p> <p>Thousands: Pole position auto-tuning error (Err55)</p> <p>0: Coast to stop</p>	Same as F9-47
F9-54	Frequency for continuing to run upon fault	1	<p>0: Current running frequency</p> <p>1: Frequency reference</p> <p>2: Frequency upper limit</p> <p>3: Frequency lower limit</p> <p>4: Alternative frequency upon exception</p>	This parameter defines the frequency at which the AC drive continues to run upon fault. If a fault occurs during running of the AC drive and the fault protection action is set to "Continue to run", the AC drive displays "Lxxx.x" and continues to run at the frequency defined by F9-54.
F9-55	Alternative frequency upon exception	100.0%	0.0% to 100.0% (100.0% corresponds to the maximum frequency defined by F0-10)	This parameter defines the alternative frequency of the AC drive upon fault. If a fault occurs during running and the fault protection action is to run at the alternative frequency upon exception (F9-54 = 4), the AC drive displays "Lxxx.x" and continues to run at the alternative frequency.
A4-80	Speed limited running mode	-	<p>0: Run with a maximum speed limit</p> <p>1: Run at a specified safe speed</p>	This parameter defines the mode in which the AC drive continues to run upon fault.
A4-81	Forward speed limit in restricted running mode	100.0%	0% to 600.0%	-
A4-82	Reverse speed limit in restricted running mode	100.0%	0% to 600.0%	-

Para.	Name	Default	Value Range	Description
A4-83	Maximum motoring power in restricted running mode	50.0%	0% to 400.0%	-
A4-84	Maximum regenerative power in restricted running mode	50.0%	0% to 400.0%	-
A4-87	Maximum allowable current in restricted running mode	90.0%	50.0% to 400.0%	-

### 1.6.16 Self-check

The self-check function is used to automatically detect some exceptions that may occur on the AC drive. You are advised to perform a manual static self-check before using the system for the first time to confirm whether the AC drive and external wiring are normal.

Self-check items include IGBT shoot-through check, short-to-ground check, output phase loss check, and encoder check.

There are two self-check modes: manual self-check and self-check before running.

- Manual self-check

Manual self-check involves static self-check and full self-check, which can be selected by setting F6-29. The following table lists the sub-items of static self-check and full self-check. Each sub-item can be enabled or disabled separately by setting corresponding bit of F6-28.

F6-28 Self-check Item	Static Self-check (F6-28 = 1)	Full Self-check (F6-29 = 2)
IGBT shoot-through self-check (bit1)	√	√
Short-to-ground self-check (bit2)	√	√
Output phase loss self-check (bit3)	√	√
Encoder self-check (bit4)	-	√

During static self-check, the motor does not rotate. During encoder self-check, the motor accelerates to 50% of the rated speed, performs self-check, and then decelerates to 0 according to the acceleration/deceleration time defined by F0-17 and F0-18.

1. If encoder self-check is selected during full self-check, check the following before self-check to ensure that the motor can rotate freely:

- Check that there is no construction going on around the motor.
- Check that there are no obstacles around the motor shaft.

- Check whether the motor has a brake. If yes, open it forcibly.
- Check that the motor fan works properly.
- Check whether devices connected to the motor, if any, meet operating conditions, for example, whether lubrication is required.

2. The motor runs in vector control mode without an encoder during encoder self-check. Therefore, ensure that parameter auto-tuning has ever been performed before auto-tuning.

● Self-check before running

Self-check is performed each time before the AC drive runs. Self-check before running involves IGBT shoot-through check, short-to-ground check, and output phase loss check, but not encoder check.

Each sub-item can be enabled or disabled separately by setting the corresponding parameter:

- IGBT shoot-through self-check before running is set by bit4 of AA-00.
- Short-to-ground self-check before running is set by bit2 of F9-07.
- Output phase loss self-check before running is set by bit2 of F9-13.

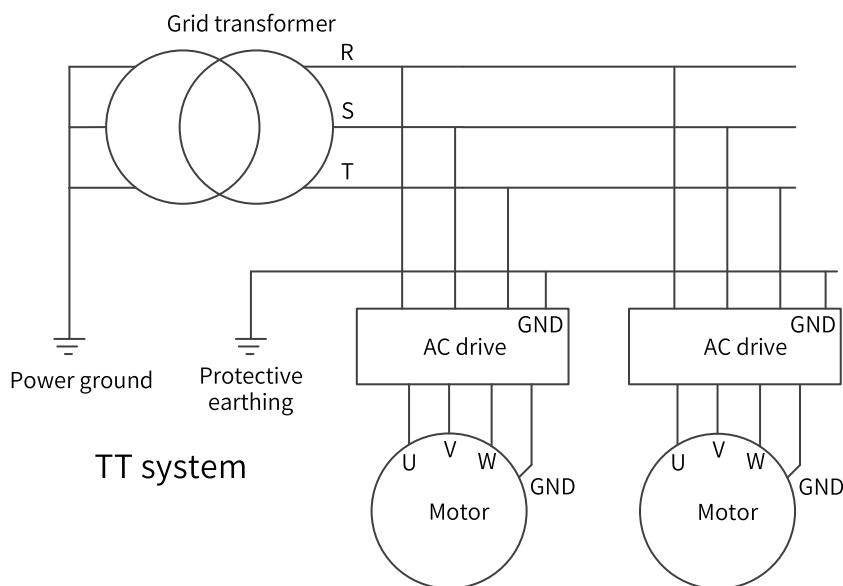
Note the following for self-check before running:

When the motor start mode is set to flying start, self-check before running is forcibly disabled and not performed.

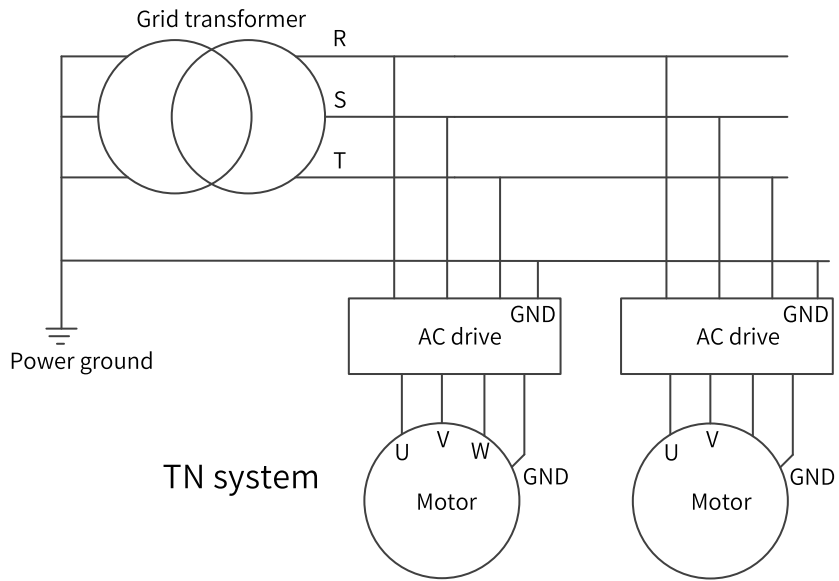
Note the following for self-check:

1. When using the self-check function, ensure that the rated current of the motor is greater than 0.2 times the rated current of the AC drive. If the motor power is far less than the power of the AC drive, self-check may fail. In this case, self-check is not recommended.
2. Do not perform self-check when the motor is rotating. If the motor has back EMF, a fault will be reported falsely during self-check.
3. When the power grid is an IT system, short-to-ground cannot be detected during self-check. In this case, an insulation monitoring device is required. The following describes different grids.

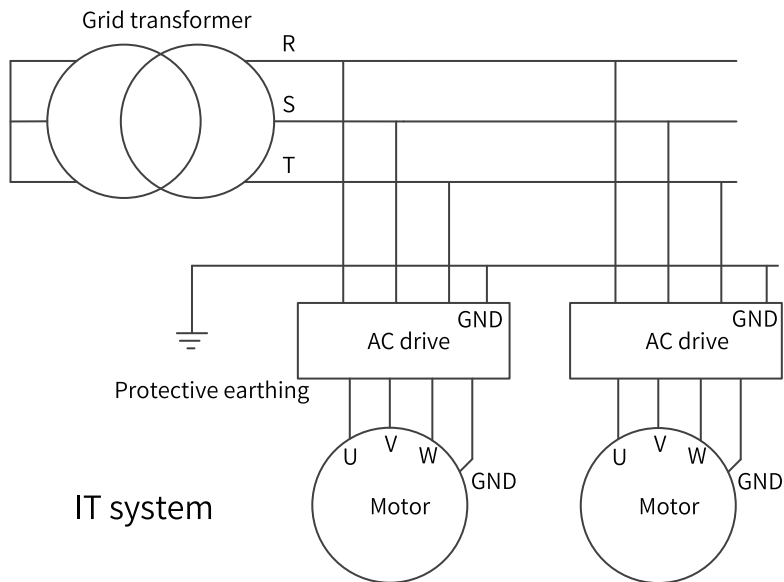
● **TT system**



● **TN system**



- **IT system**



**Related Parameters**

## Function Application

Para.	Name	Default	Value Range	Description
F6-28	Manual self-check enable	0xF	Bit00: IGBT shoot-through self-check 0: Disabled 1: Enabled Bit01: Short-to-ground self-check 0: Disabled 1: Enabled Bit02: Output phase loss self-check 0: Disabled 1: Enabled Bit03: Encoder self-check 0: Disabled 1: Enabled	
F6-28	Manual self-check command	2	0: None 1: Static self-check 2: Full self-check	-
F9-07	Short-to-ground detection	11	Ones: Short-to-ground detection upon power-on 0: Disabled 1: Enabled Tens: Short-to-ground detection before running 0: Disabled 1: Enabled	-

Para.	Name	Default	Value Range	Description
F9-13	Output phase loss protection	11	Ones: Output phase loss protection during running 0: Disabled 1: Enabled Tens: Output phase loss protection before running 0: Disabled 1: Enabled	-
AA-00	Parameter auto-tuning upon startup	1	Bit00: Synchronous motor pole position auto-tuning upon startup 0: Disabled 1: Enabled Bit01: Quick stator resistance auto-tuning upon startup 0: Disabled 1: Enabled Bit02 and bit03: HFI pole position auto-tuning 0: Disabled 1: Enabled 2: Adaptive Bit04: IGBT shoot-through self-check upon startup 0: Disabled 1: Enabled Bit05: Short-to-ground self-check upon startup (reserved) 0: Disabled 1: Enabled Bit06: Phase loss self-check upon startup (reserved) 0: Disabled 1: Enabled	

## 1.7 Monitoring

The monitoring function enables you to view the AC drive state in the LED display area on the operating panel. You can monitor AC drive status in the following two ways:

1. When the AC drive is in the stop or running state, press the key on the operating panel to switch between bytes of F7-03, F7-04, and F7-05 to view state parameters on the panel. There are 32 running state parameters available. You can select whether to display a parameter by setting the corresponding binary bit of F7-03 (LED display 1 in running state) and F7-04 (LED display 2 in running state). There are 16 stop state parameters available. You can select whether to display a parameter by setting the corresponding binary bit of F7-05 (LED display in stop state).

For example, to view the running frequency, bus voltage, output voltage, output current, output power, and PID reference on the panel, perform the following operations:

Set corresponding bits to 1 according to the mapping between each byte of F7-03 (LED display 1 in running state) and the preceding parameters. Convert the binary number into a hexadecimal equivalent, and set the hexadecimal number in F7-03. For details about the conversion, see [“Table 1-37 Converting a binary number into the hexadecimal equivalent” on page 168](#). Press the key on the operating panel to switch between bytes of F7-03 to view parameter settings.

You can view other monitoring parameters in the same way. The following table describes the mapping between the monitoring parameters and bytes of F7-03, F7-04, and F7-05.

Table 1-36 Mapping between monitoring parameters and bytes of F7-03, F7-04, and F7-05

Para.	Name	Default	Value Range	Description
F7-03	LED display 1 in running state	0x1F	0000 to 0xFFFF	<p>To display a parameter during running, set the corresponding bit to 1, convert the binary number to a hexadecimal equivalent, and set it in F7-03.</p> <p>Note: Shaded parameters are displayed by default.</p>
F7-04	LED display 2 in running state	0	0000 to 0xFFFF	<p>To display a parameter during running, set the corresponding bit to 1, convert the binary number to a hexadecimal equivalent, and set it in F7-04.</p>
F7-05	LED display in stop state	0x33	0000 to 0xFFFF	<p>To display a parameter upon stop, set the corresponding bit to 1, convert the binary number to a hexadecimal equivalent, and set it in F7-05.</p> <p>Note: Shaded parameters are displayed by default.</p>



**Note**

When the AC drive is powered on again after power-off, the parameters selected before power-off are displayed.

The monitoring parameters corresponding to each bit in F7-03, F7-04, and F7-05 do not completely correspond to all the monitoring parameters in group U0. If parameters to be monitored cannot be found in F7-03, F7-04 and F7-05, view them in group U0.

The following describes how to convert a binary number into a hexadecimal equivalent.

Divide the binary number into groups of 4 digits from right to left. Each digit group corresponds to a hexadecimal number. If the MSB is not the fourth bit, add 0s. Then, convert the divided binary bits into the decimal equivalent. 0000 to 1111 correspond to 0 to 15 in decimal and 0 to F in hexadecimal. Convert the decimal number into the hexadecimal equivalent according to the mapping between decimal and hexadecimal. (See the following table.)

For example, the binary number 011 1101 1111 1001 can be divided into 0011 1101 1111 1001. According to the following table, its hexadecimal equivalent is 3DF9.

Table 1–37 Converting a binary number into the hexadecimal equivalent

Bi-nary	1111	1110	1101	1100	1011	1010	1001	1000	0111	0110	0101	0100	0011	0010	0001	0000
Dec-imal	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Hex-ade-ci-mal	F	E	D	C	B	A	9	8	7	6	5	4	3	2	1	0

2. Select group U0 on the operating panel to view monitoring parameters. [“Table 1–38 Monitoring parameters in group U0” on page 168](#) lists the monitoring parameters, which are read-only.

Table 1–38 Monitoring parameters in group U0

Para.	Name	Basic Unit	Value Range	Description
U0-00	Running frequency (Hz)	Determined by F0-22	0.0 to 500.0 Hz (F0-22 = 1) 0.00 to 500.00 Hz (F0-22 = 2 by default)	Absolute value of the running frequency of the AC drive
U0-01	Frequency reference (Hz)	Determined by F0-22	0.0 to 500.0 Hz (F0-22 = 1) 0.00 to 500.00 Hz (F0-22 = 2 by default)	Absolute value of the frequency reference of the AC drive
U0-02	Bus voltage (V)	0.1 V	0.00 to 6553.5 V	Bus voltage of the AC drive
U0-03	Output voltage (V)	1 V	0.00 to 65535 V	Output voltage of the AC drive during running
U0-04	Output current (A)	0.01 A	0.00 A to 655.35 A (AC drive power ≤ 55 kW) 0.0 A to 6553.5 A (AC drive power 55 kW)	Output current of the AC drive during running

Para.	Name	Basic Unit	Value Range	Description
U0-05	Output power (kW)	0.1 kW	-3276.8 kW to +3276.7 kW	Output power of the AC drive during running
U0-06	Output torque (%)	0.10%	-3276.8% to +3276.7%	Output torque of the AC drive during running. The value is a percentage of the rated motor torque.
U0-07	DI state	1	0x0000 to 0x7FFF	<p>Current DI terminal input state. Each bit of the binary number converted from this value corresponds to one DI signal. The value 1 indicates that the input is high level. The value 0 indicates that the input is low level. Each bit maps to an input terminal as follows:</p> <p>Low-order 8 bits: 7, 6, 5, 4, 3, 2, 1, 0</p> <p>High-order 8 bits: 15, 14, 13, 12, 11, 10, 9, 8</p> <p>DI1, DI2, DI3, DI4, DI5, DI6, DI7, DI8, DI9, DI10, VDI1, VDI2, VDI3, VDI4, VDI5, -</p>
U0-08	DO state	1	0x0000 to 0x03FF	<p>Current DO terminal output state. Each bit of the binary number converted from this value corresponds to one DO signal. The value 1 indicates that the output is high level. The value 0 indicates that the output is low level. Each bit maps to an output terminal as follows:</p> <p>Low-order 8 bits: 7, 6, 5, 4, 3, 2, 1, 0</p> <p>High-order 8 bits: 15, 14, 13, 12, 11, 10, 9, 8</p> <p>DO3, Relay 1, Relay 2, DO1, DO2, VDO1, VDO2, VDO3, VDO4, VDO5, -, -, -, -, -</p>
U0-09	AI1 voltage (V)	0.01 V	-10.57 V to +10.57 V	-
U0-10	AI2 voltage (V)	0.01 V	-10.57 V to +10.57 V	-
U0-11	AI3 voltage (V)	0.01 V	-10.57 V to +10.57 V	-

## Function Application

Para.	Name	Basic Unit	Value Range	Description
U0-12	Count value	1	0 to 65535	Count value in the count function
U0-13	Length value	1	0 to 65535	Length value in the fixed length function
U0-14	Load speed	Determined by the ones place of F7-12	0 to 65535 RPM (the ones place of F7-12 is 0) 0 to 6553.5 RPM (the ones place of F7-12 is 1) 0 to 655.35 RPM (the ones place of F7-12 is 2)	Target load speed, which is affected by the load speed display coefficient defined by F7-06
U0-15	PID reference	1	0 to 65535	PID reference = PID reference (percentage) x FA-04 (PID reference feedback range)
U0-16	PID feedback	1	0 to 65535	PID feedback = PID feedback (percentage) x FA-04 (PID reference feedback range)
U0-17	PLC stage	1	0 to 15	16 speeds in total
U0-18	Pulse input reference (kHz)	0.01 kHz	0.00 kHz to 100.00 kHz	High-speed pulse sampling frequency of DI5
U0-19	Feedback speed (Hz)	Determined by the tens place of F7-12	-5000.0 Hz to +5000.0 Hz (the tens place of F7-12 is 1) -500.00 Hz to +500.00 Hz (the tens place of F7-12 is 2 by default)	Feedback speed (Hz)
U0-20	Remaining running duration	0.1 min	0.0 to 6553.5 min	Remaining runtime during timed running
U0-21	AI1 voltage before correction	0.001 V	-10.570 V to +10.570 V	Actual AI sampling voltage/current Linear correction is performed to reduce the deviation between the sampling voltage/current and the actual voltage/current. For the voltage/current after correction, see U0-09 and U0-10.
U0-22	AI2 voltage (V)/current (mA) before correction	0.001 V/0.01 mA	-10.570 V to +10.570 V	
U0-23	AI3 voltage before correction	0.001 V	-10.570 V to +10.570 V	
U0-24	Motor speed (RPM)	Determined by the ones place of F7-12	0 to 65535 RPM (the ones place of F7-12 is 0) 0 to 6553.5 RPM (the ones place of F7-12 is 1) 0 to 655.35 RPM (the ones place of F7-12 is 2)	Motor feedback speed (RPM)
U0-25	Current power-on duration	1 min	0 min to 65535 min	-

Para.	Name	Basic Unit	Value Range	Description
U0-26	Current running duration	0.1 min	0.0 min to 6553.5 min	-
U0-27	Pulse input reference (Hz)	1 Hz	0-65535 Hz	High-speed pulse sampling frequency of DI5. It is the same as U0-18, except for the unit.
U0-28	Communication	0.01%	-100.00% to +100.00%	Data written through communication address 0x1000. The percentage base is determined by the value set in address 0x1000.
U0-29	Encoder feedback speed (Hz)	Determined by the tens place of F7-12	-5000.0 Hz to +5000.0 Hz (the tens place of F7-12 is 1) -500.00 Hz to +500.00 Hz (the tens place of F7-12 is 2 by default)	Motor running frequency measured by encoder (Hz)
U0-30	Main frequency X	Determined by the hundreds place of F7-12	-5000.0 Hz to +5000.0 Hz (the hundreds place of F7-12 is 1) -500.00 Hz to +500.00 Hz (the hundreds place of F7-12 is 2 by default)	Setpoint of main frequency X (Hz)
U0-31	Auxiliary frequency Y	Determined by the hundreds place of F7-12	-5000.0 Hz to +5000.0 Hz (the hundreds place of F7-12 is 1) -500.00 Hz to +500.00 Hz (the hundreds place of F7-12 is 2 by default)	Setpoint of auxiliary frequency Y (Hz)
U0-33	Synchronous motor rotor position	0.1	0.0° to 359.9°	-
U0-34	Motor temperature	1°C	0°C to 200°C	Motor temperature sampled through AI3 For details about motor temperature measurement, see the description of F9-56 (motor temperature sensor type).
U0-35	Target torque (%)	0.1%	-200.0% to +200.0%	Current torque upper limit. The value is a percentage of the rated motor torque.
U0-36	Resolver position	1	0 to 4095	-
U0-37	Power factor angle	0.1°	0.0° to 6553.5°	Current power factor angle

## Function Application

Para.	Name	Basic Unit	Value Range	Description
U0-38	ABZ position	1	0 to 65535	<p>Number of phase-A and phase-B pulses of the ABZ encoder</p> <p>This value is four times the number of pulses that the encoder runs. For example, if the display is 4000, the actual number of pulses that the encoder runs is 1000 (4000/4).</p> <p>The value increases when encoder rotates in forward direction and decreases when encoder rotates in reverse direction. The count value restarts from 0 upon increasing to 65535 and restarts from 65535 upon decreasing to 0.</p> <p>You can check whether the encoder is correctly installed by viewing this parameter.</p>
U0-39	V/f separation target voltage	1 V	0 V to rated motor voltage	Target output voltage in V/f separation mode
U0-40	V/f separation output voltage	1 V	0 V to rated motor voltage	Current actual output voltage in V/f separation mode
U0-45	Fault subcode	1	0 to 51	Fault subcode
U0-46	Limit code	0.1	0 to 6553.5	Heatsink temperature of the IGBT
U0-58	Motor running revolution count	1	0 to 65535	<p>Number of phase-Z pulses of the current ABZ or UVW encoder</p> <p>The value increases or decreases by 1 each time the encoder rotates one revolution in forward or reverse direction. You can check whether the encoder is correctly installed by viewing this parameter.</p>
U0-59	Frequency reference (%)	0.01%	-100.00% to +100.00%	Current frequency reference. The value is a percentage of the maximum frequency (F0-10) of the AC drive.
U0-60	Running frequency (%)	0.01%	-100.00% to +100.00%	Current running frequency. The value is a percentage of the maximum frequency (F0-10) of the AC drive.
U0-61	AC drive state	1	Bit1 and Bit0	0: Stopped; 1: Running in forward direction; 2: Running in reverse direction
			Bit3 and Bit2	0: Running at constant speed; 1: Accelerating; 2: Decelerating
			Bit4	0: Bus voltage normal; 1: Undervoltage
U0-62	Current fault code	1	0 to 99	-
U0-65	Torque upper limit	0.1%	-2000.0 to +2000.0%	-
U0-66	Model of communication expansion card	1	0 to 65535	-

Para.	Name	Basic Unit	Value Range	Description
U0-67	Software version of communication expansion card	1	0 to 65535	-
U0-68	AC drive state on the communication expansion card	1	Bit0	0: Stopped; 1: Running
			Bit1	0: Running in forward direction; 1: Running in reverse direction
			Bit2	Whether the AC drive is faulty
				0: Not faulty 1: Faulty
			Bit3	Whether the running frequency reaches the preset frequency
				0: Not reach 1: Reach
			Bit4	Whether DP communication is normal
				0: Normal 1: Abnormal
			Bit5	Communication control as the reference source for the AC drive
Bit6	Communication control as the command source for the AC drive			
Bit7	Speed control/Torque control			
	Bit8 to Bit15	Fault code. For details, see the description of faults.		
U0-69	Frequency transmitted to the communication expansion card/0.01 Hz	0.01 Hz	0.00 to 655.35 Hz	-
U0-70	Speed transmitted to the communication expansion card/RPM	1 RPM	0 to 65535 RPM	-
U0-71	Current specific to communication expansion card (A)	0.1 A	0 to 6553.5 A	-
U0-72	Communication card error state	1	0 to 65535	-
U0-73	Motor SN	1	0 to 65535	-
U0-74	AC drive output torque	0.1%	-200.0% to +200.0%	-

## Function Application

Para.	Name	Basic Unit	Value Range	Description
U0-76	Low-order bits of accumulative power consumption	0.1 kW·h	0 to 6553.5 kW·h	-
U0-77	High-order bits of accumulative power consumption	1 kW·h	0 to 65535 kW·h	-
U0-78	Linear speed	1 m/min	0 to 65535 m/min	-
U0-80	EtherCAT slave name	1	0 to 65535	-
U0-81	EtherCAT slave alias	1	0 to 65535	-
U0-82	EtherCAT ESM transmission error code	1	0 to 65535	-
U0-83	EtherCAT XML file version	1	0 to 65535	-
U0-84	EtherCAT synchronization loss count	1	0 to 65535	-
U0-85	Maximum errors and invalid frames of EtherCAT port 0 per unit time	1	0 to 65535	-
U0-86	Maximum errors and invalid frames of EtherCAT port 1 per unit time	1	0 to 65535	-
U0-87	Maximum forwarding errors of EtherCAT port per unit time	1	0 to 65535	-

Para.	Name	Basic Unit	Value Range	Description
U0-88	Maximum error count of EtherCAT data frame processing unit per unit time	1	0 to 65535	-
U0-89	Maximum link loss of EtherCAT port per unit time	1	0 to 65535	-
U0-90	DI function selection display 1	1	0 to 65535	DI function selection. Bit0 to bit15 show whether function 1 to function 16 are selected. When a function is selected, the corresponding bit is 1; otherwise, the bit is 0.
U0-91	DI function selection display 2	1	0 to 65535	DI function selection. Bit0 to bit15 show whether function 17 to function 32 are selected. When a function is selected, the corresponding bit is 1; otherwise, the bit is 0.
U0-92	DI function selection display 3	1	0 to 65535	DI function selection. Bit0 to bit15 show whether function 33 to function 48 are selected. When a function is selected, the corresponding bit is 1; otherwise, the bit is 0.
U0-93	DI function selection display 4	1	0 to 65535	DI function selection. Bit0 to bit15 show whether function 49 to function 64 are selected. When a function is selected, the corresponding bit is 1; otherwise, the bit is 0.
U0-94	DI function selection display 5	1	0 to 65535	DI function selection. Bit0 to bit15 show whether function 65 to function 80 are selected. When a function is selected, the corresponding bit is 1; otherwise, the bit is 0.
U0-95	STO initialization flag	1	0 to 65535	-
U0-96	STO status word monitoring	1	0 to 65535	-
U0-97	STO model	1	0x0 to 0xFFFF	-
U0-98	STO 1.2 V AD sampling value	1	0 to 65535	-
U0-99	STO 5 V AD sampling value	1	0 to 65535	-



## 2 Process Control

### 2.1 Wobble Control Function

With the wobble control function, the output frequency of the AC drive wobbles up and down around the frequency reference (F0-07). This function is applicable to industries such as textile and chemical fiber as well as occasions where traverse and winding functions are required.

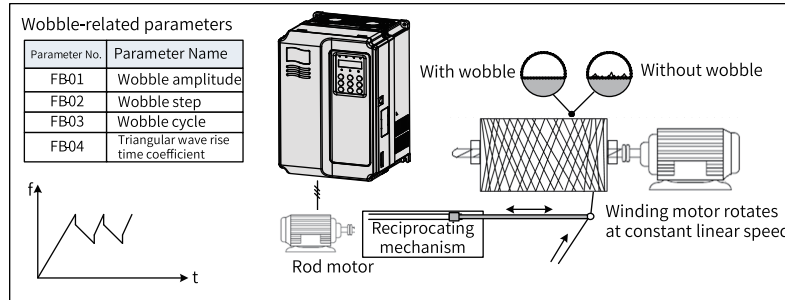


Figure 2-1 Application scenario of the wobble function

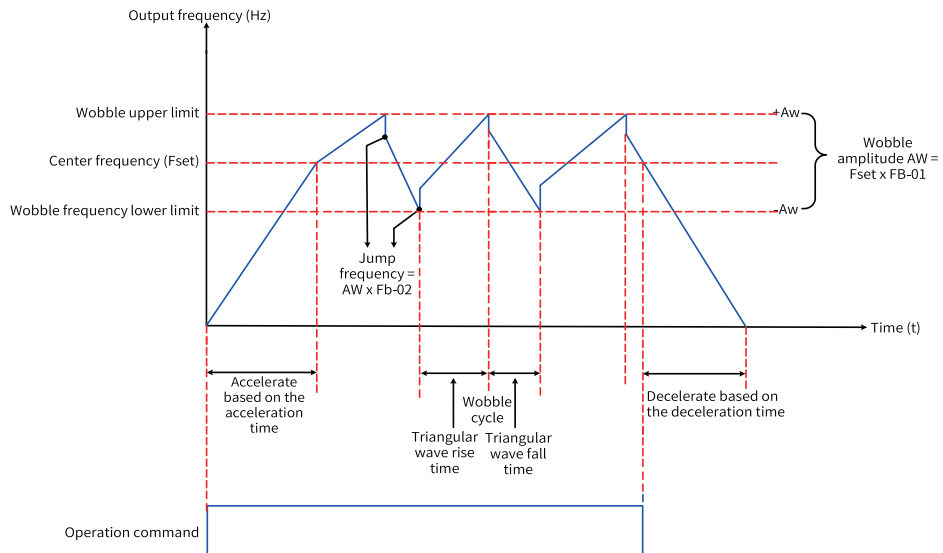


Figure 2-2 Schematic diagram of the wobble function

Para.	Name	Default	Value Range	Description
FB-00	Swing setting mode	0	0: Relative to center frequency 1: Relative to the maximum frequency	0: Relative to center frequency (F0-07, frequency reference superposition). This mode applies to variable swing systems, in which the swing changes with the center frequency (frequency reference). 1: Relative to the maximum frequency (F0-10). This mode applies to fixed swing systems, in which the swing is a fixed value calculated based on the maximum frequency.
FB-01	Wobble amplitude	0.00%	0.0% to 100.0%	When FB-01 is set to 0, the swing is 0, indicating that the wobble function is disabled.
FB-02	Wobble step	0.00%	0.0% to 50.0%	This parameter determines the swing and jump frequency. The wobble running frequency is limited by the frequency upper limit and frequency lower limit.

Para.	Name	Default	Value Range	Description
FB-03	Wobble cycle	10.0s	0.1s to 3000.0s	This parameter defines the time of a complete wobble cycle.
Fb-04	Triangular wave rise time coefficient	50.00%	0.1% to 100.0%	This parameter defines the triangular wave rise time as a percentage relative to the wobble cycle (FB-03).

### 1. Calculation of the swing

When FB-00 is set to 0 (relative to center frequency):  $\text{Swing (Aw)} = \text{F0-07 (frequency reference)} \times \text{FB-01 (wobble amplitude)}$

When FB-00 is set to 1 (relative to maximum frequency):  $\text{Swing (Aw)} = \text{F0-10 (maximum frequency)} \times \text{FB-01 (wobble amplitude)}$ .

### 2. Calculation of the jump frequency

During wobble control, the jump frequency is a value relative to the swing. That is:  $\text{Jump frequency} = \text{Aw (wobble amplitude)} \times \text{FB-02 (Wobble step)}$ .

When FB-00 is set to 0 (relative to center frequency), the jump frequency is a variable.

When FB-00 is set to 1 (relative to maximum frequency), the jump frequency is a fixed value.

### 3. Calculation of the triangular wave rise/fall time

$\text{Triangular wave rise time} = \text{FB-03 (wobble cycle)} \times \text{FB-04 (triangular wave rise time coefficient)}$  (unit: s)

$\text{Triangular wave fall time} = \text{FB-03 (wobble cycle)} \times [1 - \text{FB-04 (triangular wave rise time coefficient)}]$  (unit: s)

(Wobble cycle = Triangular wave rise time + Triangular wave fall time)

## 2.2 Fixed Length Control Function

The AC drive supports fixed length control in which the length pulses can be collected by DI5 only, which requires DI5 to be assigned with function 27 (length count input).

Para.	Name	Default	Value Range	Description
FB-05	Reference length	1000 m	0 m to 65535 m	This parameter specifies the length value to be controlled in fixed length control mode.
FB-06	Actual length	0 m	0 m to 65535 m	The actual length is a monitored value. $\text{Actual length (FB-06)} = \text{Number of pulses sampled by DI} / \text{Number of pulses per meter (FB-07)}$ .
FB-07	Number of pulses per meter	100.0	0.1 to 6553.5	The number of pulses output per meter. The length pulses can be sampled by DI5 if DI5 is assigned with function 27 (length count input) (set F4-04 to 27).

In the following figure, the actual length is a monitored value.  $\text{Actual length (FB-06)} = \text{Number of pulses sampled by DI} / \text{Number of pulses per meter (FB-07)}$ . When the actual length (FB-06) exceeds the reference length (FB-05), the relay or DO terminal (function 10) outputs the "length reach" ON signal. Length reset can be implemented through the multi-functional DI terminal assigned with function 28 (length reset). For details, see the following figure.

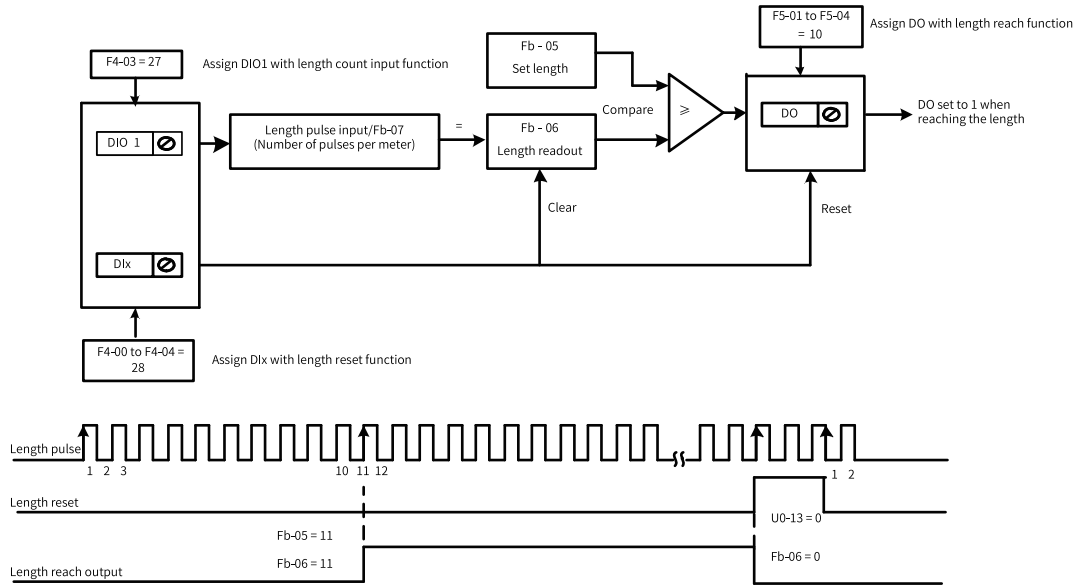


Figure 2-3 Schematic diagram of fixed length control

Para.	Name	Reference	Function Description
F4-04	DI5 function	27	Length count input
F4-00 to F4-09 (any one)	DI1 to DI10 function (any one)	28	Length reset
F5-01 to F5-05 (any one)	Terminal output function (any one)	10	Length reach

Only length can be calculated according to the number of pulses but the rotation direction cannot be identified in fixed length control mode. An automatic stop system can be implemented by connecting the output length reach T/A-T/B signal of the relay to the stop input terminal.

## 2.3 Counting Function

The count values are collected through a DI terminal (DI5 is required in the case of high pulse frequency), which must be assigned with function 25 (counter input).

Para.	Name	Default	Value Range	Description
FB-08	Reference count value	1000	1 to 65535	When the count value reaches FB-08, the DO terminal outputs an active signal indicating that the reference count value is reached.
FB-09	Designated count value	1000	1 to 65535	When the count value reaches FB-09, the DO terminal outputs an active signal indicating that the designated count value is reached. FB-09 must be less than or equal to FB-08 (reference count value).

In the following figure, the count values need to be collected by a DI terminal, and therefore the DI terminal is assigned with function 25 (counter input). When the count value reaches FB-08, the DO terminal outputs an "ON" signal indicating that the reference count value is reached. When the count value reaches FB-09, the DO terminal outputs an "ON" signal indicating that the designated count value is reached.

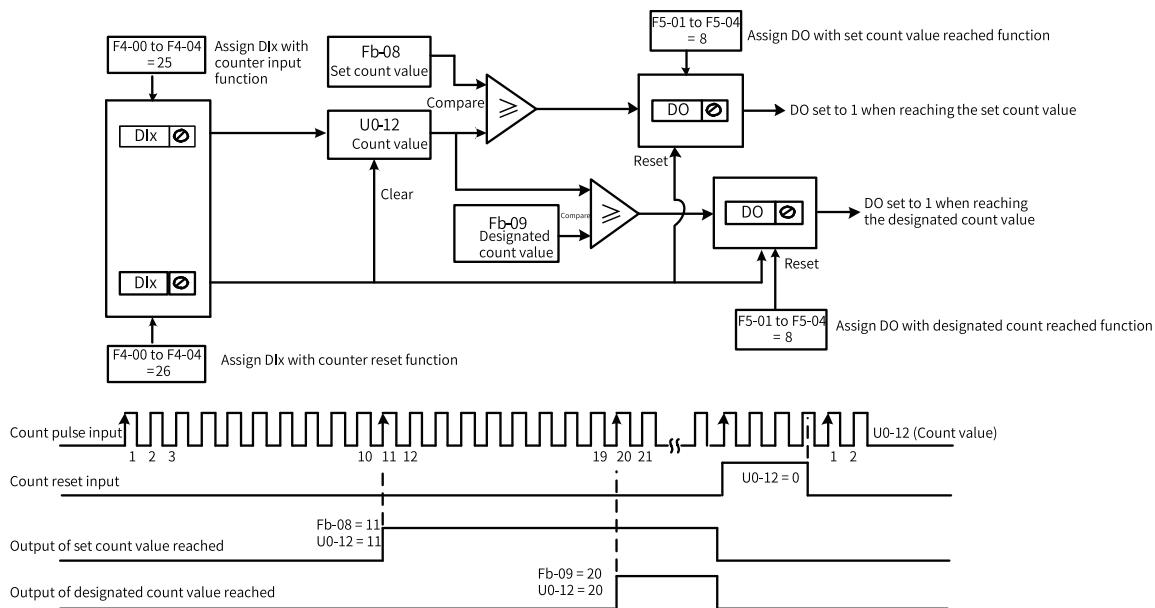


Figure 2-4 Schematic diagram of the counting function

Para.	Name	Reference	Function Description
F4-00 to F4-09 (any one)	DI1 to DI10 function (any one)	25	Counter input
F4-00 to F4-09 (any one)	DI1 to DI10 function (any one)	26	Counting reset
F5-01 to F5-04 (any one)	Terminal output function (any one)	8	Reference count value reach
F5-01 to F5-04 (any one)	Terminal output function (any one)	9	Designated count value reach

- DI5 is required if the pulse frequency is high.
- A DO terminal cannot be assigned with the "reference count value reach" function and "designated count value reach" function at the same time.
- The counter keeps counting when the AC drive is in the running/stop state until the reference count value is reached.
- The count value is retentive at power failure.
- An automatic stop system can be implemented by feeding the count value reach signal output by the DO terminal to the stop input terminal of the AC drive.

## 2.4 Simple PLC Function

Different from the user programmable function of MD500, the simple PLC function can only complete simple combination of multi-reference. The user programmable function is more diversified and practical. For details, see descriptions of parameters in group A7.

FC-16	Simple PLC running mode	Default	0
	Value Range	0	Stop after running for one cycle
		1	Keep final values after running for one cycle
		2	Repeat after running for one cycle

The simple PLC can be used as either the frequency source or V/f separation voltage source. The following figure shows how to use the simple PLC as the frequency source. When the simple PLC is used as the frequency source, whether the values of FC-00 to FC-15 are positive or negative determines the running direction. If the parameter values are negative, the AC drive runs in reverse direction.

When being used as the frequency source, the PLC supports three running modes (not supported when the PLC is used as the V/f separation voltage source), which is described as follows. 0: Stop after running for one cycle The AC drive stops automatically after running for one cycle, and starts only upon another running command. 1: Keep final values after running for one cycle The AC drive automatically maintains the final running frequency and direction after running for one cycle. 2: Repeat after running for one cycle The AC drive automatically starts another cycle after running for one cycle, and stops only upon a stop command.

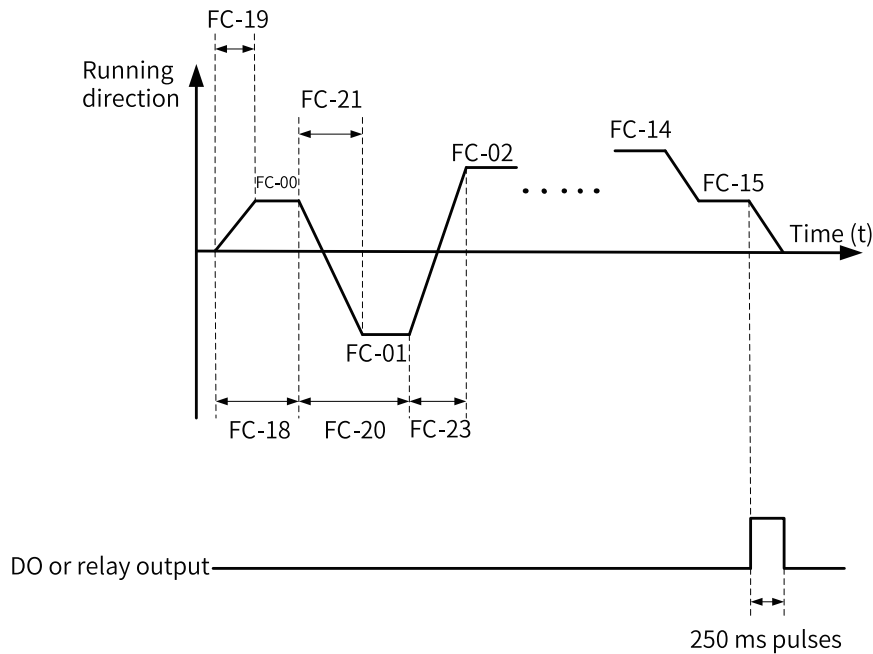


Figure 2-5 Simple PLC used as the frequency source

When being used as the frequency source, the PLC supports three running modes (not supported when the PLC is used as the V/f separation voltage source), which is described as follows:

- 0: Stop after running for one cycle The AC drive stops automatically after running for one cycle, and starts only upon another running command.
- 1: Keep final values after running for one cycle The AC drive automatically maintains the final running frequency and direction after running for one cycle.
- 2: Repeat after running for one cycle The AC drive automatically starts another cycle after running for one cycle, and stops only upon a stop command.

Table 2-1

FC-17	Simple PLC memory retention upon power failure	Default	0
	Value Range	Ones	Memory retention upon power failure
		0	Non-retentive upon power failure
		1	Retentive upon power failure
		Tens	Memory retention upon stop
		0	Non-retentive upon stop
		1	Retentive upon stop

Retentive upon power failure indicates that the AC drive retains the PLC running stage and running frequency upon power failure and continues to run from the retained values after it is powered on again. Non-retentive upon power failure indicates that the AC drive restarts the PLC process all over again upon power-on. Retentive upon stop indicates that the AC drive retains the PLC running stage and running frequency upon stop and continues to run from the retained values after it is started again. Non-retentive upon stop indicates that the AC drive restarts the PLC process all over again upon startup.

FC-18	Running duration of simple PLC reference 0	Default	0.0s (h)
	Value Range	0.0s (h) to 6553.5s (h)	
FC-19	Acceleration/Deceleration time of simple PLC reference 0	Default	0
	Value Range	0 to 3	
FC-20	Running duration of simple PLC reference 1	Default	0.0s (h)
	Value Range	0.0s (h) to 6553.5s (h)	
FC-21	Acceleration/Deceleration time of simple PLC reference 1	Default	0
	Value Range	0 to 3	
FC-22	Running duration of simple PLC reference 2	Default	0.0s (h)
	Value Range	0.0s (h) to 6553.5s (h)	
FC-23	Acceleration/Deceleration time of simple PLC reference 2	Default	0
	Value Range	0 to 3	
FC-24	Running duration of simple PLC reference 3	Default	0.0s (h)
	Value Range	0.0s (h) to 6553.5s (h)	
FC-25	Acceleration/Deceleration time of simple PLC reference 3	Default	0
	Value Range	0 to 3	

FC-26	Running duration of simple PLC reference 4	Default	0.0s (h)
	Value Range	0.0s (h) to 6553.5s (h)	
FC-27	Acceleration/Deceleration time of simple PLC reference 4	Default	0
	Value Range	0 to 3	
FC-28	Running duration of simple PLC reference 5	Default	0.0s (h)
	Value Range	0.0s (h) to 6553.5s (h)	
FC-29	Acceleration/Deceleration time of simple PLC reference 5	Default	0
	Value Range	0 to 3	
FC-30	Running duration of simple PLC reference 6	Default	0.0s (h)
	Value Range	0.0s (h) to 6553.5s (h)	
FC-31	Acceleration/Deceleration time of simple PLC reference 6	Default	0
	Value Range	0 to 3	
FC-32	Running duration of simple PLC reference 7	Default	0.0s (h)
	Value Range	0.0s (h) to 6553.5s (h)	
FC-33	Acceleration/Deceleration time of simple PLC reference 7	Default	0
	Value Range	0 to 3	
FC-34	Running duration of simple PLC reference 8	Default	0.0s (h)
	Value Range	0.0s (h) to 6553.5s (h)	
FC-35	Acceleration/Deceleration time of simple PLC reference 8	Default	0
	Value Range	0 to 3	
FC-36	Running duration of simple PLC reference 9	Default	0.0s (h)
	Value Range	0.0s (h) to 6553.5s (h)	
FC-37	Acceleration/Deceleration time of simple PLC reference 9	Default	0
	Value Range	0 to 3	
FC-38	Running duration of simple PLC reference 10	Default	0.0s (h)
	Value Range	0.0s (h) to 6553.5s (h)	
FC-39	Acceleration/Deceleration time of simple PLC reference 10	Default	0
	Value Range	0 to 3	
FC-40	Running duration of simple PLC reference 11	Default	0.0s (h)
	Value Range	0.0s (h) to 6553.5s (h)	

FC-41	Acceleration/Deceleration time of simple PLC reference 11	Default	0
	Value Range	0 to 3	
FC-42	Running duration of simple PLC reference 12	Default	0.0s (h)
	Value Range	0.0s (h) to 6553.5s (h)	
FC-43	Acceleration/Deceleration time of simple PLC reference 12	Default	0
	Value Range	0 to 3	
FC-44	Running duration of simple PLC reference 13	Default	0.0s (h)
	Value Range	0.0s (h) to 6553.5s (h)	
FC-45	Acceleration/Deceleration time of simple PLC reference 13	Default	0
	Value Range	0 to 3	
FC-46	Running duration of simple PLC reference 14	Default	0.0s (h)
	Value Range	0.0s (h) to 6553.5s (h)	
FC-47	Acceleration/Deceleration time of simple PLC reference 14	Default	0
	Value Range	0 to 3	
FC-48	Running duration of simple PLC reference 15	Default	0.0s (h)
	Value Range	0.0s (h) to 6553.5s (h)	
FC-49	Acceleration/Deceleration time of simple PLC reference 15	Default	0
	Value Range	0 to 3	
FC-50	Time unit of simple PLC running	Default	0
	Value Range	0	s (second)
		1	h (hour)
FC-51	Multi-reference 0 source	Default	0
	Value Range	0	FC-00
		1	AI1
		2	AI2
		3	AI3
		4	Pulse reference
		5	PID
6	Preset frequency (F0-08), modified using terminal UP/DOWN		



## 2.5 Master-Slave Control

### Rigid Connection and Flexible Connection

The master-slave control function is designed for multi-drive applications, in which the system is driven by multiple AC drives and motor shafts are coupled by gears, chains, or conveyor belts. Master-slave control enables even distribution of loads among the AC drives. External control signals are connected only to the master, and the master controls the slaves through serial communication links.

The master works in typical speed control mode and the slaves follow the torque or speed reference of the master. There are two types of master-slave control connection modes: rigid connection and flexible connection, as shown in the following figure.

- When motor shafts of the master and slaves are connected rigidly by chains or gears, the slaves must work in torque control mode to avoid speed difference among drives.
- When motor shafts of the master and slaves are connected flexibly, the slaves should work in speed control because slight speed difference among AC drives is allowed. When both the master and slaves work in speed control mode, the droop rate is required.

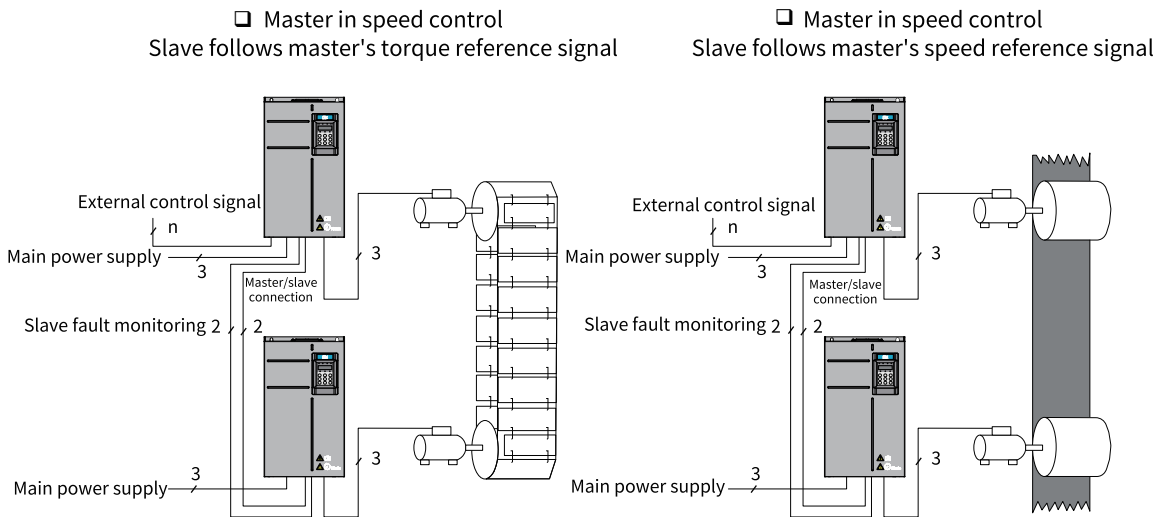


Figure 2-6 Rigid/Flexible connection

### Master-slave Connection

To avoid control conflict, all drives (connected to the same mechanical equipment) should receive external control signals through the master. Therefore, connect all external control signals only to the master during wiring and do not use the operating panel or fieldbus to control the slaves, as shown in the following figure.

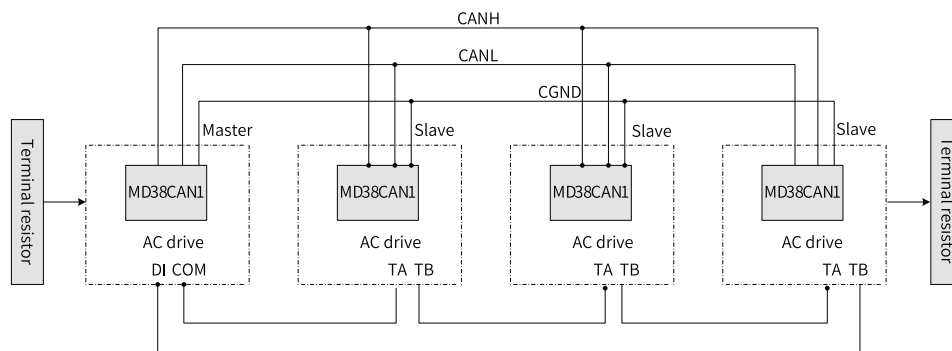


Figure 2-7 Master-slave connection

When a slave fails, the fault information is sent to the master in either of the following two ways. When a slave stops upon a fault, the master stops running.

1. The relay is used for slave fault feedback.
2. The slave sends the fault information to the master through communication (set the tens place of A8-02 to 1).

## Droop Control

Defined by F8-15, the droop control function allows slight speed differences between the master and slaves to avoid conflict between them. This function is required only when both the master and slaves work in speed control mode. A proper droop rate is gradually obtained during drive running. Therefore, do not set F8-15 to a very large value. Otherwise, the steady-state speed will drop significantly when the load is very large. You need to set F8-15 for both the master and slaves.

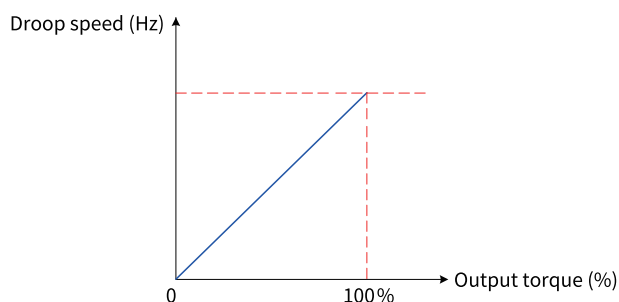


Figure 2-8 Relationship between droop speed and output torque

$$\text{Droop speed} = \text{Sync frequency} \times \text{Output torque} \times (\text{F8-15}/10)$$

For example, if F8-15 is set to 1.00, the sync frequency is 50 Hz, the output torque is 50%, the actual frequency of the AC drive is calculated as follows: Actual frequency of the AC drive = 50 Hz – 50 Hz x 50% x (1.00/10) = 47.5 Hz

## Related Parameters

The related parameters include A8-00 to A8-07 and A8-11.

## Application

The following describes parameter settings for rigid connection and flexible connection.

- Rigid connection

Table 2-2 Parameter settings for master in speed control mode (A0-00 = 0)

Parameter	Parameter Name	Value Range	Setting	Adjustment Required
FD-00	Baud rate	0000 to 6009	Setpoint of the thousands place Same for the master and slave	No
A8-00	Point-point communication	0 to 1	1	No
A8-01	Master/Slave selection	0 to 1	0	No
F0-10	Maximum frequency	5.00 Hz to 500.00 Hz	50.00 Hz (Same for the master and slave)	No
F2-10	Torque upper limit	0.0% to 200.0%	130.0%	Yes

Table 2-3 Parameter settings for slave in torque control mode (A0-00 = 1)

Parameter	Parameter Name	Value Range	Setting	Adjustment Required
FD-00	Baud rate	0000 to 6009	Setpoint of the thousands place Same for the master and slave	No
A8-00	Point-point communication	0 to 1	1	No
A8-01	Master/Slave selection	0 to 1	1	No
A8-02	Slave following master's command	Ones: Whether the slave follows the operation command of the master 0: No 1: Yes Tens: Whether the slave sends fault information to master when a fault occurs 0: No 1: Yes Hundreds: Whether the master reports a fault (ERR-16) upon disconnection of the slave 0: No 1: Yes	Ones: 1 Tens: 1	No
A8-03	Function of slave RX data	0: Running frequency 1: Target frequency	0	No
A8-11	Window width	0.20 Hz to 10.00 Hz	0.50 Hz	Yes
F0-10	Maximum frequency	5.00 Hz to 500.00 Hz	50.00 Hz (Same for the master and slave)	No

Parameter	Parameter Name	Value Range	Setting	Adjustment Required
F8-07	Acceleration time 4 (Frequency acceleration time in torque control)	0.0s to 6500.0s	0.0s	No
F8-08	Deceleration time 4 (Frequency deceleration time in torque control)	0.0s to 6500.0s	0.0s	No
F0-02	Command source	0 to 2	2	No
FD-02	Local address	0: Broadcast address 1 to 247 (valid for Modbus, PROFIBUS DP, CANlink, PROFINET, and EtherCAT)	1	No
A0-00	Speed/Torque control mode	0 to 1	1	No
A0-01	Torque reference source in torque control	0 to 7	0	No
A0-03	Torque digital setting	-200.0 to +200.0%	130.0%	Same as the setting of F2-10 of the master
A0-07	Torque acceleration time	0.00s to 650.00s	0.00s	No
A0-08	Torque deceleration time	0.00s to 650.00s	0.00s	No

### Note

转矩控制模式时，请不要设置启动频率，否则将导致启动冲击电流较大。

You can decrease the value of A8-11 (ensure that it is greater than 0.20 Hz) of the slave as appropriate in master-slave control mode to improve startup smoothness. Meanwhile, if the system acceleration/deceleration time is very short, you can increase the value of A8-11 as appropriate. A larger value of A8-11 indicates weaker window effect.

You are advised to set the initial value of A8-11 to half of the rated motor slip. The rated motor slip is calculated as follows:

- Number of motor pole pairs = (60 x Rated motor frequency)/Rated motor speed (rounded)
  - Motor sync speed = (60 x Rated motor frequency)/Number of motor pole pairs
  - Rated motor slip = (Motor sync speed – Rated motor speed)/Motor sync speed x Rated motor frequency
- Flexible connection

Table 2-4 Parameter settings for master in torque control mode (A0-00 = 1)

Parameter	Parameter Name	Value Range	Setting	Adjustment Required
FD-00	Baud rate	0000 to 6009	Setpoint of the thousands place Same for the master and slave	No
A8-00	Point-point communication	0 to 1	1	No
A8-01	Master/Slave selection	0 to 1	0	No
F0-10	Maximum frequency	5.00 Hz to 500.00 Hz	50.00 Hz (Same for the master and slave)	No
F8-15	Droop control	0.00 to 10.00 Hz	1.00 Hz	Yes
F0-17	Acceleration time 1	0.0s to 6500.0s	Same for the master and slave	No
F0-18	Deceleration time 1	0.0s to 6500.0s	Same for the master and slave	No

Table 2-5 Parameter settings for slave in speed control mode (A0-00 = 0)

Parameter	Parameter Name	Value Range	Setting	Adjustment Required
FD-00	Baud rate	0000 to 6009	Setpoint of the thousands place Same for the master and slave	No
A8-00	Point-point communication	0 to 1	1	No
A8-01	Master/Slave selection	0 to 1	1	No
A8-02	Ones: 0: No 1: Yes Tens: 0: No 1: Yes	0 to 11	Ones: 1 Tens: 1	No
A8-03	Function of slave RX data	0: Running frequency 1: Target frequency	0	No
F0-02	Command source	0 to 2	2	No
F0-03	Main frequency reference source	0 to 9	9	No
F0-10	Maximum frequency	5.00 Hz to 500.00 Hz	50.00 Hz (Same for the master and slave)	No
F0-17	Acceleration time 1	0.0s to 6500.0s	Same for the master and slave	No
F0-18	Deceleration time 1	0.0s to 6500.0s	Same for the master and slave	No
F8-15	Droop control	0.00 to 10.00 Hz	1.00 Hz	Yes

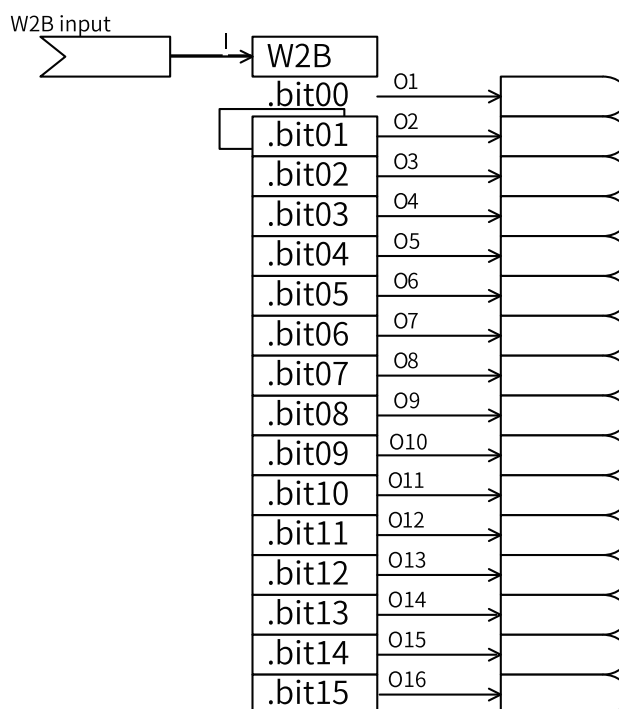
Parameter	Parameter Name	Value Range	Setting	Adjustment Required
FD-02	Local address	0: Broadcast address 1 to 247 (valid for Modbus, PROFIBUS DP, CANlink, PROFINET, and EtherCAT)	1	No
A0-00	Speed/Torque control mode	0 to 1	0	No

## 2.6 Free Programming Modules

### 2.6.1 Word-Bit Conversion

#### W2B Modules (A-H)

##### 1. Illustration



##### 2. Operation

When the input I is a word, the outputs O1 to O16 correspond to bit00 to bit15 of input I.

When the input I is a DWord, the outputs O1 to O16 correspond to bit00 to bit15 of high-order 16 bits of input I.

##### 3. Connection

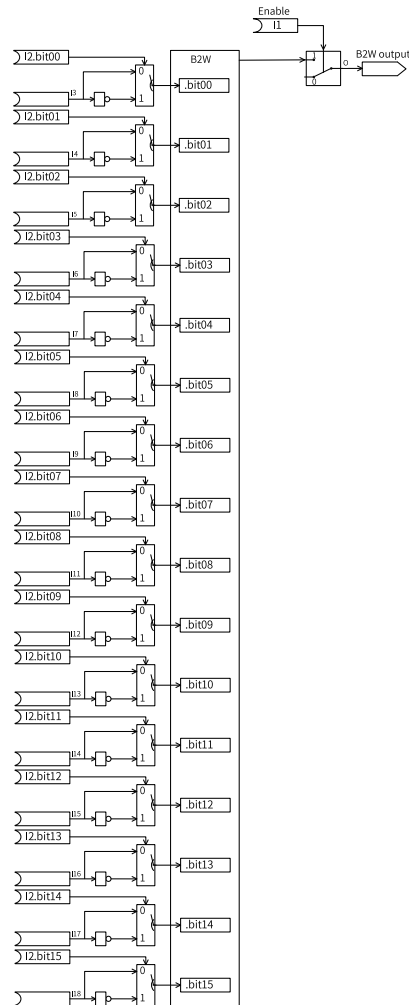
Input I: word connector, DWord connector

Outputs O1 to O16: bit connector

W2B Module		A	B	C	D	E	F	G	H
Input	I	C1-00	C1-01	C1-02	C1-03	C1-04	C1-05	C1-06	C1-07
Output	O1 (bit00)	L1-76	L1-92	L2-08	L2-24	L2-40	L2-56	L2-72	L2-88
	O2 (bit01)	L1-77	L1-93	L2-09	L2-25	L2-41	L2-57	L2-73	L2-89
	O3 (bit02)	L1-78	L1-94	L2-10	L2-26	L2-42	L2-58	L2-74	L2-90
	O4 (bit03)	L1-79	L1-95	L2-11	L2-27	L2-43	L2-59	L2-75	L2-91
	O5 (bit04)	L1-80	L1-96	L2-12	L2-28	L2-44	L2-60	L2-76	L2-92
	O6 (bit05)	L1-81	L1-97	L2-13	L2-29	L2-45	L2-61	L2-77	L2-93
	O7 (bit06)	L1-82	L1-98	L2-14	L2-30	L2-46	L2-62	L2-78	L2-94
	O8 (bit07)	L1-83	L1-99	L2-15	L2-31	L2-47	L2-63	L2-79	L2-95
	O9 (bit08)	L1-84	L2-00	L2-16	L2-32	L2-48	L2-64	L2-80	L2-96
	O10 (bit09)	L1-85	L2-01	L2-17	L2-33	L2-49	L2-65	L2-81	L2-97
	O11 (bit10)	L1-86	L2-02	L2-18	L2-34	L2-50	L2-66	L2-82	L2-98
	O12 (bit11)	L1-87	L2-03	L2-19	L2-35	L2-51	L2-67	L2-83	L2-99
	O13 (bit12)	L1-88	L2-04	L2-20	L2-36	L2-52	L2-68	L2-84	L3-00
	O14 (bit13)	L1-89	L2-05	L2-21	L2-37	L2-53	L2-69	L2-85	L3-01
	O15 (bit14)	L1-90	L2-06	L2-22	L2-38	L2-54	L2-70	L2-86	L3-02
	O16 (bit15)	L1-91	L2-07	L2-23	L2-39	L2-55	L2-71	L2-87	L3-03

## B2W Modules (A–D)

### 1. Illustration



## 2. Operation

When input I1 is set to 0, the module is disabled, and the output O is 0.

Bit00 to bit15 of I2 are the inversion flags of I3 to I18. The value 1 indicates that the corresponding I3 to I18 input is inverted. The inverted I3 to I18 are used as bit00 to bit15 of the hexadecimal number and output to O.

## 3. Connection

Input I1: 0 indicates disabled, and 1 indicates enabled.

Input I2: 16-bit unsigned data

Inputs I3 to I18: 0, 1, DI input, and bit connector input

Output O: word connector



W2B Module		A	B	C	D
Input	I1	C1-12	C1-30	C1-48	C1-66
	I2	C1-13	C1-31	C1-49	C1-67
	I3 (bit00)	C1-14	C1-32	C1-50	C1-68
	I4 (bit01)	C1-15	C1-33	C1-51	C1-69
	I5 (bit02)	C1-16	C1-34	C1-52	C1-70
	I6 (bit03)	C1-17	C1-35	C1-53	C1-71
	I7 (bit04)	C1-18	C1-36	C1-54	C1-72
	I8 (bit05)	C1-19	C1-37	C1-55	C1-73
	I9 (bit06)	C1-20	C1-38	C1-56	C1-74
	I10 (bit07)	C1-21	C1-39	C1-57	C1-75
	I11 (bit08)	C1-22	C1-40	C1-58	C1-76
	I12 (bit09)	C1-23	C1-41	C1-59	C1-77
	I13 (bit10)	C1-24	C1-42	C1-60	C1-78
	I14 (bit11)	C1-25	C1-43	C1-61	C1-79
	I15 (bit12)	C1-26	C1-44	C1-62	C1-80
	I16 (bit13)	C1-27	C1-45	C1-63	C1-81
	I17 (bit14)	C1-28	C1-46	C1-64	C1-82
	I18 (bit15)	C1-29	C1-47	C1-65	C1-83
Output	O	L7-21	L7-22	L7-23	L7-24

## 2.6.2 W-DW Conversion

### W-DW Modules (A–D)

#### 1. Illustration

#### 2. Operation

$$O = \begin{cases} O1: \frac{I1 \times 65535 + I2}{I3 \times 65535 + I4}, I3 \times 65535 + I4 \neq 0 \\ O2: I1 \times 65535 + I2, I3 \times 65535 + I4 = 0 \end{cases}$$

When the base value with I3 as the high-order 16 bits and I4 as the low-order 16 bits is a non-zero value, the output is the result of DWord with I1 as the high-order 16 bits and I2 as the low-order 16 bits divided by the base value, which is output to O1.

When the base value with I3 as the high-order 16 bits and I4 as the low-order 16 bits is 0, the output is the DWord with I1 as the high-order 16 bits and I2 as the low-order 16 bits, which is directly output to O2.

#### 3. Connection

Inputs I1 and I2: word connector, DWord connector

Inputs I3 and I4: 16-bit unsigned data

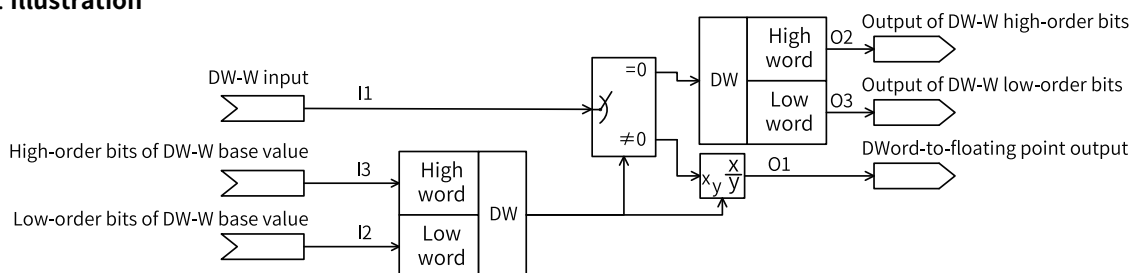
Output O1: floating-point connector

Output O2: DWord connector

W-DW Module	Input				Output	
	I1	I2	I3	I4	O1	O2
A	C2-00	C2-01	C2-02	C2-03	LD-31	L9-00
B	C2-04	C2-05	C2-06	C2-07	LD-32	L9-01
C	C2-08	C2-09	C2-10	C2-11	LD-33	L9-02
D	C2-12	C2-13	C2-14	C2-15	LD-34	L9-03

## DW-W Modules (A–D)

### 1. Illustration



### 2. Operation

$$O = \begin{cases} O1: \frac{I1}{I2 \times 65535 + I3}, & I2 \times 65535 + I3 \neq 0 \\ \begin{cases} O2: (I1 \gg 16) \& 0xFFFF \\ O3: I1 \& 0xFFFF \end{cases}, & I2 \times 65535 + I3 = 0 \end{cases}$$

When the base value with I2 as the high-order 16 bits and I3 as the low-order 16 bits is a non-zero value, the output is the result of I1 divided by the base value, which is output to O1.

When the base value with I2 as the high-order 16 bits and I3 as the low-order 16 bits is 0, the output O2 is the high-order 16 bits of I1, and the output O3 is the low-order 16 bits of I1.

### 3. Connection

Input I1: DWord connector

Inputs I2 and I3: unsigned data

Output O1: floating-point connector

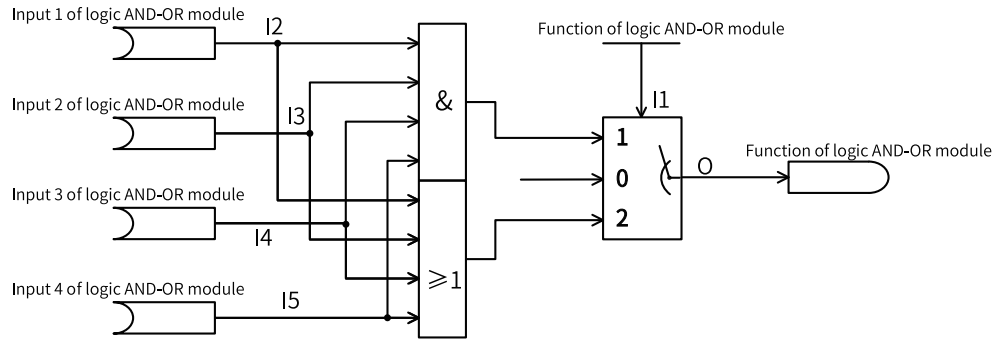
Outputs O2 and O3: word connector

W-DW Module	Input			Output		
	I1	I2	I3	O1	O2	O3
A	C2-32	C2-33	C2-34	LD-35	L7-25	L7-26
B	C2-35	C2-36	C2-37	LD-36	L7-27	L7-28
C	C2-38	C2-39	C2-40	LD-37	L7-29	L7-30
D	C2-41	C2-42	C2-43	LD-38	L7-31	L7-32

## 2.6.3 Logic Operations

### Logic AND-OR Modules (A–L)

#### 1. Illustration



**2. Operation**

When the logic AND-OR module enable selection I1 is set to 0, the module is disabled, and the output O is 0.

When the logic AND-OR module enable selection I1 is set to 1, logic AND is active, and the output O is I1 & I2 & I3 & I4.

If the inputs I1, I2, I3, and I4 are all true, the output O is true; otherwise, the output O is false. The following is the truth table.

Input				Output
I1	I2	I3	I4	O
0	X	X	X	0
X	0	X	X	0
X	X	0	X	0
X	X	X	0	0
1	1	1	1	1

When the logic AND-OR module enable selection I1 is set to 2, logic OR is active, and the output O is I1|I2|I3|I4.

If the inputs I1, I2, I3, and I4 are all false, the output O is false; otherwise, the output O is true. The following is the truth table.

Input				Output
I1	I2	I3	I4	O
1	X	X	X	1
X	1	X	X	1
X	X	1	X	1
X	X	X	1	1
0	0	0	0	0

**3. Connection**

Input I1: 0 indicates module disabled, 1 indicates logic AND, and 2 indicates logic OR.

Inputs I2, I3, I4, and I5: 0, 1, DI input, and bit connector input

Output O: bit connector

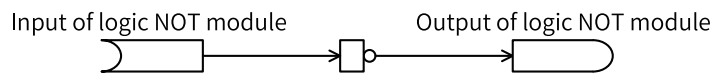
Logic AND-OR Module	Input					Output
	I1	I2	I3	I4	I5	O
A	C3-00	C3-01	C3-02	C3-03	C3-04	L3-36
B	C3-05	C3-06	C3-07	C3-08	C3-09	L3-37
C	C3-10	C3-11	C3-12	C3-13	C3-14	L3-38
D	C3-15	C3-16	C3-17	C3-18	C3-19	L3-39
E	C3-20	C3-21	C3-22	C3-23	-	L3-40
F	C3-24	C3-25	C3-26	C3-27	-	L3-41

Logic AND-OR Module	Input					Output
	I1	I2	I3	I4	I5	O
G	C3-28	C3-29	C3-30	C3-31	-	L3-42
H	C3-32	C3-33	C3-34	C3-35	-	L3-43
I	C3-36	C3-37	C3-38	C3-39	-	L3-44
J	C3-40	C3-41	C3-42	C3-43	-	L3-45
K	C3-44	C3-45	C3-46	C3-47	-	L3-46
L	C3-48	C3-49	C3-50	C3-51	-	L3-47

**Note** Logic AND-OR modules A–D have four inputs, and modules E–L have three inputs.

### Logic NOT Modules (A–P)

**1. Illustration**



**2. Operation**

- When input I is set to 0, the module is disabled, and the output is 0.  
 $O = 0$
- When input I is not 0, the output is the inversion of the input I.  
 $O = \bar{I}$

The following is the truth table.

Input	Output
I	O
0	1
1	0

**3. Connection**

Input I: 0, 1, DI input, and bit connector input

Output O: bit connector

Logic NOT Module	Input	Output
	I	O
A	C3-56	L3-52
B	C3-57	L3-53
C	C3-58	L3-54
D	C3-59	L3-55
E	C3-60	L3-56
F	C3-61	L3-57
G	C3-62	L3-58
H	C3-63	L3-59
I	C3-64	L3-60
J	C3-65	L3-61
K	C3-66	L3-62
L	C3-67	L3-63
M	C3-68	L3-64
N	C3-69	L3-65
O	C3-70	L3-66
P	C3-71	L3-67

## Logic XOR/XNOR Modules (A–H)

### 1. Illustration

### 2. Operation

- When the logic XOR/XNOR module enable selection I1 is set to 0, the module is disabled.  $O = 0$
- When the logic XOR/XNOR module enable selection I1 is set to 1, logic XOR is active.  $O = (I1 \& I2) | (I1 \& \text{`} I2)$
- When the logic XOR/XNOR module enable selection I1 is set to 2, logic XNOR is active.  $O = (I1 \& I2) | (\text{`} I1 \& \text{`} I2)$

When I1 and I2 are the same, the output is 0; when I1 and I2 are different, the output is 1. The following is the truth table.

Input		Output
I1	I2	O
0	0	0
1	0	1
0	1	1
1	1	0

When I1 and I2 are the same, the output is 1; when I1 and I2 are different, the output is 0. The following is the truth table.

Input		Output
I1	I2	O
0	0	1
1	0	0
0	1	0
1	1	1

### 3. Connection

Input I1: 0 indicates module disabled, 1 indicates XOR, and 2 indicates XNOR.

Inputs I2 and I3: 0, 1, DI input, and bit connector input

Output O: bit connector

Table 2–6

Logic XOR/XNOR Module	Input			Output
	I1	I2	I3	O
A	C3-72	C3-73	C3-74	L3-68
B	C3-75	C3-76	C3-77	L3-69
C	C3-78	C3-79	C3-80	L3-70
D	C3-81	C3-82	C3-83	L3-71
E	C3-84	C3-85	C3-86	L3-72
F	C3-87	C3-88	C3-89	L3-73
G	C3-90	C3-91	C3-92	L3-74
H	C3-93	C3-94	C3-95	L3-75

## 2.6.4 Arithmetic Operations

### Absolute Value Modules (A-H)

1. Illustration

2. Operation

$$O = |I|$$

$$SN = \begin{cases} 1, I < 0 \\ 0, I \geq 0 \end{cases}$$

The output O is the absolute value of input I. When the input I is a negative value, SN is 1; otherwise, SN is 0.

3. Connection

Input I: AI, HDI, Aim, motor-driven potentiometer, PID, word connector, DWord connector, and floating-point connector

Output O: word connector, DWord connector, and floating-point connector

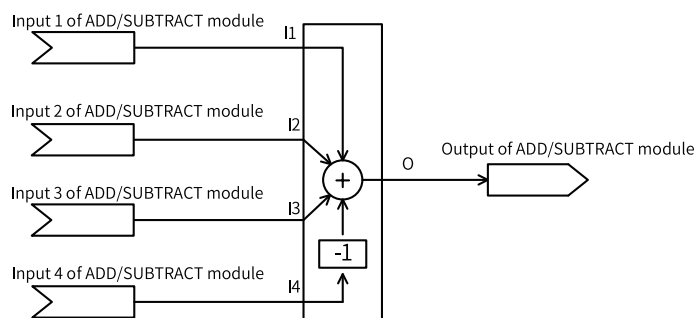
Output SN: bit connector

Absolute Value Module	Input	Output	
	I	O	SN
A	C4-00	LD-08	L4-16
B	C4-01	LD-09	L4-17
C	C4-02	LD-10	L4-18
D	C4-03	LD-11	L4-19
E	C4-04	LD-12	L4-20
F	C4-05	L9-08	L4-21
G	C4-06	L9-09	L4-22
H	C4-07	L9-10	L4-23

**Note** The modules A–E are floating-point absolute value modules, and the modules F–G are fixed-point absolute value modules.

### ADD/SUBTRACT Modules (A-H)

1. Illustration



2. Operation

$$O = I1 + I2 + I3 - I4$$

The output O is the sum of inputs I1, I2, and I3 minus I4.

**3. Connection**

Inputs I1, I2, I3, and I4: AI, HDI, Aim, motor-driven potentiometer, PID, word connector, and floating-point connector

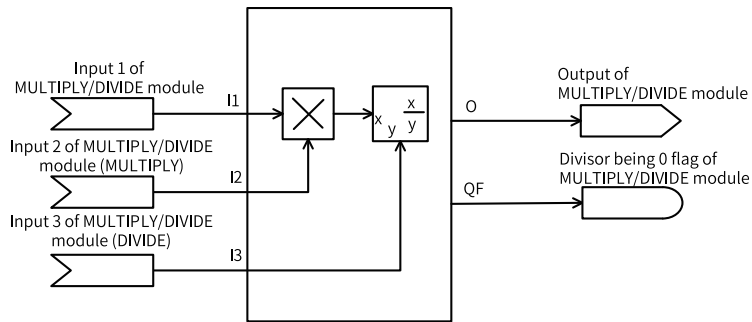
Output O: DWord connector and floating-point connector

ADD/SUBTRACT Module	Input				Output
	I1	I2	I3	I4	O
A	C4-08	C4-09	C4-10	C4-11	LD-13
B	C4-12	C4-13	C4-14	C4-15	LD-14
C	C4-16	C4-17	C4-18	C4-19	LD-15
D	C4-20	C4-21	C4-22	C4-23	LD-16
E	C4-24	C4-25	C4-26	C4-27	LD-17
F	C4-28	C4-29	C4-30	C4-31	L9-11
G	C4-32	C4-33	C4-34	C4-35	L9-12
H	C4-36	C4-37	C4-38	C4-39	L9-13

**Note** The modules A–E are floating-point ADD/SUBTRACT modules, and the modules F–H are fixed-point ADD/SUBTRACT modules.

**MULTIPLY/DIVIDE Modules (A–H)**

**1. Illustration**



**2. Operation**

$$O = \begin{cases} I1 \times I2, & I3 = 0 \\ \frac{I1 \times I2}{I3}, & I3 \neq 0 \\ 0, & I3 = 0 \end{cases}$$

$$QF = \begin{cases} 1, & I3 = 0 \\ 0, & I3 \neq 0 \end{cases}$$

When I3 is set to 0, the output is the product of I1 and I2.

When I3 is set to others, if the I3 input value is 0, the output is 0, and the divisor being 0 flag is 1; if the I3 input value is not 0, the output is the product of I1 and I2 divided by I3, and the divisor being 0 flag is 0.

**3. Connection**

Inputs I1, I2, and I3: AI, HDI, Aim, motor-driven potentiometer, PID, word connector, DWord connector, and floating-point connector

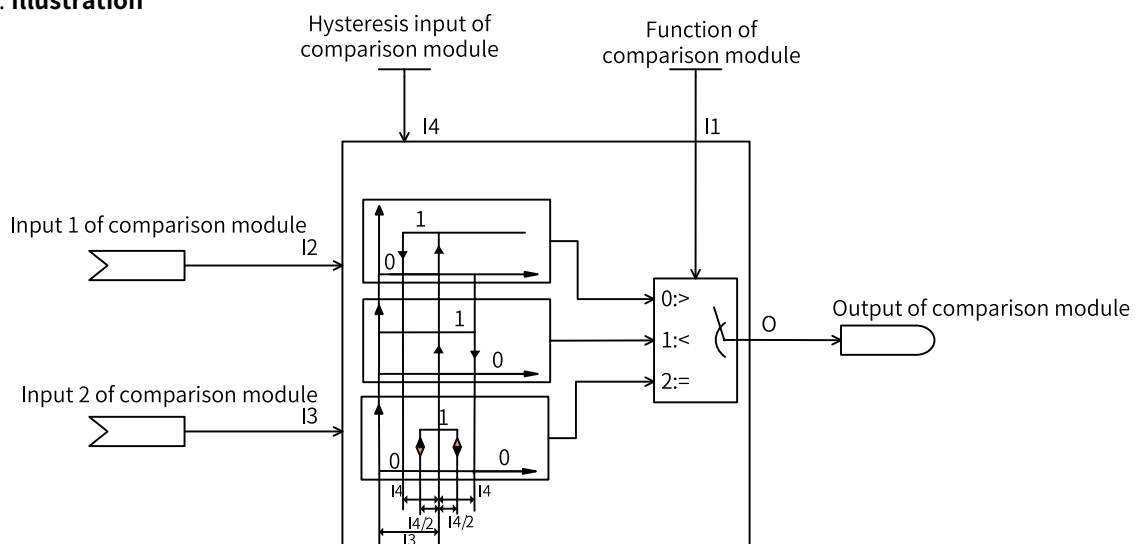
Output O: DWord connector and floating-point connector

MULTIPLY/DIVIDE Module	Input			Output
	I1	I2	I3	O
A	C4-40	C4-41	C4-42	LD-18
B	C4-43	C4-44	C4-45	LD-19
C	C4-46	C4-47	C4-48	LD-20
D	C4-49	C4-50	C4-51	LD-21
E	C4-52	C4-53	C4-54	LD-22
F	C4-55	C4-56	C4-57	L9-14
G	C4-58	C4-59	C4-60	L9-15
H	C4-61	C4-62	C4-63	L9-16

**Note** The modules A–E are floating-point MULTIPLY/DIVIDE modules, and the modules F–H are byte MULTIPLY/DIVIDE modules.

## Comparison Modules (A–H)

### 1. Illustration



### 2. Operation

The hysteresis input I4 implements suppression of frequent on-off.

- If the comparison module function selection I1 is set to 0, the output O keeps low level when I2 increases from 0 toward I3 in the positive direction; it changes from low level to high level when I2 increases to a value greater than I3; and it remains high when I2 continues to increase. When I2 decreases, the output O remains high as long as I2 is greater than I3 minus I4; it changes from high level to low level only when I2 is smaller than I3 minus I4.
- If the comparison module function selection I1 is set to 1, the output O keeps high level when I2 increases from 0 toward the sum of I3 and I4 in the positive direction; it changes from high level to low level when I2 increases to a value greater than the sum of I3 and I4; and it remains low when I2 continues to increase. When I2 decreases, the output O remains low as long as I2 is greater than I3; it changes from low level to high level only when I2 is smaller than I3.
- If the comparison module function selection I1 is set to 2, the output is high level when I2 is between  $(I3 - I4)$  and  $(I3 + I4/2)$ ; otherwise, it is low level.

### 3. Connection



Input I1: 0: Module disabled; 1: Input 1 > Input 2; 2: Input 1 < Input 2; 3: Input 1 = Input 2.

Inputs I2 and I3: AI, HDI, Aim, motor-driven potentiometer, PID, word connector, DWord connector, and floating-point connector

Input I4: floating-point number with two decimal places

Output O: bit connector

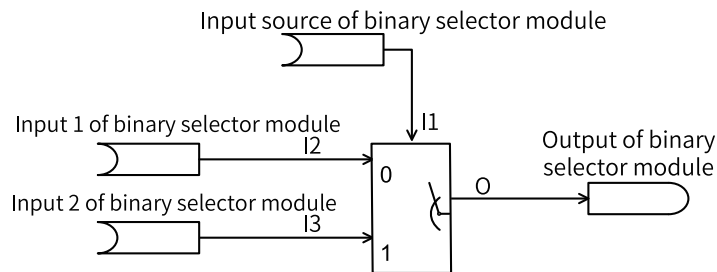
Comparison Module	Input				Output
	I1	I2	I3	I4	O
A	C4-64	C4-65	C4-66	C4-67	L4-00
B	C4-68	C4-69	C4-70	C4-71	L4-01
C	C4-72	C4-73	C4-74	C4-75	L4-02
D	C4-76	C4-77	C4-78	C4-79	L4-03
E	C4-80	C4-81	C4-82	C4-83	L4-04
F	C4-84	C4-85	C4-86	C4-87	L4-05
G	C4-88	C4-89	C4-90	C4-91	L4-06
H	C4-92	C4-93	C4-94	C4-95	L4-07

**Note** The modules A–E are floating-point comparison modules, and the modules F–H are fixed-point comparison modules.

### 2.6.5 Switch Functions

#### Binary Selector Modules (A–H)

1. Illustration



2. Operation

$$O = \begin{cases} I2, I1=0 \\ I3, I1=1 \end{cases}$$

When the input I1 of the binary selector module is set to 0, the output O is I2; when the input I1 is set to 1, the output O is I3.

3. Connection

Inputs I1, I2, and I3: 0, 1, DI input, DWord connector input, and bit connector input

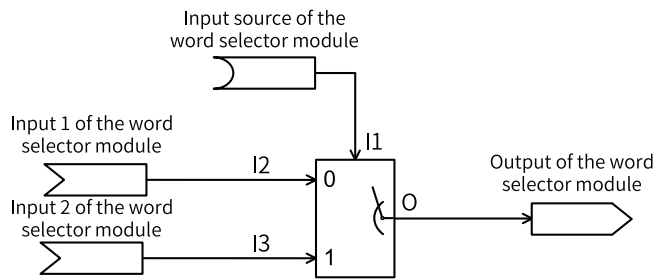
Output O: bit connector

Binary Selector Module	Input			Output
	I1	I2	I3	O
A	C5-00	C5-01	C5-02	L3-04
B	C5-03	C5-04	C5-05	L3-05

Binary Selector Module	Input			Output
	I1	I2	I3	O
C	C5-06	C5-07	C5-08	L3-06
D	C5-09	C5-10	C5-11	L3-07
E	C5-12	C5-13	C5-14	L3-08
F	C5-15	C5-16	C5-17	L3-09
G	C5-18	C5-19	C5-20	L3-10
H	C5-21	C5-22	C5-23	L3-11

### Word Selector Modules (A-D)

1. Illustration



2. Operation

$$O = \begin{cases} I2, I1=0 \\ I3, I1=1 \end{cases}$$

When input selection I1 of the word selector module is set to 0, the output O is I2; when I1 is set to 1, the output O is I3.

3. Connection

Input I1: 0, 1, DI input, and bit connector input

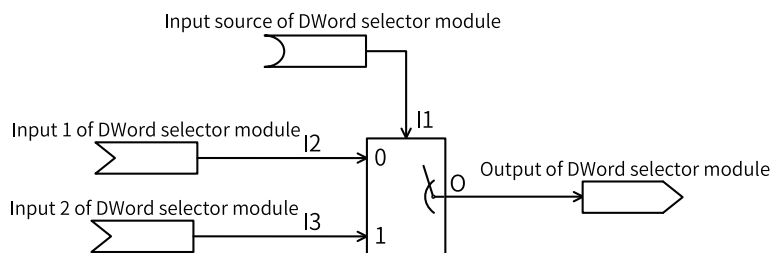
Inputs I1 and I2: word connector, DWord connector

Output O: word connector

Word Selector Module	Input			Output
	I1	I2	I3	O
A	C5-24	C5-25	C5-26	L7-41
B	C5-27	C5-28	C5-29	L7-42
C	C5-30	C5-31	C5-32	L7-43
D	C5-33	C5-34	C5-35	L7-44

### DWord Selector Modules (A-D)

1. Illustration



2. Operation

$$O = \begin{cases} I2, I1=0 \\ I3, I1=1 \end{cases}$$

When input selection I1 of the DWord selector module is set to 0, the output O is I2; when I1 is set to 1, the output O is I3.

**3. Connection**

Input I1: 0, 1, DI input, and bit connector input

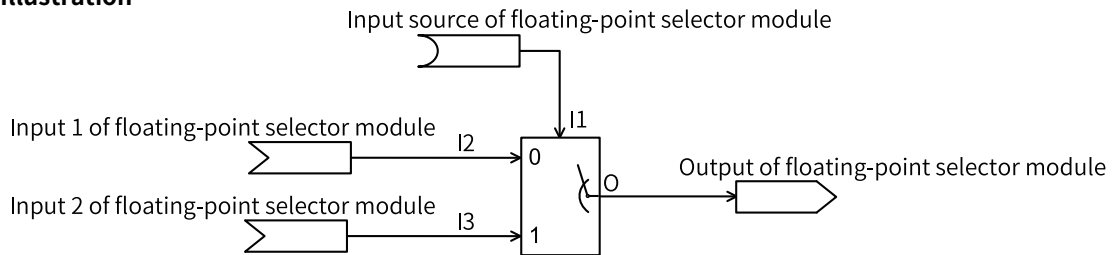
Inputs I2 and I3: word connector, DWord connector

Output O: DWord connector

DWord Selector Module	Input			Output
	I1	I2	I3	O
A	C5-36	C5-37	C5-38	L9-04
B	C5-39	C5-40	C5-41	L9-05
C	C5-42	C5-43	C5-44	L9-06
D	C5-45	C5-46	C5-47	L9-07

**Floating-point Number Selector Modules (A-H)**

**1. Illustration**



**2. Operation**

$$O = \begin{cases} I2, I1=0 \\ I3, I1=1 \end{cases}$$

**3. Connection**

Input I1: 0, 1, DI input, and bit connector input

Inputs I2 and I3: AI, HDI, Aim, motor-driven potentiometer, PID, and floating-point connector

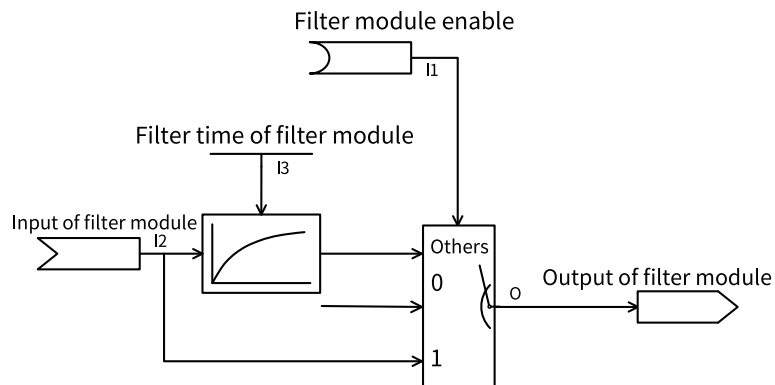
Output O: floating-point connector

Floating-point Number Selector Module	Input			Output
	I1	I2	I3	O
A	C5-48	C5-49	C5-50	LD-00
B	C5-51	C5-52	C5-53	LD-01
C	C5-54	C5-55	C5-56	LD-02
D	C5-57	C5-58	C5-59	LD-03
E	C5-60	C5-61	C5-62	LD-04
F	C5-63	C5-64	C5-65	LD-05
G	C5-66	C5-67	C5-68	LD-06
H	C5-69	C5-70	C5-71	LD-07

## 2.6.6 Control Functions

### Filter Modules (A-F)

#### 1. Illustration



#### 2. Operation

If module enable selection I1 is set to 0, the module is disabled, and the output is 0.

If module enable selection I1 is not 0, if the input value is 1, the filter is disabled, and the output O is I2; if the input value is 0, the output O is the filter value of input I.

#### 3. Connection

Input I1: 0: Module disabled; 1: Filter disabled; 2: Filter enabled, DI input, bit connector input

Input I2: AI, HDI, Aim, motor-driven potentiometer, PID, word connector, and floating-point connector

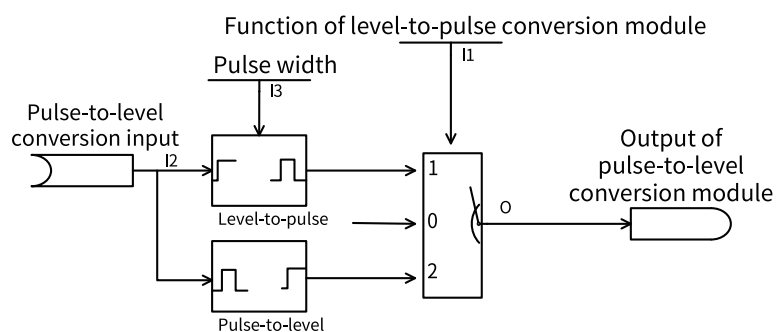
Input I3: floating-point number with three decimal places

Output O: DWord connector and floating-point connector

Filter Module	Input			Output
	I1	I2	I3	O
A	C6-00	C6-01	C6-02	LD-23
B	C6-03	C6-04	C6-05	LD-24
C	C6-06	C6-07	C6-08	LD-25
D	C6-09	C6-10	C6-11	LD-26
E	C6-12	C6-13	C6-14	L9-17
F	C6-15	C6-16	C6-17	L9-18

### Level-to-Pulse Conversion Modules (A-D)

#### 1. Illustration

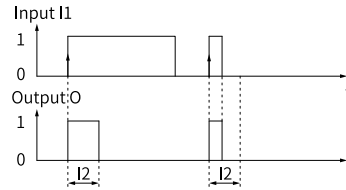


#### 2. Operation

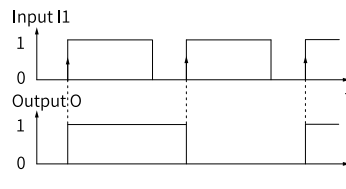
When module enable selection I1 is set to 0, the module is disabled, and the output is 0.

When module enable selection I1 is set to 1, level-to-pulse conversion is active, and the output is set to high level within the pulse time I3 on the rising edge of the input I2.

If input I1 is 0, the output becomes 0 immediately, regardless of whether the pulse duration is reached.



When module enable selection I1 is set to 2, pulse-to-level conversion is active. The output is set to high level on the first rising edge and low level on the second rising edge of the input I2. Then the output is set to high level on every odd-numbered rising edges and low level on every even-numbered rising edges.



**3. Connection**

Input I1: 0: Module disabled; 1: Conversion from level to pulse; 2: Conversion from pulse to level.

Input I2: 0, 1, DI input, and bit connector input

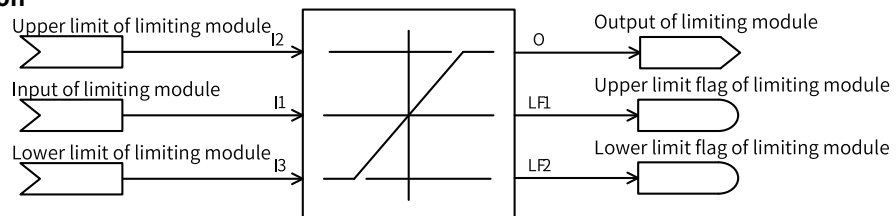
Input I3: floating-point number with two decimal places

Output O: bit connector

Level-to-Pulse Conversion Module	Input			Output
	I1	I2	I3	O
A	C6-24	C6-25	C6-26	L3-84
B	C6-27	C6-28	C6-29	L3-85
C	C6-30	C6-31	C6-32	L3-86
D	C6-33	C6-34	C6-35	L3-87

**Limiting Modules (A-F)**

**1. Illustration**



**2. Operation**

$$O = \begin{cases} I1, I3 \leq I1 \leq I2 \\ I2, I1 \geq I2 \\ I3, I1 \leq I3 \end{cases}$$

$$LF1 = \begin{cases} 0, I3 \leq I1 \leq I2 \\ 1, I1 \geq I2 \end{cases}$$

$$LF1 = \begin{cases} 0, I3 \leq I1 \leq I2 \\ 1, I1 \leq I3 \end{cases} \quad LF2 = \begin{cases} 0, I3 \leq I1 \leq I2 \\ 1, I1 \leq I3 \end{cases}$$

When the input I1 is greater than the upper limit I2, the output O is I2, and the upper limit flag LF1 is set to 1; when the input I1 is less than the lower limit I3, the output O is I3, and the lower limit flag LF2 is set to 1; when the input I1 is between the upper and lower limits, the output is the input value.

**3. Connection**

Inputs I1, I2, and I3: AI, HDI, Aim, motor-driven potentiometer, PID, word connector, and floating-point connector

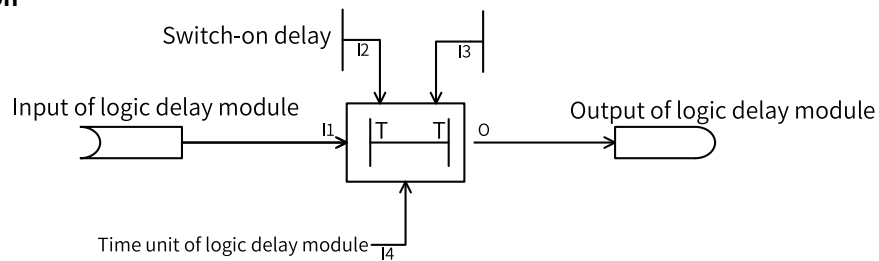
Output O: DWord connector and floating-point connector

Outputs LF1 and LF2: bit connector

Limiting Module	Input			Output		
	I1	I2	I3	O	LF1	LF2
A	C6-36	C6-37	C6-38	LD-27	L4-48	L4-49
B	C6-39	C6-40	C6-41	LD-28	L4-50	L4-51
C	C6-42	C6-43	C6-44	LD-29	L4-52	L4-53
D	C6-45	C6-46	C6-47	LD-30	L4-54	L4-55
E	C6-48	C6-49	C6-50	L9-19	L4-56	L4-57
F	C6-51	C6-52	C6-53	L9-20	L4-58	L4-59

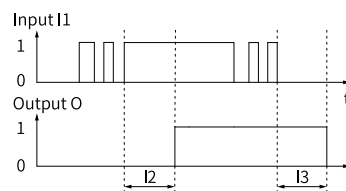
**Logic Delay Modules (A-H)**

**1. Illustration**



**2. Operation**

The output O has switch-on delay when the input I1 changes from low level to high level, and the delay time is determined by the switch-on delay time I2 and the time unit I4. It also has switch-off delay when the input I1 changes from high level to low level, and the delay time is determined by the switch-off delay time I3 and the time unit I4. During the delay, the pulse signals less than the delay time will be filtered out. See the following figure.



**3. Connection**

Input I1: 0, 1, DI input, and bit connector input

Inputs I2 and I3: unsigned data

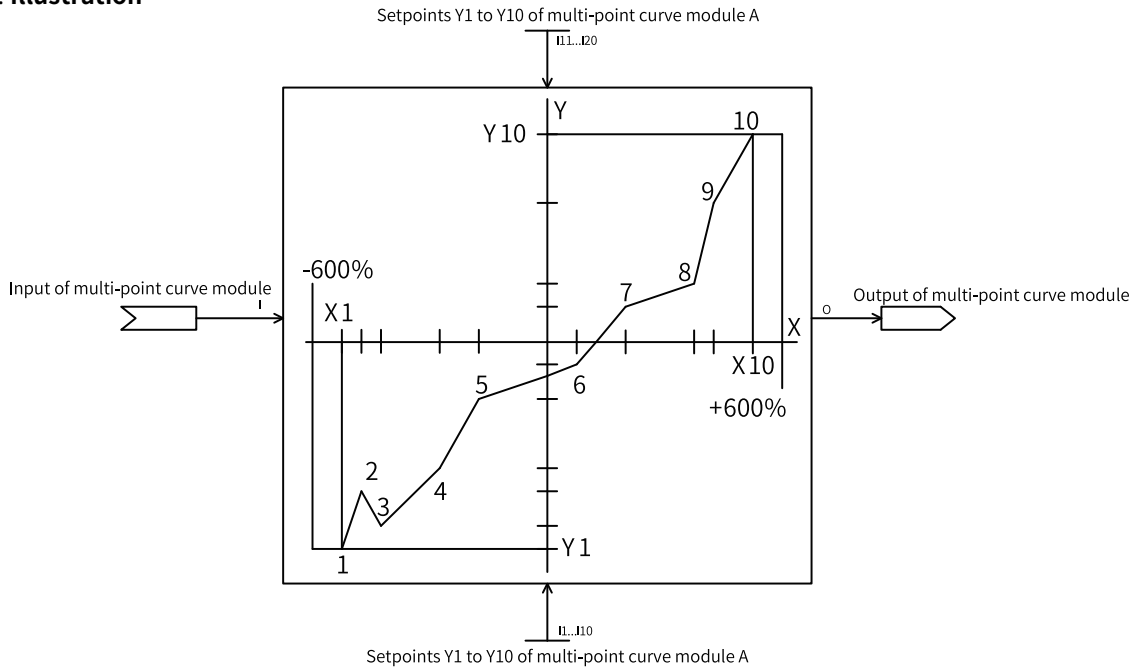
Input I4: 0: No delay; 1: 10 ms; 10: 100 ms; 100: 1s; 1000: 10s; 6000: 1 min; 12000: 2 min.

Output O: bit connector

Logic Delay Module	Input				Output
	I1	I2	I3	I4	O
A	C6-54	C6-55	C6-56	C6-57	L3-20
B	C6-58	C6-59	C6-60	C6-61	L3-21
C	C6-62	C6-63	C6-64	C6-65	L3-22
D	C6-66	C6-67	C6-68	C6-69	L3-23
E	C6-70	C6-71	C6-72	C6-73	L3-24
F	C6-74	C6-75	C6-76	C6-77	L3-25
G	C6-78	C6-79	C6-80	C6-81	L3-26
H	C6-82	C6-83	C6-84	C6-85	L3-27

## 2.6.7 Multi-point Curve

### 1. Illustration



### 2. Operation

The set coordinates are valid only when the following condition is met:  $X1 \leq X2 \leq \dots \leq X10$ . When the input is beyond the valid coordinate points, the output is the ordinate of the adjacent valid coordinate point; when the input is within the valid coordinate points, the ordinate corresponding to the output is calculated based on the curve.

When the input coordinates meet the condition and the quantity is less than 10, if the last input abscissa is a negative value, the last negative abscissa and the abscissa with the value of 0 after it are retained, and the other coordinate values after it are discarded. If the last input abscissa is a positive value, the last positive abscissa is retained, and other coordinate values after it are discarded.

If the condition  $X1 \leq X2 \leq \dots \leq X10$  is not met, the AC drive reports L32.4. If two points have the same X coordinate but different Y coordinates, the AC drive also reports L32.4.

**3. Connection**

Input I: floating-point connector

Inputs I1 to I20: floating-point number with one decimal place

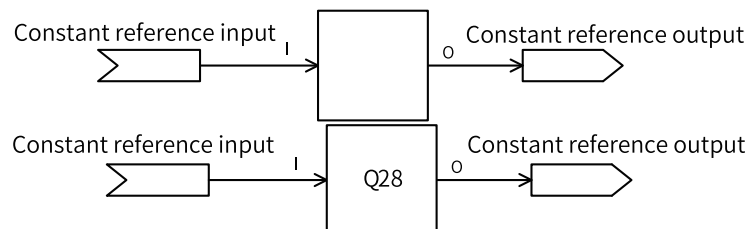
Output O: floating-point connector

Multi-point Curve Module		A	B
Input	I	C7-00	C7-21
	I1 (X1)	C7-01	C7-22
	I2 (X2)	C7-02	C7-23
	I3 (X3)	C7-03	C7-24
	I4 (X4)	C7-04	C7-25
	I5 (X5)	C7-05	C7-26
	I6 (X6)	C7-06	C7-27
	I7 (X7)	C7-07	C7-28
	I8 (X8)	C7-08	C7-29
	I9 (X9)	C7-09	C7-30
	I10 (X10)	C7-10	C7-31
	I11 (Y1)	C7-11	C7-32
	I12 (Y2)	C7-12	C7-33
	I13 (Y3)	C7-13	C7-34
	I14 (Y4)	C7-14	C7-35
	I15 (Y5)	C7-15	C7-36
	I16 (Y6)	C7-16	C7-37
	I17 (Y7)	C7-17	C7-38
	I18 (Y8)	C7-18	C7-39
	I19 (Y9)	C7-19	C7-40
I20 (Y10)	C7-20	C7-41	
Output	O	LD-46	LD-47

**2.6.8 Constant Value**

**Constant Value Setpoints (1–42)**

**1. Illustration**



**2. Operation**

$O = I$

The output O is equal to the input I.



Constant value setpoints 1–5 are floating-point numbers with two decimal places, and the value range is –300.00 to +300.00.

Constant value setpoints 6–21 are floating-point numbers with one decimal place, and the value range is –3000.0 to +3000.0.

Constant value setpoints 22–26 are floating-point numbers with two decimal places, which are converted into Q28 fixed-point numbers for output, and the value range is –300.00 to +300.00.

Constant value setpoints 27–42 are fixed-point numbers, and the value range is 0 to 65535.

### 3. Connection

Input I: unsigned number, floating-point number with one decimal place, and floating-point number with two decimal places

Output O: word connector and floating-point connector

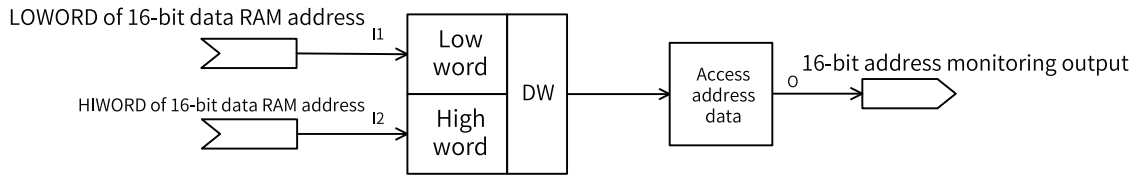
Constant Value Setting Module	Input	Output	Remarks
	I	O	
1	C8-00	LD-65	Floating-point number with two decimal places
2	C8-01	LD-66	Floating-point number with two decimal places
3	C8-02	LD-67	Floating-point number with two decimal places
4	C8-03	LD-68	Floating-point number with two decimal places
5	C8-04	LD-69	Floating-point number with two decimal places
6	C8-05	LD-70	Floating-point number with one decimal place
7	C8-06	LD-71	Floating-point number with one decimal place
8	C8-07	LD-72	Floating-point number with one decimal place
9	C8-08	LD-73	Floating-point number with one decimal place
10	C8-09	LD-74	Floating-point number with one decimal place
11	C8-10	LD-75	Floating-point number with one decimal place
12	C8-11	LD-76	Floating-point number with one decimal place
13	C8-12	LD-77	Floating-point number with one decimal place
14	C8-13	LD-78	Floating-point number with one decimal place
15	C8-14	LD-79	Floating-point number with one decimal place
16	C8-15	LD-80	Floating-point number with one decimal place
17	C8-16	LD-81	Floating-point number with one decimal place

Constant Value Setting Module	Input	Output	Remarks
	I	O	
18	C8-17	LD-82	Floating-point number with one decimal place
19	C8-18	LD-83	Floating-point number with one decimal place
20	C8-19	LD-84	Floating-point number with one decimal place
21	C8-20	LD-85	Floating-point number with one decimal place
22	C8-21	L7-00	Floating-point number converted into Q28 fixed-point number
23	C8-22	L7-01	Floating-point number converted into Q28 fixed-point number
24	C8-23	L7-02	Floating-point number converted into Q28 fixed-point number
25	C8-24	L7-03	Floating-point number converted into Q28 fixed-point number
26	C8-25	L7-04	Floating-point number converted into Q28 fixed-point number
27	C8-26	L7-05	Fixed-point number
28	C8-27	L7-06	Fixed-point number
29	C8-28	L7-07	Fixed-point number
30	C8-29	L7-08	Fixed-point number
31	C8-30	L7-09	Fixed-point number
32	C8-31	L7-10	Fixed-point number
33	C8-32	L7-11	Fixed-point number
34	C8-33	L7-12	Fixed-point number
35	C8-34	L7-13	Fixed-point number
36	C8-35	L7-14	Fixed-point number
37	C8-36	L7-15	Fixed-point number
38	C8-37	L7-16	Fixed-point number
39	C8-38	L7-17	Fixed-point number
40	C8-39	L7-18	Fixed-point number
41	C8-40	L7-19	Fixed-point number
42	C8-41	L7-20	Fixed-point number

## 2.6.9 Any Parameter Control

### Any 16-bit Data Address Monitoring (1-5)

#### 1. Illustration



**2. Operation**

The 32-bit address with I1 as the LOWORD and I2 as the HIWORD is used to locate the data for output.

The range of addresses that can be monitored is as follows:

0x20000000 to 0x2001FFFE

0x24000000 to 0x2404FFFE

**3. Connection**

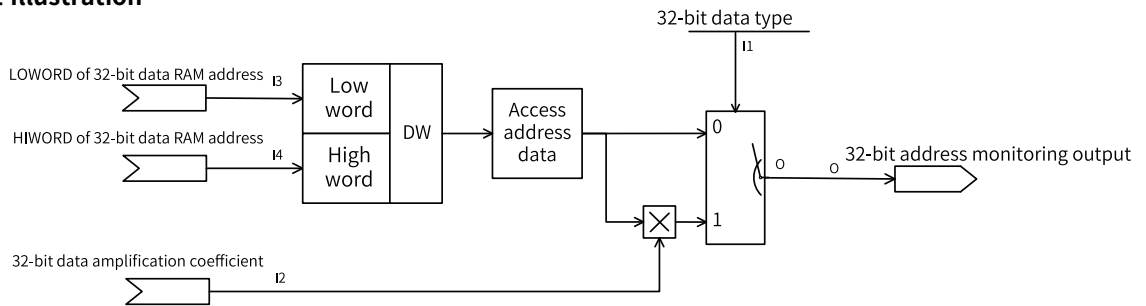
Inputs I1 and I2: hexadecimal unsigned data

Output O: word connector

16-Bit Data Address Monitoring	Input		Output
	I1	I2	O
1	C9-00	C9-01	L7-36
2	C9-02	C9-03	L7-37
3	C9-04	C9-05	L7-38
4	C9-06	C9-07	L7-39
5	C9-08	C9-09	L7-40

**Any 32-bit Data Address Monitoring (1-5)**

**1. Illustration**



**2. Operation**

The 32-bit address with I1 as the LOWORD and I2 as the HIWORD is used to locate the data for output. If data type selection I3 is set to 0, the data is directly output to O; if I3 is set to 1, the data is multiplied by the amplification factor I4 and then output to O.

The range of addresses that can be monitored is as follows:

0x20000000 to 0x2001FFFC

0x24000000 to 0x2404FFFC

**3. Connection**

Inputs I1 and I2: unsigned data

Inputs I3 and I4: hexadecimal unsigned data

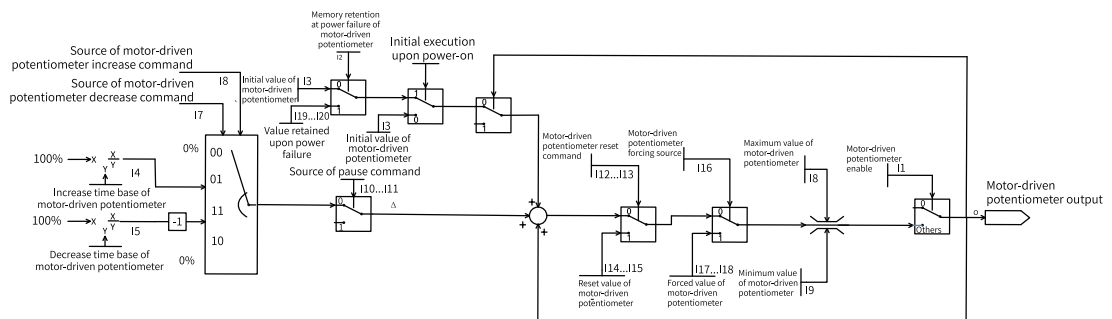
Output O: word connector

32-Bit Data Address Monitoring	Input				Output
	I1	I2	I3	I4	O
1	C9-10	C9-11	C9-12	C9-13	L9-21
2	C9-14	C9-15	C9-16	C9-17	L9-22
3	C9-18	C9-19	C9-20	C9-21	L9-23
4	C9-22	C9-23	C9-24	C9-25	L9-24
5	C9-26	C9-27	C9-28	C9-29	L9-25

## 2.6.10 Motor-driven Potentiometer

### Constant Value Setpoints (1–42)

#### 1. Illustration



#### 2. Operation

- When I1 is set to 0, the motor-driven potentiometer is disabled, and the output O is 0; when I1 is set to 1, the motor-driven potentiometer is enabled.
- When I2 is set to 1, the motor-driven potentiometer restores the values retained upon power failure (I19 and I20) upon first power-on; when I2 is set to 0, the motor-driven potentiometer restores the initial value (I3) upon first power-on.
- When I1 is enabled, if the values retained upon power failure are not restored, the output O of the motor-driven potentiometer is the initial value I3.
- When the increase command source I5 is 1, the motor-driven potentiometer increases the output O at the speed of the increase time base I4; when the increase command source I6 is 1, the motor-driven potentiometer increases the output O at the speed of the increase time base I7.
- When the value of the motor-driven potentiometer increases, the maximum output O is the maximum output value I8; when the value of the motor-driven potentiometer decreases, the minimum output O is the minimum output value I9.
- When I10 and I11 are 1, the output O stops changing; when I10 and I11 become 0, the output O continues to change.
- When I12 and I13 are 1, the output O is reset to a specified value: if the reset value source I14 is 0, the output O is reset to the reset value digital setting I15; if the reset value source I14 is others, the output O is reset to the value specified by I14.
- When I16 is 1, the output O is forcibly set to a specified value: if the force value source I17 is 0, the output O is forcibly set to the forced value digital setting I18; if the force value source I17 is others, the output O is forced to be the value specified by I17.

- I19 and I20 are the per-unit values of the retained output values of the motor-driven potentiometer after Q28 conversion.

**3. Connection**

Input I: unsigned number, floating-point number with one decimal place, and floating-point number with two decimal places

Output O: word connector and floating-point connector

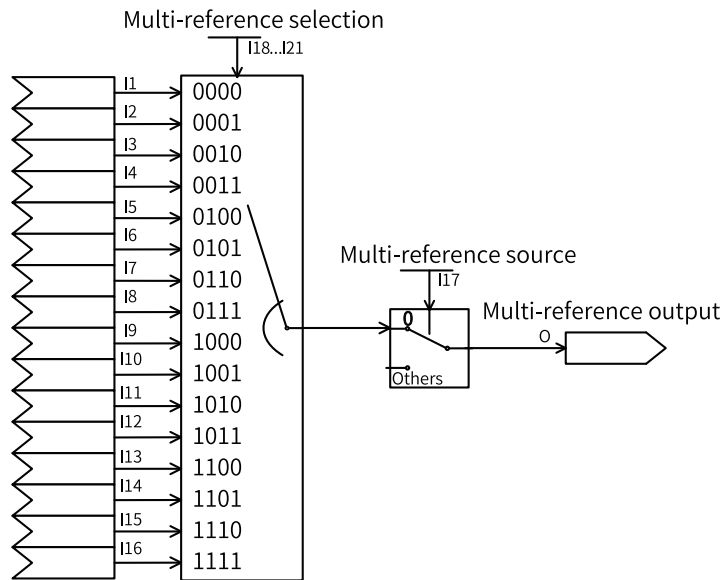
	Motor-driven Potentiometer		Remarks
Input	I1	FB-20	Motor-driven potentiometer enable
	I2	FB-21	Retentive upon power failure enable
	I3	FB-22	Initial value after power-on
	I4	FB-23	Increase speed
	I5	FB-24	Decrease speed
	I6	FB-25	Increase or decrease according to the set rate when the increase or decrease command is active
	I7	FB-26	The output value remains unchanged when the increase and decrease commands are active or inactive at the same time.
	I8	FB-27	Maximum value
	I9	FB-28	Minimum value
	I10	FB-29	High level indicates pause and low level indicates continue.
	I11	FB-30	-
	I12	FB-31	Reset is triggered on the rising edge of the reset command. The motor-driven potentiometer is reset to the set value.
	I13	FB-32	-
	I14	FB-33	-
	I15	FB-34	-
	I16	FB-35	High level indicates forcing enabled and low level indicates forcing disabled.
	I17	FB-36	-
	I18	FB-37	-
	I19	FB-38	Per-unit value of the value retained upon power failure after Q28 conversion
	I20	FB-39	-

Motor-driven Potentiometer			Remarks
Output	O	LD-45	Final output
	ForceVal	LD-39	Force value of motor-driven potentiometer
	ResetVal	LD-40	Reset value of motor-driven potentiometer
	MaxVal	LD-41	Maximum value of motor-driven potentiometer
	MinVal	LD-42	Minimum value of motor-driven potentiometer
	InitVal	LD-43	Initial value of motor-driven potentiometer
	ProcessOutput	LD-44	Process operation output

### 2.6.11 Multi-reference

#### Multi-reference Module

##### 1. Illustration



##### 2. Operation

When the multi-reference source I17 is set to 0, the 4-bit binary number of multi-reference selection I18 to I21 map to multi-reference I1 to I16, and the corresponding multi-reference value is output to O.

When the multi-reference source I17 is set to others, the multi-reference value selected by using the corresponding method is output to O.

Multi-reference	I21 (BIT3)	I20 (BIT2)	I19 (BIT1)	I18 (BIT0)	Actual Effective Value
Multi-reference 1	0	0	0	0	I1
Multi-reference 2	0	0	0	1	I2
Multi-reference 3	0	0	1	0	I3
Multi-reference 4	0	0	1	1	I4
Multi-reference 5	0	1	0	0	I5

Multi-reference	I21 (BIT3)	I20 (BIT2)	I19 (BIT1)	I18 (BIT0)	Actual Effective Value
Multi-reference 6	0	1	0	1	I6
Multi-reference 7	0	1	1	0	I7
Multi-reference 8	0	1	1	1	I8
Multi-reference 9	1	0	0	0	I9
Multi-reference 10	1	0	0	1	I10
Multi-reference 11	1	0	1	0	I11
Multi-reference 12	1	0	1	1	I12
Multi-reference 13	1	1	0	0	I13
Multi-reference 14	1	1	0	1	I14
Multi-reference 15	1	1	1	0	I15
Multi-reference 16	1	1	1	1	I16

### 3. Connection

Inputs I1 to I16: floating-point number with one decimal place

Input I17: AI, pulse, PID, preset frequency, and floating-point connector

Inputs I18 to I21: 0, 1, DI input, and bit connector input

Output O: floating-point connector and system information

Multi-reference	Output Connector			
Input	I1	FC-00	SetVal1	LD-49
	I2	FC-01	SetVal2	LD-50
	I3	FC-02	SetVal3	LD-51
	I4	FC-03	SetVal4	LD-52
	I5	FC-04	SetVal5	LD-53
	I6	FC-05	SetVal6	LD-54
	I7	FC-06	SetVal7	LD-55
	I8	FC-07	SetVal8	LD-56
	I9	FC-08	SetVal9	LD-57
	I10	FC-09	SetVal10	LD-58
	I11	FC-10	SetVal11	LD-59
	I12	FC-11	SetVal12	LD-60
	I13	FC-12	SetVal13	LD-61
	I14	FC-13	SetVal14	LD-62
	I15	FC-14	SetVal15	LD-63
	I16	FC-15	SetVal16	LD-64
	I17	FC-51	-	-
	I18	FC-55	-	-
	I19	FC-56	-	-
	I20	FC-57	-	-
	I21	FC-58	CurSel	FC-52/U2-05
Output	O	LD-48/FC-53/U2-06	-	-



### 3 Troubleshooting

#### 3.1 Common Faults and Diagnosis

##### 3.1.1 Display of Alarms and Faults

When a fault occurs during running, the AC drive stops output immediately, the fault indicator becomes steady on, and the contact of the fault relay acts. The operating panel displays the fault code, such as **E002!**. The following figure shows the fault display screen.

Running indicator OFF

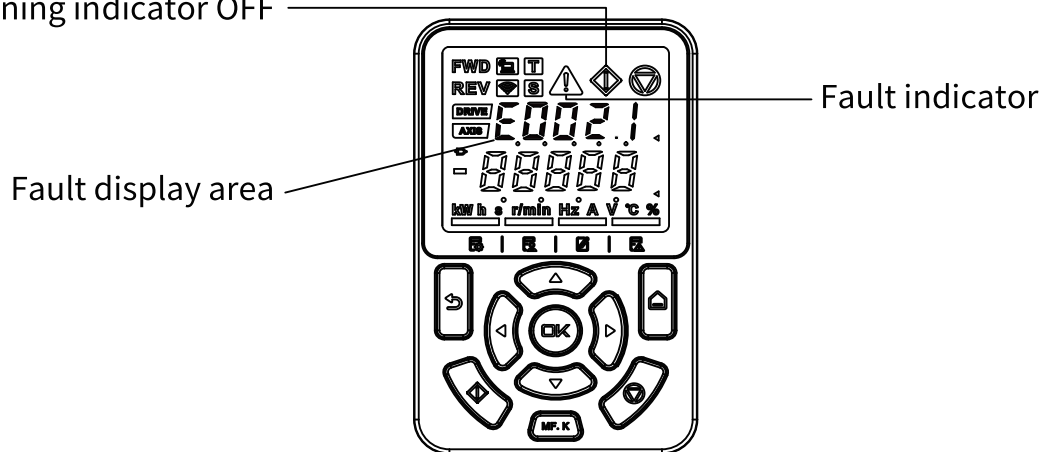


Figure 3-1 Display of faults



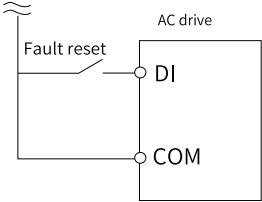
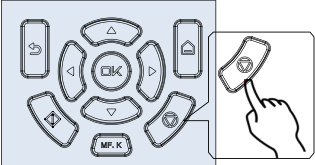
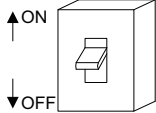
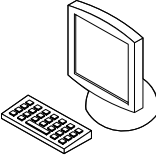
**Caution**

Do not repair or modify the AC drive by yourself. In case of any fault that cannot be rectified, contact the agent or In-ovance for technical support.

##### 3.1.2 Restart upon Faults




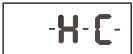
You can view the active fault code, active fault subcode, active fault information, active limit code, active limit subcode, active limit information, active alarm code, active alarm subcode, and active alarm information on the operating panel.

Table 3–1 Restart upon faults

Stage	Solution	Description
When a fault occurs	Fault record 1: View the active fault code, active fault subcode, active fault information, active limit code, active limit subcode, active limit information, active alarm code, active alarm subcode, and active alarm information on the operating panel.	View the information by using H0-00 to H0-53.
	Fault record 2: View the frequency, current, bus voltage, input terminal state, output terminal state, AC drive state, power-on duration, running duration, status word A, progression status word B, and command word upon the latest three faults on the operating panel.	View the information by using F9-14 to F9-44.
	Fault record 3: View the fault code, fault subcode, fault information, frequency, current, bus voltage, input terminal state, output terminal state, AC drive state, power-on duration, running duration, status word A, progression status word B, and command word upon the latest six faults on the operating panel.	View the information by using parameters in groups H3 to H8.
Before fault reset	Locate and rectify the fault cause based on the fault code displayed on the operating panel.	-
During fault reset	1. Set any of F4-00 to F4-09 to 9 (fault reset).	
	2. Verify that F7-02 is set to 1 (default value), indicating that the STOP/RES key is available in any operating mode.	Press the STOP/RES key on the operating panel. 
	3. Power off and then power on the AC drive for automatic reset.  Disconnect the main circuit power supply and reconnect the power supply after the display on the operating panel disappears.	
	4. Use a host controller for reset (for communication control mode).  Verify that F0-02 is set to 2 (communication control mode) and write "7" to the communication address 2000H by using the host controller.	

### 3.1.3 Common Troubleshooting

Table 3-2 Symptoms and troubleshooting

No.	Symptom	Possible Cause	Solution
1	The display does not work upon power-on. 	The grid voltage is not input or too low.	Check the input power supply.
		The switched-mode power supply (SMPS) on the drive board of the AC drive is faulty.	Check whether the 24 V output voltage and 10 V output voltage on the control board are normal.
		The control board is disconnected from the drive board or the operating panel.	Re-connect the 8-conductor and 40-conductor flat cables.
		The pre-charge resistor of the AC drive is damaged.	Contact Inovance.
		The control board or operating panel is faulty.	
		The rectifier bridge is damaged.	
2	"-H-C-" is displayed upon power-on. 	The connection between the drive board and the control board is poor.	Re-connect the 8-conductor and 28-conductor flat cables.
		Related components on the control board are damaged.	Contact Inovance.
		The motor or motor cable is shorted to ground.	
		The Hall device is faulty.	
		The grid voltage is too low.	
3	"E023.1" is displayed upon power-on. 	The motor or output cable is shorted to ground.	Use a megger to measure the insulation resistance of the motor and motor cable.
		The AC drive is damaged.	Contact Inovance.
4	The display is normal upon power-on. But after the AC drive starts to run, "-H-C-" is displayed and the AC drive stops immediately. 	The fan is damaged, or locked-rotor occurs.	Replace the cooling fan.
		Wiring of any external control terminals is short-circuited.	Rectify the short circuit fault.
5	E14.00 (module overheat) is reported frequently.	The carrier frequency is set too high.	Reduce the carrier frequency (F0-15).
		The fan is damaged, or the air filter is blocked.	Replace the fan or clean the air filter.
		Components (thermistor or other devices) inside the AC drive are damaged.	Contact Inovance.

No.	Symptom	Possible Cause	Solution
6	The motor does not rotate when the AC drive is running.	The AC drive and motor are incorrectly connected.	Double check the connection between the AC drive and motor.
		Related AC drive parameters (motor parameters) are set incorrectly.	Restore the AC drive to factory settings and re-set the following parameters correctly:
			Encoder parameters and rated motor specifications (such as rated motor frequency and rated motor speed)
			F0-01 and F0-02
		F3-01 for heavy-load start in V/f control mode	
The connection between the drive board and the control board is poor.	Re-connect the cables and ensure secure wiring.		
The drive board is faulty.	Contact Inovance.		
7	DI terminals are inactive.	Related parameters are set incorrectly.	Check and set parameters in group F4 again.
		External signal transmission errors occur.	Re-connect external signal cables.
		The jumper across the OP and +24 V terminals becomes loose.	Check and ensure secure connection of the jumper across OP and +24 V.
		The control board is faulty.	Contact Inovance.
8	In FVC mode, the motor cannot speed up.	The encoder is faulty.	Replace the encoder and double check the wiring.
		The encoder wiring is incorrect or in poor contact.	Reconnect the encoder to ensure good contact.
		The PG card is faulty.	Replace the PG card.
		The drive board is faulty.	Contact Inovance.
9	The AC drive reports overcurrent and overvoltage frequently.	Motor parameters are incorrectly set.	Adjust motor parameters or perform motor auto-tuning again.
		The acceleration/deceleration time is improper.	Set acceleration/deceleration time properly.
		The load fluctuates.	Contact Inovance.
10	E017.1 is reported upon power-on or during running.	The soft start contactor is not closed.	Check whether the contactor cable is loose.
			Check whether the contactor is faulty.
			Check whether the 24 V power supply of the contactor is faulty.
			Contact Inovance.
11	The motor coasts to stop, or braking is disabled during deceleration or deceleration to stop.	The encoder is disconnected, or overvoltage stall protection is enabled.	Check the encoder wiring in FVC mode (F0-01 = 1).
			If a braking resistor is configured, set F3-23 to 0 to disable overvoltage stall suppression.

### 3.1.4 Troubleshooting During Trial Run in Different Control Modes

- SVC mode (F0-01 = 0, default setting)

In this mode, the drive controls the speed and torque of motor in scenarios without an encoder for speed feedback. Motor auto-tuning is required to obtain motor-related parameters.

Table 3-3 Troubleshooting in SVC mode

Problem	Solution
Overload or overcurrent reported during motor startup	Set motor parameters F1-01 to F1-05 according to the motor nameplate. Perform motor auto-tuning (by setting F1-37). Dynamic auto-tuning on all parameters of the motor is preferred when possible.
Slow torque or speed response and motor vibration at frequencies below 5 Hz	In the case of slow motor torque or speed response, increase the value of F2-00 (speed loop proportional gain) by increments of 10 or decrease the value of F2-01 (speed loop integral time) by decrements of 0.05. In the case of motor vibration, decrease the value of F2-00 and increase the value of F2-01.
Slow torque or speed response and motor vibration at frequencies above 5 Hz	In the case of slow motor torque or speed response, increase the value of F2-03 (speed loop proportional gain) by increments of 10 or decrease the value of F2-04 (speed loop integral time) by decrements of 0.05. In the case of motor vibration, decrease the value of F2-03 and increase the value of F2-04.
Low speed accuracy	In the case of excessive speed deviation during with-load operation, increase the value of F2-06 (vector control slip compensation gain) by increments of 10%.
Large speed fluctuation	In the case of abnormal motor speed fluctuation, increase the value of A9-05 (speed filter time) by increments of 0.001s.
Loud motor noise	Increase the value of F0-15 (carrier frequency) by increments of 1.0 kHz. Note that an increase in the carrier frequency will result in an increase in the leakage current of the motor.
Insufficient motor torque	Check whether the torque upper limit is set too low. If yes, increase the value of F2-10 (torque upper limit) in speed control mode or increase the torque reference in torque control mode.

- FVC mode (F0-01 = 1)

This mode is applicable to scenarios with an encoder for speed feedback. In this mode, you need to set the encoder pulses per revolution, encoder type, and encoder direction correctly and perform auto-tuning on motor parameters.

Table 3-4 Troubleshooting in FVC mode

Problem	Solution
Overload or overcurrent reported during motor startup	Set the encoder pulses per revolution, encoder type, and encoder direction correctly.
Overload or overcurrent reported during motor rotation	Set motor parameters F1-01 to F1-05 according to the motor nameplate. Perform motor auto-tuning (by setting F1-37). Dynamic auto-tuning on all parameters of the motor is preferred when possible.
Slow torque or speed response and motor vibration at frequencies below 5 Hz	In the case of slow motor torque or speed response, increase the value of F2-00 (speed loop proportional gain) by increments of 10 or decrease the value of F2-01 (speed loop integral time) by decrements of 0.05. In the case of motor vibration, decrease the values of F2-00 and F2-01.
Slow torque or speed response and motor vibration at frequencies above 5 Hz	In the case of slow motor torque or speed response, increase the value of F2-03 (speed loop proportional gain) by increments of 10 or decrease the value of F2-04 (speed loop integral time) by decrements of 0.05. In the case of motor vibration, decrease the values of F2-03 and F2-04.

Problem	Solution
Large speed fluctuation	In the case of abnormal motor speed fluctuation, increase the value of F2-07 (speed filter time) by increments of 0.001s.
Loud motor noise	Increase the value of F0-15 (carrier frequency) by increments of 1.0 kHz. Note that an increase in the carrier frequency will result in an increase in the leakage current of the motor.
Insufficient motor torque	Check whether the torque upper limit is set too low. If yes, increase the value of F2-10 (torque upper limit) in speed control mode or increase the torque reference in torque control mode.

- V/f control mode (F0-01 = 2)  
This mode is applicable to scenarios without an encoder for speed feedback. You only need to set rated motor voltage and rated motor frequency correctly.

Table 3-5 Troubleshooting in V/f control mode

Problem	Solution
Motor oscillation during running	Decrease the value of F3-11 (V/f oscillation suppression gain) by increments of 5. The minimum value is 5.
Overcurrent during high-power startup	Decrease the value of F3-01 (torque boost) by increments of 0.5%.
High current during running	Set F1-02 (rated motor voltage) and F1-04 (rated motor frequency) correctly. Decrease the value of F3-01 (torque boost) by increments of 0.5%.
Loud motor noise	Increase the value of F0-15 (carrier frequency) by increments of 1.0 kHz. Note that an increase in the carrier frequency will result in an increase in the leakage current of the motor.
Overvoltage reported during deceleration or sudden removal of heavy loads	Verify that overvoltage stall suppression (F3-23) is enabled. Increase the value of F3-24/F3-25 (overvoltage stall suppression gain, 30 by default) by increments of 10 (the maximum value is 100). Decrease the value of F3-22 (overvoltage stall suppression action voltage, 770 V by default) by increments of 10 V (the minimum value is 700 V).
Overcurrent reported during acceleration or sudden application of heavy loads	Increase the value of F3-20 (overcurrent stall suppression gain, 20 by default) by increments of 10 (the maximum value is 100). Decrease the value of F3-18 (overcurrent stall suppression action current, 150% by default) by decrements of 10% (the minimum value is 50%).

## 3.2 List of Fault Codes

The following faults may occur during the use of the AC drive. Troubleshoot the faults according to the solutions described in the following table.

## Troubleshooting

Fault Code	Fault Name	Possible Cause	Countermeasures
E002.1	Hardware overcurrent	The instantaneous output current exceeds $2.5 \times 1.414$ times the rated current of the AC drive. For more causes, connect to the AC drive from the mobile App through Wi-Fi to make a self-diagnosis, which can help users quickly locate the fault.	
		Output grounding	Check for output ground points and measure the ground impedance by segment by using a megohmmeter.
		Inter-phase short-circuit	<ol style="list-style-type: none"> <li>1. Check whether the output side is short circuited.</li> <li>2. Check whether the power cable is short circuited.</li> <li>3. Check whether motor resistance is symmetrical.</li> </ol>
		No parameter auto-tuning in vector control mode	Set motor parameters correctly and perform auto-tuning again.
		Encoder interference or wire breakage	<ol style="list-style-type: none"> <li>1. Check whether the encoder cable is connected securely.</li> <li>2. Check whether the encoder cable is grounded at the AC drive side.</li> <li>3. Ground the motor enclosure.</li> <li>4. Replace the encoder and the encoder cable.</li> </ol>
		Output phase loss	<ol style="list-style-type: none"> <li>1. Check whether the cables are properly connected.</li> <li>2. If there is a contactor at the output side, check whether the contactor opening logic and the contactor contact are normal.</li> </ol>
		Current detection exception	Contact after-sales service.
		V/f control acceleration/deceleration time too short	<ol style="list-style-type: none"> <li>1. Enable the overcurrent suppression function.</li> <li>2. Increase the acceleration/deceleration time.</li> </ol>
		Encoder phase sequence error	If the encoder direction and the motor running direction are opposite, change the encoder direction.
		Model setting error	Set the AC drive model correctly (FF-01).

Fault Code	Fault Name	Possible Cause	Countermeasures
E002.2	Software overcurrent	The software overcurrent threshold is defined by FF-18. The default value is 100%, indicating that the threshold does not take effect. 100% is equivalent to the full range of current sampling (2.2 times the rated current of the AC drive multiplied by 1.414). For more causes, connect to the AC drive from the mobile App through Wi-Fi to make a self-diagnosis, which can help users quickly locate the fault.	
		Output grounding	Check for output short-to-ground and measure the ground impedance by segment by using a megohmmeter.
		Inter-phase short-circuit	<ol style="list-style-type: none"> <li>1. Check whether the output side is short circuited.</li> <li>2. Check whether the power cable is short circuited.</li> <li>3. Check whether motor resistance is symmetrical.</li> </ol>
		No parameter auto-tuning in vector control mode	Set motor parameters correctly and perform auto-tuning again.
		Encoder interference or wire breakage	<ol style="list-style-type: none"> <li>1. Check whether the encoder cable is connected securely.</li> <li>2. Check whether the encoder cable is grounded at the AC drive side.</li> <li>3. Ground the motor enclosure.</li> <li>4. Replace the encoder and the encoder cable.</li> </ol>
		Output phase loss	<ol style="list-style-type: none"> <li>1. Check whether the cables are properly connected.</li> <li>2. If there is a contactor at the output side, check whether the contactor opening logic and the contactor contact are normal.</li> </ol>
		Current detection exception	Contact after-sales service.
		V/f control acceleration/deceleration time too short	<ol style="list-style-type: none"> <li>1. Enable the overcurrent suppression function.</li> <li>2. Increase the acceleration/deceleration time.</li> </ol>
		Encoder phase sequence error	If the encoder direction and the motor running direction are opposite, change the encoder direction.
		Model setting error	Set the AC drive model correctly (FF-01).



## Troubleshooting

Fault Code	Fault Name	Possible Cause	Countermeasures
E005.1	Bus overvoltage	The overvoltage threshold is defined by A5-09 (unit: V), which only allows slight modification. For more causes, connect to the AC drive from the mobile App through Wi-Fi to make a self-diagnosis, which can help users quickly locate the fault.	
		Output grounding	<ol style="list-style-type: none"> <li>1. Check whether the output side is short circuited.</li> <li>2. Check whether the power cable is short circuited.</li> <li>3. Check whether motor resistance is symmetrical.</li> </ol>
		Encoder interference/wire breakage	<ol style="list-style-type: none"> <li>1. Check whether the encoder cable is connected securely.</li> <li>2. Check whether the encoder cable is grounded at the AC drive side.</li> <li>3. Ground the motor enclosure.</li> <li>4. Replace the encoder and the encoder cable.</li> </ol>
		Power generation during motor deceleration	<p>Enable overvoltage suppression if there is no active load (gravity load, tension load, and so on).</p> <p>Connect a braking resistor if possible. Set F3-19 in V/f control mode or bit1 (VdcMax enable) of AB-25 (parameter of motor 1) in vector control mode.</p>
		Fault reaction upon runaway of synchronous motor	Shorten the overspeed protection time by setting F9-67 and F9-68 for the synchronous motor, which can effectively prevent the back EMF from exceeding the overvoltage threshold of the AC drive after runaway.
		Braking resistor selection error	Make sure that the power of the braking module is not lower than the power of the AC drive, that the continuous load is 0.8 times the motor power, and that the short-term overload can reach 1.5 times the motor power.
		Braking resistor phase loss	Check that the braking resistor is properly connected.
		Overshoot upon speed reach in vector control mode	If the speed loop overshoot is severe, configure the RFG with rounding time and acceleration feedforward to improve the speed loop follow-up performance.
		V/f oscillation	Enable the oscillation suppression function and optimize the V/f oscillation suppression coefficient.
AC drive model setting error	Set the AC drive model correctly.		
E008.1	Frequent pre-charge	Pre-charge circuit exception (the action of the pre-charge contactor can be heard frequently)	Contact after-sales service because frequent pre-charge can cause overload of the pre-charge circuit.

Fault Code	Fault Name	Possible Cause	Countermeasures
E009.1	Undervoltage	The undervoltage threshold is defined by A5-06. For more causes, connect to the AC drive from the mobile App through Wi-Fi to make a self-diagnosis, which can help users quickly locate the fault.	
		Instantaneous power failure	Enable overvoltage suppression if there is no active load (gravity load, tension load, and so on). Set F9-59 in V/f control mode or bit0 (VdcMin enable) of AB-25 (parameter of motor 1) in vector control mode.
		AC drive input voltage out of range	Adjust the input voltage to the normal range.
		Input phase loss and large output power	Make sure the input grid is normal.
		High undervoltage threshold	Lower the undervoltage threshold as appropriate.
		AC drive model setting error	Set the AC drive model correctly.
		Rectifier bridge, pre-charge resistor, drive board, or control board exception	Contact the technical support personnel.
E009.3	Pre-charge fault	Failure to power on the bus long after the motor is started in the state of undervoltage	Start the motor after the bus becomes stable after power-on.
E010.1	AC drive overload	For more causes, connect to the AC drive from the mobile App through Wi-Fi to make a self-diagnosis, which can help users quickly locate the fault.	
		Excessive load or locked-rotor	Reduce the load and check the motor and mechanical conditions.
		High carrier frequency	Decrease the carrier frequency.
		Low bus voltage during high speed running with heavy load	1. Increase the input voltage of the grid. 2. Enable the overmodulation function.
		Derating at low frequency due to long-term running below 5 Hz	Avoid running the motor with heavy load at a low speed for a long time, or select an AC drive with higher power.
		Output grounding	Check for output ground points.
		Output phase loss	Check for output phase loss.
		Motor parameter error	Check the motor nameplate parameters and perform auto-tuning correctly.
		Flying start not applied when the motor is started during rotation	Enable flying start by setting F6-00 (parameter of motor 1).
		Encoder direction error	Change the A/B phase sequence of the encoder (F1-30).
		AC drive model setting error	Set the AC drive model correctly.
Inadequate power rating of the AC drive	Replace the AC drive with one of higher power rating.		
E010.3	AC drive pre-overload	AC drive overload ratio reaching 80%	Same as E010.1.
			Change the pre-overload response level by setting parameters in group H1 because pre-overload is not reported by default.

## Troubleshooting

Fault Code	Fault Name	Possible Cause	Countermeasures
E011.1	Motor overload	Inappropriate F9-01 (motor overload protection) setting	Set F9-01 correctly.
		Inadequate power rating of the motor	Select an appropriate motor.
		Brake error	Check that the brake can be opened properly.
		Excessive load or locked-rotor	Reduce the load and check the motor and mechanical conditions.
E011.2	Motor pre-overload	Motor overload ratio reaching the value of F9-02	Same as E011.1.
			Change the motor pre-overload coefficient (F9-02).
			Change the exception response level by setting parameters in group H1 because motor pre-overload is not reported by default.
E012.1	Input phase loss	Three-phase input power input phase loss	Check that the power input is normal.
		Three-phase grid imbalance	An unbalanced grid causes the bus voltage to fluctuate, which might damage the bus capacitors over long-term running. Make sure the input grid is symmetrical.
		Drive board, surge protector, main control board, or rectifier bridge exception	Contact the technical support personnel.
E013.1	Output phase loss	Motor phase loss	Check whether open circuit occurs on the motor.
E013.2		Exception of the cable connecting the AC drive and the motor	Check that the wiring is secure.
E013.3		Unbalanced three-phase output of the AC drive during motor running	Check whether the motor three-phase winding is normal. If not, eliminate the fault.
E013.4		Drive board or IGBT exception	Contact the technical support personnel.
E014.1	IGBT overheat	Over-high ambient temperature	Reduce the ambient temperature.
		Air filter blocked	Clean the air filter.
		Fan damage	Replace the fan.
		IGBT thermistor damage	Replace the thermistor.
		IGBT damage	Replace the IGBT.
E014.2	Module pre- overtempera ture	Module temperature exceeding the pre- overtemperature threshold (obtained by subtracting the pre-overtemperature margin defined by BF-14 from the overtemperature threshold)	Same as E014.1. Change the exception response level by setting parameters in group H1 because module pre-overtemperature is not reported by default.
E015.1	External device fault	External fault input through the multi-function DI (NO)	Eliminate the external fault, ensure that the mechanical condition allows restart (F8-18), and reset the operation.
E015.2		External fault input through the multi-functional DI (NC)	Eliminate the external fault, ensure that the mechanical condition allows restart (F8-18), and reset the operation.
E017.1	Contactor fault	Drive board and power supply exception	Replace the drive board or power supply board.
		Contactor exception	Replace the contactor.
		Surge protector exception	Replace the surge protector.

Fault Code	Fault Name	Possible Cause	Countermeasures
E018.1	Current detection fault	Hall component exception	Replace the hall component.
		AC drive stopped while synchronous motor is rotating at high speed	Disable zero drift detection by setting bit07 of BF-07.
		Drive board exception	Replace the drive board.
E019.1	Auto-tuning timeout	Motor parameter setting exception or AC drive model setting exception	Set the motor and AC drive parameters correctly.
E019.2	Auto-tuning interruption	Auto-tuning interrupted by a stop command	Wait until auto-tuning is completed. The motor will stop automatically.
E019.3	Overcurrent during auto-tuning	Current out-of-control during auto-tuning	Set the motor parameters and AC drive model correctly.
			Contact the technical support personnel.
E019.4	Auto-tuning back EMF exception	Basic motor parameter setting error	Set the motor nameplate parameters and AC drive model correctly.
		Oscillation suppression failure during auto-tuning of back EMF	Adjust the oscillation suppression parameter.
E019.5	Motor type setting error	Incorrect motor type	Set the motor type correctly.
E019.7	No-load current auto-tuning error	No-load current out-of-range during motor auto-tuning	Set the motor nameplate parameters and AC drive model correctly.
E020.1	Encoder hardware wire breakage detection	Encoder hardware feedback signal exception	1. Check whether the correct PG card is selected. 2. Check whether the wiring is normal. 3. Check whether the encoder is normal. 4. Check whether the encoder DIP switch is appropriate. 5. Check whether the encoder parameters are set correctly.
			Set F1-36 to a non-zero value, and set bit02 of AA-30 to enable PG fault detection. The fault is reported only in FVC mode.
E020.2	Encoder PPR error	Inconsistency between encoder feedback speed and actual motor speed	Check whether the ABZ encoder PPR or number of pole pairs of resolver is incorrect.
E020.3	No encoder feedback	No encoder feedback speed	1. Check whether the correct PG card is selected. 2. Check whether the wiring is normal. 3. Check whether the encoder is normal. 4. Check whether the encoder DIP switch is appropriate. 5. Check whether the encoder parameters are set correctly.
E020.4	Encoder direction fault	Encoder direction opposite to motor rotation direction	Set F1-30 to switch the encoder direction.

## Troubleshooting

Fault Code	Fault Name	Possible Cause	Countermeasures
E020.5	Large encoder feedback speed fluctuation	Sudden change of the encoder feedback speed (which will introduce control fluctuations, and in severe cases, lead to control divergence and overcurrent) (Detection of this fault is disabled by default.)	1. Check whether the correct PG card is selected. 2. Check whether the wiring is normal. 3. Check whether the encoder is normal. 4. Check whether the encoder DIP switch is appropriate. 5. Check whether the encoder parameters are set correctly.
			1. Check whether the encoder shield layer is grounded at the AC drive side. 2. Check whether the motor enclosure is grounded. 3. Check whether the encoder cable is far away from the power cables. 4. Install a magnetic ring on the encoder cable. 5. Use twisted pair cable with dense metal mesh shield layer as the encoder cable. 6. Use as few adapters as possible.
			Set bit01 of A9-09 to enable software detection of wire breakage, set A9-08 to specify the encoder wire breakage software detection coefficient, and set bit02 of A9-09 to remove encoder feedback glitches.
E020.8	ABZ encoder Z signal loss	ABZ encoder Z signal loss	This fault is reported only during self-check when the synchronous motor uses the ABZ encoder in FVC mode.
E020.9	Encoder pulse interference	Encoder feedback speed fluctuation exception	This fault is reported only during self-check of the encoder.
E021.1 E021.2 E021.3 E021.4	EEPROM read-write fault	EEPROM read-write exception	For parameters written through communication, check the RAM addresses and address mapping. For details, see section 1.2 "Parameter Communication Addresses" in the communication guide of the MD520 series general-purpose AC drives.  If the EEPROM chip is damaged, contact the manufacturer to replace the main control board.
E021.5		EEPROM internal cache overrun	For parameters written through communication, check for frequent writes.
E023.1	Short-to-ground	Motor short-to-ground	Check the connector adapters and measure the ground impedance by using a megohmmeter. If the problem persists, replace the cable or motor.
		Self-check during motor running (not an issue any more in 20s after the asynchronous motor stops)	Do not run the motor until the cause of the fault is located.
		IGBT short circuit (extremely low probability)	Replace the motor and perform static self-check again.
E026.1	Accumulative running duration reach	Accumulative running duration reaching setpoint	Clear the record through parameter initialization.

Fault Code	Fault Name	Possible Cause	Countermeasures
E027.1 E027.2	User-defined fault	Signal of user-defined fault input through the multi-function DI terminal	Eliminate the external fault, ensure that the mechanical condition allows restart (F8-18), and reset the operation.
		Signal of user-defined fault input through the virtual I/O	
		Signal of user-defined fault input through the connector	
E027.3 E027.4		Signal of user-defined fault input through the connector	Check settings of connector parameters (H2-06 to H2-07). Eliminate the external fault, ensure that the mechanical condition allows restart (F8-18), and reset the operation.
L028.1 L 028.2 L 028.3 L 028.4	User-defined alarm	Signal of user-defined fault input through the connector	Check settings of connector parameters (H2-08 to H2-11).
E029.1	Accumulative power-on duration reach	Accumulative power-on duration reaching the setpoint	Clear the record through parameter initialization.
E031.1	PID feedback loss during running	PID feedback less than the value of FA-26	Check the PID feedback signal or set FA-26 properly.
E032.1	Parameter exception	Parameter reset exception	Reset FP-01. If the fault persists, contact the technical support personnel.
E032.2		Parameter backup exception	Back up all parameters again. If the fault cannot be reset, contact the technical support personnel.
E032.3		Parameter power-off exception	Check whether the power is off and whether the bus capacitor discharges too fast.
E032.4		Parameter setting exception	Check whether the related parameters are set as required, especially parameters with setting limits that are associated with other parameters.
E032.6		Parameter power-on check exception	Check the value of U2-09. If the value is normal, contact the technical support personnel.

## Troubleshooting

Fault Code	Fault Name	Possible Cause	Countermeasures
E040.1	Pulse-by-pulse current limit fault	This fault is reported only for asynchronous motors in V/f control mode. For more causes, connect to the AC drive from the mobile App through Wi-Fi to make a self-diagnosis, which can help users quickly locate the fault.	
		Excessive load or locked-rotor	Reduce the load and check the motor and mechanical conditions.
		Output short-to-ground	Perform self-check to check for the short-to-ground point.
		Motor turn-to-turn short circuit	Perform self-check, measure whether the resistance of the output terminal is symmetrical with a multimeter, and replace the motor if turn-to-turn short circuit is determined.
		Motor nameplate parameter error	Set the motor parameters correctly.
		Output phase loss	Perform self-check and connect the motor properly.
		V/f oscillation	Enable V/f oscillation suppression and adjust the oscillation suppression coefficient.
		Inadequate power rating of the AC drive	Replace the AC drive with one of higher power rating.
E042.1	Excessive speed deviation	Incorrect setting of encoder parameters	Set encoder parameters correctly.
		Motor auto-tuning not performed	Perform motor auto-tuning.
		Excessive load	Ensure that a proper load is connected.
		Encoder direction fault	Set the encoder direction correctly.
		Inappropriate setting of F9-69 and F9-70	Set the parameters correctly based on actual conditions.
E043.1	Motor overspeed	This fault is reported only for asynchronous motors in V/f control mode. For more causes, connect to the AC drive from the mobile App through Wi-Fi to make a self-diagnosis, which can help users quickly locate the fault.	
		Incorrect setting of encoder parameters	Set encoder parameters correctly.
		Motor auto-tuning not performed	Perform motor auto-tuning.
		Runaway caused by incorrect encoder zero point angle of synchronous motor	Check whether the encoder zero point angle obtained by auto-tuning is accurate and whether the encoder connection is loose.
		Inappropriate setting of F9-67 and F9-68	Set the parameters correctly based on actual conditions.
E045.1	Motor overtemperature	Loose connection of temperature sensor	Check the wiring of the temperature sensor.
		Overhigh motor temperature	Decrease the carrier frequency or take other measures to cool the motor.
		Excessively low motor overtemperature protection threshold (F9-57 or F9-76)	Raise the motor overtemperature protection threshold to between 90°C to 100°C.
E045.2	Motor overtemperature	Loose connection of temperature sensor	Check the wiring of the temperature sensor.
		Overhigh motor temperature	Decrease the carrier frequency or take other measures to cool the motor.
		Excessively low motor pre-overtemperature protection threshold (F9-58 or F9-77)	Raise the motor pre-overtemperature protection threshold.
E047.2	STO fault	STO1 and STO2 signal disconnection	Check the wiring of STO1 and STO2.
E047.3		STO circuit undervoltage or overvoltage	Contact the technical support personnel.
E047.4		STO circuit input subsystem exception	Contact the technical support personnel.
E047.5		STO blocking output chip exception	Contact the technical support personnel.

Fault Code	Fault Name	Possible Cause	Countermeasures
E051.1	Pole position auto-tuning error	Check the motor for output phase loss.	Connect the motor output correctly and ensure that the output contactor is closed.
E055.1	Slave error in master-slave control	Slave fault	Troubleshoot the problem based on the slave fault code.
E056.2	IGBT U- short circuit	IGBT monitoring VCE signal exception	Contact after-sales service.
E056.3	IGBT U+ short circuit	IGBT monitoring VCE signal exception	Contact after-sales service.
E056.4	IGBT V- short circuit	IGBT monitoring VCE signal exception	Contact after-sales service.
E056.5	IGBT V+ short circuit	IGBT monitoring VCE signal exception	Contact after-sales service.
E056.9	Output phase loss	Motor output phase loss	Make sure the motor is connected properly and the output contactor is normal.
E057.1	U phase upper bridge or V phase lower bridge IGBT continuity failure	IGBT open circuit	Contact after-sales service.
E057.2	U phase lower bridge or V phase upper bridge IGBT continuity failure	IGBT open circuit	Contact after-sales service.
E057.3	V phase upper bridge or W phase lower bridge IGBT continuity failure	IGBT open circuit	Contact after-sales service.
E057.4	V phase lower bridge or W phase upper bridge IGBT continuity failure	IGBT open circuit	Contact after-sales service.



## Troubleshooting

Fault Code	Fault Name	Possible Cause	Countermeasures
E057.5	W phase upper bridge or U phase lower bridge IGBT continuity failure	IGBT open circuit	Contact after-sales service.
E057.6	W phase lower bridge or U phase upper bridge IGBT continuity failure	IGBT open circuit	Contact after-sales service.
E057.7	UV output end short circuit	Inter-phase output short circuit	Check for inter-phase short circuit.
E057.8	VW output end short circuit	Inter-phase output short circuit	Check for inter-phase short circuit.
E057.9	WU output end short circuit	Inter-phase output short circuit	Check for inter-phase short circuit.
E058.1	Module U phase current sensor inversely installed	Current sampling sensor exception	Contact after-sales service.
E058.2	Module V phase current sensor inversely installed	Current sampling sensor exception	Contact after-sales service.
E058.3	Module W phase current sensor inversely installed	Current sampling sensor exception	Contact after-sales service.
E058.4	Module UV phase sensor incorrectly inserted	Current sampling sensor exception	Contact after-sales service.
E058.5	Module VW phase sensor incorrectly inserted	Current sampling sensor exception	Contact after-sales service.

Fault Code	Fault Name	Possible Cause	Countermeasures
E058.6	Module WU phase sensor incorrectly inserted	Current sampling sensor exception	Contact after-sales service.
E059.1	UV phase imbalance	Motor turn-to-turn short circuit	Replace the motor and then perform self-check to confirm the cause.
E059.2	VW phase imbalance	Motor turn-to-turn short circuit	Replace the motor and then perform self-check to confirm the cause.
E059.3	WU phase imbalance	Motor turn-to-turn short circuit	Replace the motor and then perform self-check to confirm the cause.
E061.1	Braking unit overload	Overhigh power of braking resistor (resistance too small)	Use a braking resistor with higher resistance.
E062.2	Braking transistor shoot-through	Braking module exception	Contact the technical support personnel.
		Braking resistor short circuit	Check whether the braking resistor is short circuited or damaged. If yes, replace it.
E062.3	Braking transistor overcurrent	Incorrect connection of braking resistor	Check whether the braking resistor is properly connected and whether the braking unit is normal.
E093.1	Motor rotor locked	The locked-rotor detection threshold and detection time are defined by AA-31 and AA-32 and protection against locked rotor is enabled by setting bit05 of AA-30. For more causes, connect to the AC drive from the mobile App through Wi-Fi to make a self-diagnosis.	
		Excessive load or brake exception	Ensure that the motor load is within a reasonable range.
		Low torque limit/current limit	Set the torque limit as appropriate.
		Auto-tuning not performed	Perform auto-tuning before running.
		AC drive model setting error	Set the AC drive model correctly.
E093.2	Motor stall	The motor stall detection threshold and detection time are defined by AA-33 and AA-34 and protection against motor stall is enabled by setting bit04 of AA-30. For more causes, connect to the AC drive from the mobile App through Wi-Fi to make a self-diagnosis.	
		Encoder interference/wire breakage	Check the encoder for interference.
		Encoder PPR error or loose connection	Check whether the encoder is connected reliably.
		Auto-tuning not performed	Set the rated parameters of the motor correctly, and perform dynamic auto-tuning if possible.
		AC drive model error	Set the AC drive model correctly.
E093.4	Current control exception	The current control exception detection threshold and detection time are defined by AA-35 and AA-36 and protection against current control exception is enabled by setting bit03 of AA-30. For more causes, connect to the AC drive from the mobile App through Wi-Fi to make a self-diagnosis.	
		Output phase loss	Check the motor for phase loss.
		Encoder interference or encoder wire breakage	Check whether the encoder is normal.
		Sudden and large drop in bus voltage	Keep the grid voltage stable.
		Auto-tuning not performed	Input motor parameters correctly and perform auto-tuning.

## Troubleshooting

Fault Code	Fault Name	Possible Cause	Countermeasures
E094.1	Inconsistency between calculated and set numbers of pole pairs	Incorrect setting of the number of motor pole pairs	Set A9-02 only when the number of motor pole pairs exceeds 12.
E094.2	Motor power, voltage, and current matching error	Motor the power, voltage, and current mismatch	Set the motor parameters correctly.
E094.3	No-load current range error	Incorrect motor no-load current range	Check the motor nameplate parameters and ensure correct model setting of the AC drive.
E094.4	Inconsistency between Lm I0 and rated voltage	Inconsistency with rated voltage caused by separate modification of no-load current or mutual inductance	Set motor nameplate parameters correctly and perform auto-tuning.
E094.5	Rotor resistance range exception	Rotor resistance range out-of-range	Check whether the motor is rotating during auto-tuning.
			Check whether the motor nameplate parameters and AC drive model setting are correct.
E094.7	Mismatch between the numbers of pole pairs of the resolver and synchronous motor	Incorrect number of resolver pole pairs of synchronous motor	Ensure that the number of pole pairs of the synchronous motor is divisible by the number of resolver pole pairs.
E159.1	Auto reset failure	Auto reset disabled	Check H2-20 to H2-39 to see whether auto reset is disabled.
E160.1	Modbus communication fault	Modbus communication timeout	Check whether the RS-485 communication cable is correctly connected.
			Check whether the setting of FD-04 and the PLC communication cycle are proper.
E161.1	CANopen communication fault	CANopen communication timeout	Check whether the CAN communication cable is correctly connected.
			Check parameters FD-15 to FD-17 for further action.
E161.2		Inconsistency between PDO mapping configured for CANopen and the actual mapping	Check the PDO mapping of parameters in group AF.
E162.1	CANlink communication fault	CANlink heartbeat timeout	Check whether the CAN communication cable is correctly connected.
			Check parameters FD-15 to FD-17 for further action.
E162.2		CANlink station number conflict	Modify the CAN station numbers by using FD-13.

Fault Code	Fault Name	Possible Cause	Countermeasures
E164.1	Expansion card fault	Expansion card fault	Check communication of the expansion card.
E174.1	Wire breakage	HDI1 wire breakage	Check HDI wiring.
E174.3		AI1 wire breakage	Check AI1 wiring.
E174.4		AI2 wire breakage	Check AI2 wiring.
E174.5		AI3 wire breakage	Check AI3 wiring.

### 3.3 List of Fault Attributes

The fault attribute table describes the fault name, panel display, default fault protection action, fault action range, whether reset is allowed, and whether attributes are modified when the main fault code is modified by using F9-47 to F9-50.

This series of AC drives allow you to modify the fault protection actions of the main fault codes by using F9-47 to F9-50 or modify the fault protection action of an individual fault by using parameters in group H1.

Default Fault Protection Action indicates the default protection action of a fault for which the fault action is not defined by F9-47 to F9-50 and parameters in group H1.

Fault Action Range indicates available fault actions when a fault is modified by using parameters in group H1.

The fault action range values are described as follows:

- 0: Coast to stop
- 1: Decelerate to stop
- 2: Continue to run (with speed limit)
- 3: Run with power limit
- 4: Run with current limit
- 5: Ignore

Reset Allowed or Not specifies whether a fault allows reset.

The symbols in the Reset Allowed or Not column are described as follows:

- ☆: The fault allows reset.
- ★: The fault does not allow reset.

Modified with Main Code or Not specifies whether the fault protection action of the subcode is modified accordingly when the fault protection action of the main fault code is modified by using F9-47 to F9-50.

The symbols in the Modified with Main Code or Not column are described as follows:

- : The fault protection action of the fault is modified accordingly when that of the main fault code is modified.

●: The fault protection action of the fault is not modified accordingly when that of the main fault code is modified.

Table 3-6 List of Fault Attributes

Panel Display	Fault Name	Default Fault Protection Action	Fault Action Range	Reset Allowed or Not	Modified with Main Code or Not
E002.1	Hardware overcurrent	0	0	☆	○
E002.2	Software overcurrent	0	0	☆	○
E005.1	Overvoltage	0	0	☆	○
E008.1	Frequent contactor action	0	0	☆	○
E009.1	Undervoltage	0	0	☆	○
E009.3	Pre-charge exception	0	0	☆	○
E010.1	AC drive overload	0	0	☆	○
E010.3	AC drive pre-overload	5	2 to 5	☆	○
E011.1	Motor overload	0	0 to 5	☆	○
E011.2	Motor pre-overload	Unchangeable by default	2 to 5	☆	●
E012.1	Input phase loss	0	0 to 5	☆	○
E013.1	U phase output phase loss	0	0 to 4	☆	○
E013.2	V phase output phase loss	0	0 to 4	☆	○
E013.3	W phase output phase loss	0	0 to 4	☆	○
E014.1	Module overtemperature	0	0	☆	○
E014.2	Module pre-overtemperature	Unchangeable by default	2 to 5	☆	○
E015.1	External fault 1	0	0 to 4	☆	○
E015.2	External fault 2	0	0 to 4	☆	○
E017.1	Pre-charge circuit exception	0	0 to 5	☆	○
E018.1	Current sampling exception	0	0	☆	○
E019.1	Auto-tuning timeout	0	0	☆	○
E019.2	Auto-tuning interruption	0	0	☆	○
E019.3	Overcurrent during auto-tuning	0	0	☆	○
E019.4	Back EMF auto-tuning exception	0	0	☆	○
E019.5	Motor type error	0	0	☆	○
E019.7	No-load current auto-tuning overlimit	0	0 to 5	☆	○
E020.1	Encoder hardware wire breakage	0	0 to 5	☆	○
E020.2	Encoder PPR error	0	0	☆	●
E020.3	No encoder feedback	0	0	☆	●
E020.5	Large encoder feedback fluctuation	0	0 to 5	☆	○

Panel Display	Fault Name	Default Fault Protection Action	Fault Action Range	Reset Allowed or Not	Modified with Main Code or Not
E020.8	Z signal loss	0	0 to 5	☆	○
E020.9	Encoder pulse interference	0	0 to 5	☆	○
E021.1	E2P fault (uninterrupted operation for more than 30s)	0	0 to 1	☆	○
E021.2	E2P: read fault	0	0 to 1	☆	○
E021.3	E2P: write fault	0	0 to 1	☆	○
E021.4	E2P reads and writes within 1s out-of-limit	2	0 to 4	☆	●
E021.5	E2P internal cache overrun	0	0 to 5	☆	●
E022.1	Encoder card not activated	0	0	☆	○
E023.1	Output short-to-ground	0	0	★	○
E026.1	Accumulative running duration reach	0	0 to 4	☆	○
E027.1	Custom fault 1	0	0 to 4	☆	○
E027.2	Custom fault 2	0	0 to 4	☆	○
E027.3	Custom fault 3	0	0 to 4	☆	○
E027.4	Custom fault 4	0	0 to 4	☆	○
E028.1	Custom warning 1	2	0 to 4	☆	○
E028.2	Custom warning 2	2	0 to 4	☆	○
E028.3	Custom warning 3	2	0 to 4	☆	○
E028.4	Custom warning 4	2	0 to 4	☆	○
E029.1	Accumulative power-on duration reach	2	0 to 4	☆	○
E030.1	Load loss	0	0 to 5	☆	○
E031.1	PID feedback loss	0	0 to 4	☆	○
E032.1	Parameter reset exception	0	0 to 5	☆	○
E032.2	Parameter backup exception	2	0 to 5	☆	○
E032.3	Parameter power-off exception	5	0 to 5	☆	○
E032.4	Parameter setting exception	2	0 to 5	☆	○
E032.6	Parameter power-on check exception	0	0 to 5	☆	○
E040.1	Pulse-by-pulse current limit fault	0	0	☆	○
E042.1	Excessive speed deviation	2	0 to 5	☆	○
E043.1	Motor speed out-of-limit	0	0 to 5	☆	○
E045.1	Motor over-temperature	0	0 to 4	☆	○
E045.2	Motor pre-overtemperature	2	2 to 5	☆	○

## Troubleshooting

Panel Display	Fault Name	Default Fault Protection Action	Fault Action Range	Reset Allowed or Not	Modified with Main Code or Not
E047.2	STO trigger inconsistency fault	0	0	☆	○
E047.3	STO circuit power supply exception	0	0	☆	○
E047.4	STO input subsystem fault	0	0	☆	○
E047.5	STO buffer chip fault	0	0	★	●
E051.1	Pole position auto-tuning error	0	0 to 1	☆	○
E055.1	Slave error in master-slave control	1	0 to 5	☆	○
E056.2	IGBT U+ short circuit during self-check	0	0	☆	○
E056.3	IGBT U- short circuit during self-check	0	0	☆	○
E056.4	IGBT V+ short circuit during self-check	0	0	☆	○
E056.5	IGBT V- short circuit during self-check	0	0	☆	○
E056.9	System output phase loss	0	0	☆	○
E057.1	U phase upper bridge or V phase lower bridge IGBT continuity failure	0	0	☆	○
E057.2	U phase lower bridge or V phase upper bridge IGBT continuity failure	0	0	☆	○
E057.3	V phase upper bridge or W phase lower bridge IGBT continuity failure	0	0	☆	○
E057.4	V phase lower bridge or W phase upper bridge IGBT continuity failure	0	0	☆	○
E057.5	W phase upper bridge or U phase lower bridge IGBT continuity failure	0	0	☆	○
E057.6	W phase lower bridge or U phase upper bridge IGBT continuity failure	0	0	☆	○
E057.7	UV output end short circuit	0	0	☆	○
E057.8	VW output end short circuit	0	0	☆	○
E057.9	WU output end short circuit	0	0	☆	○
E058.1	Module U phase current sensor inversely installed	0	0	☆	○
E058.2	Module V phase current sensor inversely installed	0	0	☆	○

Panel Display	Fault Name	Default Fault Protection Action	Fault Action Range	Reset Allowed or Not	Modified with Main Code or Not
E058.3	Module W phase current sensor inversely installed	0	0	☆	○
E058.4	Module UV phase sensor incorrectly inserted	0	0	☆	○
E058.5	Module VW phase sensor incorrectly inserted	0	0	☆	○
E058.6	Module WU phase sensor incorrectly inserted	0	0	☆	○
E059.1	VW phase imbalance	0	0	☆	○
E059.2	UW phase imbalance	0	0	☆	○
E059.3	UV phase imbalance	0	0	☆	○
E061.1	Braking overload	0	0	☆	○
E062.2	Braking transistor shoot-through	0	0	☆	○
E062.3	Braking transistor overcurrent	0	0	☆	○
E063.1	External alarm 1	2	2 to 4	☆	○
E063.2	External alarm 2	2	2 to 4	☆	○
E082.2	Pre-charge contactor feedback exception	0	0	☆	○
E085.4	Timing fault	2	0 to 4	☆	○
E093.1	Motor rotor locked fault	0	0 to 5	☆	○
E093.2	Motor stall	0	0	☆	○
E093.3	Current control exception	0	0	☆	○
E094.1	Inconsistency between calculated and set number of pole pairs	Unchangeable by default		☆	○
E094.2	Asynchronous motor power, voltage, and current matching error			☆	○
E094.3	No-load current range error			☆	○
E094.4	Inconsistency between Lm I0 and rated voltage			☆	○
E094.5	Rotor resistance setting range exception			☆	○
E094.7	Mismatch between the numbers of pole pairs of the resolver and synchronous motor			☆	○
E159.1	Auto reset failure	0	0	☆	○
E160.1	Modbus communication timeout	1	0 to 5	☆	○
E161.1	CANopen communication timeout	1	0 to 5	☆	○



## Troubleshooting

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Panel Display	Fault Name	Default Fault Protection Action	Fault Action Range	Reset Allowed or Not	Modified with Main Code or Not
E161.2	Inconsistency between PDO mapping configured for CANopen and the actual mapping	1	0 to 5	☆	○
E162.1	CANlink heartbeat timeout	1	0 to 5	☆	○
E162.2	CANlink station number conflict	1	0 to 5	☆	○
E164.1	Master-slave control communication fault	1	0 to 5	☆	○
E174.1	HDI1 wire breakage	5	0 to 5	☆	○
E174.3	AI1 wire breakage	5	0 to 5	☆	○
E174.4	AI2 wire breakage	5	0 to 5	☆	○
E174.5	AI3 wire breakage	5	0 to 5	☆	○

## 4 Parameter Group

### 4.1 F0: Basic Parameters

#### F0-00 Load type display

Address: 0xF000

Min.: 0

Max.: 1

Default: 0

#### Value Range:

0: Heavy load application

1: Light load application

#### Description

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

#### F0-01 Motor 1 control mode

Address: 0xF001

Min.: 0

Max.: 2

Default: 2

#### Value Range:

0: SVC

1: FVC

2: V/f

#### Description

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

#### F0-02 Operation command source

Address: 0xF002

Min.: 0

Max.: 3

Default: 0

#### Value Range:

0: Operating panel

1: Terminal

2: Communication

3: Customization

#### Description

0: Operating panel control

When this command source is selected, control commands are input using keys on the operating panel. It is applicable to initial commissioning.

1: Terminal control

In terminal I/O control mode, control commands are input through the DI terminals of the AC drive. The DI terminal control commands can be set according to different scenarios, such as start/stop, forward/reverse run, jog, two-wire/three-wire mode, multi-speed, and other functions. It is suitable for most applications.

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

2: Communication control

When this command source is selected, control commands are input through remote communication. The AC drive must be equipped with a communication card to implement communication with the host controller. This mode applies to remote control or centralized control of multiple equipment.

3: Customization

The command source can be selected flexibly. It is used for expansion.

### F0-03

#### Main frequency source X

Address: 0xF003

Effective mode: -

Min.: 0

Unit: -

Max.: 9

Data type: UInt16

Default: 0

Change: Changeable only at stop

#### Value Range:

0: Digital setting (non-retentive at power failure)

1: Digital setting (retentive at power failure)

2: AI1

3: AI2

4: AI3

5: Pulse reference (DI5)

6: Multi-reference

7: Simple PLC

8: PID

9: Communication

Others: F connector

#### Description

0: Digital setting (non-retentive at power failure)

The initial value of the frequency reference is the value of F0-08 (preset frequency), which can be changed by using the ▲ and ▼ keys on the operating panel (or UP and DOWN of the multi-function input terminal). The frequency reference reverts to the value of F0-08 (preset frequency) at next power-on.

1: Digital setting (retentive at power failure)

The initial value of the frequency reference is the value of F0-08 (preset frequency). which can be changed by using the ▲ and ▼ keys on the operating panel (or UP and DOWN of the multi-function input terminal). When the AC drive is powered on again after power failure, the frequency reference is the same as that at the moment of the last power failure. Modifications made by using keys ▲ and ▼ or the terminal UP/DOWN function remain effective.

2: AI1

The frequency reference is input with current or voltage signals through the AI1 terminal. The frequency is calculated according to the preset AI curve.

3: AI2

The frequency reference is input with current or voltage signals through the AI2 terminal. The frequency is calculated according to the preset AI curve.

4: AI3

The frequency reference is input with current or voltage signals through the AI3 terminal. The frequency is calculated according to the preset AI curve.

**5: Pulse reference (DI5)**

The frequency reference is determined by the pulse frequency through the DI5 terminal. The frequency is calculated according to the correspondence curve between the pulse frequency and frequency reference.

**6: Multi-reference**

When multi-reference is used as the frequency source, different combinations of DI terminal states correspond to different frequency references. The four multi-reference terminals can provide 16 state combinations, corresponding to 16 reference values.

**7: Simple PLC**

Simple PLC is a multi-speed running command that can control the running time and acceleration and deceleration time. Parameters FC-00 to FC-15 are used to set the values of each frequency. FC-18 to FC-49 are used to set the running time and acceleration and deceleration time of each frequency. Up to 16 speeds can be set.

**8: PID**

PID is selected as the main frequency. As a general process control method, PID control is a closed-loop mechanism in which each controlled variable is stabilized at the target level through proportional, integral, and differential calculation of the difference between the feedback signal and the target signal of the controlled variable. PID control is generally used in closed-loop control, such as constant pressure closed-loop control and constant tension closed-loop control.

**9: Communication**

The main frequency is set through communication. The frequency reference can be input through remote communication. The AC drive must be equipped with a communication card to implement communication with the host controller. This mode applies to remote control or centralized control of multiple equipment.

**Others: F connector**

A function code is set for a floating-point connector, and the value of the connector is read as the main frequency reference. This mode is used for expansion besides the common sources.

**F0-04****Auxiliary frequency source Y**

Address: 0xF004

Effective mode: -

Min.: 0

Unit: -

Max.: 9

Data type: UInt16

Default: 0

Change: Changeable only at stop

**Value Range:**

0: Digital setting (non-retentive at power failure)

1: Digital setting (retentive at power failure)

2: AI1

3: AI2

4: AI3

5: Pulse reference (DI5)

6: Multi-reference

7: Simple PLC

8: PID

9: Communication

Others: F connector

**Description**

0: Digital setting (non-retentive at power failure)

The initial value of the frequency reference is the value of F0-08 (preset frequency), which can be changed by using the ▲ and ▼ keys on the operating panel (or UP and DOWN of the multi-function input terminal). The frequency reference reverts to the value of F0-08 (preset frequency) at next power-on.

1: Digital setting (retentive at power failure)

The initial value of the frequency reference is the value of F0-08 (preset frequency), which can be changed by using the ▲ and ▼ keys on the operating panel (or UP and DOWN of the multi-function input terminal). When the AC drive is powered on again after power failure, the frequency reference is the same as that at the moment of the last power failure. Modifications made by using keys ▲ and ▼ or the terminal UP/DOWN function remain effective.

2: AI1

The frequency reference is input with current or voltage signals through the AI1 terminal. The frequency is calculated according to the preset AI curve.

3: AI2

The frequency reference is input with current or voltage signals through the AI2 terminal. The frequency is calculated according to the preset AI curve.

4: AI3

The frequency reference is input with current or voltage signals through the AI3 terminal. The frequency is calculated according to the preset AI curve.

5: Pulse reference (DI5)

The frequency reference is determined by the pulse frequency through the DI5 terminal. The frequency is calculated according to the correspondence curve between the pulse frequency and frequency reference.

6: Multi-reference

When multi-reference is used as the frequency source, different combinations of DI terminal states correspond to different frequency references. The four multi-reference terminals can provide 16 state combinations, corresponding to 16 reference values.

7: Simple PLC

Simple PLC is a multi-speed running command that can control the running time and acceleration and deceleration time. Parameters FC-00 to FC-15 are used to set the values of each frequency. FC-18 to FC-49 are used to set the running time and acceleration and deceleration time of each frequency. Up to 16 speeds can be set.

8: PID

PID is selected as the main frequency. As a general process control method, PID control is a closed-loop mechanism in which each controlled variable is stabilized at the target level through proportional, integral, and differential calculation of the difference between the feedback signal and the target signal of the controlled variable. PID control is generally used in closed-loop control, such as constant pressure closed-loop control and constant tension closed-loop control.

9: Communication

The main frequency is set through communication. The frequency reference can be input through remote communication. The AC drive must be equipped with a communication card to implement communication with the host controller. This mode applies to remote control or centralized control of multiple equipment.

Others: F connector

A function code is set for a floating-point connector, and the value of the connector is read as the auxiliary frequency reference. This mode is used for expansion besides the common sources.

- F0-05 Base value of range of auxiliary frequency source for superposition**
- |          |        |                 |                        |
|----------|--------|-----------------|------------------------|
| Address: | 0xF005 | Effective mode: | -                      |
| Min.:    | 0      | Unit:           | -                      |
| Max.:    | 1      | Data type:      | UInt16                 |
| Default: | 0      | Change:         | Changeable at any time |
- Value Range:**  
0: Relative to maximum frequency  
1: Relative to main frequency X
- Description**  
0: Relative to maximum frequency  
The auxiliary frequency at superposition is equal to the auxiliary frequency source range (F0-06) multiplied by the maximum frequency (F0-10).  
1: Relative to main frequency X  
The auxiliary frequency at superposition is equal to the auxiliary frequency source range (F0-06) multiplied by the main frequency X.
- F0-06 Range of auxiliary frequency source Y for superposition**
- |          |        |                 |                        |
|----------|--------|-----------------|------------------------|
| Address: | 0xF006 | Effective mode: | -                      |
| Min.:    | 0      | Unit:           | %                      |
| Max.:    | 150    | Data type:      | UInt16                 |
| Default: | 100    | Change:         | Changeable at any time |
- Value Range:**  
0% to 150%
- Description**  
0: Relative to maximum frequency  
The auxiliary frequency at superposition is equal to the auxiliary frequency source range (F0-06) multiplied by the maximum frequency (F0-10).  
1: Relative to main frequency X  
The auxiliary frequency at superposition is equal to the auxiliary frequency source range (F0-06) multiplied by the main frequency X.
- F0-07 Frequency source superposition**
- |          |        |                 |                        |
|----------|--------|-----------------|------------------------|
| Address: | 0xF007 | Effective mode: | -                      |
| Min.:    | 0      | Unit:           | -                      |
| Max.:    | 34     | Data type:      | UInt16                 |
| Default: | 0      | Change:         | Changeable at any time |
- Value Range:**  
Ones: Frequency reference  
0: Main frequency source X  
1: Main and auxiliary operation result (based on tens)  
2: Switchover between main frequency source X and auxiliary frequency source Y  
3: Switchover between main frequency source X and the main and auxiliary operation result  
4: Switchover between auxiliary frequency source Y and the main and auxiliary operation result  
Tens: Main and auxiliary frequency reference operation  
0: Main + Auxiliary  
1: Main – Auxiliary  
2: Max. (main, auxiliary)  
3: Min. (main, auxiliary)  
4: Main x Auxiliary

**Description**

0: Main frequency source X

The running frequency of the AC drive is directly determined by the main frequency source X.

1: Main and auxiliary operation result (based on the tens place)

The running frequency of the AC drive is the calculation result of the main and auxiliary frequencies, and the calculation method is determined by the tens place of F0-07.

2: Switchover between main frequency source X and auxiliary frequency source Y

The running frequency of the AC drive is selected or switched between the main frequency source X and the auxiliary frequency source Y through the DI terminal. In this case, the corresponding DI terminal must be assigned with the frequency source switching function. For example, if the DI2 terminal is used for switchover, set F4-01 to 18.

3: Switchover between main frequency source X and main and auxiliary operation result

The running frequency of the AC drive is selected or switched between the main frequency source X and the main and auxiliary operation result through the DI terminal.

4: Switchover between auxiliary frequency source Y and main and auxiliary operation result

The running frequency of the AC drive is selected or switched between the auxiliary frequency source Y and the main and auxiliary operation result through the DI terminal.

Tens:

0: Main + Auxiliary

The main and auxiliary operation result is the main frequency X plus the auxiliary frequency Y.

1: Main – Auxiliary

The main and auxiliary operation result is the main frequency X minus the auxiliary frequency Y.

2: Maximum value

The main and auxiliary operation result is the larger value between the main frequency X and the auxiliary frequency Y.

3: Minimum value

The main and auxiliary operation result is the smaller value between the main frequency X and the auxiliary frequency Y.

4: Main x Auxiliary

The main and auxiliary operation result is the main frequency X multiplied by the auxiliary frequency Y. -

**F0-08**

**Preset frequency**

Address: 0xF008

Effective mode: -

Min.: 0.00

Unit: Hz

Max.: F0-10

Data type: UInt16

Default: 50.00

Change: Changeable at any time

**Value Range:**

0.00 Hz to F0-10

**Description**

This parameter defines the target frequency.

**F0-09**

**Running direction**

Address: 0xF009

Effective mode: -

Min.: 0

Unit: -

Max.: 1

Data type: UInt16

Default: 0

Change: Changeable at any time

**Value Range:**

1: Default direction

1: Reverse to the default direction

**Description**

You can change the rotation direction of the motor by modifying this parameter without changing the motor wiring. Modifying this parameter is equivalent to exchanging any two of the motor's U, V, W wires.

**F0-10****Maximum frequency**

Address:	0xF00A	Effective mode:	-
Min.:	50.00	Unit:	Hz
Max.:	500.00	Data type:	UInt16
Default:	50.00	Change:	Changeable only at stop

**Value Range:**

50.00 Hz to 500.00 Hz

**Description**

This parameter defines the maximum output frequency of the AC drive.

**F0-11****Source of frequency upper limit**

Address:	0xF00B	Effective mode:	-
Min.:	0	Unit:	-
Max.:	5	Data type:	UInt16
Default:	0	Change:	Changeable only at stop

**Value Range:**

0: F0-12

1: AI1

2: AI2

3: AI3

4: Pulse reference

5: Communication

Others: F connector

**Description**

0: Frequency upper limit reference (F0-12)

The frequency upper limit is set by F0-12.

1: AI1

The frequency upper limit is input with current or voltage signals through the AI1 terminal. The frequency is calculated according to the preset AI curve.

2: AI2

The frequency upper limit is input with current or voltage signals through the AI2 terminal. The frequency is calculated according to the preset AI curve.

3: AI3

The frequency upper limit is input with current or voltage signals through the AI3 terminal. The frequency is calculated according to the preset AI curve.

4: Pulse reference (DI5)

The frequency upper limit is determined by the pulse frequency through the DI5 terminal. The frequency is calculated according to the correspondence curve between the pulse frequency and maximum frequency.

5: Communication

The frequency upper limit is set through communication.

Others: F connector

The frequency upper limit is set through a connector. A function code is set for a floating-point connector, and the value of the connector is read as the frequency upper limit. This mode is used for expansion besides the common sources.



**F0-12 Frequency upper limit**

Address:	0xF00C	Effective mode:	-
Min.:	F0-14	Unit:	Hz
Max.:	F0-10	Data type:	UInt16
Default:	50.00	Change:	Changeable at any time

**Value Range:**

F0 -14 to F0-10

**Description**

This parameter defines the maximum running frequency allowed for the motor.

**F0-13 Frequency upper limit offset**

Address:	0xF00D	Effective mode:	-
Min.:	0.00	Unit:	Hz
Max.:	F0-10	Data type:	UInt16
Default:	0.00	Change:	Changeable at any time

**Value Range:**

0.00 Hz to F0-10

**Description**

This parameter defines the offset of the frequency upper limit. It is used to adjust the output frequency value upon minimum frequency reference signal when the frequency is set by an external analog signal (voltage or current).

**F0-14 Frequency lower limit**

Address:	0xF00E	Effective mode:	-
Min.:	0.00	Unit:	Hz
Max.:	F0-12	Data type:	UInt16
Default:	0.00	Change:	Changeable at any time

**Value Range:**

0.00 Hz to F0-12

**Description**

This parameter defines the minimum running frequency for the motor.

**F0-15 Carrier frequency**

Address:	0xF00F	Effective mode:	-
Min.:	0.5	Unit:	kHz
Max.:	16.0	Data type:	UInt16
Default:	6.0	Change:	Changeable at any time

**Value Range:**

0.5 kHz to 16.0 kHz

**Description**

-

**F0-16 Carrier frequency adjusted with temperature**

Address:	0xF010	Effective mode:	-
Min.:	0	Unit:	-
Max.:	1	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: No

1: Yes

**Description**

-

**F0-17 Acceleration time 1**

Address:	0xF011	Effective mode:	-
Min.:	0.0	Unit:	s
Max.:	6500.0	Data type:	UInt16
Default:	20.0	Change:	Changeable at any time

**Value Range:**

0.0s to 6500.0s

**Description**

The acceleration time indicates the time required for the output frequency to rise from 0 to F0-25 (acceleration/deceleration base frequency). It is usually determined by the rise of the frequency reference signal. When the motor accelerates, the rising rate of the frequency reference must be limited to prevent overcurrent.

The AC drive provides four groups of acceleration time, which can be switched by using the parameter or DI terminal. This parameter defines the first acceleration time.

**F0-18 Deceleration time 1**

Address:	0xF012	Effective mode:	-
Min.:	0.0	Unit:	s
Max.:	6500.0	Data type:	UInt16
Default:	20.0	Change:	Changeable at any time

**Value Range:**

0.0s to 6500.0s

**Description**

The deceleration time indicates the time required for the output frequency to decrease from F0-25 (acceleration/deceleration base frequency) to 0. The deceleration time is usually determined by the fall of the frequency reference signal. When the motor decelerates, the falling rate of the frequency reference must be limited to prevent overvoltage.

The AC drive provides four groups of deceleration time, which can be switched by using the parameter or DI terminal. This parameter defines the first deceleration time.

**F0-19 Acceleration/Deceleration time unit**

Address:	0xF013	Effective mode:	-
Min.:	0	Unit:	-
Max.:	2	Data type:	UInt16
Default:	1	Change:	Changeable only at stop

**Value Range:**

0: 1s

1: 0.1s

2: 0.01s

**Description**

The AC drive supports three acceleration/deceleration time units. When this parameter is modified, the decimal point of the parameters related to the frequency acceleration and deceleration time will change, and the corresponding acceleration and deceleration time will also change.

**F0-20 Offset frequency source**

Address:	0xF014	Effective mode:	-
Min.:	0	Unit:	-

Max.: 8

Default: 0

Data type: UInt16

Change: Changeable only at stop

**Value Range:**

0: F0-21

1: AI1

2: AI2

3: AI3

4: Pulse reference

5: Communication

6: Multi-reference

7: Motor-driven potentiometer

8: PID

Others: F connector

**Description**

1: Digital setting

The initial frequency reference is the value of F0-21.

2: AI1

The frequency reference is input with current or voltage signals through the AI1 terminal. The frequency is calculated according to the preset AI curve.

3: AI2

The frequency reference is input with current or voltage signals through the AI2 terminal. The frequency is calculated according to the preset AI curve.

4: AI3

The frequency reference is input with current or voltage signals through the AI3 terminal. The frequency is calculated according to the preset AI curve.

5: Pulse reference (DI5)

The frequency reference is determined by the pulse frequency through the DI5 terminal. The frequency is calculated according to the correspondence curve between the pulse frequency and frequency reference.

6: Multi-reference

When multi-reference is used as the frequency source, different combinations of DI terminal states correspond to different frequency references. The four multi-reference terminals can provide 16 state combinations, corresponding to 16 reference values.

7: Simple PLC

Simple PLC is a multi-speed running command that can control the running time and acceleration and deceleration time. Parameters FC-00 to FC-15 are used to set the values of each frequency. FC-18 to FC-49 are used to set the running time and acceleration and deceleration time of each frequency.

Up to 16 speeds can be set.

8: PID

PID is selected as the main frequency. As a general process control method, PID control is a closed-loop mechanism in which each controlled variable is stabilized at the target level through proportional, integral, and differential calculation of the difference between the feedback signal and the target signal of the controlled variable. PID control is generally used in closed-loop control, such as constant pressure closed-loop control and constant tension closed-loop control.

## 9: Communication

The main frequency is set through communication. The frequency reference can be input through remote communication. The AC drive must be equipped with a communication card to implement communication with the host controller. This mode applies to remote control or centralized control of multiple equipment.

Others: F connector

A function code is set for a floating-point connector, and the value of the connector is read as the main frequency reference. This mode is used for expansion besides the common sources.

**F0-21 Offset frequency**

Address: 0xF015

Effective mode: -

Min.: 0.00

Unit: Hz

Max.: F0-10

Data type: UInt16

Default: 0.00

Change: Changeable at any time

**Value Range:**

0.00 Hz to F0-10

**Description**

This parameter defines the offset frequency. It is used to adjust the when the frequency reference when the main/auxiliary frequency is set by an external analog signal (voltage or current).

**F0-22 Decimal places of frequency reference**

Address: 0xF016

Effective mode: -

Min.: 1

Unit: -

Max.: 2

Data type: UInt16

Default: 2

Change: Changeable only at stop

**Value Range:**

1: 0.1 Hz

2: 0.01 Hz

**Description**

This parameter defines the decimal places of the frequency reference.

**F0-23 Retention of digital setting**

Address: 0xF017

Effective mode: -

Min.: 0

Unit: -

Max.: 1

Data type: UInt16

Default: 0

Change: Changeable at any time

**Value Range:**

0: Non-retentive

1: Retentive

**Description**

0: Non-retentive

F0-08 (preset frequency) set through the operating panel and frequency modifications made by using the ▲ and ▼ keys or UP and DOWN of terminals are cleared when the AC drive stops.

1: Retentive

F0-08 (preset frequency) set through the operating panel and frequency modifications made by using the ▲ and ▼ keys or UP and DOWN of terminals are retained when the AC drive stops.

**F0-24 Motor parameter group**

Address: 0xF018

Effective mode: -

Min.: 0

Unit: -

Max.:	3	Data type:	UInt16
Default:	0	Change:	Changeable only at stop

**Value Range:**

- 0: Motor parameter group 1
- 1: Motor parameter group 2
- 2: Motor parameter group 3
- 3: Motor parameter group 4

**Description**

-

**F0-25 Acceleration/Deceleration time base frequency**

Address:	0xF019	Effective mode:	-
Min.:	0	Unit:	-
Max.:	3	Data type:	UInt16
Default:	0	Change:	Changeable only at stop

**Value Range:**

- 0: F0-10 (maximum frequency)
- 1: Frequency reference
- 2: 100 Hz
- 3: Rated frequency

**Description**

This parameter defines the acceleration/deceleration time base frequency.

**F0-26 Base frequency for UP/DOWN modification during running**

Address:	0xF01A	Effective mode:	-
Min.:	0	Unit:	-
Max.:	1	Data type:	UInt16
Default:	0	Change:	Changeable only at stop

**Value Range:**

- 0: Running frequency
- 1: Frequency reference

**Description**

This parameter defines whether to adjust on the basis of the running frequency or the frequency reference when modifying the frequency by using UP/DOWN during running.

**F0-27 Frequency reference source bound to command source**

Address:	0xF01B	Effective mode:	-
Min.:	0	Unit:	-
Max.:	999	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

Ones: Frequency reference source bound to operating panel control

- 0: No binding
- 1: Digital setting
- 2: AI1
- 3: AI2
- 4: AI3
- 5: Pulse
- 6: Multi-reference
- 7: Simple PLC
- 8: PID
- 9: Communication

Tens: Frequency reference source bound to terminal control

- 0: No binding
- 1: Digital setting
- 2: AI1
- 3: AI2
- 4: AI3
- 5: Pulse
- 6: Multi-reference
- 7: Simple PLC
- 8: PID
- 9: Communication

Hundreds: Frequency reference source bound to communication control

- 0: No binding
- 1: Digital setting
- 2: AI1
- 3: AI2
- 4: AI3
- 5: Pulse
- 6: Multi-reference
- 7: Simple PLC
- 8: PID
- 9: Communication

#### **Description**

This parameter defines the binding relationship between the three operation command sources and nine frequency reference sources to facilitate synchronous switchover.

For details about the frequency sources, see the description of F0-03 (main frequency source X).

Different command sources can be bound to the same frequency reference source.

If a command source has a bound frequency source, the frequency sources set in F0-03 to F0-07 no longer take effect when the command source is effective.

## **F0-28**

### **Communication protocol**

Address: 0xF01C

Min.: 0

Max.: 1

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

#### **Value Range:**

0 Modbus  
1: Extended communication protocol

**Description**

**F0-29**

**Load type**

Address: 0xF01D  
Min.: 0  
Max.: 1  
Default: 0

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Changeable only at stop

**Value Range:**

0: Heavy load application  
1: Light load application

**Description**

-

## 4.2 F1: Motor 1 Parameters

**F1-00**

**Motor type**

Address: 0xF100  
Min.: 0  
Max.: 2  
Default: 0

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Changeable only at stop

**Value Range:**

0: Common asynchronous motor  
1: Variable frequency asynchronous motor  
2: Permanent magnet synchronous motor

**Description**

-

**F1-01**

**Rated motor power**

Address: 0xF101  
Min.: 0.1  
Max.: 1000.0  
Default: 3.7

Effective mode: -  
Unit: kW  
Data type: UInt16  
Change: Changeable only at stop

**Value Range:**

0.1 kW to 1000.0 kW

**Description**

-

**F1-02**

**Rated motor voltage**

Address: 0xF102  
Min.: 1  
Max.: 2000  
Default: 380

Effective mode: -  
Unit: V  
Data type: UInt16  
Change: Changeable only at stop

**Value Range:**

1 V to 2000 V

**Description**

-

<b>F1-03</b>	<b>Rated motor current</b> Address: 0xF103 Min.: 0.01 Max.: 655.35 Default: 9.00 <b>Value Range:</b> 0.01 A to 655.35 A <b>Description</b> -	Effective mode: - Unit: A Data type: UInt16 Change: Changeable only at stop
<b>F1-04</b>	<b>Rated motor frequency</b> Address: 0xF104 Min.: 0.01 Max.: F0-10 Default: 50.00 <b>Value Range:</b> 0.01 Hz to F0-10 <b>Description</b> -	Effective mode: - Unit: Hz Data type: UInt16 Change: Changeable only at stop
<b>F1-05</b>	<b>Rated motor speed</b> Address: 0xF105 Min.: 1 Max.: 65535 Default: 1460 <b>Value Range:</b> 1 RPM to 65535 RPM <b>Description</b> -	Effective mode: - Unit: RPM Data type: UInt16 Change: Changeable only at stop
<b>F1-06</b>	<b>Asynchronous motor stator resistance</b> Address: 0xF106 Min.: 0.001 Max.: 65.535 Default: 1.204 <b>Value Range:</b> 0.001 $\Omega$ to 65.535 $\Omega$ <b>Description</b> -	Effective mode: - Unit: $\Omega$ Data type: UInt16 Change: Changeable only at stop
<b>F1-07</b>	<b>Asynchronous motor rotor resistance</b> Address: 0xF107 Min.: 0.001 Max.: 65.535 Default: 0.908 <b>Value Range:</b> 0.001 $\Omega$ to 65.535 $\Omega$ <b>Description</b> -	Effective mode: - Unit: $\Omega$ Data type: UInt16 Change: Changeable only at stop
<b>F1-08</b>	<b>Asynchronous motor leakage inductance</b> Address: 0xF108 	Effective mode: -



Min.: 0.01  
 Max.: 655.35  
 Default: 5.28  
 Unit: mH  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**  
 0.01 mH to 655.35 mH

**Description**  
 -

**F1-09 Asynchronous motor mutual inductance**

Address: 0xF109  
 Min.: 0.1  
 Max.: 6553.5  
 Default: 156.8  
 Effective mode: -  
 Unit: mH  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**  
 0.1 mH to 6553.5 mH

**Description**  
 -

**F1-10 Asynchronous motor no-load current**

Address: 0xF10A  
 Min.: 0.01  
 Max.: F1-03  
 Default: 4.20  
 Effective mode: -  
 Unit: A  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**  
 0.01 A to F1-03

**Description**  
 -

**F1-16 Synchronous motor stator resistance**

Address: 0xF110  
 Min.: 0.001  
 Max.: 65.535  
 Default: 1.204  
 Effective mode: -  
 Unit:  $\Omega$   
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**  
 0.001  $\Omega$  to 65.535  $\Omega$

**Description**  
 -

**F1-17 Synchronous motor D axis inductance**

Address: 0xF111  
 Min.: 0.01  
 Max.: 655.35  
 Default: 5.28  
 Effective mode: -  
 Unit: mH  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**  
 0.01 mH to 655.35 mH

**Description**  
 -

**F1-18 Synchronous motor Q axis inductance**

Address: 0xF112  
 Min.: 0.01  
 Max.: 655.35  
 Effective mode: -  
 Unit: mH  
 Data type: UInt16

Default: 5.28 Change: Changeable only at stop

**Value Range:**  
0.01 mH to 655.35 mH

**Description**

-

#### F1-20 Synchronous motor back EMF coefficient

Address: 0xF114

Effective mode: -

Min.: 0.0

Unit: V

Max.: 6553.5

Data type: UInt16

Default: 300.0

Change: Changeable only at stop

**Value Range:**

0.0 V to 6553.5 V

**Description**

-

#### F1-27 Encoder PPR

Address: 0xF11B

Effective mode: -

Min.: 1

Unit: -

Max.: 65535

Data type: UInt16

Default: 1024

Change: Changeable only at stop

**Value Range:**

1 to 65535

**Description**

This parameter defines the number of pulses per revolution of the ABZ encoder. In FVC mode, the motor cannot run properly if this parameter is set incorrectly.

#### F1-28 Encoder type

Address: 0xF11C

Effective mode: -

Min.: 0

Unit: -

Max.: 3

Data type: UInt16

Default: 0

Change: Changeable only at stop

**Value Range:**

0: ABZ incremental encoder

1: 23-bit encoder

2: Resolver

3: External input

**Description**

After the PG card is installed, you need to set this parameter properly to ensure normal running of the AC drive.

#### F1-29 Speed feedback PG card

Address: 0xF11D

Effective mode: -

Min.: 0

Unit: -

Max.: 1

Data type: UInt16

Default: 0

Change: Changeable only at stop

**Value Range:**

0: Local PG card

1: Extension PG card

**Description**

The ABZ encoder supports PG card extension. When the extension PG card is used for speed measurement, set this parameter to 1.

**F1-30 A/B phase sequence of encoder**

Address:	0xF11E	Effective mode:	-
Min.:	0	Unit:	-
Max.:	1	Data type:	UInt16
Default:	0	Change:	Changeable only at stop

**Value Range:**

0: Forward

1: Reverse

**Description**

This parameter is used to change the phase sequence of the encoder.

**F1-31 Encoder installation angle**

Address:	0xF11F	Effective mode:	-
Min.:	0.0	Unit:	°
Max.:	359.9	Data type:	UInt16
Default:	0.0	Change:	Changeable only at stop

**Value Range:**

0.0° to 359.9°

**Description**

-

**F1-34 Number of resolver pole pairs**

Address:	0xF122	Effective mode:	-
Min.:	1	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	1	Change:	Changeable only at stop

**Value Range:**

1 to 65535

**Description**

-

**F1-36 Speed feedback PG wire breakage detection time**

Address:	0xF124	Effective mode:	-
Min.:	0.0	Unit:	s
Max.:	10.0	Data type:	UInt16
Default:	0.0	Change:	Changeable only at stop

**Value Range:**

0.0s to 10.0s

**Description**

This parameter defines the detection time of the encoder wire breakage fault. If it is set to 0.0s, the AC drive does not detect the encoder wire breakage fault.

If hardware detection of encoder wire breakage is enabled (bit02 of AA-30 is set to 1), the AC drive reports ERR20 when the AC drive detects a wire breakage fault and the fault lasts for a period longer than the time specified by F1-36.

**F1-37 Auto-tuning**

Address:	0xF125	Effective mode:	-
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Min.:	0	Unit:	-
Max.:	13	Data type:	UInt16
Default:	0	Change:	Changeable only at stop

**Value Range:**

0: No operation

1: Static auto-tuning on partial parameters of asynchronous motor

2: Dynamic auto-tuning on asynchronous motor

3: Static auto-tuning on all parameters of asynchronous motor

4: Inertia auto-tuning

5: Deadzone auto-tuning

11: With-load auto-tuning on synchronous motor (excluding back EMF)

12: No-load dynamic auto-tuning on synchronous motor

13: Static auto-tuning on all parameters of synchronous motor (excluding zero point angle)

**Description**

-

## 4.3 F2: Motor 1 Vector Control Parameters

### F2-00 Speed loop proportional gain 1

Address:	0xF200	Effective mode:	-
Min.:	1	Unit:	-
Max.:	300	Data type:	UInt16
Default:	30	Change:	Changeable at any time

**Value Range:**

1 to 100

**Description**

This parameter defines the low-speed speed loop gain  $K_p$ , which affects the response to the motor speed. A larger  $K_p$  value indicates higher adjustment sensitivity and adjustment intensity. A smaller  $K_p$  value indicates lower adjustment sensitivity and adjustment intensity. The low-speed speed loop  $K_p$  is used in the case of low speed.

### F2-01 Speed loop integral time 1

Address:	0xF201	Effective mode:	-
Min.:	0.01	Unit:	s
Max.:	10.00	Data type:	UInt16
Default:	0.50	Change:	Changeable at any time

**Value Range:**

0.01s to 10.00s

**Description**

This parameter defines the low-speed speed loop integral time  $T_i$ . The reciprocal of the speed loop integral time constant is the integral gain. The speed loop integral time constant affects the steady-state speed error of the motor and the stability of the speed loop system. Increasing the speed loop integral time constant slows down the response of the speed loop. In this case, increase the speed loop proportional gain to shorten the response time of the speed loop. The low-speed speed loop  $T_i$  is used in the case of low speed.

### F2-02 Switchover frequency 1

Address:	0xF202	Effective mode:	-
----------	--------	-----------------	---

Min.:	0.00	Unit:	Hz
Max.:	F2-05	Data type:	UInt16
Default:	5.00	Change:	Changeable at any time

**Value Range:**

0.00 Hz to F0-05

**Description**

The speed loop PI parameters are divided into two groups: low speed and high speed. When the running frequency is lower than switchover frequency 1 (F2-02), the speed loop PI is adjusted by F2-00 and F2-01. When the running frequency is higher than switchover frequency 2 (F2-05), the speed loop PI is adjusted by F2-03 and F3-04. When the running frequency falls between switchover frequency 1 and switchover frequency 2, PI parameters are obtained from linear switchover between the two groups of PI parameters. The value of this parameter must be smaller than F2-05 (switchover frequency 2).

**F2-03 Speed loop proportional gain 2**

Address:	0xF203	Effective mode:	-
Min.:	1	Unit:	-
Max.:	300	Data type:	UInt16
Default:	20	Change:	Changeable at any time

**Value Range:**

1 to 300

**Description**

This parameter defines the high-speed speed loop gain Kp. A larger Kp value indicates higher adjustment sensitivity and adjustment intensity. A smaller Kp value indicates lower adjustment sensitivity and adjustment intensity.

**F2-04 Speed loop integral time 2**

Address:	0xF204	Effective mode:	-
Min.:	0.01	Unit:	s
Max.:	10.00	Data type:	UInt16
Default:	1.00	Change:	Changeable at any time

**Value Range:**

0.01s to 10.00s

**Description**

This parameter defines the high-speed speed loop integral time Ti. The speed loop integral time constant affects the steady-state speed error of the motor and the stability of the speed loop system. Increasing the speed loop integral time constant slows down the response of the speed loop. In this case, increase the speed loop proportional gain to shorten the response time of the speed loop.

**F2-05 Switchover frequency 2**

Address:	0xF205	Effective mode:	-
Min.:	F2-02	Unit:	Hz
Max.:	F0-10	Data type:	UInt16
Default:	10.00	Change:	Changeable at any time

**Value Range:**

F2-02 to F0-10

**Description**

The speed loop PI parameters are divided into two groups: low speed and high speed. When the running frequency is lower than switchover frequency 1 (F2-02), the speed loop PI is adjusted by F2-00 and F2-01. When the running frequency is higher than switchover frequency 2 (F2-05), the speed loop PI is adjusted by F2-03 and F3-04. When the running frequency falls between switchover frequency 1 and switchover frequency 2, PI parameters are obtained from linear switchover between the two groups of PI parameters. The value of this parameter must be smaller than F2-05 (switchover frequency 2).

**F2-06****Vector control slip gain**

Address:	0xF206	Effective mode:	-
Min.:	50	Unit:	%
Max.:	200	Data type:	UInt16
Default:	100	Change:	Changeable at any time

**Value Range:**

50% to 200%

**Description**

In SVC control mode, this parameter is used to adjust the speed stability accuracy of the motor. For example, when the running frequency of the motor is lower than the output frequency of the AC drive, you can increase the value of this parameter.

In FVC control mode, this parameter is used to adjust the output current of the AC drive with the same load. For example, you can decrease the value of this parameter gradually when a high-rate AC drive is used to control a motor with low load capacity. No adjustment is required under normal circumstances.

**F2-07****Speed feedback filter time in SVC mode**

Address:	0xF207	Effective mode:	-
Min.:	0.000	Unit:	s
Max.:	0.100	Data type:	UInt16
Default:	0.015	Change:	Changeable at any time

**Value Range:**

0.000s to 0.100s

**Description**

In FVC control mode (F0-01 = 1), the speed loop feedback filter time is valid. You can improve the stability of the motor by adjusting this parameter. Increasing the speed loop feedback filter time can enhance motor stability but slow down dynamic response. Decreasing it will bring faster dynamic response. An excessively small parameter value may lead to motor oscillation. Generally, the motor stability meets requirements, and no adjustment is required.

**F2-09****Torque upper limit source in speed control mode (motoring)**

Address:	0xF209	Effective mode:	-
Min.:	0	Unit:	-
Max.:	7	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: Digital setting (F2-10)

1: AI1

2: AI2

3: AI3

4: Pulse reference

5: Communication

6: MIN (AI1, AI2)

7: MAX (AI1, AI2)

Others: F connector

**Description**

0: Digital setting (F2-10)

The torque upper limit in speed control mode is set by F2-10 (digital setting of torque upper limit in speed control).

1: AI1

The torque upper limit is input with the current or voltage signal through the AI1 terminal. The frequency is calculated according to the preset AI curve.

2: AI2

The torque upper limit is input with the current or voltage signal through the AI2 terminal. The frequency is calculated according to the preset AI curve.

3: AI3

The torque upper limit is input with the current or voltage signal through the AI3 terminal. The frequency is calculated according to the preset AI curve.

4: Pulse reference (DI5)

The torque upper limit in speed control is set through DI5. The frequency is calculated based on the curve reflecting the relationship between the pulse frequency and running frequency.

5: Communication

The main frequency is set through communication. The running frequency is input through remote communication. The AC drive must be equipped with a communication card to implement communication with the host controller. This mode applies to remote control or centralized control of multiple equipment.

6: MIN (AI1, AI2)

The torque upper limit in speed control mode is the smaller value between AI1 and AI2 inputs.

7: MAX (AI1, AI2)

The torque upper limit in speed control mode is the larger value between AI1 and AI2 inputs.

Others: F connector

A function code is set for a floating-point connector, and the value of the connector is read as the motoring torque upper limit in speed control mode. This mode is used for expansion besides the common sources.

The full scale of setpoints other than setpoint 0 corresponds to F2-10.

**F2-10 Torque upper limit in speed control mode**

Address: 0xF20A

Effective mode: -

Min.: 0.0

Unit: %

Max.: 200.0

Data type: UInt16

Default: 150.0

Change: Changeable at any time

**Value Range:**

0.0% to 200.0%

**Description**

This parameter defines the torque upper limit in speed control mode.

**F2-11 Torque upper limit source in speed control mode (generating)**

Address:	0xF20B	Effective mode:	-
Min.:	0	Unit:	-
Max.:	8	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: Digital setting (F2-10)

1: AI1

2: AI2

3: AI3

4: Pulse reference (DI5)

5: Communication

6: MIN (AI1, AI2)

7: MAX (AI1, AI2)

8: Digital setting (F2-12)

Others: F connector

**Description**

0: Digital setting (F2-10)

The torque upper limit in speed control mode is set by F2-10 (digital setting of torque upper limit in speed control).

1: AI1

The torque upper limit is input with the current or voltage signal through the AI1 terminal. The frequency is calculated according to the preset AI curve.

2: AI2

The torque upper limit is input with the current or voltage signal through the AI2 terminal. The frequency is calculated according to the preset AI curve.

3: AI3

The torque upper limit is input with the current or voltage signal through the AI3 terminal. The frequency is calculated according to the preset AI curve.

4: Pulse reference (DI5)

The torque upper limit in speed control is set through DI5. The frequency is calculated based on the curve reflecting the relationship between the pulse frequency and running frequency.

5: Communication

The main frequency is set through communication. The running frequency is input through remote communication. The AC drive must be equipped with a communication card to implement communication with the host controller. This mode applies to remote control or centralized control of multiple equipment.

6: MIN (AI1, AI2)

The torque upper limit in speed control mode is the smaller value between AI1 and AI2 inputs.

7: MAX (AI1, AI2)

The torque upper limit in speed control mode is the larger value between AI1 and AI2 inputs.

8: Digital setting (F2-12)

The torque upper limit in speed control mode is set by F2-12 (digital setting of generating torque upper limit in speed control).

Others: F connector



A function code is set for a floating-point connector, and the value of the connector is read as the generating torque upper limit in speed control mode. This mode is used for expansion besides the common sources.

The full scale of setpoints other than setpoints 0 and 8 corresponds to F2-12.

**F2-12 Torque upper limit in speed control mode (generating)**

Address:	0xF20C	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	200.0	Data type:	UInt16
Default:	150.0	Change:	Changeable at any time

**Value Range:**

0.0% to 200.0%

**Description**

This parameter defines the generating torque upper limit in speed control mode.

**F2-18 Field weakening mode**

Address:	0xF212	Effective mode:	-
Min.:	0	Unit:	-
Max.:	2	Data type:	UInt16
Default:	1	Change:	Changeable only at stop

**Value Range:**

0: No field weakening

1: Auto adjustment

2: Calculation+Auto adjustment

**Description**

0: No field weakening

Without field weakening control, the maximum motor speed is related to the bus voltage of the AC drive. The output current is smaller under the same load, but the running frequency cannot reach the frequency reference. Do not select this function if a higher speed is required.

1: Auto adjustment

This field weakening mode is simple and reliable. In scenarios requiring quick field weakening, the field weakening coefficient (F2-19) can be increased as appropriate. However, if the coefficient is too large,

the current may be unstable.

2: Calculation+Auto adjustment

In this mode, the field weakening current is adjusted quickly. This mode can be selected in scenarios where the auto adjustment mode cannot meet requirements.

**F2-19 Field weakening gain**

Address:	0xF213	Effective mode:	-
Min.:	1	Unit:	-
Max.:	50	Data type:	UInt16
Default:	5	Change:	Changeable at any time

**Value Range:**

1 to 50

**Description**

Increasing the setpoint can improve dynamic response. However, an excessively large setpoint may also cause current oscillation.

**F2-22 Generating power limiting**

Address:	0xF216	Effective mode:	-
Min.:	0	Unit:	-
Max.:	3	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: Disabled  
 1: Enabled in the whole process  
 2: Enabled at constant speed  
 3: Enabled during deceleration

**Description**

-

**F2-23 Generating power upper limit**

Address:	0xF217	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	200.0	Data type:	UInt16
Default:	20.0	Change:	Changeable at any time

**Value Range:**

0.0% to 200.0%

**Description**

-

**F2-24 Initial position angle detection current of synchronous motor**

Address:	0xF218	Effective mode:	-
Min.:	50	Unit:	-
Max.:	180	Data type:	UInt16
Default:	80	Change:	Changeable only at stop

**Value Range:**

50 to 180

**Description**

A smaller current indicates lower noise during detection. However, an excessively small current may lead to position detection inaccuracy. You are advised not to modify this parameter in FVC mode.

**F2-25 Initial position angle detection of synchronous motor**

Address:	0xF219	Effective mode:	-
Min.:	0	Unit:	-
Max.:	2	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: Detected upon running  
 1: Not detected  
 2: Detected upon initial running after power-on

**Description**

The initial position angle detection can prevent reverse rotation at startup, but it causes certain noise. For scenarios where reverse rotation is not allowed at startup and the rotor position of the motor will change after stop, F2-25 must be set to 0. It can be set to 1 or 2 in other scenarios.

**F2-27 Salient pole rate adjustment gain of synchronous motor**

Address:	0xF21B	Effective mode:	-
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Min.:	0.20	Unit:	-
Max.:	3.00	Data type:	UInt16
Default:	1.00	Change:	Changeable at any time

**Value Range:**

0.20 to 3.00

**Description**

If F2-28 is set to 1, you can adjust F2-27 when the output current does not decrease or even increase under the same load. When the load remains unchanged, adjust F2-27 until the output current is the smallest.

**F2-28 Maximum torque-to-current ratio control of synchronous motor**

Address:	0xF21C	Effective mode:	-
Min.:	0	Unit:	-
Max.:	1	Data type:	UInt16
Default:	1	Change:	Changeable at any time

**Value Range:**

0: Disabled

1: Enabled

**Description**

When this function is enabled for the salient pole motor, the current will become smaller under the same load.

**F2-32 Z signal correction**

Address:	0xF220	Effective mode:	-
Min.:	0	Unit:	-
Max.:	1	Data type:	UInt16
Default:	1	Change:	Changeable at any time

**Value Range:**

0: Disabled

1: Enabled

**Description**

-

**F2-37 Low speed carrier frequency**

Address:	0xF225	Effective mode:	-
Min.:	0.8	Unit:	kHz
Max.:	F0-15	Data type:	UInt16
Default:	2.0	Change:	Changeable at any time

**Value Range:**

0.8 kHz to F0-15

**Description**

-

**F2-43 Position lock**

Address:	0xF22B	Effective mode:	-
Min.:	0	Unit:	-
Max.:	1	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0 to 1

**Description**

-

<b>F2-44</b>	<b>Switchover frequency</b> Address: 0xF22C Min.: 0.00 Max.: F2-02 Default: 0.30 <b>Value Range:</b> 0.00 Hz to F2-02 <b>Description</b> -	Effective mode: - Unit: Hz Data type: UInt16 Change: Changeable at any time
<b>F2-45</b>	<b>Position lock speed loop proportional gain</b> Address: 0xF22D Min.: 1 Max.: 100 Default: 10 <b>Value Range:</b> 1 to 100 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>F2-46</b>	<b>Position lock speed loop integral time</b> Address: 0xF22E Min.: 0.01 Max.: 10.00 Default: 0.50 <b>Value Range:</b> 0.01s to 10.00s <b>Description</b> -	Effective mode: - Unit: s Data type: UInt16 Change: Changeable at any time
<b>F2-49</b>	<b>Auto-tuning free mode</b> Address: 0xF231 Min.: 0 Max.: 2 Default: 0 <b>Value Range:</b> 0: Disabled 1: Auto-tuning upon initial running after power-on 2: Auto-tuning upon running <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>F2-51</b>	<b>Initial position compensation angle</b> Address: 0xF233 Min.: 0.0 Max.: 359.9 Default: 0.0 <b>Value Range:</b> 0.0 to 359.9 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time

## 4.4 F3: V/f Control Parameters 1

### F3-00 V/f curve

Address: 0xF300  
 Min.: 0  
 Max.: 11  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable only at stop

#### Value Range:

0: Straight-line V/f curve  
 1: Multi-point V/f curve  
 2-9: Reserved  
 10: V/f complete separation mode  
 11: V/f half separation mode

#### Description

-

### F3-01 Torque boost

Address: 0xF301  
 Min.: 0.0  
 Max.: 30.0  
 Default: 3.0

Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Changeable at any time

#### Value Range:

0.0% to 30.0%

#### Description

-

### F3-02 Cut-off frequency of torque boost

Address: 0xF302  
 Min.: 0.00  
 Max.: F0-10  
 Default: 50.00

Effective mode: -  
 Unit: Hz  
 Data type: UInt16  
 Change: Changeable only at stop

#### Value Range:

0.00 Hz to F0-10

#### Description

-

### F3-03 Multi-point V/f frequency 1

Address: 0xF303  
 Min.: 0.00  
 Max.: F3-05  
 Default: 0.00

Effective mode: -  
 Unit: Hz  
 Data type: UInt16  
 Change: Changeable only at stop

#### Value Range:

0.00 Hz to F3-05

#### Description

-

### F3-04 Multi-point V/f voltage 1

Address: 0xF304  
 Min.: 0.0  
 Max.: 100.0  
 Default: 0.0

Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**

0.0% to +100.0%

**Description**

-

**F3-05 Multi-point V/f frequency 2**

Address: 0xF305

Min.: F3-03

Max.: F3-07

Default: 0.00

Effective mode: -

Unit: Hz

Data type: UInt16

Change: Changeable only at stop

**Value Range:**

F3-03 to F3-07

**Description**

-

**F3-06 Multi-point V/f voltage 2**

Address: 0xF306

Min.: 0.0

Max.: 100.0

Default: 0.0

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable only at stop

**Value Range:**

0.0% to +100.0%

**Description**

-

**F3-07 Multi-point V/f frequency 3**

Address: 0xF307

Min.: F3-05

Max.: F1-04

Default: 0.00

Effective mode: -

Unit: Hz

Data type: UInt16

Change: Changeable only at stop

**Value Range:**

F3-05 to F1-04

**Description**

-

**F3-08 Multi-point V/f voltage 3**

Address: 0xF308

Min.: 0.0

Max.: 100.0

Default: 0.0

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable only at stop

**Value Range:**

0.0% to +100.0%

**Description**

-

**F3-09 V/F slip compensation gain**

Address: 0xF309

Min.: 0.0

Max.: 200.0

Default: 0.0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0.0 to 200.0

**Description**

-

**F3-10 V/f overexcitation gain**

Address: 0xF30A

Min.: 0

Max.: 200

Default: 64

**Value Range:**

0 to 200

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**F3-11 V/f oscillation suppression gain**

Address: 0xF30B

Min.: 0

Max.: 100

Default: 40

**Value Range:**

0 to 100

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**F3-12 V/f oscillation suppression**

Address: 0xF30C

Min.: 0

Max.: 1

Default: 1

**Value Range:**

0: Disabled

1: Enabled

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**F3-13 Voltage source for V/f separation**

Address: 0xF30D

Min.: 0

Max.: 8

Default: 0

**Value Range:**

0: Digital setting (F3-14)

1: AI1

2: AI2

3: AI3

4: Pulse reference (DI5)

5: Multi-reference

6: Simple PLC

7: PID

8: Communication

Others: F connector

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Description**

This parameter defines the source of the target voltage in V/f separation mode.

0: Digital setting (F3-14)

The V/f separation voltage is set by F3-14 (V/f separation voltage).

1: AI1

The V/f separation voltage is input with current or voltage signals through the AI1 terminal. The frequency is calculated according to the preset AI curve.

2: AI2

The V/f separation voltage is input with current or voltage signals through the AI2 terminal. The frequency is calculated according to the preset AI curve.

3: AI3

The V/f separation voltage is input with current or voltage signals through the AI3 terminal. The frequency is calculated according to the preset AI curve. The AC drive has two AI terminals by default, and the AI3 terminal needs to be provided through the I/O expansion card.

4: Pulse reference (DI5)

The V/f separation voltage is set through DI5. The frequency is calculated based on the curve reflecting the relationship between the pulse frequency and running frequency.

5: Multi-reference

When multi-reference is used as the source of the V/f separation voltage, different combinations of DI terminal states correspond to different reference values. The four multi-reference terminals can provide 16 state combinations, corresponding to 16 reference values (percentage x maximum frequency) of parameters in group FC.

6: Simple PLC

The V/f separation voltage is set by simple PLC. For details, see the function description of simple PLC.

7: PID

The V/f separation voltage is set by PID. For details, see the PID function description.

8: Communication

The V/f separation voltage is set through communication. The running frequency is input through remote communication. The AC drive must be equipped with a communication card to implement communication with the host controller. This mode applies to remote control or centralized control of multiple equipment.

Others: F connector

A function code is set for a floating-point connector, and the value of the connector is read as the V/f separation voltage. This mode is used for expansion besides the common sources.

**F3-14****V/f separation voltage**

Address: 0xF30E

Effective mode: -

Min.: 0

Unit: V

Max.: F1-02

Data type: UInt16

Default: 0

Change: Changeable at any time

**Value Range:**

0 V to F1-02

**Description**

This parameter defines the V/f separation voltage.

**F3-15****Voltage rise time of V/f separation**

Address: 0xF30F

Effective mode: -

Min.: 0.0

Unit: s



Max.:	1000.0	Data type:	UInt16
Default:	0.0	Change:	Changeable at any time

**Value Range:**  
0.0s to 1000.0s

**Description**

This parameter defines the time required for the output voltage to rise from 0 to the rated motor voltage.

**F3-16 Voltage fall time of V/f separation**

Address:	0xF310	Effective mode:	-
Min.:	0.0	Unit:	s
Max.:	1000.0	Data type:	UInt16
Default:	0.0	Change:	Changeable at any time

**Value Range:**  
0.0s to 1000.0s

**Description**

This parameter defines the time required for the output voltage to fall from the rated motor voltage to 0.

**F3-17 Stop mode for V/f separation**

Address:	0xF311	Effective mode:	-
Min.:	0	Unit:	-
Max.:	2	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

- 0: Frequency and voltage decline to 0 independently
- 1: Frequency declines to 0 after voltage declines to 0
- 2: Coast to stop (new)

**Description**

- 0: The frequency and voltage decrease to 0 independently.
- 1: The frequency decreases to 0 according to the deceleration time after the voltage decreases to 0 according to the deceleration time.
- 2: The AC drive coasts to stop without following the stop deceleration curve.

**F3-18 Overcurrent stall suppression action current**

Address:	0xF312	Effective mode:	-
Min.:	50	Unit:	%
Max.:	200	Data type:	UInt16
Default:	150	Change:	Changeable only at stop

**Value Range:**  
50% to 200%

**Description**

-

**F3-19 Overcurrent stall suppression**

Address:	0xF313	Effective mode:	-
Min.:	0	Unit:	-
Max.:	1	Data type:	UInt16
Default:	1	Change:	Changeable only at stop

**Value Range:**

0: Disabled

1: Enabled

**Description**

-

**F3-20 Overcurrent stall suppression gain**

Address: 0xF314

Min.: 1

Max.: 100

Default: 20

**Value Range:**

1 to 100

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**F3-21 Compensation coefficient of speed multiplying overcurrent stall suppression action current**

Address: 0xF315

Min.: 50

Max.: 200

Default: 100

**Value Range:**

50% to 200%

**Description**

-

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable only at stop

**F3-22 Overvoltage stall suppression action voltage**

Address: 0xF316

Min.: 330.0

Max.: 800.0

Default: 770.0

**Value Range:**

330.0 V to 800.0 V

**Description**

-

Effective mode: -

Unit: V

Data type: UInt16

Change: Changeable at any time

**F3-23 Overvoltage stall suppression**

Address: 0xF317

Min.: 0

Max.: 1

Default: 1

**Value Range:**

0: Disabled

1: Enabled

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**F3-24 Overvoltage stall suppression frequency gain**

Address: 0xF318

Min.: 1

Max.: 100

Default: 30

**Value Range:**

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

1 to 100

**Description**

-

**F3-25 Overvoltage stall suppression voltage gain**

Address: 0xF319

Effective mode: -

Min.: 1

Unit: -

Max.: 100

Data type: UInt16

Default: 30

Change: Changeable at any time

**Value Range:**

1 to 100

**Description**

-

**F3-26 Frequency rise threshold for overvoltage stall suppression**

Address: 0xF31A

Effective mode: -

Min.: 0

Unit: Hz

Max.: 50

Data type: UInt16

Default: 5

Change: Changeable only at stop

**Value Range:**

0 Hz to 50 Hz

**Description**

-

**F3-27 Slip compensation filter time**

Address: 0xF31B

Effective mode: -

Min.: 0.1

Unit: s

Max.: 10.0

Data type: UInt16

Default: 0.5

Change: Changeable only at stop

**Value Range:**

0.1s to 10.0s

**Description**

-

**F3-28 Multi-point curve source**

Address: 0xF31C

Effective mode: -

Min.: 0

Unit: -

Max.: 2

Data type: UInt16

Default: 0

Change: Changeable only at stop

**Value Range:**

0: 3-point curve

1: Multi-point curve module A

2: Multi-point curve module B

**Description**

0: 3-point curve

The 3-point curve is used by default, which is set in F3-03 to F3-08.

1: Multi-point curve module A

The output of free module A is used as the voltage reference of the multi-point curve.

2: Multi-point curve module B

The output of free module B is used as the voltage reference of the multi-point curve.

<b>F3-33</b>	<b>Online torque compensation gain</b>	Address: 0xF321 Min.: 80 Max.: 150 Default: 100 <b>Value Range:</b> 80 to 150 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable only at stop
<b>F3-34</b>	<b>I<sub>maxKi</sub> coefficient</b>	Address: 0xF322 Min.: 10 Max.: 1000 Default: 100 <b>Value Range:</b> 10% to 1000% <b>Description</b> -	Effective mode: - Unit: % Data type: UInt16 Change: Changeable only at stop
<b>F3-35</b>	<b>Overcurrent suppression threshold (relative to rated motor current)</b>	Address: 0xF323 Min.: 80 Max.: 300 Default: 200 <b>Value Range:</b> 80% to 300% <b>Description</b> -	Effective mode: - Unit: % Data type: UInt16 Change: Changeable only at stop
<b>F3-36</b>	<b>Frequency threshold for overcurrent suppression field weakening</b>	Address: 0xF324 Min.: 100 Max.: 500 Default: 100 <b>Value Range:</b> 100% to 500% <b>Description</b> -	Effective mode: - Unit: % Data type: UInt16 Change: Changeable only at stop
<b>F3-37</b>	<b>IT filter time</b>	Address: 0xF325 Min.: 10 Max.: 1000 Default: 100 <b>Value Range:</b> 10 ms to 1000 ms <b>Description</b> -	Effective mode: - Unit: ms Data type: UInt16 Change: Changeable only at stop
<b>F3-38</b>	<b>Slip compensation mode</b>	Address: 0xF326	Effective mode: -

Min.:	0	Unit:	-
Max.:	2	Data type:	UInt16
Default:	1	Change:	Changeable only at stop

**Value Range:**

0: Disabled  
 1: Slip compensation without PG  
 2: Slip compensation with PG

**Description**

-

**F3-39 VdcMaxCtrl allowed runtime**

Address:	0xF327	Effective mode:	-
Min.:	0.0	Unit:	s
Max.:	100.0	Data type:	UInt16
Default:	0.0	Change:	Changeable only at stop

**Value Range:**

0.0s to 100.0s

**Description**

-

**F3-40 Upper limit of V/f separation voltage**

Address:	0xF328	Effective mode:	-
Min.:	50.0	Unit:	%
Max.:	200.0	Data type:	UInt16
Default:	100.0	Change:	Changeable only at stop

**Value Range:**

50.0% to 200.0%

**Description**

This parameter defines the upper limit of the V/f separation voltage, which is a percentage relative to the rated motor voltage.

**F3-41 RFG time of V/f separation frequency**

Address:	0xF329	Effective mode:	-
Min.:	0	Unit:	-
Max.:	1	Data type:	UInt16
Default:	0	Change:	Changeable only at stop

**Value Range:**

0: RFG time forced to 0

1: Preset RFG time

**Description**

This parameter defines the RFG time of the V/f separation frequency. When it is set to 0, the frequency reference acceleration/deceleration time is forced to 0; when it is set to 1, the acceleration/deceleration time is set as normal.

**F3-42 Cut-off frequency of V/f oscillation suppression filter**

Address:	0xF32A	Effective mode:	-
Min.:	1.0	Unit:	Hz
Max.:	50.0	Data type:	UInt16
Default:	8.0	Change:	Changeable at any time

**Value Range:**

1.0 Hz to 50.0 Hz

**Description**

-

**F3-43****Cut-off frequency threshold for V/F oscillation suppression**

Address: 0xF32B Effective mode: -  
 Min.: 10 Unit: Hz  
 Max.: 3000 Data type: UInt16  
 Default: 200 Change: Changeable at any time

**Value Range:**

10 Hz to 3000 Hz

**Description**

-

**F3-44****VdcMaxCtrl feedforward coefficient**

Address: 0xF32C Effective mode: -  
 Min.: 0 Unit: %  
 Max.: 500 Data type: UInt16  
 Default: 0 Change: Changeable at any time

**Value Range:**

0% to 500%

**Description**

-

**F3-50****PMVC low-speed IF**

Address: 0xF332 Effective mode: -  
 Min.: 0 Unit: -  
 Max.: 1 Data type: UInt16  
 Default: 1 Change: Changeable only at stop

**Value Range:**

0: Disabled

1: Enabled

**Description**

-

**F3-51****PMVC low-speed IF current**

Address: 0xF333 Effective mode: -  
 Min.: 30 Unit: -  
 Max.: 250 Data type: UInt16  
 Default: 100 Change: Changeable only at stop

**Value Range:**

30 to 250

**Description**

-

**F3-52****PMVC low-speed IF speed switching threshold**

Address: 0xF334 Effective mode: -  
 Min.: 2.0 Unit: %  
 Max.: 100.0 Data type: UInt16  
 Default: 10.0 Change: Changeable only at stop

**Value Range:**

2.0% to 100.0%

-

**Description**

-

**F3-53 PMVC oscillation suppression gain coefficient**

Address:	0xF335	Effective mode:	-
Min.:	0	Unit:	-
Max.:	500	Data type:	UInt16
Default:	100	Change:	Changeable at any time

**Value Range:**

0 to 500

**Description**

-

**F3-54 PMVC filter time coefficient**

Address:	0xF336	Effective mode:	-
Min.:	0	Unit:	-
Max.:	500	Data type:	UInt16
Default:	100	Change:	Changeable at any time

**Value Range:**

0 to 500

**Description**

-

**F3-55 PMVC energy conservation control mode**

Address:	0xF337	Effective mode:	-
Min.:	0	Unit:	-
Max.:	2	Data type:	UInt16
Default:	2	Change:	Changeable only at stop

**Value Range:**

0: Fixed straight-line V/f curve

1: Fixed 30% reactive current

2: MTPA control

**Description**

-

## 4.5 F4: Input Terminal Parameters

**F4-00 DI1 function**

Address:	0xF400	Effective mode:	-
Min.:	0	Unit:	-
Max.:	80	Data type:	UInt16
Default:	1	Change:	Changeable only at stop

**Value Range:**

- 0: No function
  - 1: Forward RUN (IN1)
  - 2: Reverse RUN (IN2)
  - 3: Three-wire control (IN3)
  - 4: Forward jogging (FJOG)
  - 5: Reverse jogging (RJOG)
  - 6: Terminal UP
  - 7: Terminal DOWN
  - 8: Coast to stop
  - 9: Fault reset (RESET)
  - 10: Running pause
  - 11: External fault NO input
  - 12: Multi-reference terminal 1
  - 13: Multi-reference terminal 2
  - 14: Multi-reference terminal 3
  - 15: Multi-reference terminal 4
  - 16: Acceleration/deceleration selection terminal 1
  - 17: Acceleration/deceleration selection terminal 2
  - 18: Frequency source switchover
  - 19: UP and DOWN setting clear
  - 20: Command source switchover terminal 1
  - 21: Acceleration/Deceleration inhibition
  - 22: PID pause
  - 23: Simple PLC state reset
  - 24: Wobble pause
  - 25: Counter input
  - 26: Counter reset
  - 27: Length count input
  - 28: Length reset
  - 29: Torque control inhibition
  - 31: Reserved
  - 32: Immediate DC braking
- (To be continued)



(continued)

- 33: External fault NC input
- 34: Frequency modification enable
- 35: PID action direction reversal
- 36: External stop terminal 1
- 37: Command source switchover terminal 2
- 38: PID integral pause
- 39: Switchover between main frequency and preset frequency
- 40: Switchover between auxiliary frequency and preset frequency
- 41: Motor selection terminal 1
- 42: Reserved
- 43: PID parameter switchover
- 44: User-defined fault 1
- 45: User-defined fault 2
- 46: Switchover between speed control and torque control
- 47: Emergency stop
- 48: External stop terminal 2
- 49: Deceleration DC braking
- 50: Current running duration clear
- 51: Switchover between two-wire and three-wire control
- 52: Reverse running inhibition
- 53–69: Reserved
- 70: Control channel
- 71: Reference source (Reserved)
- 72: Terminal module
- 73: Startup mode bit0
- 74: Startup mode bit1
- 75: Command source switchover terminal 3
- 76: Motor selection terminal 2
- 77: Running enable
- 78: Forward RUN enable
- 79: Reverse RUN enable
- 80: RFG input set to 0

**Description**

0: No function

The DI terminal has no function.

1: Forward RUN (IN1)

The terminal is used to set the operation mode of the AC drive to forward run. (FWD indicates forward.) In two-wire mode 1 (F4-11 = 0), the terminal is used to set the operation mode of the AC drive to forward run. In two-wire mode 2 (F4-11 = 1), the terminal is used to issue a running command.

2: Reverse RUN (IN2)

The terminal is used to set the operation mode of the AC drive to reverse run. (REV indicates reverse.) In two-wire mode 1 (F4-11 = 0), the terminal is used to set the operation mode of the AC drive to reverse run. In two-wire mode 2 (F4-11 = 1), the terminal is used to set the forward/reverse run direction.

### 3: Three-wire control

The terminal is used to set the AC drive to run in three-wire control mode. To use a terminal as the command source, set F4-11 (terminal control mode) to 2 (three-wire mode 1) or 3 (three-wire mode 2), and set this parameter to 3. The three-wire control modes include three-wire mode 1 and three-wire mode 2.

### 4: Forward jogging (FJOG)

The terminal is used to set the operation mode of the AC drive to forward jogging. In jogging mode, the AC drive runs at low speed for a short time, which is typically used for maintenance and commissioning of field equipment.

### 5: Reverse jogging (RJOG)

The terminal is used to set the operation mode of the AC drive to reverse jogging. In jogging mode, the AC drive runs at low speed for a short time, which is typically used for maintenance and commissioning of field equipment.

### 6: Terminal UP

The terminal is used to increase the frequency when terminal I/O is used as the frequency reference source. When the terminal is active, it works as if the increment key is pressed and held. When the terminal is inactive, it works as if the increment key is released.

### 7: Terminal DOWN

The terminal is used to decrease the frequency when terminal I/O is used as the frequency reference source. When the terminal is active, it works as if the decrement key is pressed and held. When the terminal is inactive, it works as if the decrement key is released.

### 8: Coast to stop

When the terminal is active, a coast to stop command is issued, upon receiving which the AC drive stops output immediately, allowing the load to stop following mechanical inertia. The AC drive stops by stopping the output. At this time, the power supply of the motor is cut off and the drive system is in a free braking state. Since the stop time is determined by the inertia of the drive system, it is also called inertia stop.

### 9: Fault reset (RESET)

The terminal is used to reset faults of the AC drive, which functions the same as the STOP/RES key on the operating panel. Remote fault reset can be implemented by using this function.

### 10: Running pause

When the terminal is active, the AC drive decelerates to stop with all running parameters memorized (such as PLC, wobble, and PID parameters). When the terminal is inactive, the AC drive resumes its running state as recorded.

### 11: External fault NO input

When the terminal is active, the AC drive reports Err15 upon receiving an external signal.

### 12-15: Multi-reference terminals 1-4

Multi-reference is selected as the main frequency source. You can set the 16 states of the four terminals to define 16 speeds or 16 other references. This function is applicable to applications where continuous adjustment of the AC drive running frequency is not required and only several frequency values are required.

### 16-17: Acceleration/deceleration selection terminals 1-2

The AC drive supports four groups of acceleration/deceleration time, which can be selected through combinations of four states of these two terminals. The acceleration time indicates the time required for the output frequency of the AC drive to rise from 0 to the acceleration/deceleration base frequency (F0-25). The deceleration time indicates the time required for the output frequency of the AC drive to decrease from the acceleration/deceleration base frequency (F0-25) to 0 Hz.

### 18: Frequency source switchover

The terminal is used to switch between different frequency reference sources. The frequency reference is set in F0-07 (frequency source superposition).

### 19: UP and DOWN setting clear

When the main frequency is set through the operating panel and this terminal is active, the frequency set by using the increment or decrement key on the operating panel or terminal UP/DOWN can be cleared and the frequency will be reset to the value of F0-08.

### 20: Command source switchover terminal 1

When the command source is set to terminal control (F0-02 = 1), activating the terminal switches from terminal control to operating panel control. When the command source is set to communication control (F0-02 = 2), activating the terminal switches from communication control to operating panel control.

### 21: Acceleration/Deceleration inhibition

The terminal is used to keep the AC drive at the current running frequency regardless of changes of the external input frequency (unless a stop command is received).

### 22: PID pause

The terminal is used to suspend PID control temporarily, so that the AC drive retains the current output frequency with no more PID tuning on the frequency source.

### 23: Simple PLC state reset

The terminal is used to reset the AC drive to the initial state of the simple PLC.

### 24: Wobble pause

In the wobble process, when the terminal is active, the wobble function is paused (the AC drive outputs at the center frequency).

### 25: Counter input

In the counting process, a counting pulse is input when the terminal is active.

### 26: Counter reset

In the counting process, the counter state is cleared when the terminal is active.

### 27: Length count input

In the fixed length process, the length count is input when the terminal is active.

### 28: Length reset

In the fixed length process, the length is cleared when the terminal is active.

### 29: Torque control inhibition

When the terminal is active, the AC drive switches from the torque control mode to speed control mode. When the terminal is inactive, the AC drive resumes the torque control mode.

### 30: Pulse input

This function must be selected when DI5 is used for pulse input.

### 31: Reserved

### 32: Immediate DC braking

When the terminal is active, the AC drive switches to the DC braking state directly. During DC braking, the AC drive feeds DC into the stator winding of the asynchronous motor to form a static magnetic field to set the motor to braking with energy consumption. In this state, the rotor cuts the static magnetic field to generate braking torque, which stops the motor quickly.

### 33: External fault NC input

When the terminal is active, the AC drive reports Err15 upon receiving an external signal.

### 34: Frequency modification enable

When the terminal is active, the frequency can be modified. When the terminal is inactive, the frequency cannot be modified.

#### 35 PID action direction reversal

The terminal is used to reverse the direction set by FA-03 (PID action direction).

#### 36: External stop terminal 1

When the command source is set to operating panel control (F0-02 = 0), the terminal is used to stop the AC drive, functioning the same as the STOP/RES key on the operating panel.

#### 37: Command source switchover terminal 2

The terminal is used for switchover between terminal control and communication control. If the command source is set to terminal control, the system switches to communication control when the terminal is active. If the command source is set to communication control, the system switches to terminal control when the terminal is active.

#### 38: PID integral pause

The integral adjustment function pauses when the terminal is active. However, the proportional and derivative adjustment functions are still valid.

#### 39: Switchover between main frequency and preset frequency

The terminal is used to switch from the main frequency X to the preset frequency (F0-08).

#### 40: Switchover between auxiliary frequency and preset frequency

The terminal is used to switch from the auxiliary frequency Y to the preset frequency (F0-08).

#### 41/76: Motor selection

The terminal is used to select the motor. Assume that DI1 and DI2 are assigned with functions 41 and 76. Motor 1 is selected when both DI1 and DI2 are inactive; motor 2 is selected when DI1 is active and DI2 is inactive; motor 3 is selected when DI1 is inactive and DI2 is active; and motor 4 is selected when both DI1 and DI2 are active.

#### 42: Reserved

#### 43: PID parameter switchover

If the PID parameter switchover condition is set to "switchover by DI" (FA-18 = 1), the PID parameters are FA-05 to FA-07 (proportional gain Kp1, integral time Ti1, and derivative time Td1) when the terminal is inactive, or FA-15 to FA-17 (proportional gain Kp2, integral time Ti2, and derivative time Td2) when the terminal is active.

#### 44: User-defined fault 1

When Err27 is reported, the AC drive will take measures according to the value of F9-49 (fault protection action).

#### 45: User-defined fault 2

When Err28 is reported, the AC drive will take measures according to the value of F9-49 (fault protection action).

#### 46: Switchover between speed control and torque control

The terminal is used to switch between speed control and torque control. When A0-00 (speed/torque control mode) is set to 0, the torque control mode is used when the terminal is active, and the speed control mode is used when the terminal is inactive. When A0-00 (speed/torque control mode) is set to 1, the speed control mode is used when the terminal is active, and the torque control mode is used when the terminal is inactive.

### 47: Emergency stop

Upon an emergency, the AC drive decelerates according to the deceleration time for emergency stop set in F8-59, or it decelerates according to the minimum unit time when the deceleration time for emergency stop is 0s in V/f mode. The terminal does not need to be kept in the closed state. Even if it stays closed only for an instant, the AC drive will come to an emergency stop. Different from general deceleration, the emergency stop action prevents the AC drive from restarting even if the emergency stop input terminal is opened after the deceleration time for emergency stop expires and the run signal is still valid on the AC drive terminal. To restart the AC drive in this case, disconnect the running terminal and input the run command.

### 48: External stop terminal 2

The terminal is used to make the AC drive decelerate to stop in any control mode (operating panel, terminal, or communication control). In this case, the deceleration time is fixed to deceleration time 4 (F8-08).

### 49: Deceleration DC braking

The terminal is used to make the AC drive decelerate to the start frequency of DC braking during stop (F6-11) before entering the DC braking state.

### 50: Current running duration clear

The terminal is used to clear the current running duration of the AC drive. If the current running duration is less than the setpoint of F8-53 (current running duration threshold, which is greater than 0) and the terminal is active in the process, the current running duration is cleared. If the current running duration is greater than the setpoint of F8-53 (greater than 0) and the terminal is active, the current running duration is not cleared.

### 51: Switchover between two-wire and three-wire control

The terminal is used to switch between two-wire and three-wire control. If F4-11 is set to 0 (two-wire mode 1), the AC drive switches to three-wire mode 1 when the terminal is active. When the terminal is inactive, two-wire mode 1 is used. If F4-11 is set to 1 (two-wire mode 2), the AC drive switches to three-wire mode 2 when the terminal is active. If F4-11 is set to 2 (three-wire mode 1), the AC drive switches to two-wire mode 1 when the terminal is active. If F4-11 is set to 3 (three-wire mode 2), the AC drive switches to two-wire mode 2 when the terminal is active.

### 52: Reverse running inhibition

When the terminal is active, even if the reverse frequency is set, the actual frequency reference of the AC drive is fixed to 0. This function is the same as F8-13.

### 53–69: Reserved

### 70: Control channel

The terminal is used to select between two custom command channels. The value 0 indicates channel 1, and the value 1 indicates channel 2.

### 71: Reference source (Reserved)

### 72: Terminal module

The terminal is used to select between two terminal modules. The value 0 indicates module A, and the value 1 indicates module B.

### 73–74: Startup mode (bit0 and bit1)

The terminal is used to select a startup mode. Assume that DI1 and DI2 are assigned with functions 73 and 74. When both DI1 and DI2 are inactive, direct start is used. When DI1 is active and DI2 is inactive, flying start is used. When DI1 is inactive and DI2 is active, DC braking start is used. When both DI1 and DI2 are active, the last used startup mode is used.

### 75: Command source switchover terminal 3

The terminal is used for switchover between terminal/communication control and custom command source.

77: Running enable

If the terminal is assigned with this function, running is allowed when the terminal is active high; otherwise, running is not allowed or the AC drive stops according to the stop mode during running defined by AA-09.

78: Forward RUN enable

If the terminal is assigned with this function, the frequency reference can be a positive value when the terminal is active high; otherwise, the frequency reference is set to 0 if it is a positive value.

79: Reverse RUN enable

If the terminal is assigned with this function, the frequency reference can be a negative value when the terminal is active high; otherwise, the frequency reference is set to 0 if it is a negative value.

80: RFG input set to 0

If the terminal is assigned with this function, the target reference is set to 0 when the terminal is active low, and the original reference is restored when the terminal level is high.

#### F4-01

##### D12 function

Address: 0xF401  
Min.: 0  
Max.: 80  
Default: 4

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Changeable only at stop

##### Value Range:

Same as F4-00

##### Description

Same as F4-00

#### F4-02

##### D13 function

Address: 0xF402  
Min.: 0  
Max.: 80  
Default: 9

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Changeable only at stop

##### Value Range:

Same as F4-00

##### Description

Same as F4-00

#### F4-03

##### D14 function

Address: 0xF403  
Min.: 0  
Max.: 80  
Default: 12

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Changeable only at stop

##### Value Range:

Same as F4-00

##### Description

Same as F4-00

#### F4-04

##### D15 function

Address: 0xF404  
Min.: 0  
Max.: 80  
Default: 13

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Changeable only at stop

##### Value Range:

- 0: No function
  - 1: Forward RUN (IN1)
  - 2: Reverse RUN (IN2)
  - 3: Three-wire control (IN3)
  - 4: Forward jog (FJOG)
  - 5: Reverse jog (RJOG)
  - 6: Terminal UP
  - 7: Terminal DOWN
  - 8: Coast to stop
  - 9: Fault reset (RESET)
  - 10: Running pause
  - 11: External fault NO input
  - 12: Multi-reference terminal 1
  - 13: Multi-reference terminal 2
  - 14: Multi-reference terminal 3
  - 15: Multi-reference terminal 4
  - 16: Acceleration/deceleration selection terminal 1
  - 17: Acceleration/deceleration selection terminal 2
  - 18: Frequency source switchover
  - 19: UP and DOWN setting clear
  - 20: Command source switchover terminal 1
  - 21: Acceleration/Deceleration inhibition
  - 22: PID pause
  - 23: Simple PLC state reset
  - 24: Wobble pause
  - 25: Counter input
  - 26: Counter reset
  - 27: Length count input
  - 28: Length reset
  - 29: Torque control inhibition
  - 30: Pulse frequency input
  - 31: Reserved
  - 32: Immediate DC braking
- (To be continued)

(Continued)

33: External fault NC input  
 34: Frequency modification enable  
 35: PID action direction reversal  
 36: External stop terminal 1  
 37: Command source switchover terminal 2  
 38: PID integral pause  
 39: Switchover between main frequency and preset frequency  
 40: Switchover between auxiliary frequency and preset frequency  
 41: Motor selection terminal 1  
 42: Reserved  
 43: PID parameter switchover  
 44: User-defined fault 1  
 45: User-defined fault 2  
 46: Switchover between speed control and torque control  
 47: Emergency stop  
 48: External stop terminal 2  
 49: Deceleration DC braking  
 50: Current running duration clear  
 51: Switchover between two-wire and three-wire control  
 52: Reverse running inhibition  
 53–69: Reserved  
 70: Control channel  
 71: Reference source (Reserved)  
 72: Terminal module  
 73: Startup mode bit0  
 74: Startup mode bit1  
 75: Command source switchover terminal 3  
 76: Motor selection terminal 2  
 77: Running enable  
 78: Forward RUN enable  
 79: Reverse RUN enable  
 80: RFG input set to 0

**Description**

Same as F4-00

**F4-05****D16 function**

Address: 0xF405  
 Min.: 0  
 Max.: 80  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**

Same as F4-00

**Description**

Same as F4-00



<b>F4-06</b>	<p><b>DI7 function</b>            Address: 0xF406            Min.: 0            Max.: 80            Default: 0  <b>Value Range:</b>            Same as F4-00  <b>Description</b>            Same as F4-00</p>	<p>Effective mode: -            Unit: -            Data type: UInt16            Change: Changeable only at stop</p>
<b>F4-07</b>	<p><b>DI8 function</b>            Address: 0xF407            Min.: 0            Max.: 80            Default: 0  <b>Value Range:</b>            Same as F4-00  <b>Description</b>            Same as F4-00</p>	<p>Effective mode: -            Unit: -            Data type: UInt16            Change: Changeable only at stop</p>
<b>F4-08</b>	<p><b>DI9 function</b>            Address: 0xF408            Min.: 0            Max.: 80            Default: 0  <b>Value Range:</b>            Same as F4-00  <b>Description</b>            Same as F4-00</p>	<p>Effective mode: -            Unit: -            Data type: UInt16            Change: Changeable only at stop</p>
<b>F4-09</b>	<p><b>DI10 function</b>            Address: 0xF409            Min.: 0            Max.: 80            Default: 0  <b>Value Range:</b>            Same as F4-00  <b>Description</b>            Same as F4-00</p>	<p>Effective mode: -            Unit: -            Data type: UInt16            Change: Changeable only at stop</p>
<b>F4-10</b>	<p><b>DI filter time</b>            Address: 0xF40A            Min.: 0.000            Max.: 1.000            Default: 0.010  <b>Value Range:</b>            0.000s to 1.000s  <b>Description</b>            -</p>	<p>Effective mode: -            Unit: s            Data type: UInt16            Change: Changeable at any time</p>
<b>F4-11</b>	<p><b>Terminal control mode</b>            Address: 0xF40B</p>	<p>Effective mode: -</p>

Min.:	0	Unit:	-
Max.:	3	Data type:	UInt16
Default:	0	Change:	Changeable only at stop

**Value Range:**

0: Two-wire mode 1

1: Two-wire mode 2

2: Three-wire mode 1

3: Three-wire mode 2

**Description**

0: Two-wire mode 1

Two DI terminals are connected: one is used to start/stop the AC drive in forward run mode, and the other is used to start/stop the AC drive in reverse run mode.

1: Two-wire mode 2

Two DI terminals are connected: one is used to start/stop the AC drive, and the other is used to control the running direction.

2: Three-wire mode 1

Three DI terminals are connected: one is used to start/stop the AC drive, and the other two are used to control the running direction.

3: Three-wire mode 2

Three DI terminals are connected: one is used to start the AC drive, one is used to stop the AC drive, and the other is used to control the running direction.

**F4-12 Terminal UP/DOWN change rate**

Address:	0xF40C	Effective mode:	-
Min.:	0.001	Unit:	Hz/s
Max.:	65.535	Data type:	UInt16
Default:	1.000	Change:	Changeable at any time

**Value Range:**

0.001 Hz/s to 65.535 Hz/s

**Description**

-

**F4-13 Minimum input of AI curve 1**

Address:	0xF40D	Effective mode:	-
Min.:	-10	Unit:	V
Max.:	F4-15	Data type:	Int16
Default:	0.00	Change:	Changeable at any time

**Value Range:**

-10 V to F4-15

**Description**

-

**F4-14 Percentage corresponding to minimum input of AI curve 1**

Address:	0xF40E	Effective mode:	-
Min.:	-100	Unit:	%
Max.:	100.0	Data type:	Int16
Default:	0.0	Change:	Changeable at any time

**Value Range:**

-100% to +100.0%

**Description**

-

**F4-15 Maximum input of AI curve 1**

Address: 0xF40F

Effective mode: -

Min.: F4-13

Unit: V

Max.: 10.00

Data type: Int16

Default: 10.00

Change: Changeable at any time

**Value Range:**

F4-13 to 10.00 V

**Description**

-

**F4-16 Percentage corresponding to maximum input of AI curve 1**

Address: 0xF410

Effective mode: -

Min.: -100

Unit: %

Max.: 100.0

Data type: Int16

Default: 100.0

Change: Changeable at any time

**Value Range:**

-100% to +100.0%

**Description**

-

**F4-17 AI1 filter time**

Address: 0xF411

Effective mode: -

Min.: 0.00

Unit: s

Max.: 10.00

Data type: UInt16

Default: 0.10

Change: Changeable at any time

**Value Range:**

0.00s to 10.00s

**Description**

-

**F4-18 Minimum input of AI curve 2**

Address: 0xF412

Effective mode: -

Min.: -10

Unit: V

Max.: F4-20

Data type: Int16

Default: 0.00

Change: Changeable at any time

**Value Range:**

-10 V to F4-20

**Description**

-

**F4-19 Percentage corresponding to minimum input of AI curve 2**

Address: 0xF413

Effective mode: -

Min.: -100

Unit: %

Max.: 100.0

Data type: Int16

Default: 0.0

Change: Changeable at any time

**Value Range:**

-100% to +100.0%

**Description**

-

<b>F4-20</b>	<b>Maximum input of AI curve 2</b> Address: 0xF414 Min.: F4-18 Max.: 10.00 Default: 10.00 <b>Value Range:</b> F4-18 to 10.00 V <b>Description</b> -	Effective mode: - Unit: V Data type: Int16 Change: Changeable at any time
<b>F4-21</b>	<b>Percentage corresponding to maximum input of AI curve 2</b> Address: 0xF415 Min.: -100 Max.: 100.0 Default: 100.0 <b>Value Range:</b> -100% to +100.0% <b>Description</b> -	Effective mode: - Unit: % Data type: Int16 Change: Changeable at any time
<b>F4-22</b>	<b>AI2 filter time</b> Address: 0xF416 Min.: 0.00 Max.: 10.00 Default: 0.10 <b>Value Range:</b> 0.00s to 10.00s <b>Description</b> -	Effective mode: - Unit: s Data type: UInt16 Change: Changeable at any time
<b>F4-23</b>	<b>Minimum input of AI curve 3</b> Address: 0xF417 Min.: -10 Max.: F4-25 Default: -10 <b>Value Range:</b> -10 V to F4-25 <b>Description</b> -	Effective mode: - Unit: V Data type: Int16 Change: Changeable at any time
<b>F4-24</b>	<b>Percentage corresponding to minimum input of AI curve 3</b> Address: 0xF418 Min.: -100 Max.: 100.0 Default: -100 <b>Value Range:</b> -100% to +100.0% <b>Description</b> -	Effective mode: - Unit: % Data type: Int16 Change: Changeable at any time
<b>F4-25</b>	<b>Maximum input of AI curve 3</b> Address: 0xF419	Effective mode: -

Min.:	F4-23	Unit:	V
Max.:	10.00	Data type:	Int16
Default:	10.00	Change:	Changeable at any time

**Value Range:**  
F4-23 to 10.00 V

**Description**  
-

**F4-26 Percentage corresponding to maximum input of AI curve 3**

Address:	0xF41A	Effective mode:	-
Min.:	-100	Unit:	%
Max.:	100.0	Data type:	Int16
Default:	100.0	Change:	Changeable at any time

**Value Range:**  
-100% to +100.0%

**Description**  
-

**F4-27 AI3 fitter time**

Address:	0xF41B	Effective mode:	-
Min.:	0.00	Unit:	s
Max.:	10.00	Data type:	UInt16
Default:	0.10	Change:	Changeable at any time

**Value Range:**  
0.00s to 10.00s

**Description**  
-

**F4-28 Minimum pulse input frequency**

Address:	0xF41C	Effective mode:	-
Min.:	0.00	Unit:	kHz
Max.:	F4-30	Data type:	UInt16
Default:	0.00	Change:	Changeable at any time

**Value Range:**  
0.00 kHz to F4-30

**Description**  
-

**F4-29 Percentage corresponding to minimum pulse input frequency**

Address:	0xF41D	Effective mode:	-
Min.:	-100	Unit:	%
Max.:	100.0	Data type:	Int16
Default:	0.0	Change:	Changeable at any time

**Value Range:**  
-100% to +100.0%

**Description**  
-

**F4-30 Maximum pulse input frequency**

Address:	0xF41E	Effective mode:	-
Min.:	F4-28	Unit:	kHz
Max.:	100.00	Data type:	UInt16

Default: 50.00 Change: Changeable at any time  
**Value Range:**  
 F4-28 to 100.00 kHz  
**Description**  
 -

#### F4-31 Percentage corresponding to maximum pulse input frequency

Address: 0xF41F Effective mode: -  
 Min.: -100 Unit: %  
 Max.: 100.0 Data type: Int16  
 Default: 100.0 Change: Changeable at any time

**Value Range:**  
 -100% to +100.0%

**Description**  
 -

#### F4-32 Pulse filter time

Address: 0xF420 Effective mode: -  
 Min.: 0.00 Unit: s  
 Max.: 10.00 Data type: UInt16  
 Default: 0.10 Change: Changeable at any time

**Value Range:**  
 0.00s to 10.00s

**Description**  
 -

#### F4-33 AI curve

Address: 0xF421 Effective mode: -  
 Min.: 0x111 Unit: -  
 Max.: 0x555 Data type: UInt16  
 Default: 0x321 Change: Changeable at any time

**Value Range:**

Ones: AI1 curve

1: Curve 1 (2 points, F4-13 to F4-16)

2: Curve 2 (2 points, F4-18 to F4-21)

3: Curve 3 (2 points, F4-23 to F4-26)

4: Curve 4 (4 points, A6-00 to A6-07)

5: Curve 5 (4 points, A6-08 to A6-15)

Tens: AI2 curve

1: Curve 1 (2 points, F4-13 to F4-16)

2: Curve 2 (2 points, F4-18 to F4-21)

3: Curve 3 (2 points, F4-23 to F4-26)

4: Curve 4 (4 points, A6-00 to A6-07)

5: Curve 5 (4 points, A6-08 to A6-15)

Hundreds: AI3 curve

1: Curve 1 (2 points, F4-13 to F4-16)

2: Curve 2 (2 points, F4-18 to F4-21)

3: Curve 3 (2 points, F4-23 to F4-26)

4: Curve 4 (4 points, A6-00 to A6-07)

5: Curve 5 (4 points, A6-08 to A6-15)

**Description**

-

**F4-34**

**AI lower limit**

Address: 0xF422

Effective mode: -

Min.: 0x0

Unit: -

Max.: 0x111

Data type: UInt16

Default: 0x0

Change: Changeable at any time

**Value Range:**

Ones: Setting for AI1 less than minimum input

0: Percentage corresponding to minimum input

1: 0.0%

Tens: Setting for AI2 less than minimum input

0: Percentage corresponding to minimum input

1: 0.0%

Hundreds: Setting for AI3 less than minimum input

0: Percentage corresponding to minimum input

1: 0.0%

**Description**

-

**F4-35**

**DI1 delay (invalid)**

Address: 0xF423

Effective mode: -

Min.: 0.0

Unit: s

Max.: 3600.0

Data type: UInt16

Default: 0.0

Change: Changeable only at stop

**Value Range:**

0.0s to 3600.0s

**Description**

-

**F4-36**

**DI2 delay (invalid)**

Address: 0xF424

Effective mode: -

Min.: 0.0

Unit: s

Max.: 3600.0

Data type: UInt16

Default: 0.0

Change: Changeable only at stop

**Value Range:**

0.0s to 3600.0s

**Description**

-

**F4-37**

**DI3 delay (invalid)**

Address: 0xF425

Effective mode: -

Min.: 0.0

Unit: s

Max.: 3600.0

Data type: UInt16

Default: 0.0

Change: Changeable only at stop

**Value Range:**

0.0s to 3600.0s

**Description**

-

**F4-38 DI active mode selection 1**

Address: 0xF426  
 Min.: 0  
 Max.: 11111  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**

Ones: DI1

0: Active low

1: Active high

Tens: DI2

0: Active low

1: Active high

Hundreds: DI3

0: Active low

1: Active high

Thousands: DI4

0: Active low

1: Active high

Ten thousands: DI5

0: Active low

1: Active high

**Description**

-

**F4-39 DI active mode selection 2**

Address: 0xF427  
 Min.: 0  
 Max.: 11111  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**

Ones: DI6

0: Active low

1: Active high

Tens: DI7

0: Active low

1: Active high

Hundreds: DI8

0: Active low

1: Active high

Thousands: DI9

0: Active low

1: Active high

Ten thousands: DI10

0: Active low

1: Active high

**Description**

-



<b>F4-41</b>	<p><b>D11 switch-on delay</b>          Address: 0xF429          Min.: 0.0          Max.: 3600.0          Default: 0.0  <b>Value Range:</b>          0.0s to 3600.0s  <b>Description</b>          -</p>	<p>Effective mode: -          Unit: s          Data type: UInt16          Change: Changeable only at stop</p>
<b>F4-42</b>	<p><b>D11 switch-off delay</b>          Address: 0xF42A          Min.: 0.0          Max.: 3600.0          Default: 0.0  <b>Value Range:</b>          0.0s to 3600.0s  <b>Description</b>          -</p>	<p>Effective mode: -          Unit: s          Data type: UInt16          Change: Changeable only at stop</p>
<b>F4-43</b>	<p><b>D12 switch-on delay</b>          Address: 0xF42B          Min.: 0.0          Max.: 3600.0          Default: 0.0  <b>Value Range:</b>          0.0s to 3600.0s  <b>Description</b>          -</p>	<p>Effective mode: -          Unit: s          Data type: UInt16          Change: Changeable only at stop</p>
<b>F4-44</b>	<p><b>D12 switch-off delay</b>          Address: 0xF42C          Min.: 0.0          Max.: 3600.0          Default: 0.0  <b>Value Range:</b>          0.0s to 3600.0s  <b>Description</b>          -</p>	<p>Effective mode: -          Unit: s          Data type: UInt16          Change: Changeable only at stop</p>
<b>F4-45</b>	<p><b>D13 switch-on delay</b>          Address: 0xF42D          Min.: 0.0          Max.: 3600.0          Default: 0.0  <b>Value Range:</b>          0.0s to 3600.0s  <b>Description</b>          -</p>	<p>Effective mode: -          Unit: s          Data type: UInt16          Change: Changeable only at stop</p>
<b>F4-46</b>	<p><b>D13 switch-off delay</b>          Address: 0xF42E</p>	<p>Effective mode: -</p>

Min.: 0.0  
Max.: 3600.0  
Default: 0.0

Unit: s  
Data type: UInt16  
Change: Changeable only at stop

**Value Range:**

0.0s to 3600.0s

**Description**

-

**F4-47 DI4 switch-on delay**

Address: 0xF42F  
Min.: 0.0  
Max.: 3600.0  
Default: 0.0

Effective mode: -

Unit: s

Data type: UInt16

Change: Changeable only at stop

**Value Range:**

0.0s to 3600.0s

**Description**

-

**F4-48 DI4 switch-off delay**

Address: 0xF430  
Min.: 0.0  
Max.: 3600.0  
Default: 0.0

Effective mode: -

Unit: s

Data type: UInt16

Change: Changeable only at stop

**Value Range:**

0.0s to 3600.0s

**Description**

-

**F4-49 DI force data**

Address: 0xF431  
Min.: 0x0  
Max.: 0xFFFF  
Default: 0x0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

Bit00: DI1  
 0: Inactive  
 1: Active  
 Bit01: DI2  
 0: Inactive  
 1: Active  
 Bit02: DI3  
 0: Inactive  
 1: Active  
 Bit03: DI4  
 0: Inactive  
 1: Active  
 Bit04: DI5/HDI  
 0: Inactive  
 1: Active  
 Bit05: DI6  
 0: Inactive  
 1: Active  
 Bit06: DI7  
 0: Inactive  
 1: Active  
 Bit07: DI8  
 0: Inactive  
 1: Active  
 Bit08: DI9  
 0: Inactive  
 1: Active  
 Bit09: DI10  
 0: Inactive  
 1: Active  
 Bit10: Reserved  
 Bit11: Reserved  
 Bit12: Reserved  
 Bit13: Reserved  
 Bit14: Reserved  
 Bit15: Reserved

**Description**

-

**F4-50**

**DI communication data**

Address: 0xF432  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

Bit00: DI1

0: Inactive

1: Active

Bit01: DI2

0: Inactive

1: Active

Bit02: DI3

0: Inactive

1: Active

Bit03: DI4

0: Inactive

1: Active

Bit04: DI5/HDI

0: Inactive

1: Active

Bit05: DI6

0: Inactive

1: Active

Bit06: DI7

0: Inactive

1: Active

Bit07: DI8

0: Inactive

1: Active

Bit08: DI9

0: Inactive

1: Active

Bit09: DI10

0: Inactive

1: Active

Bit10: VDI1

0: Inactive

1: Active

(To be continued)

(Continued)

Bit11: VDI2

0: Inactive

1: Active

Bit12: VDI3

0: Inactive

1: Active

Bit13: VDI4

0: Inactive

1: Active

Bit14: VDI5

0: Inactive

1: Active

Bit15: VDI6

0: Inactive

1: Active

**Description**

-

**F4-51**

**DI1 hardware source**

Address: 0xF433

Min.: 0

Max.: 1

Default: 0

**Value Range:**

0: Hardware

1: Force value

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**F4-52**

**DI2 hardware source**

Address: 0xF434

Min.: 0

Max.: 1

Default: 0

**Value Range:**

0: Hardware

1: Force value

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**F4-53**

**DI3 hardware source**

Address: 0xF435

Min.: 0

Max.: 1

Default: 0

**Value Range:**

0: Hardware

1: Force value

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**Description**

-

**F4-54 DI4 hardware source**

Address: 0xF436

Min.: 0

Max.: 1

Default: 0

**Value Range:**

0: Hardware

1: Force value

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**F4-55 DI5/HDI hardware source**

Address: 0xF437

Min.: 0

Max.: 1

Default: 0

**Value Range:**

0: Hardware

1: Force value

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**F4-56 DI6 hardware source**

Address: 0xF438

Min.: 0

Max.: 46

Default: 0

**Value Range:**

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

- 0: Hardware
- 1: Force value
- 2: Communication
- 4: AI1
- 5: AI2
- 6: AI3
- 11: DI1
- 12: DI2
- 13: DI3
- 14: DI4
- 15: DI5/HDI
- 17: DI7
- 18: DI8
- 19: DI9
- 20: DI10
- 21: VDI1
- 22: VDI2
- 23: VDI3
- 24: VDI4
- 25: VDI5
- 26: VDI6
- 31: Relay 1

(To be continued)  
(Continued)

- 32: Relay 2
- 33: DO1
- 34: Expansion card relay
- 35: Expansion card DO2
- 36: VDO1
- 37: VDO2
- 38: VDO3
- 39: VDO4
- 40: VDO5
- 41: VDO6
- 42: VDO7
- 43: VDO8
- 44: VDO9
- 45: VDO10
- 46: VDO11

**Description**

-

**F4-57**

**DI7 hardware source**

Address: 0xF439  
 Min.: 0  
 Max.: 46

Effective mode: -  
 Unit: -  
 Data type: UInt16

Default: 0  
**Value Range:**  
 Same as F4-56  
**Description**  
 -

Change: Changeable only at stop

#### F4-58 DI8 hardware source

Address: 0xF43A  
 Min.: 0  
 Max.: 46  
 Default: 0

**Value Range:**  
 Same as F4-56

#### **Description**

-

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable only at stop

#### F4-59 DI9 hardware source

Address: 0xF43B  
 Min.: 0  
 Max.: 46  
 Default: 0

**Value Range:**  
 Same as F4-56

#### **Description**

-

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable only at stop

#### F4-60 DI10 hardware source

Address: 0xF43C  
 Min.: 0  
 Max.: 46  
 Default: 0

**Value Range:**  
 Same as F4-56

#### **Description**

-

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable only at stop

#### F4-61 DI5/HDI terminal type

Address: 0xF43D  
 Min.: 0  
 Max.: 1  
 Default: 1

**Value Range:**  
 0: HDI

1: DI

#### **Description**

-

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

#### F4-62 HDI polarity

Address: 0xF43E  
 Min.: 0  
 Max.: 3  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time



**Value Range:**

- 0: Normal
- 1: Absolute value
- 2: Negated value
- 3: Negated absolute value

**Description**

-

**F4-63**

**HDI input enable**

Address: 0xF43F  
 Min.: 0  
 Max.: 1  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**

- 0: Disabled
- 1: Enabled
- Others: B connector

**Description**

-

**F4-64**

**HDI hardware source**

Address: 0xF440  
 Min.: 0  
 Max.: 1  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

- 0: Hardware sampling
- 1: Force setpoint

**Description**

-

**F4-65**

**HDI force setpoint**

Address: 0xF441  
 Min.: 0.00  
 Max.: 100.00  
 Default: 1.00

Effective mode: -  
 Unit: kHz  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0.00 kHz to 100.00 kHz

**Description**

-

**F4-66**

**Minimum input of 4-point HDI curve**

Address: 0xF442  
 Min.: 0.00  
 Max.: F4-68  
 Default: 10.00

Effective mode: -  
 Unit: kHz  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0.00 kHz to F4-68

**Description**

-

<b>F4-67</b>	<b>Percentage corresponding to minimum input of 4-point HDI curve</b>	Address: 0xF443	Effective mode: -
		Min.: -100	Unit: %
		Max.: 100.0	Data type: Int16
		Default: -100	Change: Changeable at any time
	<b>Value Range:</b>	-100% to +100.0%	
	<b>Description</b>	-	
<b>F4-68</b>	<b>Inflection 1 input of 4-point HDI curve</b>	Address: 0xF444	Effective mode: -
		Min.: F4-66	Unit: kHz
		Max.: F4-70	Data type: UInt16
		Default: 40.00	Change: Changeable at any time
	<b>Value Range:</b>	F4-66 to F4-70	
	<b>Description</b>	-	
<b>F4-69</b>	<b>Percentage corresponding to inflection 1 input of 4-point HDI curve</b>	Address: 0xF445	Effective mode: -
		Min.: -100	Unit: %
		Max.: 100.0	Data type: Int16
		Default: -30	Change: Changeable at any time
	<b>Value Range:</b>	-100% to +100.0%	
	<b>Description</b>	-	
<b>F4-70</b>	<b>Inflection 2 input of 4-point HDI curve</b>	Address: 0xF446	Effective mode: -
		Min.: F4-68	Unit: kHz
		Max.: F4-72	Data type: UInt16
		Default: 70.00	Change: Changeable at any time
	<b>Value Range:</b>	F4-68 to F4-72	
	<b>Description</b>	-	
<b>F4-71</b>	<b>Percentage corresponding to inflection 2 input of 4-point HDI curve</b>	Address: 0xF447	Effective mode: -
		Min.: -100	Unit: %
		Max.: 100.0	Data type: Int16
		Default: 30.0	Change: Changeable at any time
	<b>Value Range:</b>	-100% to +100.0%	
	<b>Description</b>	-	
<b>F4-72</b>	<b>Maximum input of 4-point HDI curve</b>	Address: 0xF448	Effective mode: -

Min.:	F4-70	Unit:	kHz
Max.:	100.00	Data type:	UInt16
Default:	100.00	Change:	Changeable at any time

**Value Range:**  
F4-70 to 100.00 kHz

**Description**  
-

**F4-73 Percentage corresponding to maximum input of 4-point HDI curve**

Address:	0xF449	Effective mode:	-
Min.:	-100	Unit:	%
Max.:	100.0	Data type:	Int16
Default:	100.0	Change:	Changeable at any time

**Value Range:**  
-100% to +100.0%

**Description**  
-

**F4-74 HDI curve setting**

Address:	0xF44A	Effective mode:	-
Min.:	0	Unit:	-
Max.:	1	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**  
Ones: HDI curve  
0: 2-point curve  
1: 4-point curve

**Description**  
-

**F4-75 HDI denoising threshold**

Address:	0xF44B	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	10.0	Data type:	UInt16
Default:	0.5	Change:	Changeable at any time

**Value Range:**  
0.0% to 10.0%

**Description**  
-

## 4.6 F5: Output Terminal Parameters

**F5-00 FM multi-function terminal output**

Address:	0xF500	Effective mode:	-
Min.:	0	Unit:	-
Max.:	1	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**  
0: Pulse output (FMP)  
1: Digital output (FMR)

**Description**

-

**F5-01****FMR output function**

Address: 0xF501

Min.: 0

Max.: 43

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0: No output

1: AC drive in running

2: Fault output

3: Frequency-level detection 1 (FDT1)

4: Frequency reach

5: Zero-speed running (no output at stop)

6: Motor overload pre-warning

7: AC drive overload pre-warning

8: Reference count value reach

9: Designated count value reach

10: Length reach

11: Simple PLC cycle completion

12: Accumulative running duration reach

13: Wobble limit reach

14: Torque limit reach

15: Ready to run

16: AI1 &gt; AI2

17: Frequency upper limit reach

18: Frequency lower limit reach (no output at stop)

19: Undervoltage state

20: Communication setting

21-22: Reserved

23: Running at zero speed 2 (output at stop)

24: Accumulative power-on duration reach

25: Frequency-level detection 2 (FDT2)

26: Frequency 1 reach

27: Frequency 2 reach

28: Current 1 reach

29: Current 2 reach

30: Timing reach

31: AI1 input overlimit

(To be continued)

(Continued)

32: Load loss

33: Reverse running

34: Zero current state

35: IGBT temperature reach

36: Output overcurrent

37: Frequency lower limit reach (output at stop)

38: Alarm (all faults)

39: Motor overtemperature

40: Current running duration reach

41: Fault output (no output at undervoltage)

42: STO output

43: Running with limits

Others: B connector

**Description**

0: No output

The output terminal has no function.

1: AC drive in running

The terminal outputs an active signal when the AC drive is running with a output frequency (which can be 0).

2: Fault output

The terminal outputs an active signal when the AC drive stops due to a fault.

3: Frequency-level detection 1 (FDT1)

When the running frequency is higher than the detected value, the DO terminal outputs an active signal. When the running frequency is lower than the result of the detected value minus the FDT hysteresis value (F8-19 x F8-20), the active signal is canceled.

4: Frequency reach

The DO terminal outputs an active signal when the running frequency of the AC drive is within a certain range (target frequency  $\pm$  setpoint of F8-21 x Maximum frequency).

5: Zero-speed running (no output at stop)

The DO terminal outputs an active signal when the AC drive is running with the output frequency of 0. When the AC drive stops, the signal becomes inactive.

6: Motor overload pre-warning

The AC drive determines whether the motor load exceeds the overload pre-warning threshold according to the overload pre-warning coefficient (F9-02) before performing the protection action.

The terminal outputs an active signal when the overload pre-warning threshold is exceeded. (For the calculation of the pre-warning threshold, see description of the motor overload protection function.)

7: AC drive overload pre-warning

The DO terminal outputs an active signal 10s before the AC drive performs overload protection.

8: Reference count value reach

The DO terminal outputs an active signal when the count value reaches the setpoint of FB-08.

9: Designated count value reach

The DO terminal outputs an active signal when the count value reaches the setpoint of FB-09.

10: Length reach

The DO terminal outputs an active signal when the detected actual length exceeds the setpoint of FB-05.

**11: Simple PLC cycle completion**

The terminal outputs a pulse signal with a width of 250 ms when the simple PLC completes one cycle.

**12: Accumulative running duration reach**

The terminal outputs an active signal when the accumulative running duration of the AC drive exceeds the setpoint of F8-17 (accumulative running duration threshold).

**13: Wobble limit reach**

The DO terminal outputs an active signal when the frequency reference exceeds the frequency upper or lower limit and the output frequency of AC drive reaches the upper or lower limit.

**14: Torque limit reach**

The DO terminal outputs an active signal when the output torque reaches the torque limit in speed control mode.

**15: Ready to run**

The DO terminal outputs an active signal when the AC drive is ready for running without any fault after power-on.

**16: AI1 > AI2**

The DO terminal outputs an active signal when the value of AI1 is greater than that of AI2.

**17: Frequency upper limit reach**

The DO terminal outputs an active signal when the running frequency reaches the upper limit (F0-12).

**18: Frequency lower limit reach (no output at stop)**

If F8-14 (running mode when frequency reference lower than lower limit) is set to 1 (stop), the terminal outputs an inactive signal no matter whether the running frequency reaches the frequency lower limit.

If F8-14 (running mode when frequency reference lower than lower limit) is set to 0 (run at frequency lower limit) or 2 (run at zero speed), the terminal outputs an active signal when the running frequency reaches the frequency lower limit.

**19: Undervoltage state**

The DO terminal outputs an active signal when undervoltage occurs on the AC drive.

**20: Communication setting**

Whether the terminal is active or inactive is determined by the setpoint in communication address 0x2001.

**21: Reserved****22: Reserved****23: Running at zero speed 2 (output at stop)**

The DO terminal outputs an active signal when the AC drive is running with the output frequency of 0.

The DO terminal also outputs an active signal when the AC drive is stopped.

**24: Accumulative power-on duration reach**

The DO terminal outputs an active signal when the accumulative power-on duration (F7-13) of the AC drive exceeds the accumulative power-on duration threshold (F8-16).

**25: Frequency-level detection FDT2**

When the running frequency is higher than the detected value, the DO terminal outputs an active signal. When the running frequency is lower than the result of the detected value minus the frequency detection hysteresis value (F8-28 x F8-29), the active signal is canceled.

**26: Frequency 1 reach**

The DO terminal outputs an active signal when the running frequency of the AC drive is within the frequency detection range of F8-30 (detection value 1 for frequency reach). The frequency detection range is as follows: (F8-30 - F8-31 x F0-10) to (F8-30 + F8-31 x F0-10).

### 27: Frequency 2 reach

The DO terminal outputs an active signal when the running frequency of the AC drive is within the frequency detection range of F8-32 (detection value 2 for frequency reach). The frequency detection range is as follows:  $(F8-32 - F8-33 \times F0-10)$  to  $(F8-32 + F8-33 \times F0-10)$ .

### 28: Current 1 reach

The DO terminal outputs an active signal when the output current of the AC drive is within the detection range of F8-38 (detection level of current 1). The current detection range is as follows:  $(F8-38 - F8-39 \times F1-03)$  to  $(F8-38 + F8-39 \times F1-03)$ .

### 29: Current 2 reach output

The DO terminal outputs an active signal when the output current of the AC drive is within the detection range of F8-40 (detection level of current 2). The current detection range is as follows:  $(F8-40 - F8-41 \times F1-03)$  to  $(F8-40 + F8-41 \times F1-03)$ .

### 30: Timing reach

When the timing function (F8-42) is enabled, the DO terminal outputs an active signal when the current running duration of the AC drive reaches the timing duration defined by F8-43 and F8-44.

### 31: AI1 input overlimit

The DO terminal outputs an active signal when the AI1 input is higher than the setpoint of F8-46 (AI1 input voltage upper limit) or lower than the setpoint of F8-45 (AI1 input voltage lower limit).

### 32: Load loss

The DO terminal outputs an active signal when load loss occurs.

### 33: Reverse running

The DO terminal outputs an active signal when the AC drive runs in the reverse direction.

### 34: Zero current state

The DO terminal outputs an active signal when the output current of the AC drive is within the zero-current range for a period longer than the setpoint of F8-35 (zero current detection delay). The zero current detection range is 0 to  $(F8-34 \times F1-03)$ .

### 35: IGBT temperature reach

The DO terminal outputs an active signal when the IGBT heatsink temperature (F7-07) reaches the IGBT temperature threshold (F8-47).

### 36: Output overcurrent

The DO terminal outputs an active signal when the output current of the AC drive remains higher than the setpoint of F8-36 (output overcurrent threshold) for a period longer than the setpoint of F8-37 (output overcurrent detection delay).

### 37: Frequency lower limit reach (output at stop)

The DO terminal outputs an active signal when the running frequency reaches the frequency lower limit (F0-14). The DO terminal also outputs an active signal when the AC drive is stopped.

### 38: Alarm (all faults)

The DO terminal outputs an active signal when a fault occurs on the AC drive and the AC drive continues to run upon the fault. For details about fault protection actions, see the description of parameters F9-47 to F9-50.

### 39: Motor overtemperature

The DO terminal outputs an active signal when the motor temperature reaches the setpoint of F9-58 (motor overtemperature pre-warning threshold). (You can check the motor temperature in U0-34.)

### 40: Current running duration reach

The DO terminal outputs an active signal when the current running duration of the AC drive exceeds the setpoint of F8-53 (current running duration threshold).

41: Fault (no output at undervoltage)

The DO terminal outputs an active signal when an AC drive fault (except the undervoltage fault) occurs.

42: STO output

The DO terminal outputs an active signal when the AC drive triggers STO.

43: Running with limits

The DO terminal outputs an active signal when the AC drive generates a minor fault of running with limits and the operating panel displays "LXXX.XX".

Others: B connector

#### F5-02 Control board relay (DO3) output function

Address: 0xF502

Effective mode: -

Min.: 0

Unit: -

Max.: 43

Data type: UInt16

Default: 2

Change: Changeable at any time

##### Value Range:

Same as F5-01

##### Description

Same as F5-01

#### F5-03 Expansion card relay (DO4) output function

Address: 0xF503

Effective mode: -

Min.: 0

Unit: -

Max.: 43

Data type: UInt16

Default: 0

Change: Changeable at any time

##### Value Range:

Same as F5-01

##### Description

Same as F5-01

#### F5-04 DO1 function

Address: 0xF504

Effective mode: -

Min.: 0

Unit: -

Max.: 43

Data type: UInt16

Default: 1

Change: Changeable at any time

##### Value Range:

Same as F5-01

##### Description

Same as F5-01

#### F5-05 Expansion card DO2 function

Address: 0xF505

Effective mode: -

Min.: 0

Unit: -

Max.: 43

Data type: UInt16

Default: 4

Change: Changeable at any time

##### Value Range:

Same as F5-01

##### Description

Same as F5-01



<b>F5-06</b>	<p><b>FMP output function</b>          Address: 0xF506          Min.: 0          Max.: 16          Default: 0  <b>Value Range:</b>          0: Running frequency          1: Frequency reference          2: Output current          3: Output torque (absolute value)          4: Output power          5: Output voltage          6: Pulse input          7: AI1          8: AI2          9: AI3          10: Length          11: Count value          12: Communication setting          13: Motor speed          14: Output current          15: Bus voltage          16: Output torque (actual value)          Others: F connector  <b>Description</b>          -</p>	<p>Effective mode: -          Unit: -          Data type: UInt16          Change: Changeable at any time</p>
<b>F5-07</b>	<p><b>AO1 function</b>          Address: 0xF507          Min.: 0          Max.: 16          Default: 0  <b>Value Range:</b>          Same as F5-06  <b>Description</b>          -</p>	<p>Effective mode: -          Unit: -          Data type: UInt16          Change: Changeable at any time</p>
<b>F5-08</b>	<p><b>Expansion card AO2 function</b>          Address: 0xF508          Min.: 0          Max.: 16          Default: 1  <b>Value Range:</b>          Same as F5-06  <b>Description</b>          -</p>	<p>Effective mode: -          Unit: -          Data type: UInt16          Change: Changeable at any time</p>
<b>F5-09</b>	<p><b>Maximum FMP output frequency</b>          Address: 0xF509          Min.: 0.01</p>	<p>Effective mode: -          Unit: kHz</p>

Max.: 100.00 Data type: UInt16  
 Default: 50.00 Change: Changeable at any time

**Value Range:**  
 0.01 kHz to 100.00 kHz

**Description**

-

**F5-10 AO1 zero offset coefficient**

Address: 0xF50A  
 Min.: -100  
 Max.: 100.0  
 Default: 0.0

Effective mode: -  
 Unit: %  
 Data type: Int16  
 Change: Changeable at any time

**Value Range:**  
 -100% to +100.0%

**Description**

-

**F5-11 AO1 gain**

Address: 0xF50B  
 Min.: -10  
 Max.: 10.00  
 Default: 1.00

Effective mode: -  
 Unit: -  
 Data type: Int16  
 Change: Changeable at any time

**Value Range:**  
 -10 to +10.00

**Description**

-

**F5-12 AO2 zero offset coefficient**

Address: 0xF50C  
 Min.: -100  
 Max.: 100.0  
 Default: 0.0

Effective mode: -  
 Unit: %  
 Data type: Int16  
 Change: Changeable at any time

**Value Range:**  
 -100% to +100.0%

**Description**

-

**F5-13 AO2 gain**

Address: 0xF50D  
 Min.: -10  
 Max.: 10.00  
 Default: 1.00

Effective mode: -  
 Unit: -  
 Data type: Int16  
 Change: Changeable at any time

**Value Range:**  
 -10 to +10.00

**Description**

-

**F5-14 HDO output filter time**

Address: 0xF50E  
 Min.: 0  
 Max.: 1000  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0 to 1000

**Description**

-

**F5-15**

**A01 output filter time**

Address: 0xF50F

Min.: 0

Max.: 1000

Default: 0

**Value Range:**

0 to 1000

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**F5-16**

**A02 output filter time**

Address: 0xF510

Min.: 0

Max.: 1000

Default: 0

**Value Range:**

0 to 1000

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**F5-17**

**FMR output delay (invalid)**

Address: 0xF511

Min.: 0.0

Max.: 3600.0

Default: 0.0

**Value Range:**

0.0s to 3600.0s

**Description**

-

Effective mode: -

Unit: s

Data type: UInt16

Change: Changeable at any time

**F5-18**

**Relay 1 (DO3) output delay (invalid)**

Address: 0xF512

Min.: 0.0

Max.: 3600.0

Default: 0.0

**Value Range:**

0.0s to 3600.0s

**Description**

-

Effective mode: -

Unit: s

Data type: UInt16

Change: Changeable at any time

**F5-19**

**Relay 2 (DO4) output delay (invalid)**

Address: 0xF513

Min.: 0.0

Max.: 3600.0

Default: 0.0

**Value Range:**

0.0s to 3600.0s

Effective mode: -

Unit: s

Data type: UInt16

Change: Changeable at any time

**Description**

-

**F5-20 DO1 output delay (invalid)**

Address: 0xF514

Min.: 0.0

Max.: 3600.0

Default: 0.0

**Value Range:**

0.0s to 3600.0s

**Description**

-

Effective mode: -

Unit: s

Data type: UInt16

Change: Changeable at any time

**F5-21 DO2 output delay (invalid)**

Address: 0xF515

Min.: 0.0

Max.: 3600.0

Default: 0.0

**Value Range:**

0.0s to 3600.0s

**Description**

-

Effective mode: -

Unit: s

Data type: UInt16

Change: Changeable at any time

**F5-22 DO active mode**

Address: 0xF516

Min.: 0

Max.: 11111

Default: 0

**Value Range:**

Ones: FMR

0: Positive logic active

1: Negative logic active

Tens: Relay 1 (DO3)

0: Positive logic active

1: Negative logic active

Hundreds: Relay 2 (DO4)

0: Positive logic active

1: Negative logic active

Thousands: DO1

0: Positive logic active

1: Negative logic active

Ten thousands: DO2

0: Positive logic active

1: Negative logic active

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**F5-24 Control board relay (DO3) switch-on delay**

Address: 0xF518

Min.: 0.0

Effective mode: -

Unit: s

Max.:	3600.0	Data type:	UInt16
Default:	0.0	Change:	Changeable at any time
<b>Value Range:</b>			
0.0s to 3600.0s			
<b>Description</b>			
-			

**F5-25 Control board relay (DO3) switch-off delay**

Address:	0xF519	Effective mode:	-
Min.:	0.0	Unit:	s
Max.:	3600.0	Data type:	UInt16
Default:	0.0	Change:	Changeable at any time
<b>Value Range:</b>			
0.0s to 3600.0s			
<b>Description</b>			
-			

**F5-26 FMR output switch-on delay**

Address:	0xF51A	Effective mode:	-
Min.:	0.0	Unit:	s
Max.:	3600.0	Data type:	UInt16
Default:	0.0	Change:	Changeable at any time
<b>Value Range:</b>			
0.0s to 3600.0s			
<b>Description</b>			
-			

**F5-27 FMR output switch-off delay**

Address:	0xF51B	Effective mode:	-
Min.:	0.0	Unit:	s
Max.:	3600.0	Data type:	UInt16
Default:	0.0	Change:	Changeable at any time
<b>Value Range:</b>			
0.0s to 3600.0s			
<b>Description</b>			
-			

**F5-28 DO1 output switch-on delay**

Address:	0xF51C	Effective mode:	-
Min.:	0.0	Unit:	s
Max.:	3600.0	Data type:	UInt16
Default:	0.0	Change:	Changeable at any time
<b>Value Range:</b>			
0.0s to 3600.0s			
<b>Description</b>			
-			

**F5-29 DO1 output switch-off delay**

Address:	0xF51D	Effective mode:	-
Min.:	0.0	Unit:	s
Max.:	3600.0	Data type:	UInt16
Default:	0.0	Change:	Changeable at any time

**Value Range:**

0.0s to 3600.0s

**Description**

-

**F5-30 Expansion card relay (DO4) switch-on delay**

Address: 0xF51E

Min.: 0.0

Max.: 3600.0

Default: 0.0

Effective mode: -

Unit: s

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0.0s to 3600.0s

**Description**

-

**F5-31 Expansion card relay (DO4) switch-off delay**

Address: 0xF51F

Min.: 0.0

Max.: 3600.0

Default: 0.0

Effective mode: -

Unit: s

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0.0s to 3600.0s

**Description**

-

**F5-32 Expansion card DO2 output switch-on delay**

Address: 0xF520

Min.: 0.0

Max.: 3600.0

Default: 0.0

Effective mode: -

Unit: s

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0.0s to 3600.0s

**Description**

-

**F5-33 Expansion card DO2 output switch-off delay**

Address: 0xF521

Min.: 0.0

Max.: 3600.0

Default: 0.0

Effective mode: -

Unit: s

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0.0s to 3600.0s

**Description**

-

**F5-34 DO/RO source**

Address: 0xF522

Min.: 0x0

Max.: 0xFFFF

Default: 0x0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

## Parameter Group

---

Bit00: Relay 1 (DO3) output source

0: Output function

1: Communication

Bit01: FMR output source

0: Output function

1: Communication

Bit02: DO1 output source

0: Output function

1: Communication

Bit03: Relay 2 (DO4) output source

0: Output function

1: Communication

Bit04: DO2 output source

0: Output function

1: Communication

Bit05: VDO1 output source

0: Output function

1: Communication

Bit06: VDO2 output source

0: Output function

1: Communication

Bit07: VDO3 output source

0: Output function

1: Communication

Bit08: VDO4 output source

0: Output function

1: Communication

Bit09: VDO11 output source

0: Output function

1: Communication

(To be continued)

(Continued)

BIT10: VDO6 output source

0: Output function

1: Communication

Bit11: VDO7 output source

0: Output function

1: Communication

Bit12: VDO8 output source

0: Output function

1: Communication

Bit13: VDO9 output source

0: Output function

1: Communication

Bit14: VDO10 output source

0: Output function

1: Communication

Bit15: VDO11 output source

0: Output function

1: Communication

**Description**

-

**F5-35****DO/RO terminal communication control**

Address: 0xF523

Min.: 0x0

Max.: 0xFFFF

Default: 0x0

**Value Range:**

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time



## Parameter Group

---

Bit00: Relay 1 (DO3)

0: Inactive

1: Active

Bit01: FMR

0: Inactive

1: Active

Bit02: DO1

0: Inactive

1: Active

Bit03: Relay 2 (DO4)

0: Inactive

1: Active

Bit04: DO2

0: Inactive

1: Active

Bit05: VDO1

0: Inactive

1: Active

Bit06: VDO2

0: Inactive

1: Active

(To be continued)

(Continued)

Bit07: VDO3

0: Inactive

1: Active

Bit08: VDO4

0: Inactive

1: Active

Bit09: VDO5

0: Inactive

1: Active

Bit10: VDO6

0: Inactive

1: Active

Bit11: VDO7

0: Inactive

1: Active

Bit12: VDO8

0: Inactive

1: Active

Bit13: VDO9

0: Inactive

1: Active

Bit14: VDO10

0: Inactive

1: Active

Bit15: VDO11

0: Inactive

1: Active

**Description**

-

**F5-36****Minimum input of AO1 curve**

Address: 0xF524

Min.: -100

Max.: F5-38

Default: 0.0

**Value Range:**

-100% to F5-38

**Description**

-

Effective mode: -

Unit: %

Data type: Int16

Change: Changeable at any time

**F5-37****Setpoint corresponding to minimum input of AO1 curve**

Address: 0xF525

Min.: 0.00

Max.: 10.00

Default: 0.00

**Value Range:**

Effective mode: -

Unit: V

Data type: Int16

Change: Changeable at any time

0.00 V to 10.00 V

**Description**

-

**F5-38**

**Maximum input of AO1 curve**

Address: 0xF526

Min.: F5-36

Max.: 100.0

Default: 100.0

Effective mode: -

Unit: %

Data type: Int16

Change: Changeable at any time

**Value Range:**

F5-36 to 100.0%

**Description**

-

**F5-39**

**Setpoint corresponding to maximum input of AO1 curve**

Address: 0xF527

Min.: 0.00

Max.: 10.00

Default: 10.00

Effective mode: -

Unit: V

Data type: Int16

Change: Changeable at any time

**Value Range:**

0.00 V to 10.00 V

**Description**

-

**F5-40**

**AO1 output offset**

Address: 0xF528

Min.: -10

Max.: 10.00

Default: 0.00

Effective mode: -

Unit: V

Data type: Int16

Change: Changeable at any time

**Value Range:**

-10 V to +10.00 V

**Description**

-

**F5-41**

**Minimum input of AO2 curve**

Address: 0xF529

Min.: -100

Max.: F5-43

Default: 0.0

Effective mode: -

Unit: %

Data type: Int16

Change: Changeable at any time

**Value Range:**

-100% to F5-43

**Description**

-

**F5-42**

**Setpoint corresponding to minimum input of AO2 curve**

Address: 0xF52A

Min.: 0.00

Max.: 10.00

Default: 0.00

Effective mode: -

Unit: V

Data type: Int16

Change: Changeable at any time

**Value Range:**

0.00 V to 10.00 V

-

**Description**

-

**F5-43 Maximum input of AO2 curve**

Address: 0xF52B

Min.: F5-41

Max.: 100.0

Default: 100.0

Effective mode: -

Unit: %

Data type: Int16

Change: Changeable at any time

**Value Range:**

F5-41 to 100.0%

**Description**

-

**F5-44 Setpoint corresponding to maximum input of AO2 curve**

Address: 0xF52C

Min.: 0.00

Max.: 10.00

Default: 10.00

Effective mode: -

Unit: V

Data type: Int16

Change: Changeable at any time

**Value Range:**

0.00 V to 10.00 V

**Description**

-

**F5-45 AO2 output offset**

Address: 0xF52D

Min.: -10

Max.: 10.00

Default: 0.00

Effective mode: -

Unit: V

Data type: Int16

Change: Changeable at any time

**Value Range:**

-10 V to +10.00 V

**Description**

-

**F5-46 AO curve**

Address: 0xF52E

Min.: 0

Max.: 11

Default: 11

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

Ones: AO1 curve

0: 2-point curve

1: Gain+Offset

Tens: AO2 curve

0: 2-point curve

1: Gain+Offset

**Description**

-

**F5-47 AO polarity**

Address: 0xF52F

Min.: 0

Effective mode: -

Unit: -

Max.: 33  
 Default: 0  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

Ones: AO1  
 0: Normal  
 1: Absolute value  
 2: Negated value  
 3: Negated absolute value  
 Tens: AO2  
 0: Normal  
 1: Absolute value  
 2: Negated value  
 3: Negated absolute value

**Description**

-

**F5-48 AO hardware source**

Address: 0xF530  
 Min.: 0  
 Max.: 11  
 Default: 0  
 Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

Ones: AO1 source  
 0: Output function  
 1: Force setpoint  
 Tens: AO2 source  
 0: Output function  
 1: Force setpoint

**Description**

-

**F5-49 AO force setpoint 1**

Address: 0xF531  
 Min.: 0.00  
 Max.: 10.00  
 Default: 0.00  
 Effective mode: -  
 Unit: V  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0.00 V to 10.00 V

**Description**

-

**F5-50 AO force setpoint 2**

Address: 0xF532  
 Min.: 0.00  
 Max.: 10.00  
 Default: 0.00  
 Effective mode: -  
 Unit: V  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0.00 V to 10.00 V

**Description**

-

<b>F5-51</b>	<p><b>Minimum input of HDO curve</b></p> <p>Address: 0xF533  Min.: -100  Max.: F5-53  Default: 0.00</p> <p><b>Value Range:</b>  -100% to F5-53</p> <p><b>Description</b>  -</p>	<p>Effective mode: -  Unit: %  Data type: Int16  Change: Changeable at any time</p>
<b>F5-52</b>	<p><b>Percentage corresponding to minimum input of HDO curve</b></p> <p>Address: 0xF534  Min.: 0.00  Max.: 100.00  Default: 0.00</p> <p><b>Value Range:</b>  0.00% to 100.00%</p> <p><b>Description</b>  -</p>	<p>Effective mode: -  Unit: %  Data type: Int16  Change: Changeable at any time</p>
<b>F5-53</b>	<p><b>Maximum input of HDO curve</b></p> <p>Address: 0xF535  Min.: F5-51  Max.: 100.00  Default: 100.00</p> <p><b>Value Range:</b>  F5-51 to 100.00%</p> <p><b>Description</b>  -</p>	<p>Effective mode: -  Unit: %  Data type: Int16  Change: Changeable at any time</p>
<b>F5-54</b>	<p><b>Percentage corresponding to maximum input of HDO curve</b></p> <p>Address: 0xF536  Min.: 0.00  Max.: 100.00  Default: 100.00</p> <p><b>Value Range:</b>  0.00% to 100.00%</p> <p><b>Description</b>  -</p>	<p>Effective mode: -  Unit: %  Data type: Int16  Change: Changeable at any time</p>
<b>F5-55</b>	<p><b>HDO polarity</b></p> <p>Address: 0xF537  Min.: 0  Max.: 3  Default: 0</p> <p><b>Value Range:</b>  Ones: HDO  0: Normal  1: Absolute value  2: Negated value  3: Negated absolute value</p>	<p>Effective mode: -  Unit: -  Data type: UInt16  Change: Changeable at any time</p>

**Description**

-

**F5-56 HDO hardware source**

Address: 0xF538  
 Min.: 0  
 Max.: 1  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0: Output function  
 1: Force value

**Description**

-

**F5-57 HDO force setpoint**

Address: 0xF539  
 Min.: 0.00  
 Max.: 100.00  
 Default: 0.00

Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0.00% to 100.00%

**Description**

-

## 4.7 F6: Startup/Stop Control Parameters

**F6-00 Startup mode**

Address: 0xF600  
 Min.: 0  
 Max.: 3  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0: Direct start  
 1: Flying start  
 2: Pre-excitation start (AC asynchronous motor)  
 3: SVC quick start

**Description**

Flying start is recommended if you need to start a motor that is rotating at a high speed.  
 Pre-excitation start and SVC quick start apply only to AC asynchronous motors.

**F6-01 Speed tracking mode**

Address: 0xF601  
 Min.: 0  
 Max.: 4  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

- 0: From the stop frequency
- 1: From the power frequency
- 2: From the maximum frequency
- 3: Reserved
- 4: Magnetic field directional speed tracking (MD290)

**Description**

-

**F6-02 Speed of speed tracking**

Address: 0xF602	Effective mode: -
Min.: 1	Unit: -
Max.: 100	Data type: UInt16
Default: 20	Change: Changeable at any time

**Value Range:**

1 to 100

**Description**

-

**F6-03 Startup frequency**

Address: 0xF603	Effective mode: -
Min.: 0.00	Unit: Hz
Max.: 10.00	Data type: UInt16
Default: 0.00	Change: Changeable at any time

**Value Range:**

0.00 Hz to 10.00 Hz

**Description**

This parameter defines the startup frequency for direct start of the AC drive. When the frequency reference is lower than the startup frequency, the AC drive will not start but stay standby.

**F6-04 Startup frequency hold time**

Address: 0xF604	Effective mode: -
Min.: 0.0	Unit: s
Max.: 100.0	Data type: UInt16
Default: 0.0	Change: Changeable only at stop

**Value Range:**

0.0s to 100.0s

**Description**

This parameter defines the hold time during which the output frequency remains at the startup frequency. After this hold time elapses, the AC drive will accelerate/decelerate to the reference frequency.

**F6-05 DC braking current at startup**

Address: 0xF605	Effective mode: -
Min.: 0	Unit: %
Max.: 100	Data type: UInt16
Default: 50	Change: Changeable only at stop

**Value Range:**

0% to 100%

**Description**

A larger DC braking current indicates stronger braking force. 100% corresponds to the rated motor current (the current upper limit is 80% of the rated current of the AC drive).



**F6-06 DC braking time at startup**

Address:	0xF606	Effective mode:	-
Min.:	0.0	Unit:	s
Max.:	100.0	Data type:	UInt16
Default:	0.0	Change:	Changeable only at stop

**Value Range:**

0.0s to 100.0s

**Description**

This parameter defines the time for DC braking at startup, which is valid only when the startup mode is direct start.

**F6-07 Acceleration/Deceleration mode**

Address:	0xF607	Effective mode:	-
Min.:	0	Unit:	-
Max.:	1	Data type:	UInt16
Default:	0	Change:	Changeable only at stop

**Value Range:**

0: Straight-line acceleration/deceleration

1: S-curve acceleration/deceleration

**Description**

0: The output frequency increases or decreases linearly.

1: When the target frequency changes dynamically in real time, the output frequency increases or decreases based on the S-curve. This mode is applicable to applications requiring supreme comfort and quick response in real time.

**F6-08 Time proportion of S-curve start segment**

Address:	0xF608	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	100.0	Data type:	UInt16
Default:	30.0	Change:	Changeable only at stop

**Value Range:**

0.0% to +100.0%

**Description**

The value ranges from 0.0 to 100.0% minus the value of F6-09.

**F6-09 Time proportion of S-curve end segment**

Address:	0xF609	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	100.0	Data type:	UInt16
Default:	30.0	Change:	Changeable only at stop

**Value Range:**

0.0% to +100.0%

**Description**

The value ranges from 0.0 to 100.0% minus the value of F6-08.

**F6-10 Stop mode**

Address:	0xF60A	Effective mode:	-
Min.:	0	Unit:	-
Max.:	2	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

- 0: Decelerate to stop
- 1: Coast to stop
- 2: Stop at maximum capability

**Description****F6-11 Start frequency of DC braking at stop**

Address:	0xF60B	Effective mode:	-
Min.:	0.00	Unit:	Hz
Max.:	F0-10	Data type:	UInt16
Default:	0.00	Change:	Changeable at any time

**Value Range:**

0.00 Hz to F0-10

**Description**

The AC drive starts DC braking when the running frequency decreases to the value of this parameter during deceleration to stop.

**F6-12 DC braking delay at stop**

Address:	0xF60C	Effective mode:	-
Min.:	0.0	Unit:	s
Max.:	100.0	Data type:	UInt16
Default:	0.0	Change:	Changeable at any time

**Value Range:**

0.0s to 100.0s

**Description**

When the running frequency decreases to the start frequency of DC braking at stop, the AC drive stops output and starts DC braking after this waiting time.

**F6-13 DC braking current at stop**

Address:	0xF60D	Effective mode:	-
Min.:	0	Unit:	%
Max.:	100	Data type:	UInt16
Default:	50	Change:	Changeable at any time

**Value Range:**

0% to 100%

**Description**

A larger DC braking current indicates stronger braking force. 100% corresponds to the rated motor current (the current upper limit is 80% of the rated current of the AC drive).

**F6-14 DC braking time at stop**

Address:	0xF60E	Effective mode:	-
Min.:	0.0	Unit:	s
Max.:	100.0	Data type:	UInt16
Default:	0.0	Change:	Changeable at any time

**Value Range:**

0.0s to 100.0s

**Description**

If this parameter is set to 0, DC braking is disabled.

**F6-15 Braking transistor usage**

Address:	0xF60F	Effective mode:	-
----------	--------	-----------------	---

Min.:	0	Unit:	%
Max.:	100	Data type:	UInt16
Default:	100	Change:	Changeable at any time

**Value Range:**

0% to 100%

**Description**

This parameter determines the duty cycle when the braking transistor is applied. 100% indicates continuous conduction (it applies to models with built-in braking units).

**F6-16 Speed tracking sweep current limit closed loop Kp**

Address:	0xF610	Effective mode:	-
Min.:	0	Unit:	-
Max.:	1000	Data type:	UInt16
Default:	500	Change:	Changeable at any time

**Value Range:**

0 to 1000

**Description**

-

**F6-17 Speed tracking sweep current limit closed loop Ki**

Address:	0xF611	Effective mode:	-
Min.:	0	Unit:	-
Max.:	1000	Data type:	UInt16
Default:	800	Change:	Changeable at any time

**Value Range:**

0 to 1000

**Description**

-

**F6-18 Speed tracking current**

Address:	0xF612	Effective mode:	-
Min.:	30	Unit:	%
Max.:	200	Data type:	UInt16
Default:	80	Change:	Changeable only at stop

**Value Range:**

30% to 200%

**Description**

-

**F6-19 Current loop multiple**

Address:	0xF613	Effective mode:	-
Min.:	10	Unit:	%
Max.:	600	Data type:	UInt16
Default:	100	Change:	Changeable at any time

**Value Range:**

10% to 600%

**Description**

-

**F6-20 S-curve setting mode**

Address:	0xF614	Effective mode:	-
----------	--------	-----------------	---

Min.:	0	Unit:	-
Max.:	1	Data type:	UInt16
Default:	0	Change:	Changeable only at stop

**Value Range:**

0: Symmetrical mode

1: Separate setting of acceleration and deceleration arcs

**Description**

0: Symmetrical mode (inherited from MD500). In this mode, the settings of F6-08 and F6-09 take effect.

1: Separate setting of acceleration and deceleration arcs. In this mode, the settings of A4-67 to A4-70 take effect.

**F6-21 Demagnetization time (valid for asynchronous motors)**

Address:	0xF615	Effective mode:	-
Min.:	0.00	Unit:	s
Max.:	5.00	Data type:	UInt16
Default:	0.50	Change:	Changeable at any time

**Value Range:**

0.00s to 5.00s

**Description**

This parameter defines the minimum waiting time for restart after shutdown.

**F6-23 Overexcitation active mode**

Address:	0xF617	Effective mode:	-
Min.:	0	Unit:	-
Max.:	2	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: Disabled

2: Enabled during deceleration

3: Enabled always

**Description**

This parameter defines the active mode of overexcitation in vector control mode for asynchronous motors. When it is set to 2, overexcitation takes effect during acceleration, operation at constant speed, and deceleration.

**F6-24 Overexcitation suppression current**

Address:	0xF618	Effective mode:	-
Min.:	0	Unit:	%
Max.:	150	Data type:	UInt16
Default:	100	Change:	Changeable at any time

**Value Range:**

0% to 150%

**Description**

This parameter defines the target current after overexcitation takes effect and is a percentage relative to the rated motor current.

**F6-25 Overexcitation gain**

Address:	0xF619	Effective mode:	-
Min.:	0.01	Unit:	-
Max.:	2.50	Data type:	UInt16

Default: 1.25                                      Change:            Changeable at any time  
**Value Range:**  
 0.01 to 2.50  
**Description**  
 -

**F6-26      Forced switch-on of braking transistor**

Address: 0xF61A                                      Effective mode: -  
 Min.: 0    Unit: -  
 Max.: 1    Data type: UInt16  
 Default: 0    Change:            Changeable only at stop  
**Value Range:**  
 0: Switch-off  
 1: Switch-on  
**Description**  
 -

**F6-28      Manual self-check enable**

Address: 0xF61C                                      Effective mode: -  
 Min.: 0x0    Unit: -  
 Max.: 0xF    Data type: UInt16  
 Default: 0x7    Change:            Changeable only at stop  
**Value Range:**  
 Bit00: IGBT shoot-through self-check upon startup  
 0: Disabled  
 1: Enabled  
 Bit01: Short-to-ground self-check upon startup  
 0: Disabled  
 1: Enabled  
 Bit02: Phase loss self-check upon startup  
 0: Disabled  
 1: Enabled  
 Bit03: Reserved  
**Description**  
 This parameter defines the sub items of manual self-check. After enabling self-check by setting this parameter, you can select different self-check commands in F6-29.  
 Self-check on each sub item is enabled separately by using a bit. The value 1 indicates enabled, and 0 indicates disabled.

**F6-29      Manual self-check command**

Address: 0xF61D                                      Effective mode: -  
 Min.: 0    Unit: -  
 Max.: 2    Data type: UInt16  
 Default: 0    Change:            Changeable only at stop  
**Value Range:**  
 0: None  
 1: Static self-check  
 2: Full self-check  
**Description**

This parameter defines the self-check mode. The self-check items are defined by F6-28.

0: Self-check is not performed.

1: Static self-check is performed. In this mode, self-check on the encoder cannot be performed.

2: Full self-check is performed.

After self-check is completed, this parameter will be restored to 0.

## 4.8 F7: Operating Panel and Display Parameters

### F7-00 LED segment missing check

Address: 0xF700

Min.: 0

Max.: 3

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

#### Value Range:

0: Disabled

1: All indicators of the LED operating panel are steady on.

2: All indicators of the LED operating panel are off.

3: All indicators of the LED operating panel blink.

#### Description

0: No effect.

1: All indicators of the LED operating panel are steady on for 20 seconds.

2: All indicators of the LED operating panel are off for 20 seconds.

3: All indicators of the LED operating panel blink for 20 seconds.

### F7-01 MF.K key function

Address: 0xF701

Min.: 0

Max.: 4

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

#### Value Range:

0: MF.K key disabled

1: Forced operating panel control

2: Switchover between forward and reverse run

3: Forward jog

4: Reverse jog

#### Description

0: The MF.K key has no function.

1: When F0-02 is set to 0 (operating panel), pressing the MF.K key has no effect. When F0-02 is set to 1 (terminal), 2 (communication), or 3 (customization), pressing the MF.K key switches to operating panel control forcibly.

2: Pressing the MF.K key changes the direction of the frequency reference. This function is valid only when the command source is set to operating panel control.

3: Pressing the MF.K key implements forward jog (FJOG). This function is valid only when the command source is set to operating panel control.

4: Pressing the MF.K key implements reverse jog (RJOG). This function is valid only when the command source is set to operating panel control.

**F7-02 STOP/RESET key function**

Address:	0xF702	Effective mode:	-
Min.:	0	Unit:	-
Max.:	3	Data type:	UInt16
Default:	1	Change:	Changeable at any time

**Value Range:**

0: Valid only under operating panel control

1: Valid under any control (OFF1)

2: Valid under any control (OFF2)

3: Valid under any control (OFF3)

**Description**

0: The STOP/RESET key is valid only in operating panel control mode.

1: The STOP/RESET key is valid in any operation mode and the AC drive stops according to the OFF1 stop mode.

2: The STOP/RESET key is valid in any operation mode and the AC drive stops according to the OFF2 stop mode.

3: The STOP/RESET key is valid in any operation mode and the AC drive stops according to the OFF3 stop mode.

**F7-03 LED display 1 in running state**

Address:	0xF703	Effective mode:	-
Min.:	0x0	Unit:	-
Max.:	0xFFFF	Data type:	UInt16
Default:	0x1F	Change:	Changeable at any time

**Value Range:**

Bit00: Running frequency (Hz)

Bit01: Reference frequency (Hz)

Bit02: Bus voltage (V)

Bit03: Output voltage (V)

Bit04: Output current (A)

Bit05: Output power (kW)

Bit06: Output torque (%)

Bit07: DI state

Bit08: DO state

Bit09: AI1 voltage (V)

Bit10: AI2 voltage (V)

Bit11: AI3 voltage (V)

Bit12: Count value

Bit13: Length value

Bit14: Load speed

Bit15: PID reference

**Description**

This parameter defines the parameters displayed on the LED operating panel (switched by using the left and right shift keys) when the AC drive is running. A parameter is displayed when the corresponding bit is 1 and not displayed when the corresponding bit is 0.

**F7-04 LED display 2 in running state**

Address:	0xF704	Effective mode:	-
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Min.:	0x0	Unit:	-
Max.:	0xFFFF	Data type:	UInt16
Default:	0x0	Change:	Changeable at any time

**Value Range:**

Bit00: PID feedback  
 Bit01: PLC stage  
 Bit02: Input pulse frequency (kHz)  
 Bit03: Running frequency 2 (Hz)  
 Bit04: Remaining running time  
 Bit05: AI1 voltage before correction (V)  
 Bit06: Free mapping 0  
 Bit07: Free mapping 1  
 Bit08: Motor speed  
 Bit09: Current power-on duration (Hour)  
 Bit10: Current running duration (min)  
 Bit11: Input pulse frequency (Hz)  
 Bit12: Communication setpoint  
 Bit13: Encoder feedback speed  
 Bit14: Main frequency X  
 Bit15: Auxiliary frequency Y

**Description**

This parameter defines the parameters displayed on the LED operating panel (switched by using the left and right shift keys) when the AC drive is running A parameter is displayed when the corresponding bit is 1 and not displayed when the corresponding bit is 0.

**F7-05****LED display in stop state**

Address:	0xF705	Effective mode:	-
Min.:	0x0	Unit:	-
Max.:	0xFFFF	Data type:	UInt16
Default:	0x33	Change:	Changeable at any time

**Value Range:**

Bit00: Reference frequency (Hz)  
 Bit01: Bus voltage (V)  
 Bit02: DI state  
 Bit03: DO state  
 Bit04: AI1 voltage (V)  
 Bit05: AI2 voltage (V)  
 Bit06: AI3 voltage (V)  
 Bit07: Count value  
 Bit08: Length value  
 Bit09: PLC stage  
 Bit10: Load speed  
 Bit11: PID reference  
 Bit12: Input pulse frequency (kHz)  
 Bit13: Reserved  
 Bit14: Free mapping 0  
 Bit15: Free mapping 1



**Description**

This parameter defines the parameters displayed on the LED operating panel (switched by using the left and right shift keys) when the AC drive is in stop state. A parameter is displayed when the corresponding bit is 1 and not displayed when the corresponding bit is 0.

**F7-06 Load speed display coefficient**

Address: 0xF706  
Min.: 1.0E-4  
Max.: 6.5000  
Default: 1.0000

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Changeable at any time

**Value Range:**

1.0E-4 to 6.5000

**Description**

-

**F7-07 IGBT heatsink temperature**

Address: 0xF707  
Min.: -20  
Max.: 120  
Default: 0

Effective mode: -  
Unit: °C  
Data type: Int16  
Change: Unchangeable

**Value Range:**

-20°C to +120°C

**Description**

-

**F7-08 Product SN**

Address: 0xF708  
Min.: 0  
Max.: 65535  
Default: 0

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**F7-09 Accumulative running duration (hour)**

Address: 0xF709  
Min.: 0  
Max.: 65535  
Default: 0

Effective mode: -  
Unit: h  
Data type: UInt16  
Change: Unchangeable

**Value Range:**

0 h to 65535 h

**Description**

-

**F7-10 Performance software version**

Address: 0xF70A  
Min.: 0.00  
Max.: 655.35  
Default: 0.00

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Unchangeable

**Value Range:**

0.00 to 655.35

**Description**

-

**F7-11****Function software version**

Address: 0xF70B

Min.: 0.00

Max.: 655.35

Default: 0.00

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**Value Range:**

0.00 to 655.35

**Description**

-

**F7-12****Number of decimal places for load speed display**

Address: 0xF70C

Min.: 110

Max.: 222

Default: 220

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

Ones: Decimal places of U0-14/U0-24

0: No decimal place

1: One decimal place

2: Two decimal places

Tens: Decimal places of U0-19/U0-29

0: No decimal place

1: One decimal place

2: Two decimal places

Hundreds: Decimal places of U0-30/U0-31

0: No decimal place

1: One decimal place

2: Two decimal places

**Description**

-

**F7-13****Accumulative power-on duration (hour)**

Address: 0xF70D

Min.: 0

Max.: 65535

Default: 0

Effective mode: -

Unit: h

Data type: UInt16

Change: Unchangeable

**Value Range:**

0 h to 65535 h

**Description**

-

**F7-14****Accumulative power consumption**

Address: 0xF70E

Min.: 0

Max.: 65535

Default: 0

Effective mode: -

Unit: kW·h

Data type: UInt16

Change: Unchangeable

**Value Range:**

0 kW · h to 65535 kW · h

**Description**

-

**F7-15 Temporary performance software version**

Address: 0xF70F

Min.: 0.00

Max.: 655.35

Default: 0.00

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**Value Range:**

0.00 to 655.35

**Description**

-

**F7-16 Temporary function software version**

Address: 0xF710

Min.: 0.00

Max.: 655.35

Default: 0.00

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**Value Range:**

0.00 to 655.35

**Description**

-

**F7-17 Low-order bits of level-0 menu display address**

Address: 0xF711

Min.: 0

Max.: 0

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0: Invalid address

Others: K connector

**Description**

This parameter corresponds to the variable displayed in free mapping 0 in F7-04 and F7-05.

After this parameter is specified, you can display the value of the connector set by this parameter by displaying free mapping 0 on the level-0 menu.

**F7-18 High-order bits of level-0 menu display address**

Address: 0xF712

Min.: 0

Max.: 0

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0: Invalid address

Others: K connector

**Description**

This parameter corresponds to the variable displayed in free mapping 1 in F7-04 and F7-05.

After this parameter is specified, you can display the value of the connector set by this parameter by displaying free mapping 1 on the level-0 menu.

**F7-19 Low-order bits of level-0 menu display format**

Address:	0xF713	Effective mode:	-
Min.:	0x0	Unit:	-
Max.:	0x014B	Data type:	UInt16
Default:	0x0	Change:	Changeable at any time

**Value Range:**

Ones: Unit

0: None

1: HZ

2: A

3: RPM

4: V

5: Link

6: %

7: s

8: h

9: kW

10: kW/h

11: °C

Tens: Decimal places

0: No decimal place

1: One decimal place

2: Two decimal places

3: Three decimal places

4: Four decimal places

Hundreds: Enable

0: Disabled

1: Enabled

**Description**

If the enable bit is 0, setting this parameter has no effect.

If the enable bit is 1, the value of free mapping 0 is displayed based on the unit set by the ones place and the number of decimal places set by the tens place.

**F7-20 High-order bits of level-0 menu display format**

Address:	0xF714	Effective mode:	-
Min.:	0x0	Unit:	-
Max.:	0x014B	Data type:	UInt16
Default:	0x0	Change:	Changeable at any time

**Value Range:**

Ones: Unit

0: None

1: HZ

2: A

3: RPM

4: V

5: Link

6: %

7: s

8: h

9: kW

10: kW/h

11: °C

Tens: Decimal places

0: No decimal place

1: One decimal place

2: Two decimal places

3: Three decimal places

4: Four decimal places

Hundreds: Enable

0: Disabled

1: Enabled

**Description**

If the enable bit is 0, setting this parameter has no effect.

If the enable bit is 1, the value of free mapping 1 is displayed based on the unit set by the ones place and the number of decimal places set by the tens place.

**F7-21 LED operating panel key test**

Address: 0xF715

Min.: 0

Max.: 1

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**Value Range:**

0: Disabled

1: Enabled

**Description**

Setting this parameter to 1 enables the LED operating panel key test mode. In this mode, the test value changes each time a key is pressed.

After all keys are pressed, the test is successful and "-PASS" is displayed. Then the system automatically exits the test mode.

**F7-22 LED display update cycle**

Address: 0xF716

Min.: 10

Max.: 300

Default: 10

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

10 to 300

**Description**

The values on the LED operating panel are filtered to prevent the parameters from jumping too fast and causing difficulty in reading the values. The display update cycle is the filter time.

**F7-23****LED display of direction**

Address:	0xF717	Effective mode:	-
Min.:	0	Unit:	-
Max.:	11	Data type:	UInt16
Default:	1	Change:	Changeable at any time

**Value Range:**

Ones: Direction display at stop

0: Not displayed

1: Displayed

Tens: Reserved

0: Reserved

1: Reserved

**Description**

If the ones place is set to 0, the LED operating panel does not display the reference frequency direction at stop.

If the ones place is set to 1, the LED operating panel displays the reference frequency direction at stop.

**F7-24****Decimal places of floating-point connector values after conversion**

Address:	0xF718	Effective mode:	-
Min.:	0	Unit:	-
Max.:	1	Data type:	UInt16
Default:	1	Change:	Changeable at any time

**Value Range:**

0: Two decimal places

1: One decimal place

**Description**

0: The floating-point connector value displayed on the operating panel is a floating-point number with two decimal places.

1: The floating-point connector value displayed on the operating panel is a floating-point number rounded to one decimal place.

**F7-25****Fault display**

Address:	0xF719	Effective mode:	-
Min.:	0	Unit:	-
Max.:	1	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0 to 1

**Description**

-

**F7-26****Storage of LED display in running state**

Address:	0xF71A	Effective mode:	-
Min.:	0	Unit:	-
Max.:	31	Data type:	UInt16

Default: 0  
**Value Range:**  
 0 to 31  
**Description**  
 -

Change: Unchangeable

**F7-27 Storage of LED display in stop state**

Address: 0xF71B  
 Min.: 0  
 Max.: 15  
 Default: 0

**Value Range:**  
 0 to 15  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**F7-28 Accumulative running duration (second)**

Address: 0xF71C  
 Min.: 0  
 Max.: 3599  
 Default: 0

**Value Range:**  
 0s to 3599s  
**Description**  
 -

Effective mode: -  
 Unit: s  
 Data type: UInt16  
 Change: Unchangeable

**F7-29 Accumulative power-on duration (second)**

Address: 0xF71D  
 Min.: 0  
 Max.: 3599  
 Default: 0

**Value Range:**  
 0s to 3599s  
**Description**  
 -

Effective mode: -  
 Unit: s  
 Data type: UInt16  
 Change: Unchangeable

**F7-30 Auxiliary calculation of accumulative power consumption**

Address: 0xF71E  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**F7-31 Auxiliary calculation of accumulative power consumption of group U0**

Address: 0xF71F  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

0 to 65535

**Description**

-

**F7-32 Low-order bits of accumulative power consumption**

Address:	0xF720	Effective mode:	-
Min.:	0.0	Unit:	kW·h
Max.:	6553.5	Data type:	UInt16
Default:	0.0	Change:	Unchangeable

**Value Range:**

0.0 kW·h to 6553.5 kW·h

**Description**

-

**F7-33 High-order bits of accumulative power consumption**

Address:	0xF721	Effective mode:	-
Min.:	0	Unit:	kW·h
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable

**Value Range:**

0 kW·h to 65535 kW·h

**Description**

-

## 4.9 F8: Auxiliary Function Parameters

**F8-00 Jog frequency**

Address:	0xF800	Effective mode:	-
Min.:	0.00	Unit:	Hz
Max.:	F0-10	Data type:	UInt16
Default:	2.00	Change:	Changeable at any time

**Value Range:**

0.00 Hz to F0-10

**Description**

This parameter defines the running frequency of the AC drive in jogging mode.

**F8-01 Jog acceleration time**

Address:	0xF801	Effective mode:	-
Min.:	0.0	Unit:	s
Max.:	6500.0	Data type:	UInt16
Default:	20.0	Change:	Changeable at any time

**Value Range:**

0.0s to 6500.0s

**Description**

This parameter defines the acceleration time of the AC drive in jogging mode.

**F8-02 Jog deceleration time**

Address:	0xF802	Effective mode:	-
Min.:	0.0	Unit:	s
Max.:	6500.0	Data type:	UInt16



Default: 20.0 Change: Changeable at any time  
**Value Range:**  
0.0s to 6500.0s  
**Description**  
This parameter defines the deceleration time of the AC drive in jogging mode.

**F8-03 Acceleration time 2**

Address: 0xF803 Effective mode: -  
Min.: 0.0 Unit: s  
Max.: 6500.0 Data type: UInt16  
Default: 0.0 Change: Changeable at any time

**Value Range:**

0.0s to 6500.0s

**Description**

The AC drive provides four groups of acceleration time, which can be switched by using the parameter or DI terminal. This parameter defines the second group of acceleration time.

**F8-04 Deceleration time 2**

Address: 0xF804 Effective mode: -  
Min.: 0.0 Unit: s  
Max.: 6500.0 Data type: UInt16  
Default: 0.0 Change: Changeable at any time

**Value Range:**

0.0s to 6500.0s

**Description**

The AC drive provides four groups of deceleration time, which can be switched by using the parameter or DI terminal. This parameter defines the second group of deceleration time.

**F8-05 Acceleration time 3**

Address: 0xF805 Effective mode: -  
Min.: 0.0 Unit: s  
Max.: 6500.0 Data type: UInt16  
Default: 0.0 Change: Changeable at any time

**Value Range:**

0.0s to 6500.0s

**Description**

The AC drive provides four groups of acceleration time, which can be switched by using the parameter or DI terminal. This parameter defines the third group of acceleration time.

**F8-06 Deceleration time 3**

Address: 0xF806 Effective mode: -  
Min.: 0.0 Unit: s  
Max.: 6500.0 Data type: UInt16  
Default: 0.0 Change: Changeable at any time

**Value Range:**

0.0s to 6500.0s

**Description**

The AC drive provides four groups of deceleration time, which can be switched by using the parameter or DI terminal. This parameter defines the third group of deceleration time.

- F8-07 Acceleration time 4**  
 Address: 0xF807 Effective mode: -  
 Min.: 0.0 Unit: s  
 Max.: 6500.0 Data type: UInt16  
 Default: 0.0 Change: Changeable at any time  
**Value Range:**  
 0.0s to 6500.0s  
**Description**  
 The AC drive provides four groups of acceleration time, which can be switched by using the parameter or DI terminal. This parameter defines the fourth group of acceleration time.
- F8-08 Deceleration time 4**  
 Address: 0xF808 Effective mode: -  
 Min.: 0.0 Unit: s  
 Max.: 6500.0 Data type: UInt16  
 Default: 0.0 Change: Changeable at any time  
**Value Range:**  
 0.0s to 6500.0s  
**Description**  
 The AC drive provides four groups of deceleration time, which can be switched by using the parameter or DI terminal. This parameter defines the fourth group of deceleration time.
- F8-09 Skip frequency 1**  
 Address: 0xF809 Effective mode: -  
 Min.: 0.00 Unit: Hz  
 Max.: F0-10 Data type: UInt16  
 Default: 0.00 Change: Changeable at any time  
**Value Range:**  
 0.00 Hz to F0-10  
**Description**  
 The skip frequency enables the AC drive to avoid any frequency at which a mechanical resonance may occur. This parameter defines the first skip frequency. If it is set to 0, the first skip frequency is canceled.
- F8-10 Skip frequency 2**  
 Address: 0xF80A Effective mode: -  
 Min.: 0.00 Unit: Hz  
 Max.: F0-10 Data type: UInt16  
 Default: 0.00 Change: Changeable at any time  
**Value Range:**  
 0.00 Hz to F0-10  
**Description**  
 The skip frequency enables the AC drive to avoid any frequency at which a mechanical resonance may occur. This parameter defines the second skip frequency. If it is set to 0, the second skip frequency is canceled.
- F8-11 Skip frequency band**  
 Address: 0xF80B Effective mode: -  
 Min.: 0.00 Unit: Hz  
 Max.: F0-10 Data type: UInt16  
 Default: 0.00 Change: Changeable at any time

**Value Range:**

0.00 Hz to F0-10

**Description**

During acceleration, when the running frequency increases to a value that is close to the skip frequency, the AC drive runs for a period at the current frequency and then skips over the skip frequency. The skip range is twice the value of F8-11 (skip frequency band).

During deceleration, when the running frequency decreases to a value that is close to the skip frequency, the AC drive runs for a period at the current frequency and then skips over the skip frequency. The skip range is twice the value of F8-11 (skip frequency band).

**F8-12 FWD/REV switchover deadzone time**

Address: 0xF80C

Effective mode: -

Min.: 0.0

Unit: s

Max.: 3000.0

Data type: UInt16

Default: 0.0

Change: Changeable at any time

**Value Range:**

0.0s to 3000.0s

**Description**

This parameter defines the transition time at 0 Hz output during transition between forward running and reverse running.

**F8-13 Reverse frequency inhibition**

Address: 0xF80D

Effective mode: -

Min.: 0

Unit: -

Max.: 1

Data type: UInt16

Default: 0

Change: Changeable at any time

**Value Range:**

0: Disabled

1: Enabled

**Description**

-

**F8-14 Running mode when frequency reference below lower limit**

Address: 0xF80E

Effective mode: -

Min.: 0

Unit: -

Max.: 3

Data type: UInt16

Default: 0

Change: Changeable at any time

**Value Range:**

0: Run at frequency lower limit

1: Stop

2: Run at zero speed

3: Coast to stop

**Description**

0: Run at frequency lower limit

If the running frequency is lower than the frequency lower limit, the AC drive runs at the frequency lower limit.

1: Stop

If the running frequency is lower than the frequency lower limit, the AC drive stops.

2: Run at zero speed

If the running frequency is lower than the frequency lower limit, the AC drive runs at zero speed.

3: Coast to stop

If the running frequency is lower than the frequency lower limit, the AC drive coasts to stop.

#### F8-15 Droop rate

Address: 0xF80F

Min.: 0.00

Max.: 10.00

Default: 0.00

##### Value Range:

0.00% to 10.00%

##### Description

-

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable at any time

#### F8-16 Power-on duration threshold (hour)

Address: 0xF810

Min.: 0

Max.: 65535

Default: 0

##### Value Range:

0 h to 65535 h

##### Description

-

Effective mode: -

Unit: h

Data type: UInt16

Change: Changeable at any time

#### F8-17 Running duration threshold (hour)

Address: 0xF811

Min.: 0

Max.: 65535

Default: 0

##### Value Range:

0 h to 65535 h

##### Description

-

Effective mode: -

Unit: h

Data type: UInt16

Change: Changeable at any time

#### F8-18 Startup protection

Address: 0xF812

Min.: 0

Max.: 1

Default: 1

##### Value Range:

0: Disabled

1: Enabled

##### Description

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

#### F8-19 Frequency detection value (FDT1)

Address: 0xF813

Min.: 0.00

Max.: F0-10

Default: 50.00

Effective mode: -

Unit: Hz

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0.00 Hz to F0-10

**Description**

When the running frequency is higher than the frequency detection value (FDT1), the DO terminal outputs an active signal; when the running frequency is lower than the result of the frequency detection value (FDT1) minus the frequency detection hysteresis (FDT1), the DO terminal outputs an inactive signal. The valid value range is 0.00 Hz to F0-10 (maximum frequency).

**F8-20 Frequency detection hysteresis (FDT1)**

Address: 0xF814

Effective mode: -

Min.: 0.0

Unit: %

Max.: 100.0

Data type: UInt16

Default: 5.0

Change: Changeable at any time

**Value Range:**

0.0% to +100.0%

**Description**

The frequency detection hysteresis (FDT1) is F8-19 multiplied by F8-20. When the running frequency is higher than F8-19, the DO terminal outputs an active signal. When the running frequency is lower than a specific value (F8-19 – F8-19 x F8-20), the DO terminal outputs an inactive signal.

**F8-21 Frequency reach detection range**

Address: 0xF815

Effective mode: -

Min.: 0.0

Unit: %

Max.: 100.0

Data type: UInt16

Default: 0.0

Change: Changeable at any time

**Value Range:**

0.0% to +100.0%

**Description**

The percentage is relative to the maximum frequency.  
When the running frequency of the AC drive is within the range of Reference frequency  $\pm$  Maximum frequency x F8-21, the DO terminal outputs an active signal.

**F8-22 Skip frequency enable during acceleration/deceleration**

Address: 0xF816

Effective mode: -

Min.: 0

Unit: -

Max.: 1

Data type: UInt16

Default: 0

Change: Changeable at any time

**Value Range:**

0: Disabled

1: Enabled

**Description**

This parameter defines whether the skip frequency function is enabled during acceleration/ deceleration.

0: Disabled

During acceleration/deceleration, when the running frequency reaches the skip frequency boundary, the AC drive continues to run at the running frequency.

0: Enabled

During acceleration/deceleration, when the running frequency reaches the skip frequency boundary, the AC drive skips over the skip frequency. The skip range is twice the value of F8-11 (skip frequency band).

- F8-25 Switchover frequency of acceleration time 1 and acceleration time 2**
- |          |        |                 |                        |
|----------|--------|-----------------|------------------------|
| Address: | 0xF819 | Effective mode: | -                      |
| Min.:    | 0.00   | Unit:           | Hz                     |
| Max.:    | F0-10  | Data type:      | UInt16                 |
| Default: | 0.00   | Change:         | Changeable at any time |
- Value Range:**  
0.00 Hz to F0-10
- Description**  
This function is used to switch the acceleration/deceleration time based on the running frequency range when the AC drive is running. This function is valid only when the DI terminal is not assigned with function 16 (acceleration/deceleration time selection terminal 1) or 17 (acceleration/deceleration time selection terminal 2).  
The valid value range is 0.00 Hz to F0-10 (maximum frequency).
- F8-26 Switchover frequency of deceleration time 1 and deceleration time 2**
- |          |        |                 |                        |
|----------|--------|-----------------|------------------------|
| Address: | 0xF81A | Effective mode: | -                      |
| Min.:    | 0.00   | Unit:           | Hz                     |
| Max.:    | F0-10  | Data type:      | UInt16                 |
| Default: | 0.00   | Change:         | Changeable at any time |
- Value Range:**  
0.00 Hz to F0-10
- Description**  
This function is used to switch the acceleration/deceleration time based on the running frequency range when the AC drive is running. This function is valid only when the DI terminal is not assigned with function 16 (acceleration/deceleration time selection terminal 1) or 17 (acceleration/deceleration time selection terminal 2).  
The valid value range is 0.00 Hz to F0-10 (maximum frequency).
- F8-27 Jog priority mode**
- |          |        |                 |                        |
|----------|--------|-----------------|------------------------|
| Address: | 0xF81B | Effective mode: | -                      |
| Min.:    | 0      | Unit:           | -                      |
| Max.:    | 2      | Data type:      | UInt16                 |
| Default: | 0      | Change:         | Changeable at any time |
- Value Range:**  
0: No priority  
1: Jog preferred  
2: OFF1 preferred
- Description**  
This parameter defines the priority of the jog command and normal operation commands.  
0: No priority  
The AC drive responds to the operation command that arrives first.  
1: Jog preferred  
The jog command can interrupt normal running.  
2: OFF1 preferred  
Normal operation commands can interrupt jogging.
- F8-28 Frequency detection value (FDT2 level)**
- |          |        |                 |        |
|----------|--------|-----------------|--------|
| Address: | 0xF81C | Effective mode: | -      |
| Min.:    | 0.00   | Unit:           | Hz     |
| Max.:    | F0-10  | Data type:      | UInt16 |

Default: 50.00 Change: Changeable at any time

**Value Range:**

0.00 Hz to F0-10

**Description**

When the running frequency is higher than the frequency detection value (FDT2), the DO terminal outputs an active signal; when the running frequency is lower than the result of the frequency detection value (FDT2) minus the frequency detection hysteresis (FDT2), the DO terminal outputs an inactive signal. The valid value range is 0.00 Hz to F0-10 (maximum frequency).

**F8-29 Frequency detection hysteresis (FDT2)**

Address: 0xF81D

Effective mode: -

Min.: 0.0

Unit: %

Max.: 100.0

Data type: UInt16

Default: 5.0

Change: Changeable at any time

**Value Range:**

0.0% to +100.0%

**Description**

The frequency detection hysteresis (FDT2) is F8-28 multiplied by F8-29. When the running frequency is higher than F8-28, the DO terminal outputs an active signal. When the running frequency is lower than a specific value (F8-28 – F8-28 x F8-29), the DO terminal outputs an inactive signal.

**F8-30 Frequency reach detection value 1**

Address: 0xF81E

Effective mode: -

Min.: 0.00

Unit: Hz

Max.: F0-10

Data type: UInt16

Default: 50.00

Change: Changeable at any time

**Value Range:**

0.00 Hz to F0-10

**Description**

When the running frequency of the AC drive is within the range of Frequency reach detection value 1 (F8-30) ± Frequency reach detection range 1 (F8-31), the DO terminal outputs an active signal.

**F8-31 Frequency reach detection range 1**

Address: 0xF81F

Effective mode: -

Min.: 0.1

Unit: %

Max.: 100.0

Data type: UInt16

Default: 0.1

Change: Changeable at any time

**Value Range:**

0.1% to +100.0%

**Description**

When the running frequency of the AC drive is within the range of frequency reach detection value 1 (F8-30) ± frequency reach detection range 1 (F8-31), the DO terminal outputs an active signal.

**F8-32 Frequency reach detection value 2**

Address: 0xF820

Effective mode: -

Min.: 0.00

Unit: Hz

Max.: F0-10

Data type: UInt16

Default: 50.00 Change: Changeable at any time

**Value Range:**

0.00 Hz to F0-10

**Description**

When the running frequency of the AC drive is within the range of Frequency reach detection value 2 (F8-32)±Frequency reach detection range 2 (F8-33), the DO terminal outputs an active signal.

**F8-33 Frequency reach detection range 2**

Address: 0xF821

Effective mode: -

Min.: 0.1

Unit: %

Max.: 100.0

Data type: UInt16

Default: 0.1

Change: Changeable at any time

**Value Range:**

0.1% to +100.0%

**Description**

When the running frequency of the AC drive is within the range of frequency reach detection value 2 (F8-32)±frequency reach detection range 2 (F8-33), the DO terminal outputs an active signal.

**F8-34 Zero current detection level**

Address: 0xF822

Effective mode: -

Min.: 0.0

Unit: %

Max.: 300.0

Data type: UInt16

Default: 5.0

Change: Changeable at any time

**Value Range:**

0.0% to 300.0%

**Description**

When the output current of the AC drive is lower than or equal to F8-34 (zero current detection level) for a period longer than the time defined by F8-35 (zero current detection delay), the DO terminal outputs an active signal.

**F8-35 Zero current detection delay**

Address: 0xF823

Effective mode: -

Min.: 0.01

Unit: s

Max.: 600.00

Data type: UInt16

Default: 0.10

Change: Changeable at any time

**Value Range:**

0.01s to 600.00s

**Description**

When the output current of the AC drive is lower than or equal to F8-34 (zero current detection level) for a period longer than the time defined by F8-35 (zero current detection delay), the DO terminal outputs an active signal.

**F8-36 Output overcurrent threshold**

Address: 0xF824

Effective mode: -

Min.: 0.0

Unit: %

Max.: 300.0

Data type: UInt16

Default: 5.0

Change: Changeable at any time

**Value Range:**

0.0% to 300.0%



**Description**

When the output current of the AC drive remains higher than the setpoint of F8-36 (output overcurrent threshold) for a period longer than the setpoint of F8-37 (output overcurrent detection delay), the DO terminal outputs an active signal.

**F8-37 Output overcurrent detection delay**

Address:	0xF825	Effective mode:	-
Min.:	0.00	Unit:	s
Max.:	600.00	Data type:	UInt16
Default:	0.00	Change:	Changeable at any time

**Value Range:**

0.00s to 600.00s

**Description**

When the output current of the AC drive remains higher than the setpoint of F8-36 (output overcurrent threshold) for a period longer than the setpoint of F8-37 (output overcurrent detection delay), the DO terminal outputs an active signal.

**F8-38 Detection level of current 1**

Address:	0xF826	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	300.0	Data type:	UInt16
Default:	100.0	Change:	Changeable at any time

**Value Range:**

0.0% to 300.0%

**Description**

When the output current of the AC drive is within the range of F8-38 (detection level of current 1)  $\pm$  F8-39 (detection width of current 1) x Rated motor current, the DO terminal outputs an active signal.

**F8-39 Detection width of current 1**

Address:	0xF827	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	300.0	Data type:	UInt16
Default:	0.0	Change:	Changeable at any time

**Value Range:**

0.0% to 300.0%

**Description**

When the output current of the AC drive is within the range of F8-38 (detection level of current 1)  $\pm$  F8-39 (detection width of current 1) x Rated motor current, the DO terminal outputs an active signal.

**F8-40 Detection level of current 2**

Address:	0xF828	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	300.0	Data type:	UInt16
Default:	100.0	Change:	Changeable at any time

**Value Range:**

0.0% to 300.0%

**Description**

When the output current of the AC drive is within the range of F8-40 (detection level of current 2)  $\pm$  F8-41 (detection width of current 2) x Rated motor current, the DO terminal outputs an active signal.

<b>F8-41</b>	<p><b>Detection width of current 2</b></p> <p>Address: 0xF829  Min.: 0.0  Max.: 300.0  Default: 0.0</p> <p><b>Value Range:</b>  0.0% to 300.0%</p> <p><b>Description</b>  When the output current of the AC drive is within the range of F8-40 (detection level of current 2) ±F8-41 (detection width of current 2) x Rated motor current, the DO terminal outputs an active signal.</p>	<p>Effective mode: -  Unit: %  Data type: UInt16  Change: Changeable at any time</p>
<b>F8-42</b>	<p><b>Timing function</b></p> <p>Address: 0xF82A  Min.: 0  Max.: 1  Default: 0</p> <p><b>Value Range:</b>  0: Disabled  1: Enabled</p> <p><b>Description</b>  -</p>	<p>Effective mode: -  Unit: -  Data type: UInt16  Change: Changeable only at stop</p>
<b>F8-43</b>	<p><b>Timing duration source</b></p> <p>Address: 0xF82B  Min.: 0  Max.: 3  Default: 0</p> <p><b>Value Range:</b>  0: F8-44  1: AI1  2: AI2  3: AI3  Others: F connector</p> <p><b>Description</b>  The analog input range corresponds to F8-44.</p>	<p>Effective mode: -  Unit: -  Data type: UInt16  Change: Changeable only at stop</p>
<b>F8-44</b>	<p><b>Timing duration</b></p> <p>Address: 0xF82C  Min.: 0.0  Max.: 6500.0  Default: 0.0</p> <p><b>Value Range:</b>  0.0 min to 6500.0 min</p> <p><b>Description</b>  -</p>	<p>Effective mode: -  Unit: min  Data type: UInt16  Change: Changeable only at stop</p>
<b>F8-45</b>	<p><b>AI1 input voltage lower limit</b></p> <p>Address: 0xF82D  Min.: 0.00  Max.: F8-46  Default: 3.10</p>	<p>Effective mode: -  Unit: V  Data type: UInt16  Change: Changeable at any time</p>

**Value Range:**

0.00 V to F8-46

**Description**

-

**F8-46**

**All input voltage upper limit**

Address: 0xF82E

Min.: F8-45

Max.: 10.00

Default: 6.80

**Value Range:**

F8-45 to 10.00 V

**Description**

-

Effective mode: -

Unit: V

Data type: UInt16

Change: Changeable at any time

**F8-47**

**IGBT temperature reach (threshold)**

Address: 0xF82F

Min.: 0

Max.: 100

Default: 75

**Value Range:**

0°C to 100°C

**Description**

-

Effective mode: -

Unit: °C

Data type: UInt16

Change: Changeable at any time

**F8-48**

**Cooling fan control**

Address: 0xF830

Min.: 0

Max.: 1

Default: 0

**Value Range:**

0: Working during AC drive running

1: Working always

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**F8-49**

**Wakeup frequency**

Address: 0xF831

Min.: F8-51

Max.: F0-10

Default: 0.00

**Value Range:**

F8-51 to F0-10

**Description**

In hibernation state, when the frequency reference is greater than or equal to F8-49 (wakeup frequency) and the current running command is valid, the AC drive starts directly after the delay defined by F8-50 (wakeup delay) elapses.

Effective mode: -

Unit: Hz

Data type: UInt16

Change: Changeable at any time

**F8-50**

**Wakeup delay**

Address: 0xF832

Min.: 0.0

Effective mode: -

Unit: s

Max.: 6500.0 Data type: UInt16  
Default: 0.0 Change: Changeable at any time

**Value Range:**

0.0s to 6500.0s

**Description**

In hibernation state, when the frequency reference is greater than or equal to F8-49 (wakeup frequency) and the current running command is valid, the AC drive starts directly after the delay defined by F8-50 (wakeup delay) elapses.

**F8-51 Hibernation frequency**

Address: 0xF833 Effective mode: -  
Min.: 0.00 Unit: Hz  
Max.: F8-49 Data type: UInt16  
Default: 0.00 Change: Changeable at any time

**Value Range:**

0.00 Hz to F8-49

**Description**

When the frequency reference is lower than or equal to F8-51 (hibernation frequency) during running, the AC drive enters the hibernation state and stops after the time defined by F8-52 (hibernation delay) elapses.

**F8-52 Hibernation delay**

Address: 0xF834 Effective mode: -  
Min.: 0.0 Unit: s  
Max.: 6500.0 Data type: UInt16  
Default: 0.0 Change: Changeable at any time

**Value Range:**

0.0s to 6500.0s

**Description**

When the frequency reference is lower than or equal to F8-51 (hibernation frequency) during running, the AC drive enters the hibernation state and stops after the time defined by F8-52 (hibernation delay) elapses.

**F8-53 Current running duration threshold**

Address: 0xF835 Effective mode: -  
Min.: 0.0 Unit: min  
Max.: 6500.0 Data type: UInt16  
Default: 0.0 Change: Changeable only at stop

**Value Range:**

0.0 min to 6500.0 min

**Description**

-

**F8-54 Output power correction coefficient**

Address: 0xF836 Effective mode: -  
Min.: 0.0 Unit: %  
Max.: 200.0 Data type: UInt16  
Default: 100.0 Change: Changeable at any time

**Value Range:**

0.0% to 200.0%

**Description**

This parameter defines the correction coefficient of linear correction on the output power when the output power (U0-05) is not equal to expected value.

**F8-55 Deceleration time for quick stop**

Address:	0xF837	Effective mode:	-
Min.:	0.0	Unit:	s
Max.:	6500.0	Data type:	UInt16
Default:	0.0	Change:	Changeable at any time

**Value Range:**

0.0s to 6500.0s

**Description**

This parameter defines the deceleration time for quick stop.

**F8-56 Real-time target speed source**

Address:	0xF838	Effective mode:	-
Min.:	0	Unit:	-
Max.:	8	Data type:	UInt16
Default:	0	Change:	Changeable only at stop

**Value Range:**

0: RFG output (default)

1: AI1

2: AI2

3: AI3

4: Pulse reference

5: Communication

6: Multi-reference

7: Motor-driven potentiometer

8: PID

Others: F connector

**Description**

-

**F8-57 Undervoltage percentage for storage upon undervoltage**

Address:	0xF839	Effective mode:	-
Min.:	70	Unit:	%
Max.:	120	Data type:	UInt16
Default:	100	Change:	Changeable at any time

**Value Range:**

70% to 120%

**Description**

-

**F8-58 Number of E2P operations per unit time**

Address:	0xF83A	Effective mode:	-
Min.:	0	Unit:	-
Max.:	100	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0 to 100

**Description**

-

**F8-59****DI force function**

Address: 0xF83B

Min.: 0

Max.: 1

Default: 1

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0: The DI functions of group F4 are not enforced. (you need to set the corresponding function connection parameter to 2 to activate the DI function)

1: The DI functions of group F4 are enforced.

**Description**

-

**F8-60****Main status word 1**

Address: 0xF83C

Min.: 0

Max.: 1

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0: Invalid

1: Set to 1

Others: B connector

**Description**

-

**F8-61****Main status word 2**

Address: 0xF83D

Min.: 0

Max.: 1

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0: Invalid

1: Set to 1

Others: B connector

**Description**

-

**F8-62****Target speed reach hysteresis**

Address: 0xF83E

Min.: 0.0

Max.: 600.0

Default: 3.0

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0.0% to 600.0%

**Description**

-

**F8-63****Target speed reach time**

Address: 0xF83F

Effective mode: -

Min.: 0.00  
 Max.: 100.00  
 Default: 3.00  
**Value Range:**  
 0.00s to 100.00s  
**Description**  
 -

Unit: s  
 Data type: UInt16  
 Change: Changeable at any time

**F8-64 Speed comparison reach threshold 1**

Address: 0xF840  
 Min.: 0.0  
 Max.: 600.0  
 Default: 100.0  
**Value Range:**  
 0.0% to 600.0%  
**Description**  
 -

Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Changeable at any time

**F8-65 Speed comparison reach hysteresis 1**

Address: 0xF841  
 Min.: 0.0  
 Max.: 600.0  
 Default: 3.0  
**Value Range:**  
 0.0% to 600.0%  
**Description**  
 -

Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Changeable at any time

**F8-66 Speed comparison reach time 1**

Address: 0xF842  
 Min.: 0.00  
 Max.: 100.00  
 Default: 3.00  
**Value Range:**  
 0.00s to 100.00s  
**Description**  
 -

Effective mode: -  
 Unit: s  
 Data type: UInt16  
 Change: Changeable at any time

**F8-67 Speed comparison reach threshold 2**

Address: 0xF843  
 Min.: 0.0  
 Max.: 600.0  
 Default: 100.0  
**Value Range:**  
 0.0% to 600.0%  
**Description**  
 -

Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Changeable at any time

**F8-68 Speed comparison reach hysteresis 2**

Address: 0xF844  
 Min.: 0.0  
 Max.: 600.0

Effective mode: -  
 Unit: %  
 Data type: UInt16

Default: 3.0  
**Value Range:**  
 0.0% to 600.0%  
**Description**  
 -

Change: Changeable at any time

#### F8-69 **Speed comparison reach time 2**

Address: 0xF845  
 Min.: 0.00  
 Max.: 100.00  
 Default: 3.00

**Value Range:**  
 0.00s to 100.00s

#### **Description**

-

Effective mode: -  
 Unit: s  
 Data type: UInt16  
 Change: Changeable at any time

#### F8-72 **Skip frequency 3**

Address: 0xF848  
 Min.: 0.00  
 Max.: F0-10  
 Default: 0.00

**Value Range:**  
 0.00 Hz to F0-10

#### **Description**

The skip frequency enables the AC drive to avoid any frequency at which a mechanical resonance may occur. This parameter defines the third skip frequency. If it is set to 0, the third skip frequency is canceled.

Effective mode: -  
 Unit: Hz  
 Data type: UInt16  
 Change: Changeable at any time

#### F8-73 **Skip frequency 4**

Address: 0xF849  
 Min.: 0.00  
 Max.: F0-10  
 Default: 0.00

**Value Range:**  
 0.00 Hz to F0-10

#### **Description**

The skip frequency enables the AC drive to avoid any frequency at which a mechanical resonance may occur. This parameter defines the fourth skip frequency. If it is set to 0, the fourth skip frequency is canceled.

Effective mode: -  
 Unit: Hz  
 Data type: UInt16  
 Change: Changeable at any time

#### F8-74 **Power-on duration threshold (second)**

Address: 0xF84A  
 Min.: 0  
 Max.: 3599  
 Default: 0

**Value Range:**  
 0s to 3599s

#### **Description**

-

Effective mode: -  
 Unit: s  
 Data type: UInt16  
 Change: Changeable at any time



**F8-75 Running duration threshold (second)**

Address: 0xF84B

Min.: 0

Max.: 3599

Default: 0

**Value Range:**

0s to 3599s

**Description**

-

Effective mode: -

Unit: s

Data type: UInt16

Change: Changeable at any time

## 4.10 F9: Fault and Protection Parameters

**F9-00 Motor overload protection**

Address: 0xF900

Min.: 0

Max.: 1

Default: 1

**Value Range:**

0: Disabled

1: Enabled

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**F9-01 Motor overload protection gain**

Address: 0xF901

Min.: 0.20

Max.: 10.00

Default: 1.00

**Value Range:**

0.20 to 10.00

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**F9-02 Motor overload pre-warning coefficient**

Address: 0xF902

Min.: 50

Max.: 100

Default: 80

**Value Range:**

50% to 100%

**Description**

-

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable at any time

**F9-03 Overvoltage stall suppression gain**

Address: 0xF903

Min.: 1

Max.: 100

Default: 30

**Value Range:**

1 to 100

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Description**

Increasing F9-03 will improve the control effect of the bus voltage but cause fluctuations in the output frequency. If the output frequency fluctuates greatly, you can decrease F9-03 as appropriate. F9-03 functions the same as F3-24.

**F9-04    Overvoltage stall protection voltage**

Address:	0xF904	Effective mode:	-
Min.:	330.0	Unit:	V
Max.:	800.0	Data type:	UInt16
Default:	770.0	Change:	Changeable at any time

**Value Range:**

330.0 V to 800.0 V

**Description**

This parameter defines the bus voltage upon which the AC drive starts overvoltage stall protection. F9-04 functions the same as F3-22.

**F9-07    Short-to-ground detection**

Address:	0xF907	Effective mode:	-
Min.:	0	Unit:	-
Max.:	11	Data type:	UInt16
Default:	1	Change:	Changeable at any time

**Value Range:**

Ones: Short-to-ground detection upon power-on

0: Disabled

1: Enabled

Tens: Short-to-ground detection before running

0: Disabled

1: Enabled

**Description**

If short-to-ground self-check upon startup is enabled, self-check before startup is not enforced when flying start is enabled.

**F9-08    Braking unit applied voltage**

Address:	0xF908	Effective mode:	-
Min.:	330.0	Unit:	V
Max.:	800.0	Data type:	UInt16
Default:	760.0	Change:	Changeable only at stop

**Value Range:**

330.0 V to 800.0 V

**Description****F9-09    Auto reset attempts**

Address:	0xF909	Effective mode:	-
Min.:	0	Unit:	-
Max.:	100	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0 to 100

**Description**

-

**F9-10 Relay action during auto reset**

Address:	0xF90A	Effective mode:	-
Min.:	0	Unit:	-
Max.:	1	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: Disabled

1: Enabled

**Description**

-

**F9-11 Auto reset interval**

Address:	0xF90B	Effective mode:	-
Min.:	0.1	Unit:	s
Max.:	600.0	Data type:	UInt16
Default:	1.0	Change:	Changeable at any time

**Value Range:**

0.1s to 600.0s

**Description**

-

**F9-12 Input phase loss/Contactor pickup protection**

Address:	0xF90C	Effective mode:	-
Min.:	0	Unit:	-
Max.:	13	Data type:	UInt16
Default:	11	Change:	Changeable at any time

**Value Range:**

Ones: Input phase loss protection

0: Disabled

1: Protection enabled when both software and hardware input phase loss conditions are met

2: Protection enabled when software input phase loss conditions are met

3: Protection enabled when hardware input phase loss conditions are met

Tens: Contactor pickup protection

0: Disabled

1: Enabled

**Description**

-

**F9-13 Output phase loss protection**

Address:	0xF90D	Effective mode:	-
Min.:	0	Unit:	-
Max.:	11	Data type:	UInt16
Default:	1	Change:	Changeable at any time

**Value Range:**

Ones: Output phase loss protection during running

0: Disabled

1: Enabled

Tens: Output phase loss protection before running

0: Disabled

1: Enabled

**Description**

If output phase loss self-check upon startup is enabled, self-check before startup is not enforced after flying start is enabled.

**F9-14****1st fault type**

Address: 0xF90E

Effective mode: -

Min.: 0

Unit: -

Max.: 999

Data type: UInt16

Default: 0

Change: Unchangeable

**Value Range:**

0: No fault

1: Reserved

2: Overcurrent (Err02)

5: Overvoltage (Err05)

8: Pre-charge resistor overload (Err08)

9: Undervoltage (Err09)

10: AC drive overload (Err10)

11: Motor overload (Err11)

12: Input phase loss (Err12)

13: Output phase loss (Err13)

14: IGBT overheat (Err14)

15: External fault (Err15)

16: Communication exception (Err16)

17: Contactor exception (Err17)

18: Current detection exception (Err18)

19: Motor auto-tuning exception (Err19)

20: Encoder/PG card exception

21: Parameter read/write exception (Err21)

22: Encoder card exception (Err22)

23: Motor short-to-ground (Err23)

26: Accumulative running duration reach (Err26)

(To be continued)

(Continued)

- 27: User-defined fault
- 28: User-defined alarm
- 29: Accumulative power-on duration reach (Err29)
- 30: Load loss (Err30)
- 31: PID feedback loss (Err31)
- 32: Parameter exception (Err32)
- 40: Pulse-by-pulse current limit fault (Err40)
- 41: Reserved (Err41)
- 42: Excessive speed deviation (Err42)
- 43: Motor overspeed (Err43)
- 45: Motor overtemperature (Err45)
- 47: STO fault (Err47)
- 55: Slave fault under master-slave control (Err55)
- 56: Self-check fault (Err56)
- 57: IGBT fault (Err57)
- 58: Hardware sensor fault (Err58)
- 59: Two-phase imbalance (Err59)
- 61: Braking overload (Err61)
- 62: Braking module exception (Err62)
- 63: External alarm (Err63)
- 82: Pre-charge contactor feedback exception (Err82)
- 85: Timing exception (Err85)
- 93: Motor control exception (Err93)
- 94: Motor parameter exception (Err94)
- 169: Fault reset fault (Err169)
- 174: Wire breakage (Err174)

**Description**

-

**F9-15**

**2nd fault type**

Address: 0xF90F  
 Min.: 0  
 Max.: 999  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**

Same as F9-15

**Description**

-

**F9-16**

**3rd (latest) fault type**

Address: 0xF910  
 Min.: 0  
 Max.: 999  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**

Same as F9-15

**Description**

-

**F9-17 Frequency upon the 3rd (latest) fault**

Address: 0xF911

Min.: 0.00

Max.: 655.35

Default: 0.00

**Value Range:**

0.00 Hz to 655.35 Hz

**Description**

-

Effective mode: -

Unit: Hz

Data type: Int16

Change: Unchangeable

**F9-18 Current upon the 3rd (latest) fault**

Address: 0xF912

Min.: 0.00

Max.: 655.35

Default: 0.00

**Value Range:**

0.00 A to 655.35 A

**Description**

-

Effective mode: -

Unit: A

Data type: Int16

Change: Unchangeable

**F9-19 Bus voltage upon the 3rd (latest) fault**

Address: 0xF913

Min.: 0.0

Max.: 6553.5

Default: 0.0

**Value Range:**

0.0 V to 6553.5 V

**Description**

-

Effective mode: -

Unit: V

Data type: UInt16

Change: Unchangeable

**F9-20 DI state upon the 3rd (latest) fault**

Address: 0xF914

Min.: 0x0

Max.: 0xFFFF

Default: 0x0

**Value Range:**

0x0 to 0xFFFF

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**F9-21 DO state upon the 3rd (latest) fault**

Address: 0xF915

Min.: 0x0

Max.: 0xFFFF

Default: 0x0

**Value Range:**

0x0 to 0xFFFF

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**F9-22 AC drive state upon the 3rd (latest) fault**

Address:	0xF916	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**F9-23 Power-on duration upon the 3rd (latest) fault**

Address:	0xF917	Effective mode:	-
Min.:	0	Unit:	min
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable

**Value Range:**

0 min to 65535 min

**Description**

-

**F9-24 Running duration upon the 3rd (latest) fault**

Address:	0xF918	Effective mode:	-
Min.:	0.0	Unit:	min
Max.:	6553.5	Data type:	UInt16
Default:	0.0	Change:	Unchangeable

**Value Range:**

0.0 min to 6553.5 min

**Description**

-

**F9-25 Status word A upon the 3rd (latest) fault**

Address:	0xF919	Effective mode:	-
Min.:	0x0	Unit:	-
Max.:	0xFFFF	Data type:	UInt16
Default:	0x0	Change:	Unchangeable

**Value Range:**

0x0 to 0xFFFF

**Description**

-

**F9-26 Status word B upon the 3rd (latest) fault**

Address:	0xF91A	Effective mode:	-
Min.:	0x0	Unit:	-
Max.:	0xFFFF	Data type:	UInt16
Default:	0x0	Change:	Unchangeable

**Value Range:**

0x0 to 0xFFFF

**Description**

-

**F9-27 Frequency upon the 2nd fault**

Address:	0xF91B	Effective mode:	-
----------	--------	-----------------	---

Min.:	0.00	Unit:	Hz
Max.:	655.35	Data type:	Int16
Default:	0.00	Change:	Unchangeable

**Value Range:**

0.00 Hz to 655.35 Hz

**Description**

-

**F9-28 Current upon the 2nd fault**

Address:	0xF91C	Effective mode:	-
Min.:	0.00	Unit:	A
Max.:	655.35	Data type:	Int16
Default:	0.00	Change:	Unchangeable

**Value Range:**

0.00 A to 655.35 A

**Description**

-

**F9-29 Bus voltage upon the 2nd fault**

Address:	0xF91D	Effective mode:	-
Min.:	0.0	Unit:	V
Max.:	6553.5	Data type:	UInt16
Default:	0.0	Change:	Unchangeable

**Value Range:**

0.0 V to 6553.5 V

**Description**

-

**F9-30 DI state upon the 2nd fault**

Address:	0xF91E	Effective mode:	-
Min.:	0x0	Unit:	-
Max.:	0xFFFF	Data type:	UInt16
Default:	0x0	Change:	Unchangeable

**Value Range:**

0x0 to 0xFFFF

**Description**

-

**F9-31 DO state upon the 2nd fault**

Address:	0xF91F	Effective mode:	-
Min.:	0x0	Unit:	-
Max.:	0xFFFF	Data type:	UInt16
Default:	0x0	Change:	Unchangeable

**Value Range:**

0x0 to 0xFFFF

**Description**

-

**F9-32 AC drive state upon the 2nd fault**

Address:	0xF920	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16



Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Change: Unchangeable

**F9-33 Power-on duration upon the 2nd fault**

Address: 0xF921  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**  
 0 min to 65535 min  
**Description**  
 -

Effective mode: -  
 Unit: min  
 Data type: UInt16  
 Change: Unchangeable

**F9-34 Running duration upon the 2nd fault**

Address: 0xF922  
 Min.: 0.0  
 Max.: 6553.5  
 Default: 0.0

**Value Range:**  
 0.0 min to 6553.5 min  
**Description**  
 -

Effective mode: -  
 Unit: min  
 Data type: UInt16  
 Change: Unchangeable

**F9-35 Status word A upon the 2nd fault**

Address: 0xF923  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0

**Value Range:**  
 0x0 to 0xFFFF  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**F9-36 Status word B upon the 2nd fault**

Address: 0xF924  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0

**Value Range:**  
 0x0 to 0xFFFF  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**F9-37 Frequency upon the 1st fault**

Address: 0xF925  
 Min.: 0.00  
 Max.: 655.35  
 Default: 0.00

**Value Range:**

Effective mode: -  
 Unit: Hz  
 Data type: Int16  
 Change: Unchangeable

0.00 Hz to 655.35 Hz

**Description**

-

**F9-38 Current upon the 1st fault**

Address: 0xF926

Min.: 0.00

Max.: 655.35

Default: 0.00

**Value Range:**

0.00 A to 655.35 A

**Description**

-

Effective mode: -

Unit: A

Data type: Int16

Change: Unchangeable

**F9-39 Bus voltage upon the 1st fault**

Address: 0xF927

Min.: 0.0

Max.: 6553.5

Default: 0.0

**Value Range:**

0.0 V to 6553.5 V

**Description**

-

Effective mode: -

Unit: V

Data type: UInt16

Change: Unchangeable

**F9-40 DI state upon the 1st fault**

Address: 0xF928

Min.: 0x0

Max.: 0xFFFF

Default: 0x0

**Value Range:**

0x0 to 0xFFFF

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**F9-41 DO state upon the 1st fault**

Address: 0xF929

Min.: 0x0

Max.: 0xFFFF

Default: 0x0

**Value Range:**

0x0 to 0xFFFF

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**F9-42 AC drive state upon the 1st fault**

Address: 0xF92A

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**Description**

-

**F9-43 Power-on duration upon the 1st fault**

Address: 0xF92B

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 min to 65535 min

**Description**

-

Effective mode: -

Unit: min

Data type: UInt16

Change: Unchangeable

**F9-44 Running duration upon the 1st fault**

Address: 0xF92C

Min.: 0.0

Max.: 6553.5

Default: 0.0

**Value Range:**

0.0 min to 6553.5 min

**Description**

-

Effective mode: -

Unit: min

Data type: UInt16

Change: Unchangeable

**F9-45 Status word A upon the 1st fault**

Address: 0xF92D

Min.: 0x0

Max.: 0xFFFF

Default: 0x0

**Value Range:**

0x0 to 0xFFFF

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**F9-46 Status word B upon the 1st fault**

Address: 0xF92E

Min.: 0x0

Max.: 0xFFFF

Default: 0x0

**Value Range:**

0x0 to 0xFFFF

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**F9-47 Fault protection action selection 1**

Address: 0xF92F

Min.: 0

Max.: 4455

Default: 0

**Value Range:**

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

Ones: Motor overload (Err11)  
 0: Coast to stop  
 1: Stop according to the stop mode  
 2: Continue to run  
 3: Run with power limit  
 4: Run with current limit  
 5: Ignore  
 Tens: Input phase loss (Err12)  
 0: Coast to stop  
 1: Stop according to the stop mode  
 2: Continue to run  
 3: Run with power limit  
 4: Run with current limit  
 5: Ignore  
 Hundreds: Output phase loss (Err13)  
 0: Coast to stop  
 1: Stop according to the stop mode  
 2: Continue to run  
 3: Run with power limit  
 4: Run with current limit  
 Thousands: External fault (Err15)  
 0: Coast to stop  
 1: Stop according to the stop mode  
 2: Continue to run  
 3: Run with power limit  
 4: Run with current limit  
 Ten thousands: Reserved  
**Description**  
 -

**F9-48****Fault protection action selection 2**

Address: 0xF930  
 Min.: 0  
 Max.: 40015  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

Ones: Encoder/PG card exception (Err20)

0: Coast to stop

1: Stop according to the stop mode

2: Continue to run

3: Run with power limit

4: Run with current limit

5: Ignore

Tens: Parameter read/write exception (Err21)

0: Coast to stop

1: Stop according to the stop mode

Hundreds: Reserved (Err24)

0: Coast to stop

Thousands: Reserved (Err25)

0: Coast to stop

Ten thousands: Running duration reach (Err26)

0: Coast to stop

1: Stop according to the stop mode

2: Continue to run

3: Run with power limit

4: Run with current limit

**Description**

-

**F9-49 Fault protection action selection 3**

Address: 0xF931

Min.: 0

Max.: 45444

Default: 220

**Value Range:**

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

Ones: User-defined fault 1 (Err27)

0: Coast to stop

1: Stop according to the stop mode

2: Continue to run

3: Run with power limit

4: Run with current limit

Tens: User-defined fault 2 (Err28)

0: Coast to stop

1: Stop according to the stop mode

2: Continue to run

3: Run with power limit

4: Run with current limit

Hundreds: Power-on duration reach (Err29)

0: Coast to stop

1: Stop according to the stop mode

2: Continue to run

3: Run with power limit

4: Run with current limit

Thousands: Load loss (Err30)

0: Coast to stop

1: Stop according to the stop mode

2: Continue to run

3: Run with power limit

4: Run with current limit

5: Ignore

Ten thousands: PID loss during running (Err31)

0: Coast to stop

1: Stop according to the stop mode

2: Continue to run

3: Run with power limit

4: Run with current limit

#### **Description**

-

### **F9-50**

#### **Fault protection action selection 4**

Address: 0xF932

Min.: 0

Max.: 55

Default: 2

#### **Value Range:**

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

Ones: Excessive speed deviation (Err42)

0: Coast to stop

1: Stop according to the stop mode

2: Continue to run

3: Run with power limit

4: Run with current limit

5: Ignore

Tens: Motor overspeed (Err43)

0: Coast to stop

1: Stop according to the stop mode

2: Continue to run

3: Run with power limit

4: Run with current limit

5: Ignore

Thousands: Magnetic pole position auto-tuning error (Err55)

0: Coast to stop

**Description**

-

**F9-51 Fault protection action selection 5**

Address: 0xF933

Min.: 0

Max.: 50555

Default: 10111

**Value Range:**

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

Ones: Modbus timeout (Err160)

0: Coast to stop

1: Stop according to the stop mode

2: Continue to run

3: Run with power limit

4: Run with current limit

5: Ignore

Tens: CANOpen fault (Err161)

0: Coast to stop

1: Stop according to the stop mode

2: Continue to run

3: Run with power limit

4: Run with current limit

5: Ignore

Hundreds: CANlink fault (Err162)

0: Coast to stop

1: Stop according to the stop mode

2: Continue to run

3: Run with power limit

4: Run with current limit

5: Ignore

Thousands: Reserved

Ten thousands: Expansion card fault (Err164)

0: Coast to stop

1: Stop according to the stop mode

2: Continue to run

3: Run with power limit

4: Run with current limit

5: Ignore

#### Description

-

#### F9-54 Frequency for continuing to run upon fault

Address: 0xF936

Min.: 0

Max.: 4

Default: 1

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

#### Value Range:

0: Current running frequency

1: Frequency reference

2: Frequency upper limit

3: Frequency lower limit

4: Alternative frequency upon exception

#### Description

-



**F9-55 Alternative frequency upon exception**

Address:	0xF937	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	100.0	Data type:	UInt16
Default:	100.0	Change:	Changeable at any time

**Value Range:**  
0.0% to +100.0%

**Description**  
-

**F9-56 AI3 temperature mode - motor temperature sensor type**

Address:	0xF938	Effective mode:	-
Min.:	0	Unit:	-
Max.:	2	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**  
0: No temperature sensor (AI channel used as analog input)

1: PT100  
2: PT1000

**Description**  
-

**F9-57 AI3 temperature mode - motor overheat protection threshold**

Address:	0xF939	Effective mode:	-
Min.:	F9-58	Unit:	°C
Max.:	200	Data type:	UInt16
Default:	110	Change:	Changeable at any time

**Value Range:**  
F9-58 to 200°C

**Description**  
-

**F9-58 AI3 temperature mode - motor overheat pre-warning threshold**

Address:	0xF93A	Effective mode:	-
Min.:	0	Unit:	°C
Max.:	F9-57	Data type:	UInt16
Default:	90	Change:	Changeable at any time

**Value Range:**  
0°C to F9-57

**Description**  
-

**F9-59 Power dip ride-through**

Address:	0xF93B	Effective mode:	-
Min.:	0	Unit:	-
Max.:	3	Data type:	UInt16
Default:	0	Change:	Changeable only at stop

**Value Range:**

- 0: Disabled
- 1: Decelerate
- 2: Decelerate to stop
- 3: Suppress voltage dip

**Description**

This parameter defines whether the AC drive runs continuously upon instantaneous power failure. When instantaneous power failure occurs, the AC drive keeps the motor in the power generating state to keep the bus voltage around the "voltage threshold for enabling power dip ride-through". This prevents the AC drive from stopping due to undervoltage.

- 0: Disabled  
The power dip ride-through function is disabled.

- 1: Decelerate and keep bus voltage constant  
When power failure occurs, the bus voltage stays around the "voltage threshold for enabling power dip ride-through". In this mode, when the grid resumes power supply, the AC drive accelerates to the target frequency based on the acceleration time.

- 2: Decelerate to stop  
When power failure occurs, the AC drive decelerates to stop. In this mode, if the AC drive has not decelerated to 0 when the grid resumes power supply, it resumes running.

- 3: Suppress voltage dip  
In this mode, the AC drive will not stop due to undervoltage caused by voltage dip. The voltage dip suppression time is set by F9-66.

**F9-60****Voltage threshold for disabling power dip ride-through**

Address:	0xF93C	Effective mode:	-
Min.:	80	Unit:	%
Max.:	100	Data type:	UInt16
Default:	85	Change:	Changeable only at stop

**Value Range:**

80% to 100%

**Description**

This parameter defines the voltage threshold for disabling power dip ride-through. 100% corresponds to 540 V. This value is slightly lower than the bus voltage before power failure.

Upon grid power failure, the bus voltage is maintained around F9-62 (voltage threshold for enabling power dip ride-through). When the power supply recovers, the bus voltage rises from F9-62 (voltage threshold for enabling power dip ride-through) to F9-60 (voltage threshold for disabling power dip ride-through). During this period, the output frequency of the AC drive keeps decreasing until the bus voltage reaches F9-60 (voltage threshold for disabling power dip ride-through).

**F9-61****Delay of voltage recovery from power dip**

Address:	0xF93D	Effective mode:	-
Min.:	0.0	Unit:	s
Max.:	100.0	Data type:	UInt16
Default:	0.5	Change:	Changeable only at stop

**Value Range:**

0.0s to 100.0s

**Description**

This parameter defines the time required for the bus voltage to rise from F9-60 (voltage threshold for disabling power dip ride-through) to the voltage before power failure.

**F9-62 Voltage threshold for enabling power dip ride-through**

Address:	0xF93E	Effective mode:	-
Min.:	60	Unit:	%
Max.:	100	Data type:	UInt16
Default:	80	Change:	Changeable only at stop

**Value Range:**

60% to 100%

**Description**

This parameter defines the voltage level at which the bus voltage is maintained upon power failure. Upon power failure, the bus voltage is maintained around F9-62 (voltage threshold for enabling power dip ride-through).

**F9-63 Protection upon load loss**

Address:	0xF93F	Effective mode:	-
Min.:	0	Unit:	-
Max.:	1	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: Disabled

1: Enabled

**Description**

-

**F9-64 Load loss detection level**

Address:	0xF940	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	100.0	Data type:	UInt16
Default:	10.0	Change:	Changeable at any time

**Value Range:**

0.0% to +100.0%

**Description**

-

**F9-65 Load loss detection time**

Address:	0xF941	Effective mode:	-
Min.:	0.0	Unit:	s
Max.:	60.0	Data type:	UInt16
Default:	1.0	Change:	Changeable at any time

**Value Range:**

0.0s to 60.0s

**Description**

-

**F9-67 Overspeed detection level**

Address:	0xF943	Effective mode:	-
Min.:	0.0	Unit:	%

Max.: 50.0  
 Default: 20.0  
**Value Range:**  
 0.0% to 50.0%

Data type: UInt16  
 Change: Changeable at any time

**Description**

-

**F9-68 Overspeed detection time**

Address: 0xF944  
 Min.: 0.0  
 Max.: 60.0  
 Default: 1.0

Effective mode: -  
 Unit: s  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0.0s to 60.0s

**Description**

-

**F9-69 Detection level of excessive speed deviation**

Address: 0xF945  
 Min.: 0.0  
 Max.: 50.0  
 Default: 20.0

Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0.0% to 50.0%

**Description**

-

**F9-70 Detection time of excessive speed deviation**

Address: 0xF946  
 Min.: 0.0  
 Max.: 60.0  
 Default: 5.0

Effective mode: -  
 Unit: s  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0.0s to 60.0s

**Description**

-

**F9-71 Power dip ride-through gain Kp**

Address: 0xF947  
 Min.: 1  
 Max.: 100  
 Default: 40

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

1 to 100

**Description**

-

**F9-72 Power dip ride-through integral coefficient Ki**

Address: 0xF948  
 Min.: 1  
 Max.: 100  
 Default: 30

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

1 to 100

**Description**

-

**F9-73 Deceleration time of power dip ride-through**

Address: 0xF949

Effective mode: -

Min.: 0.0

Unit: s

Max.: 300.0

Data type: UInt16

Default: 20.0

Change: Changeable at any time

**Value Range:**

0.0s to 300.0s

**Description**

-

**F9-74 Voltage dip suppression time**

Address: 0xF94A

Effective mode: -

Min.: 0.1

Unit: s

Max.: 600.0

Data type: UInt16

Default: 0.5

Change: Changeable at any time

**Value Range:**

0.1s to 600.0s

**Description**

-

**F9-75 AI2 temperature mode - motor temperature sensor type**

Address: 0xF94B

Effective mode: -

Min.: 0

Unit: -

Max.: 4

Data type: UInt16

Default: 0

Change: Changeable at any time

**Value Range:**

0: No temperature sensor (AI channel used as analog input)

1: PT100

2: PT1000

3: KTY84-130

4: PTC130

**Description**

-

**F9-76 AI2 temperature mode - motor overheat protection threshold**

Address: 0xF94C

Effective mode: -

Min.: F9-77

Unit: °C

Max.: 200

Data type: UInt16

Default: 110

Change: Changeable at any time

**Value Range:**

F9-77 to 200°C

**Description**

-

**F9-77 AI2 temperature mode - motor overheat pre-warning threshold**

Address: 0xF94D

Effective mode: -

Min.:	0	Unit:	°C
Max.:	F9-76	Data type:	UInt16
Default:	90	Change:	Changeable at any time

**Value Range:**

0°C to F9-76

**Description**

-

**F9-78 AI2 temperature mode - motor temperature reach**

Address:	0xF94E	Effective mode:	-
Min.:	0	Unit:	°C
Max.:	100	Data type:	UInt16
Default:	75	Change:	Changeable at any time

**Value Range:**

0°C to 100°C

**Description**

-

**F9-79 Auto reset of STO state**

Address:	0xF94F	Effective mode:	-
Min.:	0	Unit:	-
Max.:	1	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: Manual reset

1: Auto reset

**Description**

-

**F9-80 AI3 temperature mode - motor temperature reach**

Address:	0xF950	Effective mode:	-
Min.:	0	Unit:	°C
Max.:	100	Data type:	UInt16
Default:	75	Change:	Changeable at any time

**Value Range:**

0°C to 100°C

**Description**

-

## 4.11 FA: Process Control PID Parameters

**FA-00 PID reference source**

Address:	0xFA00	Effective mode:	-
Min.:	0	Unit:	-
Max.:	6	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

- 0: FA-01
- 1: AI1
- 2: AI2
- 3: AI3
- 4: Pulse input (DI5)
- 5: Communication
- 6: Multi-reference
- Others: F connector

**Description**

This parameter specifies the PID reference source. The PID reference is a relative value. The value 100% corresponds to 100% of the feedback signal of the controlled system.

0: FA-01

The PID target reference is the value of FA-01 (PID reference).

1: AI1

The PID reference source is the AI1 input.

2: AI2

The PID reference source is the AI2 input.

3: AI3

The PID reference source is the AI3 input.

4: Pulse reference (DI5)

The PID reference is set by the pulse frequency through the DI5. The frequency is calculated based on the curve reflecting the relationship between the pulse frequency and running frequency.

5: Communication

The PID reference is set by remote communication.

6: Multi-reference

In the multi-reference mode, different combinations of DI terminal states correspond to different frequency references. The four multi-reference terminals can provide 16 state combinations, corresponding to 16 frequency reference values. Note: When FA-00 is set to 6 (multi-reference), FC-51 (multi-reference 0 source) cannot be set to 5 (PID reference).

Others: F connector

A parameter of the floating-point connector is selected as the PID target reference.

**FA-01**

**PID reference**

Address: 0xFA01

Effective mode: -

Min.: 0.0

Unit: %

Max.: 100.0

Data type: UInt16

Default: 50.0

Change: Changeable at any time

**Value Range:**

0.0% to +100.0%

**Description**

When FA-00 (PID reference source) is set to 0, this parameter must be set. The setpoint 100% corresponds to the maximum feedback value.

**FA-02**

**PID feedback source**

Address: 0xFA02

Effective mode: -

Min.: 0

Unit: -

Max.: 8

Data type: UInt16

Default: 0

Change: Changeable at any time

**Value Range:**

0: AI1  
 1: AI2  
 2: AI3  
 3: AI1-AI2  
 4: Pulse reference (DIO1)  
 5: Communication  
 6: AI1+AI2  
 7: MAX(|AI1|, |AI2|)  
 8: Min(|AI1|, |AI2|)  
 Others: F connector

**Description**

This parameter defines the PID feedback source.

**FA-03****PID action direction**

Address:	0xFA03	Effective mode:	-
Min.:	0	Unit:	-
Max.:	1	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: Forward

1: Reverse

Others: B connector

**Description**

0: Forward

When the feedback value is lower than the PID reference, the output frequency of the AC drive increases.

1: Reverse

When the feedback value is lower than the PID reference, the output frequency of the AC drive decreases.

Others: B connector

The PID action direction is determined by a parameter in the bit connector. (0 indicates forward and 1 indicates reverse.)

**FA-04****PID reference and feedback range**

Address:	0xFA04	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	1000	Change:	Changeable at any time

**Value Range:**

0 to 65535

**Description**

This parameter is used for display of the PID reference and feedback, which are dimensionless. For example, if this parameter is set to 1000, the PID reference (0% to 100%) corresponds linearly to the feedback value (0 to 1000).

**FA-05****Proportional gain Kp1**

Address:	0xFA05	Effective mode:	-
Min.:	0.0	Unit:	-
Max.:	1000.0	Data type:	UInt16
Default:	20.0	Change:	Changeable at any time



**Value Range:**

0.0 to 1000.0

**Description**

This parameter defines the proportional gain Kp in PID control. The deviation reduction speed depends on the proportional coefficient Kp. A larger Kp tends to reduce the deviation faster, but may cause system oscillation, especially at large hysteresis. A smaller Kp indicates lower possibility of oscillation but also slower deviation reduction.

**FA-06**

**Integral time Ti1**

Address: 0xFA06

Min.: 0.01

Max.: 10.00

Default: 2.00

Effective mode: -

Unit: s

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0.01s to 10.00s

**Description**

This parameter defines the integral time Ti in PID control. It determines the integral adjustment intensity of the PID controller. Shorter integral time indicates greater adjustment intensity.

**FA-07**

**Derivative time Td1**

Address: 0xFA07

Min.: 0.000

Max.: 10.000

Default: 0.000

Effective mode: -

Unit: s

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0.000s to 10.000s

**Description**

This parameter defines the derivative time Td in PID control. It determines the deviation variation adjustment intensity of the PID controller. Longer derivative time indicates greater adjustment intensity.

**FA-08**

**PID cut-off frequency in reverse direction**

Address: 0xFA08

Min.: 0.00

Max.: F0-10

Default: 2.00

Effective mode: -

Unit: Hz

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0.00 Hz to F0-10

**Description**

When the frequency source is "PID only", the PID cut-off frequency in reverse direction is the minimum value of the current PID output. When the frequency source is "main + PID", FA-08 takes into account the "main + PID" as a whole and outputs the minimum frequency value calculated through the "main + PID" operation. This parameter does not take effect when set to 0.

**FA-09**

**PID deviation limit**

Address: 0xFA09

Min.: 0.0

Max.: 100.0

Default: 0.0

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0.0% to +100.0%

**Description**

When the deviation is within the PID deviation limit, no adjustment is required. This parameter helps balance the accuracy and stability of the system output.

**FA-10 PID derivative limit**

Address: 0xFA0A

Effective mode: -

Min.: 0.00

Unit: %

Max.: 100.00

Data type: UInt16

Default: 0.10

Change: Changeable at any time

**Value Range:**

0.00% to 100.00%

**Description**

This parameter defines the PID derivative output range. In PID control, the derivative may easily cause system oscillation. Therefore, the PID derivative action is restricted to a small range.

**FA-11 PID reference change time**

Address: 0xFA0B

Effective mode: -

Min.: 0.00

Unit: s

Max.: 650.00

Data type: UInt16

Default: 0.00

Change: Changeable at any time

**Value Range:**

0.00s to 650.00s

**Description**

This parameter defines the time required for the PID reference to change from 0.0% to 100.0%.

**FA-12 PID feedback filter time**

Address: 0xFA0C

Effective mode: -

Min.: 0.00

Unit: s

Max.: 60.00

Data type: UInt16

Default: 0.00

Change: Changeable at any time

**Value Range:**

0.00s to 60.00s

**Description**

This parameter defines the filter time of PID feedback. The filter helps to reduce interference on the feedback but lowers the responsiveness of the process closed-loop system.

**FA-13 PID output filter time**

Address: 0xFA0D

Effective mode: -

Min.: 0.00

Unit: s

Max.: 60.00

Data type: UInt16

Default: 0.00

Change: Changeable at any time

**Value Range:**

0.00s to 60.00s

**Description**

This parameter defines the filter time of PID output. The filter enhances smooth output but lowers the responsiveness of the process closed-loop

**FA-15 Proportional gain Kp2**

Address: 0xFA0F

Effective mode: -

Min.: 0.0

Unit: -

Max.:	1000.0	Data type:	UInt16
Default:	20.0	Change:	Changeable at any time

**Value Range:**

0.0 to 1000.0

**Description**

This parameter defines the proportional gain  $K_p$  in PID control. The deviation reduction speed depends on the proportional coefficient  $K_p$ . A larger  $K_p$  tends to reduce the deviation faster, but may cause system oscillation, especially at large hysteresis. A smaller  $K_p$  indicates lower possibility of oscillation but also slower deviation reduction.

**FA-16 Integral time  $T_i2$**

Address:	0xFA10	Effective mode:	-
Min.:	0.01	Unit:	s
Max.:	10.00	Data type:	UInt16
Default:	2.00	Change:	Changeable at any time

**Value Range:**

0.01s to 10.00s

**Description**

This parameter defines the integral time  $T_i$  in PID control. It determines the integral adjustment intensity of the PID controller. Shorter integral time indicates greater adjustment intensity.

**FA-17 Derivative time  $T_d2$**

Address:	0xFA11	Effective mode:	-
Min.:	0.000	Unit:	s
Max.:	10.000	Data type:	UInt16
Default:	0.000	Change:	Changeable at any time

**Value Range:**

0.000s to 10.000s

**Description**

This parameter defines the derivative time  $T_d$  in PID control. It determines the deviation variation adjustment intensity of the PID controller. Longer derivative time indicates greater adjustment intensity.

**FA-18 PID parameter switchover condition**

Address:	0xFA12	Effective mode:	-
Min.:	0	Unit:	-
Max.:	3	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

- 0: No switchover
- 1: Switchover by DI
- 2: Automatic switchover based on deviation
- 3: Automatic switchover based on running frequency

**Description**

This parameter defines the switchover between two groups of PID parameters.

- 0: No switchover
- No switchover is performed.

**1: Switchover by DI**

To use this function, the DI terminal must be assigned with function 43 (PID parameter switchover). If the DI is inactive, parameter group 1 (FA-05 to FA-07) is selected. If the DI is active, parameter group 2 (FA-15 to FA-17) is selected.

**2: Automatic switchover based on deviation**

If the absolute value of the deviation between the reference and the feedback is lower than that set by FA-19 (PID parameter switchover deviation 1), parameter group 1 applies. If the absolute value of the deviation between the reference and the feedback is higher than that set by FA-20 (PID parameter switchover deviation 2), parameter group 2 applies. If this absolute value is between FA-19 (PID parameter switchover deviation 1) and FA-20 (PID parameter switchover deviation 2), the PID parameters are the linear interpolation values of the two groups of parameters.

**3: Switchover based on running frequency**

PID parameters are switched automatically based on the running frequency of the AC drive.

**FA-19 PID parameter switchover deviation 1**

Address:	0xFA13	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	FA-20	Data type:	UInt16
Default:	20.0	Change:	Changeable at any time

**Value Range:**

0.0% to FA-20

**Description**

The value 100% corresponds to the maximum deviation between the reference and feedback. The value range is 0.0% to FA-20 (PID parameter switchover deviation 2).

**FA-20 PID parameter switchover deviation 2**

Address:	0xFA14	Effective mode:	-
Min.:	FA-19	Unit:	%
Max.:	100.0	Data type:	UInt16
Default:	80.0	Change:	Changeable at any time

**Value Range:**

FA-19 to 100.0%

**Description**

The value 100% corresponds to the maximum deviation between the reference and feedback. The value range is FA-19 (PID parameter switchover deviation 1) to 100.0%.

**FA-21 PID initial value**

Address:	0xFA15	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	100.0	Data type:	UInt16
Default:	0.0	Change:	Changeable at any time

**Value Range:**

0.0% to +100.0%

**Description**

When the AC drive starts up, the PID starts the closed-loop algorithm only after the PID output is fixed to the PID initial value (FA-21) for longer than the time set by FA-22 (hold time of PID initial value).

**FA-22 Hold time of PID initial value**

Address:	0xFA16	Effective mode:	-
Min.:	0.00	Unit:	s

Max.:	650.00	Data type:	UInt16
Default:	0.00	Change:	Changeable at any time

**Value Range:**

0.00s to 650.00s

**Description**

When the AC drive starts up, the PID starts the closed-loop algorithm only after the PID output is fixed to the PID initial value (FA-21) for longer than the time set by FA-22 (hold time of PID initial value).

**FA-23 Maximum deviation between two PID outputs**

Address:	0xFA17	Effective mode:	-
Min.:	0.00	Unit:	%
Max.:	100.00	Data type:	UInt16
Default:	1.00	Change:	Changeable at any time

**Value Range:**

0.00% to 100.00%

**Description**

-

**FA-24 Minimum deviation between two PID outputs**

Address:	0xFA18	Effective mode:	-
Min.:	0.00	Unit:	%
Max.:	100.00	Data type:	UInt16
Default:	1.00	Change:	Changeable at any time

**Value Range:**

0.00% to 100.00%

**Description**

-

**FA-25 PID integral property**

Address:	0xFA19	Effective mode:	-
Min.:	0	Unit:	-
Max.:	11	Data type:	UInt16
Default:	10	Change:	Changeable at any time

**Value Range:**

Ones: Integral separation

0: Disabled

1: Enabled

Tens: Whether to stop integration when the output reaches the limit

0: Continue integration

1: Stop integration

**Description**

Ones: Integral separation

0: Disabled When integral separation is disabled, it remains inactive no matter whether the multi-functional DI is active.

1: Enabled When integral separation is enabled, PID integration stops when the DI assigned with the PID integral pause function is active (F4-00 = 22 for example). In this case, only PID proportional and derivative actions are active.

Tens: Whether to stop integration when the output reaches the limit

When the PID calculation output reaches the maximum or minimum value, you can choose whether to stop the integration. If you set this bit to 1, PID integration stops, which may help reduce the PID overshoot.

**FA-26 Lower threshold of detection on feedback loss**

Address:	0xFA1A	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	100.0	Data type:	UInt16
Default:	0.0	Change:	Changeable at any time

**Value Range:**

0.0% to +100.0%

**Description**

This parameter is used to determine whether the PID feedback is lost. When the PID feedback remains lower than the value of FA-26 (lower threshold of detection on feedback loss) for a period longer than the time set by FA-27 (PID feedback loss detection time), the AC drive reports E31.00. The setpoint 0 indicates that detection on feedback loss is disabled.

**FA-27 PID feedback loss detection time**

Address:	0xFA1B	Effective mode:	-
Min.:	0.0	Unit:	s
Max.:	20.0	Data type:	UInt16
Default:	0.0	Change:	Changeable at any time

**Value Range:**

0.0s to 20.0s

**Description**

This parameter is used to determine whether the PID feedback is lost. When the PID feedback remains lower than the value of FA-26 (lower threshold of detection on feedback loss) or higher than the value of FA-29 (upper threshold of detection on feedback loss) for a period longer than the time set by FA-27 (PID feedback loss detection time), the AC drive reports E31.00.

**FA-28 PID operation at stop**

Address:	0xFA1C	Effective mode:	-
Min.:	0	Unit:	-
Max.:	1	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: Disabled

1: Enabled

Others: B connector

**Description**

0: Disabled

When the motor is not running, PID operation is not performed, and the output is cleared.

1: Enabled

When the motor is not running, PID operation is still performed, and the output changes with the feedback and reference

Others: B connector

Whether to perform PID operation at stop is determined by a parameter in the bit connector.

**FA-29 Upper threshold of detection on feedback loss**

Address:	0xFA1D	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	100.0	Data type:	UInt16
Default:	100.0	Change:	Changeable at any time

**Value Range:**

0.0% to +100.0%

**Description**

This parameter is used to determine whether the PID feedback is lost. When the PID feedback remains higher than the value of FA-29 (upper threshold of detection on feedback loss) for a period longer than the time set by FA-27 (PID feedback loss detection time), the AC drive reports E31.00. The setpoint 100.0% indicates that detection on feedback loss is disabled.

**FA-30**

**Source of maximum output**

Address:	0xFA1E	Effective mode:	-
Min.:	0	Unit:	-
Max.:	8	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

- 0: [1]
- 1: AI1
- 2: AI2
- 3: AI3
- 4: Pulse reference
- 5: Communication
- 6: Multi-reference
- 7: Motor-driven potentiometer
- 8: PID

Others: F connector

**Description**

This parameter defines the source of the maximum PID output. When PID is used as the frequency reference source, the PID output is restricted by frequency limits; otherwise, the PID output range is defined by FA-30 and FA-31.

**FA-31**

**Source of minimum output**

Address:	0xFA1F	Effective mode:	-
Min.:	0	Unit:	-
Max.:	8	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

- 0: [0]
- 1: AI1
- 2: AI2
- 3: AI3
- 4: Pulse reference
- 5: Communication
- 6: Multi-reference
- 7: Motor-driven potentiometer
- 8: PID

Others: F connector

**Description**

This parameter defines the source of the minimum PID output. When PID is used as the frequency reference source, the PID output is restricted by frequency limits; otherwise, the PID output range is defined by FA-30 and FA-31.

**FA-32 Forced output value**

Address: 0xFA20  
 Min.: 0  
 Max.: 8  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0: [0]  
 1: AI1  
 2: AI2  
 3: AI3  
 4: Pulse reference  
 5: Communication  
 6: Multi-reference  
 7: Motor-driven potentiometer  
 8: PID  
 Others: F connector

**Description**

This parameter defines the source of forced assignment of PID output. When forced output assignment is enabled (FA-33 = 1), FA-32 determines PID output.

**FA-33 Forced output assignment**

Address: 0xFA21  
 Min.: 0  
 Max.: 1  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0: Disabled  
 1: Enabled  
 Others: B connector

**Description**

0: Disabled  
 The output is not assigned forcibly, and the PID operation is performed as normal.  
 1: Enabled  
 The PID operation stops and the output is forced to be the value defined by FA-32.  
 Others: B connector  
 Whether to enable forced output assignment is determined by a parameter in the bit connector.

**FA-34 General PID enable**

Address: 0xFA22  
 Min.: 0  
 Max.: 1  
 Default: 1

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0: Disabled  
 1: Enabled  
 Others: B connector

**Description**

0: Disabled  
 PID operation is not performed, and the output is cleared.



1: Enabled

PID operation is performed based on parameters in group FA.

Others: B connector

Whether to enable the PID function is determined by a parameter in the bit connector.

## 4.12 FB: Wobble, Fixed Length, and Counting Parameters

### FB-00 Wobble setting mode

Address: 0xFB00

Min.: 0

Max.: 1

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

#### Value Range:

0: Relative to center frequency

1: Relative to maximum frequency

#### Description

-

### FB-01 Wobble amplitude

Address: 0xFB01

Min.: 0.0

Max.: 100.0

Default: 0.0

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable at any time

#### Value Range:

0.0% to +100.0%

#### Description

-

### FB-02 Wobble step

Address: 0xFB02

Min.: 0.0

Max.: 50.0

Default: 0.0

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable at any time

#### Value Range:

0.0% to 50.0%

#### Description

-

### FB-03 Wobble cycle

Address: 0xFB03

Min.: 0.1

Max.: 3000.0

Default: 10.0

Effective mode: -

Unit: s

Data type: UInt16

Change: Changeable at any time

#### Value Range:

0.1s to 3000.0s

#### Description

-

<b>FB-04</b>	<b>Triangular wave rise time coefficient</b> Address: 0xFB04 Min.: 0.1 Max.: 100.0 Default: 50.0 <b>Value Range:</b> 0.1% to +100.0% <b>Description</b> -	Effective mode: - Unit: % Data type: UInt16 Change: Changeable at any time
<b>FB-05</b>	<b>Reference length</b> Address: 0xFB05 Min.: 0 Max.: 65535 Default: 1000 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>FB-06</b>	<b>Actual length</b> Address: 0xFB06 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>FB-07</b>	<b>Number of pulses per meter</b> Address: 0xFB07 Min.: 0.1 Max.: 6553.5 Default: 100.0 <b>Value Range:</b> 0.1 to 6553.5 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>FB-08</b>	<b>Reference count value</b> Address: 0xFB08 Min.: 0 Max.: 65535 Default: 1000 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>FB-09</b>	<b>Designated count value</b> Address: 0xFB09	Effective mode: -

Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	1000	Change:	Changeable at any time

**Value Range:**  
0 to 65535

**Description**  
-

**FB-20 Motor-driven potentiometer enable**

Address:	0xFB14	Effective mode:	-
Min.:	0	Unit:	-
Max.:	18	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: Disabled

1: Enabled

3: DI1

4: DI2

5: DI3

6: DI4

7: DI5

8: DI6

9: DI7

10: DI8

11: DI9

12: DI10

13: DI11

14: DI12

15: DI13

16: DI14

17: DI15

18: DI16

Others: B connector

**Description**

The motor-driven potentiometer can implement virtual potentiometer output.

0: The motor-driven potentiometer is disabled.

1: The motor-driven potentiometer is enabled.

3–18: The value is determined by the corresponding DI.

Others: The value is determined by the corresponding connector.

**FB-21 Memory retention at power failure of motor-driven potentiometer**

Address:	0xFB15	Effective mode:	-
Min.:	0	Unit:	-
Max.:	1	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: Disabled

1: Enabled

**Description**

If memory retention at power failure is enabled and the motor-driven potentiometer is enabled before power failure, the output value of the motor-driven potentiometer after power-on is the last output value before the power failure.

0: Non-retentive upon power failure

1: Retentive upon power failure

#### FB-22 Initial value of motor-driven potentiometer

Address:	0xFB16	Effective mode:	-
Min.:	-600	Unit:	%
Max.:	600.0	Data type:	Int16
Default:	0.0	Change:	Changeable at any time

##### Value Range:

-600% to +600.0%

##### Description

This parameter defines the per-unit value of the motor-driven potentiometer in initial state after it is enabled.

#### FB-23 Value increase time base of motor-driven potentiometer

Address:	0xFB17	Effective mode:	-
Min.:	0.00	Unit:	s
Max.:	655.35	Data type:	UInt16
Default:	20.00	Change:	Changeable at any time

##### Value Range:

0.00s to 655.35s

##### Description

This parameter defines the increase rate of the motor potentiometer count value, specifically the time required to increase from 0 to the maximum frequency.

#### FB-24 Value decrease time base of motor-driven potentiometer

Address:	0xFB18	Effective mode:	-
Min.:	0.00	Unit:	s
Max.:	655.35	Data type:	UInt16
Default:	20.00	Change:	Changeable at any time

##### Value Range:

0.00s to 655.35s

##### Description

This parameter defines the decrease rate of the motor potentiometer count value, specifically the time required to decrease from the maximum frequency to 0.

#### FB-25 Source of motor-driven potentiometer increase command

Address:	0xFB19	Effective mode:	-
Min.:	0	Unit:	-
Max.:	18	Data type:	UInt16
Default:	0	Change:	Changeable at any time

##### Value Range:

0: Inactive

1: Active

3: DI1

4: DI2

5: DI3

6: DI4

7: DI5

8: DI6

9: DI7

10: DI8

11: DI9

12: DI10

13: DI11

14: DI12

15: DI13

16: DI14

17: DI15

18: DI16

Others: B connector

**Description**

This parameter defines the source of the output value increase command of the motor-driven potentiometer.

0: The increase command source is invalid.

1: The increase command source is valid.

3–18: The increase command source is the corresponding DI value.

Others: The increase command source is the corresponding connector value.

**FB-26**

**Source of motor-driven potentiometer decrease command**

Address: 0xFB1A

Effective mode: -

Min.: 0

Unit: -

Max.: 18

Data type: UInt16

Default: 0

Change: Changeable at any time

**Value Range:**

0: Inactive  
 1: Active  
 3: DI1  
 4: DI2  
 5: DI3  
 6: DI4  
 7: DI5  
 8: DI6  
 9: DI7  
 10: DI8  
 11: DI9  
 12: DI10  
 13: DI11  
 14: DI12  
 15: DI13  
 16: DI14  
 17: DI15  
 18: DI16

Others: B connector

#### Description

This parameter defines the source of the output value decrease command of the motor-driven potentiometer.

0: The decrease command source is invalid.

1: The decrease command source is valid.

3–18: The decrease command source is the corresponding DI value.

Others: The decrease command source is the corresponding connector value.

#### FB-27 Maximum output value of motor-driven potentiometer

Address:	0xFB1B	Effective mode:	-
Min.:	-600	Unit:	%
Max.:	600.0	Data type:	Int16
Default:	600.0	Change:	Changeable at any time

#### Value Range:

-600% to +600.0%

#### Description

This parameter defines the maximum per-unit value that the motor-driven potentiometer can output.

#### FB-28 Minimum output value of motor-driven potentiometer

Address:	0xFB1C	Effective mode:	-
Min.:	-600	Unit:	%
Max.:	600.0	Data type:	Int16
Default:	-600	Change:	Changeable at any time

#### Value Range:

-600% to +600.0%

#### Description

This parameter defines the minimum per-unit value that the motor-driven potentiometer can output.

#### FB-29 Source 1 of motor-driven potentiometer pause command

Address:	0xFB1D	Effective mode:	-
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Min.:	0	Unit:	-
Max.:	18	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: Inactive

1: Active

3: DI1

4: DI2

5: DI3

6: DI4

7: DI5

8: DI6

9: DI7

10: DI8

11: DI9

12: DI10

13: DI11

14: DI12

15: DI13

16: DI14

17: DI15

18: DI16

Others: B connector

**Description**

When the pause command is 0, the pause is invalid; when the pause command is 1, the motor-driven potentiometer pauses.

0: The pause is invalid.

1: The pause is valid.

3–18: The command is the value input by the corresponding DI.

Others: The command is the value input by the corresponding connector.

**FB-30**

**Source 2 of motor-driven potentiometer pause command**

Address:	0xFB1E	Effective mode:	-
Min.:	0	Unit:	-
Max.:	18	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: Inactive

1: Active

3: DI1

4: DI2

5: DI3

6: DI4

7: DI5

8: DI6

9: DI7

10: DI8

11: DI9

12: DI10

13: DI11

14: DI12

15: DI13

16: DI14

17: DI15

18: DI16

Others: B connector

#### **Description**

When the pause command is 0, the pause is invalid; when the pause command is 1, the motor-driven potentiometer pauses.

0: The pause is invalid.

1: The pause is valid.

3–18: The command is the value input by the corresponding DI.

Others: The command is the value input by the corresponding connector.

#### **FB-31**

#### **Source 1 of motor-driven potentiometer reset command**

Address: 0xFB1F

Effective mode: -

Min.: 0

Unit: -

Max.: 18

Data type: UInt16

Default: 0

Change: Changeable at any time

#### **Value Range:**



0: Inactive

1: Active

3: DI1

4: DI2

5: DI3

6: DI4

7: DI5

8: DI6

9: DI7

10: DI8

11: DI9

12: DI10

13: DI11

14: DI12

15: DI13

16: DI14

17: DI15

18: DI16

Others: B connector

**Description**

When the reset command is 0, the reset is invalid; when the reset command is 1, the output of the motor-driven potentiometer is reset.

0: The reset is invalid.

1: The reset is valid.

3–18: The command is the value input by the corresponding DI.

Others: The command is the value input by the corresponding connector.

**FB-32**

**Source 2 of motor-driven potentiometer reset command**

Address: 0xFB20

Effective mode: -

Min.: 0

Unit: -

Max.: 18

Data type: UInt16

Default: 0

Change: Changeable at any time

**Value Range:**

0: Inactive

1: Active

3: DI1

4: DI2

5: DI3

6: DI4

7: DI5

8: DI6

9: DI7

10: DI8

11: DI9

12: DI10

13: DI11

14: DI12

15: DI13

16: DI14

17: DI15

18: DI16

Others: B connector

#### **Description**

When the reset command is 0, the reset is invalid; when the reset command is 1, the output of the motor-driven potentiometer is reset.

0: The reset is invalid.

1: The reset is valid.

3–18: The command is the value input by the corresponding DI.

Others: The command is the value input by the corresponding connector.

### **FB-33**

#### **Source of motor-driven potentiometer reset value**

Address: 0xFB21

Effective mode: -

Min.: 0

Unit: -

Max.: 8

Data type: UInt16

Default: 0

Change: Changeable at any time

#### **Value Range:**

0: Digital setting

1: AI1

2: AI2

3: AI3

4: Pulse reference

5: Communication

6: Multi-reference

7: Motor-driven potentiometer

8: PID

Others: F connector

#### **Description**

This parameter defines the specific per-unit value of reset after the motor-driven potentiometer receives the reset command.

0: Value of FB-34

1–3: Corresponding AI input value

4: Pulse input value

5: Value input through communication

6: Multi-reference output value

7: Motor-driven potentiometer output value

8: General PID output value

Others: Connector value

**FB-34 Reset value of motor-driven potentiometer**

Address: 0xFB22

Effective mode: -

Min.: -600

Unit: %

Max.: 600.0

Data type: Int16

Default: 0.0

Change: Changeable at any time

**Value Range:**

-600% to +600.0%

**Description**

This parameter specifies the reset value of the motor-driven potentiometer when FB-33 is set to 0.

**FB-35 Source of motor-driven potentiometer force command**

Address: 0xFB23

Effective mode: -

Min.: 0

Unit: -

Max.: 18

Data type: UInt16

Default: 0

Change: Changeable at any time

**Value Range:**

0: Inactive

1: Active

3: DI1

4: DI2

5: DI3

6: DI4

7: DI5

8: DI6

9: DI7

10: DI8

11: DI9

12: DI10

13: DI11

14: DI12

15: DI13

16: DI14

17: DI15

18: DI16

Others: B connector

**Description**

When the force command is 0, the force is invalid; when the force command is 1, the output of the motor-driven potentiometer is forced to the designated value.

0: The force invalid.

1: The force is valid.

3–18: The command is the value input by the corresponding DI.

Others: The command is the value input by the corresponding connector.

#### FB-36 Source of motor-driven potentiometer force value

Address:	0xFB24	Effective mode:	-
Min.:	0	Unit:	-
Max.:	8	Data type:	UInt16
Default:	0	Change:	Changeable at any time

##### Value Range:

0: Digital setting

1: AI1

2: AI2

3: AI3

4: Pulse reference

5: Communication

6: Multi-reference

7: Motor-driven potentiometer

8: PID

Others: F connector

##### Description

This parameter defines the forced per-unit value after the motor-driven potentiometer receives the force command.

0: Value of FB-37

1–3: Corresponding AI input value

4: Pulse input value

5: Value input through communication

6: Multi-reference output value

7: Motor-driven potentiometer output value

8: General PID output value

Others: Connector value

#### FB-37 Force value of motor-driven potentiometer

Address:	0xFB25	Effective mode:	-
Min.:	-600	Unit:	%
Max.:	600.0	Data type:	Int16
Default:	0.0	Change:	Changeable at any time

##### Value Range:

-600% to +600.0%

##### Description

This parameter specifies the force value of the motor-driven potentiometer when FB-36 is set to 0.

#### FB-38 High-order bits of motor-driven potentiometer storage

Address:	0xFB26	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16

Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Change: Changeable at any time

**FB-39 Low-order bits of motor-driven potentiometer storage**

Address: 0xFB27  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**FB-46 Simple UP/DOWN output**

Address: 0xFB2E  
 Min.: -32767  
 Max.: 32767  
 Default: 0  
**Value Range:**  
 -32767 to +32767  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: Int16  
 Change: Unchangeable

## 4.13 FC: Multi-reference Parameters

**FC-00 Multi-reference 1**

Address: 0xFC00  
 Min.: -100  
 Max.: 100.0  
 Default: 0.0  
**Value Range:**  
 -100% to +100.0%  
**Description**

Effective mode: -  
 Unit: %  
 Data type: Int16  
 Change: Changeable at any time

The unit of the multi-reference value is %. The AC drive provides four multi-reference terminals, which provide 16 state combinations, corresponding to 16 frequency setpoints. This parameter defines the frequency reference of each speed when the frequency reference source is set to multi-reference. FC-00 to FC-15 correspond to a total of 16 frequency setpoints for 16 segments numbered from 0 to 15. The frequency setpoint is calculated as a percentage to the maximum frequency. The value 100% corresponds to F0-10 (maximum frequency). The source of multi-reference 1 is selected in FC-51, and the other multi-reference values are set by parameters. When outputting to a floating-point connector, the multi-reference value can be used not only as the frequency reference, but also torque, voltage, or other reference input. The multi-reference value is a percentage of the rated value.

<b>FC-01</b>	<b>Multi-reference 2</b> Address: 0xFC01 Min.: -100 Max.: 100.0 Default: 0.0 <b>Value Range:</b> -100% to +100.0% <b>Description</b> Same as FC-00	Effective mode: - Unit: % Data type: Int16 Change: Changeable at any time
<b>FC-02</b>	<b>Multi-reference 3</b> Address: 0xFC02 Min.: -100 Max.: 100.0 Default: 0.0 <b>Value Range:</b> -100% to +100.0% <b>Description</b> Same as FC-00	Effective mode: - Unit: % Data type: Int16 Change: Changeable at any time
<b>FC-03</b>	<b>Multi-reference 4</b> Address: 0xFC03 Min.: -100 Max.: 100.0 Default: 0.0 <b>Value Range:</b> -100% to +100.0% <b>Description</b> Same as FC-00	Effective mode: - Unit: % Data type: Int16 Change: Changeable at any time
<b>FC-04</b>	<b>Multi-reference 5</b> Address: 0xFC04 Min.: -100 Max.: 100.0 Default: 0.0 <b>Value Range:</b> -100% to +100.0% <b>Description</b> Same as FC-00	Effective mode: - Unit: % Data type: Int16 Change: Changeable at any time
<b>FC-05</b>	<b>Multi-reference 6</b> Address: 0xFC05 Min.: -100 Max.: 100.0 Default: 0.0 <b>Value Range:</b> -100% to +100.0% <b>Description</b> Same as FC-00	Effective mode: - Unit: % Data type: Int16 Change: Changeable at any time
<b>FC-06</b>	<b>Multi-reference 7</b> Address: 0xFC06	Effective mode: -

## Parameter Group

---

Min.: -100  
Max.: 100.0  
Default: 0.0

**Value Range:**

-100% to +100.0%

**Description**

Same as FC-00

Unit: %  
Data type: Int16  
Change: Changeable at any time

**FC-07**

**Multi-reference 8**

Address: 0xFC07  
Min.: -100  
Max.: 100.0  
Default: 0.0

**Value Range:**

-100% to +100.0%

**Description**

Same as FC-00

Effective mode: -  
Unit: %  
Data type: Int16  
Change: Changeable at any time

**FC-08**

**Multi-reference 9**

Address: 0xFC08  
Min.: -100  
Max.: 100.0  
Default: 0.0

**Value Range:**

-100% to +100.0%

**Description**

Same as FC-00

Effective mode: -  
Unit: %  
Data type: Int16  
Change: Changeable at any time

**FC-09**

**Multi-reference 10**

Address: 0xFC09  
Min.: -100  
Max.: 100.0  
Default: 0.0

**Value Range:**

-100% to +100.0%

**Description**

Same as FC-00

Effective mode: -  
Unit: %  
Data type: Int16  
Change: Changeable at any time

**FC-10**

**Multi-reference 11**

Address: 0xFC0A  
Min.: -100  
Max.: 100.0  
Default: 0.0

**Value Range:**

-100% to +100.0%

**Description**

Same as FC-00

Effective mode: -  
Unit: %  
Data type: Int16  
Change: Changeable at any time

**FC-11**

**Multi-reference 12**

Address: 0xFC0B  
Min.: -100  
Max.: 100.0

Effective mode: -  
Unit: %  
Data type: Int16

Default: 0.0  
**Value Range:**  
 -100% to +100.0%  
**Description**  
 Same as FC-00

Change: Changeable at any time

**FC-12 Multi-reference 13**

Address: 0xFC0C  
 Min.: -100  
 Max.: 100.0  
 Default: 0.0  
**Value Range:**  
 -100% to +100.0%  
**Description**  
 Same as FC-00

Effective mode: -  
 Unit: %  
 Data type: Int16  
 Change: Changeable at any time

**FC-13 Multi-reference 14**

Address: 0xFC0D  
 Min.: -100  
 Max.: 100.0  
 Default: 0.0  
**Value Range:**  
 -100% to +100.0%  
**Description**  
 Same as FC-00

Effective mode: -  
 Unit: %  
 Data type: Int16  
 Change: Changeable at any time

**FC-14 Multi-reference 15**

Address: 0xFC0E  
 Min.: -100  
 Max.: 100.0  
 Default: 0.0  
**Value Range:**  
 -100% to +100.0%  
**Description**  
 Same as FC-00

Effective mode: -  
 Unit: %  
 Data type: Int16  
 Change: Changeable at any time

**FC-15 Multi-reference 16**

Address: 0xFC0F  
 Min.: -100  
 Max.: 100.0  
 Default: 0.0  
**Value Range:**  
 -100% to +100.0%  
**Description**  
 Same as FC-00

Effective mode: -  
 Unit: %  
 Data type: Int16  
 Change: Changeable at any time

**FC-16 Simple PLC running mode**

Address: 0xFC10  
 Min.: 0  
 Max.: 2  
 Default: 0  
**Value Range:**

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time



- 0: Stop after running for one cycle
- 1: Keep final values after running for one cycle
- 2: Repeat after running for one cycle

**Description**

-

**FC-17 Simple PLC memory retention upon power failure**

Address:	0xFC11	Effective mode:	-
Min.:	0	Unit:	-
Max.:	11	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

Ones: Retentive upon power failure

0: No

1: Yes

Tens: Retentive upon stop

0: No

1: Yes

**Description**

-

**FC-18 Running time of PLC reference 0**

Address:	0xFC12	Effective mode:	-
Min.:	0.0	Unit:	s (h)
Max.:	6553.5	Data type:	UInt16
Default:	0.0	Change:	Changeable at any time

**Value Range:**

0.0s (h) to 6553.5s (h)

**Description**

-

**FC-19 Acceleration/Deceleration time of PLC reference 0**

Address:	0xFC13	Effective mode:	-
Min.:	0	Unit:	-
Max.:	3	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0 to 3

**Description**

-

**FC-20 Running time of PLC reference 1**

Address:	0xFC14	Effective mode:	-
Min.:	0.0	Unit:	s (h)
Max.:	6553.5	Data type:	UInt16
Default:	0.0	Change:	Changeable at any time

**Value Range:**

0.0s (h) to 6553.5s (h)

**Description**

-

<b>FC-21</b>	<b>Acceleration/Deceleration time of PLC reference 1</b>	
Address:	0xFC15	Effective mode: -
Min.:	0	Unit: -
Max.:	3	Data type: UInt16
Default:	0	Change: Changeable at any time
<b>Value Range:</b>		
	0 to 3	
<b>Description</b>		
	-	
<b>FC-22</b>	<b>Running time of PLC reference 2</b>	
Address:	0xFC16	Effective mode: -
Min.:	0.0	Unit: s (h)
Max.:	6553.5	Data type: UInt16
Default:	0.0	Change: Changeable at any time
<b>Value Range:</b>		
	0.0s (h) to 6553.5s (h)	
<b>Description</b>		
	-	
<b>FC-23</b>	<b>Acceleration/Deceleration time of PLC reference 2</b>	
Address:	0xFC17	Effective mode: -
Min.:	0	Unit: -
Max.:	3	Data type: UInt16
Default:	0	Change: Changeable at any time
<b>Value Range:</b>		
	0 to 3	
<b>Description</b>		
	-	
<b>FC-24</b>	<b>Running time of PLC reference 3</b>	
Address:	0xFC18	Effective mode: -
Min.:	0.0	Unit: s (h)
Max.:	6553.5	Data type: UInt16
Default:	0.0	Change: Changeable at any time
<b>Value Range:</b>		
	0.0s (h) to 6553.5s (h)	
<b>Description</b>		
	-	
<b>FC-25</b>	<b>Acceleration/Deceleration time of PLC reference 3</b>	
Address:	0xFC19	Effective mode: -
Min.:	0	Unit: -
Max.:	3	Data type: UInt16
Default:	0	Change: Changeable at any time
<b>Value Range:</b>		
	0 to 3	
<b>Description</b>		
	-	
<b>FC-26</b>	<b>Running time of PLC reference 4</b>	
Address:	0xFC1A	Effective mode: -

Min.:	0.0	Unit:	s (h)
Max.:	6553.5	Data type:	UInt16
Default:	0.0	Change:	Changeable at any time

**Value Range:**

0.0s (h) to 6553.5s (h)

**Description**

-

**FC-27 Acceleration/Deceleration time of PLC reference 4**

Address:	0xFC1B	Effective mode:	-
Min.:	0	Unit:	-
Max.:	3	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0 to 3

**Description**

-

**FC-28 Running time of PLC reference 5**

Address:	0xFC1C	Effective mode:	-
Min.:	0.0	Unit:	s (h)
Max.:	6553.5	Data type:	UInt16
Default:	0.0	Change:	Changeable at any time

**Value Range:**

0.0s (h) to 6553.5s (h)

**Description**

-

**FC-29 Acceleration/Deceleration time of PLC reference 5**

Address:	0xFC1D	Effective mode:	-
Min.:	0	Unit:	-
Max.:	3	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0 to 3

**Description**

-

**FC-30 Running time of PLC reference 6**

Address:	0xFC1E	Effective mode:	-
Min.:	0.0	Unit:	s (h)
Max.:	6553.5	Data type:	UInt16
Default:	0.0	Change:	Changeable at any time

**Value Range:**

0.0s (h) to 6553.5s (h)

**Description**

-

**FC-31 Acceleration/Deceleration time of PLC reference 6**

Address:	0xFC1F	Effective mode:	-
Min.:	0	Unit:	-
Max.:	3	Data type:	UInt16

Default: 0  
**Value Range:**  
 0 to 3  
**Description**  
 -

Change: Changeable at any time

#### FC-32 Running time of PLC reference 7

Address: 0xFC20  
 Min.: 0.0  
 Max.: 6553.5  
 Default: 0.0

**Value Range:**  
 0.0s (h) to 6553.5s (h)

**Description**  
 -

Effective mode: -  
 Unit: s (h)  
 Data type: UInt16  
 Change: Changeable at any time

#### FC-33 Acceleration/Deceleration time of PLC reference 7

Address: 0xFC21  
 Min.: 0  
 Max.: 3  
 Default: 0

**Value Range:**  
 0 to 3

**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

#### FC-34 Running time of PLC reference 8

Address: 0xFC22  
 Min.: 0.0  
 Max.: 6553.5  
 Default: 0.0

**Value Range:**  
 0.0s (h) to 6553.5s (h)

**Description**  
 -

Effective mode: -  
 Unit: s (h)  
 Data type: UInt16  
 Change: Changeable at any time

#### FC-35 Acceleration/Deceleration time of PLC reference 8

Address: 0xFC23  
 Min.: 0  
 Max.: 3  
 Default: 0

**Value Range:**  
 0 to 3

**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

#### FC-36 Running time of PLC reference 9

Address: 0xFC24  
 Min.: 0.0  
 Max.: 6553.5  
 Default: 0.0

**Value Range:**

Effective mode: -  
 Unit: s (h)  
 Data type: UInt16  
 Change: Changeable at any time

0.0s (h) to 6553.5s (h)

**Description**

-

**FC-37 Acceleration/Deceleration time of PLC reference 9**

Address: 0xFC25

Effective mode: -

Min.: 0

Unit: -

Max.: 3

Data type: UInt16

Default: 0

Change: Changeable at any time

**Value Range:**

0 to 3

**Description**

-

**FC-38 Running time of PLC reference 10**

Address: 0xFC26

Effective mode: -

Min.: 0.0

Unit: s (h)

Max.: 6553.5

Data type: UInt16

Default: 0.0

Change: Changeable at any time

**Value Range:**

0.0s (h) to 6553.5s (h)

**Description**

-

**FC-39 Acceleration/Deceleration time of PLC reference 10**

Address: 0xFC27

Effective mode: -

Min.: 0

Unit: -

Max.: 3

Data type: UInt16

Default: 0

Change: Changeable at any time

**Value Range:**

0 to 3

**Description**

-

**FC-40 Running time of PLC reference 11**

Address: 0xFC28

Effective mode: -

Min.: 0.0

Unit: s (h)

Max.: 6553.5

Data type: UInt16

Default: 0.0

Change: Changeable at any time

**Value Range:**

0.0s (h) to 6553.5s (h)

**Description**

-

**FC-41 Acceleration/Deceleration time of PLC reference 11**

Address: 0xFC29

Effective mode: -

Min.: 0

Unit: -

Max.: 3

Data type: UInt16

Default: 0

Change: Changeable at any time

**Value Range:**

0 to 3

**Description**

-

**FC-42 Running time of PLC reference 12**

Address: 0xFC2A

Min.: 0.0

Max.: 6553.5

Default: 0.0

Effective mode: -

Unit: s (h)

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0.0s (h) to 6553.5s (h)

**Description**

-

**FC-43 Acceleration/Deceleration time of PLC reference 12**

Address: 0xFC2B

Min.: 0

Max.: 3

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0 to 3

**Description**

-

**FC-44 Running time of PLC reference 13**

Address: 0xFC2C

Min.: 0.0

Max.: 6553.5

Default: 0.0

Effective mode: -

Unit: s (h)

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0.0s (h) to 6553.5s (h)

**Description**

-

**FC-45 Acceleration/Deceleration time of PLC reference 13**

Address: 0xFC2D

Min.: 0

Max.: 3

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0 to 3

**Description**

-

**FC-46 Running time of PLC reference 14**

Address: 0xFC2E

Min.: 0.0

Max.: 6553.5

Default: 0.0

Effective mode: -

Unit: s (h)

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0.0s (h) to 6553.5s (h)

**Description**

-

<b>FC-47</b>	<b>Acceleration/Deceleration time of PLC reference 14</b>	Address: 0xFC2F Min.: 0 Max.: 3 Default: 0 <b>Value Range:</b> 0 to 3 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>FC-48</b>	<b>Running time of PLC reference 15</b>	Address: 0xFC30 Min.: 0.0 Max.: 6553.5 Default: 0.0 <b>Value Range:</b> 0.0s (h) to 6553.5s (h) <b>Description</b> -	Effective mode: - Unit: s (h) Data type: UInt16 Change: Changeable at any time
<b>FC-49</b>	<b>Acceleration/Deceleration time of PLC reference 15</b>	Address: 0xFC31 Min.: 0 Max.: 3 Default: 0 <b>Value Range:</b> 0 to 3 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>FC-50</b>	<b>PLC running time unit</b>	Address: 0xFC32 Min.: 0 Max.: 1 Default: 0 <b>Value Range:</b> 0: s (second) 1: h (hour) <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>FC-51</b>	<b>Multi-reference 0 source</b>	Address: 0xFC33 Min.: 0 Max.: 6 Default: 0 <b>Value Range:</b>	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time

0: FC-00  
 1: AI1  
 2: AI2  
 3: AI3  
 4: Pulse reference  
 5: PID  
 6: Preset frequency (F0-08)

Others: F connector

#### Description

This parameter defines the source of multi-reference value 1.

### FC-52

#### Current multi-reference

Address: 0xFC34

Min.: 0

Max.: 15

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

#### Value Range:

0: Multi-reference 1

1: Multi-reference 2

2: Multi-reference 3

3: Multi-reference 4

4: Multi-reference 5

5: Multi-reference 6

6: Multi-reference 7

7: Multi-reference 8

8: Multi-reference 9

9: Multi-reference 10

10: Multi-reference 11

11: Multi-reference 12

12: Multi-reference 13

13: Multi-reference 14

14: Multi-reference 15

15: Multi-reference 16

#### Description

This parameter shows the current active multi-reference.

### FC-53

#### Current multi-reference value

Address: 0xFC35

Min.: -600

Max.: 600.0

Default: 0.0

Effective mode: -

Unit: %

Data type: Int16

Change: Unchangeable

#### Value Range:

-600% to +600.0%

#### Description

This parameter shows the value of the current active multi-reference.

### FC-55

#### Multi-reference value bit0

Address: 0xFC37

Min.: 0

Effective mode: -

Unit: -



Max.: 18  
Default: 0

Data type: UInt16  
Change: Changeable at any time

**Value Range:**

- 0: 0
- 1: 1
- 2: Terminal function input
- 3: DI1
- 4: DI2
- 5: DI3
- 6: DI4
- 7: DI5
- 8: DI6
- 9: DI7
- 10: DI8
- 11: DI9
- 12: DI10
- 13: DI11
- 14: DI12
- 15: DI13
- 16: DI14
- 17: DI15
- 18: DI16
- Others: B connector

**Description**

This parameter defines the source of bit0 of the multi-reference value.

**FC-56**

**Multi-reference value bit1**

Address: 0xFC38  
Min.: 0  
Max.: 18  
Default: 0

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Changeable at any time

**Value Range:**

0: 0  
 1: 1  
 2: Terminal function input  
 3: DI1  
 4: DI2  
 5: DI3  
 6: DI4  
 7: DI5  
 8: DI6  
 9: DI7  
 10: DI8  
 11: DI9  
 12: DI10  
 13: DI11  
 14: DI12  
 15: DI13  
 16: DI14  
 17: DI15  
 18: DI16  
 Others: B connector

**Description**

This parameter defines the source of bit1 of the multi-reference value.

**FC-57****Multi-reference value bit2**

Address: 0xFC39  
 Min.: 0  
 Max.: 18  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

- 0: 0
- 1: 1
- 2: Terminal function input
- 3: DI1
- 4: DI2
- 5: DI3
- 6: DI4
- 7: DI5
- 8: DI6
- 9: DI7
- 10: DI8
- 11: DI9
- 12: DI10
- 13: DI11
- 14: DI12
- 15: DI13
- 16: DI14
- 17: DI15
- 18: DI16

Others: B connector

**Description**

This parameter defines the source of bit2 of the multi-reference value.

**FC-58**

**Multi-reference value bit3**

Address: 0xFC3A

Min.: 0

Max.: 18

Default: 0

**Value Range:**

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

0: 0  
 1: 1  
 2: Terminal function input  
 3: DI1  
 4: DI2  
 5: DI3  
 6: DI4  
 7: DI5  
 8: DI6  
 9: DI7  
 10: DI8  
 11: DI9  
 12: DI10  
 13: DI11  
 14: DI12  
 15: DI13  
 16: DI14  
 17: DI15  
 18: DI16

Others: B connector

#### Description

This parameter defines the source of bit3 of the multi-reference value.

#### FC-59

##### Current STEP of PLC

Address:	0xFC3B	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable

#### Value Range:

0 to 65535

#### Description

-

#### FC-60

##### High-order bits of PLC current STEP running time

Address:	0xFC3C	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable

#### Value Range:

0 to 65535

#### Description

-

#### FC-61

##### Low-order bits of PLC current STEP running time

Address:	0xFC3D	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable

#### Value Range:

0 to 65535

**Description**

-

## 4.14 FD: Communication Parameters

### FD-00

**Baud rate**

Address: 0xFD00

Min.: 0

Max.: 6009

Default: 5005

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**Value Range:**

Ones: Modbus

0: 300 bps

1: 600 bps

2: 1200 bps

3: 2400 bps

4: 4800 bps

5: 9600 bps

6: 19200 bps

7: 38400 bps

8: 57600 bps

9: 115200 bps

Tens: Reserved

Hundreds: Reserved

Thousands: CANLink/CANOpen

0: 20

1: 50

2: 100

3: 125

4: 250

5: 500

6: 1M

**Description**

-

### FD-01

**Modbus data format**

Address: 0xFD01

Min.: 0

Max.: 7

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

- 0: No check (8-N-2)
- 1: Even parity (8-E-1)
- 2: Odd parity (8-O-1)
- 3: No check (8-N-1)
- 4: No check (7-N-2)
- 5: Even parity (7-E-1)
- 6: Odd parity (7-O-1)
- 7: No check (7-N-1)

**Description**

This parameter is valid for Modbus.

**FD-02****Local address**

Address: 0xFD02  
 Min.: 1  
 Max.: 247  
 Default: 1

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**

1 to 247

**Description**

The value ranges from 1 to 247.

This parameter is valid for Modbus, CANlink, and CANopen.

**FD-03****Modbus response delay**

Address: 0xFD03  
 Min.: 0  
 Max.: 20  
 Default: 2

Effective mode: -  
 Unit: ms  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0 ms to 20 ms

**Description**

The value ranges from 0 to 20 ms. This parameter is valid for Modbus.

**FD-04****Communication timeout time**

Address: 0xFD04  
 Min.: 0.0  
 Max.: 60.0  
 Default: 0.0

Effective mode: -  
 Unit: s  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0.0s to 60.0s

**Description**

0.0: Timeout disabled

0.1s to 60.0s: Timeout time

**FD-06****Current resolution read by communication**

Address: 0xFD06  
 Min.: 0  
 Max.: 1  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0: 0.01 A (valid when  $\leq 55$  kW)

1: 0.1 A

**Description**

-

**FD-08 Expansion card communication timeout time**  
 Address: 0xFD08 Effective mode: -  
 Min.: 0.0 Unit: s  
 Max.: 60.0 Data type: UInt16  
 Default: 0.0 Change: Changeable at any time  
**Value Range:**  
 0.0s to 60.0s  
**Description**  
 -

**FD-10 CANopen/CANlink switchover**  
 Address: 0xFD0A Effective mode: -  
 Min.: 1 Unit: -  
 Max.: 2 Data type: UInt16  
 Default: 2 Change: Changeable at any time  
**Value Range:**  
 1: CANopen  
 2: CANlink  
**Description**  
 -

**FD-14 Number of frames received per unit time**  
 Address: 0xFD0E Effective mode: -  
 Min.: 0 Unit: -  
 Max.: 65535 Data type: UInt16  
 Default: 0 Change: Unchangeable  
**Value Range:**  
 0 to 65535  
**Description**  
 -

**FD-15 Maximum RX error count**  
 Address: 0xFD0F Effective mode: -  
 Min.: 0 Unit: -  
 Max.: 65535 Data type: UInt16  
 Default: 0 Change: Unchangeable  
**Value Range:**  
 0 to 65535  
**Description**  
 -

**FD-16 Maximum TX error count**  
 Address: 0xFD10 Effective mode: -  
 Min.: 0 Unit: -  
 Max.: 65535 Data type: UInt16  
 Default: 0 Change: Unchangeable  
**Value Range:**  
 0 to 65535

**Description**

-

**FD-17 Bus-off count per unit time**

Address: 0xFD11

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**FD-19 CAN communication disconnection coefficient**

Address: 0xFD13

Min.: 1

Max.: 15

Default: 3

**Value Range:**

1 to 15

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**FD-20 PROFIBUS DP communication address**

Address: 0xFD14

Min.: 0

Max.: 125

Default: 0

**Value Range:**

0 to 125

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**FD-21 PROFIBUS DP communication disconnection coefficient**

Address: 0xFD15

Min.: 0

Max.: 65535

Default: 350

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**FD-27 Storage of parameters written through communication**

Address: 0xFD1B

Min.: 0

Max.: 1

Default: 0

**Value Range:**

0 to 1

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time



<b>FD-28</b>	<b>Auto reset upon communication fault</b>	Address: 0xFD1C Min.: 0 Max.: 1 Default: 1 <b>Value Range:</b> 0 to 1 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>FD-29</b>	<b>Communication state</b>	Address: 0xFD1D Min.: 0 Max.: 999 Default: 0 <b>Value Range:</b> 0 to 999 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>FD-30</b>	<b>Number of RPDO mapped bytes</b>	Address: 0xFD1E Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>FD-31</b>	<b>Number of TPDO mapped bytes</b>	Address: 0xFD1F Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>FD-32</b>	<b>Group AF mapping mode switchover</b>	Address: 0xFD20 Min.: 0 Max.: 1 Default: 0 <b>Value Range:</b> 0: Parameters written through communication are not saved 1: Parameters written through communication are saved <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable only at stop

<b>FD-37</b>	<b>DHCP function</b> Address: 0xFD25 Min.: 0 Max.: 1 Default: 0 <b>Value Range:</b> 0: Disabled 1: Enabled <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable only at stop
<b>FD-38</b>	<b>MSB of IP address</b> Address: 0xFD26 Min.: 0 Max.: 255 Default: 0 <b>Value Range:</b> 0 to 255 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable only at stop
<b>FD-39</b>	<b>Second MSB of IP address</b> Address: 0xFD27 Min.: 0 Max.: 255 Default: 0 <b>Value Range:</b> 0 to 255 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable only at stop
<b>FD-40</b>	<b>Third byte of IP address</b> Address: 0xFD28 Min.: 0 Max.: 255 Default: 0 <b>Value Range:</b> 0 to 255 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable only at stop
<b>FD-41</b>	<b>LSB of IP address</b> Address: 0xFD29 Min.: 0 Max.: 255 Default: 0 <b>Value Range:</b> 0 to 255 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable only at stop

<b>FD-42</b>	<p><b>MSB of subnet mask</b>          Address: 0xFD2A          Min.: 0          Max.: 255          Default: 0  <b>Value Range:</b>          0 to 255  <b>Description</b>          -</p>	<p>Effective mode: -          Unit: -          Data type: UInt16          Change: Changeable only at stop</p>
<b>FD-43</b>	<p><b>Second MSB of subnet mask</b>          Address: 0xFD2B          Min.: 0          Max.: 255          Default: 0  <b>Value Range:</b>          0 to 255  <b>Description</b>          -</p>	<p>Effective mode: -          Unit: -          Data type: UInt16          Change: Changeable only at stop</p>
<b>FD-44</b>	<p><b>Third byte of subnet mask</b>          Address: 0xFD2C          Min.: 0          Max.: 255          Default: 0  <b>Value Range:</b>          0 to 255  <b>Description</b>          -</p>	<p>Effective mode: -          Unit: -          Data type: UInt16          Change: Changeable only at stop</p>
<b>FD-45</b>	<p><b>LSB of subnet mask</b>          Address: 0xFD2D          Min.: 0          Max.: 255          Default: 0  <b>Value Range:</b>          0 to 255  <b>Description</b>          -</p>	<p>Effective mode: -          Unit: -          Data type: UInt16          Change: Changeable only at stop</p>
<b>FD-46</b>	<p><b>MSB of gateway</b>          Address: 0xFD2E          Min.: 0          Max.: 255          Default: 0  <b>Value Range:</b>          0 to 255  <b>Description</b>          -</p>	<p>Effective mode: -          Unit: -          Data type: UInt16          Change: Changeable only at stop</p>
<b>FD-47</b>	<p><b>Second MSB of gateway</b>          Address: 0xFD2F</p>	<p>Effective mode: -</p>

Min.: 0  
 Max.: 255  
 Default: 0  
**Value Range:**  
 0 to 255  
**Description**  
 -

Unit: -  
 Data type: UInt16  
 Change: Changeable only at stop

**FD-48 Third byte of gateway**

Address: 0xFD30  
 Min.: 0  
 Max.: 255  
 Default: 0  
**Value Range:**  
 0 to 255  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable only at stop

**FD-49 LSB of gateway**

Address: 0xFD31  
 Min.: 0  
 Max.: 255  
 Default: 0  
**Value Range:**  
 0 to 255  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable only at stop

**FD-58 Ethernet/IP expansion card error code**

Address: 0xFD3A  
 Min.: 0  
 Max.: 255  
 Default: 0  
**Value Range:**  
 0 to 255  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**FD-61 High-order byte of MAC address**

Address: 0xFD3D  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0  
**Value Range:**  
 0x0 to 0xFFFF  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable only at stop

**FD-62 Middle byte of MAC address**

Address: 0xFD3E  
 Min.: 0x0  
 Max.: 0xFFFF

Effective mode: -  
 Unit: -  
 Data type: UInt16

Default: 0x0  
**Value Range:**  
 0x0 to 0xFFFF  
**Description**  
 -

Change: Changeable only at stop

**FD-63 Low-order byte of MAC address**

Address: 0xFD3F  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0  
**Value Range:**  
 0x0 to 0xFFFF  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable only at stop

**FD-92 Slave alias backup**

Address: 0xFD5C  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**FD-93 Null pointer**

Address: 0xFD5D  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**FD-94 Communication software version**

Address: 0xFD5E  
 Min.: 0.00  
 Max.: 655.35  
 Default: 0.00  
**Value Range:**  
 0.00 to 655.35  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

## 4.15 FE: User-Defined Parameters

**FE-00 User-defined parameter 0**

Address: 0x2F00  
 Effective mode: -

Min.: 0  
Max.: 65535  
Default: 0

Unit: -  
Data type: UInt16  
Change: Changeable at any time

**Value Range:**

0 to 65535

**Description**

-

**FE-01 User-defined parameter 1**

Address: 0x2F01  
Min.: 0  
Max.: 65535  
Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0 to 65535

**Description**

-

**FE-02 User-defined parameter 2**

Address: 0x2F02  
Min.: 0  
Max.: 65535  
Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0 to 65535

**Description**

-

**FE-03 User-defined parameter 3**

Address: 0x2F03  
Min.: 0  
Max.: 65535  
Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0 to 65535

**Description**

-

**FE-04 User-defined parameter 4**

Address: 0x2F04  
Min.: 0  
Max.: 65535  
Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0 to 65535

**Description**

-

**FE-05 User-defined parameter 5**

Address: 0x2F05  
Min.: 0  
Max.: 65535

Effective mode: -

Unit: -

Data type: UInt16

Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Change: Changeable at any time

**FE-06 User-defined parameter 6**

Address: 0x2F06  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**FE-07 User-defined parameter 7**

Address: 0x2F07  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**FE-08 User-defined parameter 8**

Address: 0x2F08  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**FE-09 User-defined parameter 9**

Address: 0x2F09  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**FE-10 User-defined parameter 10**

Address: 0x2F0A  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

0 to 65535

**Description**

-

**FE-11 User-defined parameter 11**

Address: 0x2F0B

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**FE-12 User-defined parameter 12**

Address: 0x2F0C

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**FE-13 User-defined parameter 13**

Address: 0x2F0D

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**FE-14 User-defined parameter 14**

Address: 0x2F0E

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**FE-15 User-defined parameter 15**

Address: 0x2F0F

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time



**Description**

-

**FE-16 User-defined parameter 16**

Address: 0x2F10

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**FE-17 User-defined parameter 17**

Address: 0x2F11

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**FE-18 User-defined parameter 18**

Address: 0x2F12

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**FE-19 User-defined parameter 19**

Address: 0x2F13

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**FE-20 User-defined parameter 20**

Address: 0x2F14

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

<b>FE-21</b>	<b>User-defined parameter 21</b> Address: 0x2F15 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>FE-22</b>	<b>User-defined parameter 22</b> Address: 0x2F16 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>FE-23</b>	<b>User-defined parameter 23</b> Address: 0x2F17 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>FE-24</b>	<b>User-defined parameter 24</b> Address: 0x2F18 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>FE-25</b>	<b>User-defined parameter 25</b> Address: 0x2F19 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>FE-26</b>	<b>User-defined parameter 26</b> Address: 0x2F1A	Effective mode: -

Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**FE-27 User-defined parameter 27**

Address: 0x2F1B  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**FE-28 User-defined parameter 28**

Address: 0x2F1C  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**FE-29 User-defined parameter 29**

Address: 0x2F1D  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**FE-30 User-defined parameter 30**

Address: 0x2F1E  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**FE-31 User-defined parameter 31**

Address: 0x2F1F  
 Min.: 0  
 Max.: 65535

Effective mode: -  
 Unit: -  
 Data type: UInt16



Bit00: Group U

0: Hidden

1: Displayed

Bit01: Group A

0: Hidden

1: Displayed

Bit02: Group B

0: Hidden

1: Displayed

Bit03: Group C

0: Hidden

1: Displayed

Bit04: Group H

0: Hidden

1: Displayed

Bit05: Group L

0: Hidden

1: Displayed

**Description**

This parameter determines whether to display the parameters of groups U, A, B, C, H, and L on the operating panel. Parameters in a group are displayed when the corresponding bit is 1 and not displayed when the corresponding bit is 0.

**FP-03**

**Display of individualized parameters**

Address: 0x1F03

Effective mode: -

Min.: 0

Unit: -

Max.: 111

Data type: UInt16

Default: 111

Change: Changeable at any time

**Value Range:**

Ones: User mode

0: Hidden

1: Displayed

Tens: Correction mode

0: Hidden

1: Displayed

Hundreds: Error menu

0: Hidden

1: Displayed

**Description**

This parameter determines whether to display the user-defined parameters, user-modified parameters, and error menus on the operating panel.

**FP-04**

**Parameter modification**

Address: 0x1F04

Effective mode: -

Min.: 0

Unit: -

Max.: 1

Data type: UInt16

Default: 0

Change: Changeable at any time

**Value Range:**

0: Modification allowed

1: Modification prohibited

**Description**

This parameter defines whether the AC drive parameters can be modified.

**FP-06 Monitoring password**

Address: 0x1F06

Effective mode: -

Min.: 0

Unit: -

Max.: 65535

Data type: UInt16

Default: 0

Change: Changeable at any time

**Value Range:**

0 to 65535

**Description**

If the monitoring password is not set, the monitoring permission is obtained automatically.

If the monitoring password is set, you need to enter the monitoring password in FP-09 to obtain the monitoring permission.

**FP-07 Expert password**

Address: 0x1F07

Effective mode: -

Min.: 0

Unit: -

Max.: 65535

Data type: UInt16

Default: 0

Change: Changeable at any time

**Value Range:**

0 to 65535

**Description**

If the expert password is not set, the expert permission is obtained automatically.

If the expert password is set, you need to enter the expert password in FP-09 to obtain the expert permission.

**FP-08 Factory password**

Address: 0x1F08

Effective mode: -

Min.: 0

Unit: -

Max.: 65535

Data type: UInt16

Default: 0

Change: Changeable at any time

**Value Range:**

0 to 65535

**Description**

If the factory password is not set, the factory permission is obtained automatically.

If the factory password is set, you need to enter the factory password in FP-09 to obtain the factory permission.

**FP-09 Password input window**

Address: 0x1F09

Effective mode: -

Min.: 0

Unit: -

Max.: 65535

Data type: UInt16

Default: 0

Change: Changeable at any time

**Value Range:**

0 to 65535

**Description**

This parameter is used to input the monitoring password, expert password, and factory password.

You can enter a password to obtain the corresponding permissions.

**FP-14**

**Parameter clearing**

Address: 0x1F0E  
 Min.: 0  
 Max.: 1000  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**

- 0: No operation
- 1: Clear all record (faults and time) parameters
- 2: Clear fault information
- 500: Clear all backup user parameters
- 1000: Clear all backup motor parameters

**Description**

-

**FP-15**

**Parameter restoration**

Address: 0x1F0F  
 Min.: 0  
 Max.: 2204  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**

- 0: No operation
- 500: Restore user backup
- 501: Restore user macro backup 1
- 502: Restore user macro backup 2
- 503: Restore user macro backup 3
- 504: Restore user macro backup 4
- 505: Restore user macro backup 5
- 506: Restore user macro backup 6
- 2011: Restore motor macro backup parameter 1 to motor 1
- 2012: Restore motor macro backup parameter 1 to motor 2
- 2013: Restore motor macro backup parameter 1 to motor 3
- 2014: Restore motor macro backup parameter 1 to motor 4
- 2021: Restore motor macro backup parameter 2 to motor 1
- 2022: Restore motor macro backup parameter 2 to motor 2
- 2023: Restore motor macro backup parameter 2 to motor 3
- 2024: Restore motor macro backup parameter 2 to motor 4
- 2031: Restore motor macro backup parameter 3 to motor 1
- 2032: Restore motor macro backup parameter 3 to motor 2
- 2033: Restore motor macro backup parameter 3 to motor 3
- 2034: Restore motor macro backup parameter 3 to motor 4
- 2041: Restore motor macro backup parameter 4 to motor 1
- 2042: Restore motor macro backup parameter 4 to motor 2
- 2043: Restore motor macro backup parameter 4 to motor 3
- 2044: Restore motor macro backup parameter 4 to motor 4
- 2051: Restore motor macro backup parameter 5 to motor 1
- 2052: Restore motor macro backup parameter 5 to motor 2

(To be continued)

(Continued)

2053: Restore motor macro backup parameter 5 to motor 3  
2054: Restore motor macro backup parameter 5 to motor 4  
2061: Restore motor macro backup parameter 6 to motor 1  
2062: Restore motor macro backup parameter 6 to motor 2  
2063: Restore motor macro backup parameter 6 to motor 3  
2064: Restore motor macro backup parameter 6 to motor 4  
2071: Restore motor macro backup parameter 7 to motor 1  
2072: Restore motor macro backup parameter 7 to motor 2  
2073: Restore motor macro backup parameter 7 to motor 3  
2074: Restore motor macro backup parameter 7 to motor 4  
2081: Restore motor macro backup parameter 8 to motor 1  
2082: Restore motor macro backup parameter 8 to motor 2  
2083: Restore motor macro backup parameter 8 to motor 3  
2084: Restore motor macro backup parameter 8 to motor 4  
2091: Restore motor macro backup parameter 9 to motor 1  
2092: Restore motor macro backup parameter 9 to motor 2  
2093: Restore motor macro backup parameter 9 to motor 3  
2094: Restore motor macro backup parameter 9 to motor 4  
2101: Restore motor macro backup parameter 10 to motor 1  
2102: Restore motor macro backup parameter 10 to motor 2  
2103: Restore motor macro backup parameter 10 to motor 3  
2104: Restore motor macro backup parameter 10 to motor 4  
2111: Restore motor macro backup parameter 11 to motor 1  
2112: Restore motor macro backup parameter 11 to motor 2  
2113: Restore motor macro backup parameter 11 to motor 3  
2114: Restore motor macro backup parameter 11 to motor 4  
2121: Restore motor macro backup parameter 12 to motor 1  
2122: Restore motor macro backup parameter 12 to motor 2  
2123: Restore motor macro backup parameter 12 to motor 3  
2124: Restore motor macro backup parameter 12 to motor 4  
2131: Restore motor macro backup parameter 13 to motor 1  
2132: Restore motor macro backup parameter 13 to motor 2



(Continued)

- 2133: Restore motor macro backup parameter 13 to motor 3
- 2134: Restore motor macro backup parameter 13 to motor 4
- 2141: Restore motor macro backup parameter 14 to motor 1
- 2142: Restore motor macro backup parameter 14 to motor 2
- 2143: Restore motor macro backup parameter 14 to motor 3
- 2144: Restore motor macro backup parameter 14 to motor 4
- 2151: Restore motor macro backup parameter 15 to motor 1
- 2152: Restore motor macro backup parameter 15 to motor 2
- 2153: Restore motor macro backup parameter 15 to motor 3
- 2154: Restore motor macro backup parameter 15 to motor 4
- 2161: Restore motor macro backup parameter 16 to motor 1
- 2162: Restore motor macro backup parameter 16 to motor 2
- 2163: Restore motor macro backup parameter 16 to motor 3
- 2164: Restore motor macro backup parameter 16 to motor 4
- 2171: Restore motor macro backup parameter 17 to motor 1
- 2172: Restore motor macro backup parameter 17 to motor 2
- 2173: Restore motor macro backup parameter 17 to motor 3
- 2174: Restore motor macro backup parameter 17 to motor 4
- 2181: Restore motor macro backup parameter 18 to motor 1
- 2182: Restore motor macro backup parameter 18 to motor 2
- 2183: Restore motor macro backup parameter 18 to motor 3
- 2184: Restore motor macro backup parameter 18 to motor 4
- 2191: Restore motor macro backup parameter 19 to motor 1
- 2192: Restore motor macro backup parameter 19 to motor 2
- 2193: Restore motor macro backup parameter 19 to motor 3
- 2194: Restore motor macro backup parameter 19 to motor 4
- 2201: Restore motor macro backup parameter 20 to motor 1
- 2202: Restore motor macro backup parameter 20 to motor 2
- 2203: Restore motor macro backup parameter 20 to motor 3
- 2204: Restore motor macro backup parameter 20 to motor 4

**Description**

-

**FP-16**

**User backup**

Address: 0x1F10

Min.: 0

Max.: 1204

Default: 0

**Value Range:**

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

- 0: No operation
- 400: Back up user parameters
- 401: Back up user macro parameters to address 1
- 402: Back up user macro parameters to address 2
- 403: Back up user macro parameters to address 3
- 404: Back up user macro parameters to address 4
- 405: Back up user macro parameters to address 5
- 406: Back up user macro parameters to address 6
- 1011: Back up parameters of motor 1 to address 1
- 1012: Back up parameters of motor 2 to address 1
- 1013: Back up parameters of motor 3 to address 1
- 1014: Back up parameters of motor 4 to address 1
- 1021: Back up parameters of motor 1 to address 2
- 1022: Back up parameters of motor 2 to address 2
- 1023: Back up parameters of motor 3 to address 2
- 1024: Back up parameters of motor 4 to address 2
- 1031: Back up parameters of motor 1 to address 3
- 1032: Back up parameters of motor 2 to address 3
- 1033: Back up parameters of motor 3 to address 3
- 1034: Back up parameters of motor 4 to address 3
- 1041: Back up parameters of motor 1 to address 4
- 1042: Back up parameters of motor 2 to address 4
- 1043: Back up parameters of motor 3 to address 4
- 1044: Back up parameters of motor 4 to address 4

(To be continued)

(Continued)

- 1051: Back up parameters of motor 1 to address 5
- 1052: Back up parameters of motor 2 to address 5
- 1053: Back up parameters of motor 3 to address 5
- 1054: Back up parameters of motor 4 to address 5
- 1061: Back up parameters of motor 1 to address 6
- 1062: Back up parameters of motor 2 to address 6
- 1063: Back up parameters of motor 3 to address 6
- 1064: Back up parameters of motor 4 to address 6
- 1071: Back up parameters of motor 1 to address 7
- 1072: Back up parameters of motor 2 to address 7
- 1073: Back up parameters of motor 3 to address 7
- 1074: Back up parameters of motor 4 to address 7
- 1081: Back up parameters of motor 1 to address 8
- 1082: Back up parameters of motor 2 to address 8
- 1083: Back up parameters of motor 3 to address 8
- 1084: Back up parameters of motor 4 to address 8
- 1091: Back up parameters of motor 1 to address 9
- 1092: Back up parameters of motor 2 to address 9
- 1093: Back up parameters of motor 3 to address 9
- 1094: Back up parameters of motor 4 to address 9
- 1101: Back up parameters of motor 1 to address 10
- 1102: Back up parameters of motor 2 to address 10
- 1103: Back up parameters of motor 3 to address 10
- 1104: Back up parameters of motor 4 to address 10
- 1111: Back up parameters of motor 1 to address 11
- 1112: Back up parameters of motor 2 to address 11
- 1113: Back up parameters of motor 3 to address 11
- 1114: Back up parameters of motor 4 to address 11

(Continued)

1121: Back up parameters of motor 1 to address 12  
 1122: Back up parameters of motor 2 to address 12  
 1123: Back up parameters of motor 3 to address 12  
 1124: Back up parameters of motor 4 to address 12  
 1131: Back up parameters of motor 1 to address 13  
 1132: Back up parameters of motor 2 to address 13  
 1133: Back up parameters of motor 3 to address 13  
 1134: Back up parameters of motor 4 to address 13  
 1141: Back up parameters of motor 1 to address 14  
 1142: Back up parameters of motor 2 to address 14  
 1143: Back up parameters of motor 3 to address 14  
 1144: Back up parameters of motor 4 to address 14  
 1151: Back up parameters of motor 1 to address 15  
 1152: Back up parameters of motor 2 to address 15  
 1153: Back up parameters of motor 3 to address 15  
 1154: Back up parameters of motor 4 to address 15  
 1161: Back up parameters of motor 1 to address 16  
 1162: Back up parameters of motor 2 to address 16  
 1163: Back up parameters of motor 3 to address 16  
 1164: Back up parameters of motor 4 to address 16  
 1171: Back up parameters of motor 1 to address 17  
 1172: Back up parameters of motor 2 to address 17  
 1173: Back up parameters of motor 3 to address 17  
 1174: Back up parameters of motor 4 to address 17  
 1181: Back up parameters of motor 1 to address 18  
 1182: Back up parameters of motor 2 to address 18  
 1183: Back up parameters of motor 3 to address 18  
 1184: Back up parameters of motor 4 to address 18  
 1191: Back up parameters of motor 1 to address 19  
 1192: Back up parameters of motor 2 to address 19  
 1193: Back up parameters of motor 3 to address 19  
 1194: Back up parameters of motor 4 to address 19  
 1201: Back up parameters of motor 1 to address 20  
 1202: Back up parameters of motor 2 to address 20  
 1203: Back up parameters of motor 3 to address 20  
 1204: Back up parameters of motor 4 to address 20

**Description**

-

**4.17 A0: Torque Control Parameters****A0-00 Speed/Torque control mode**

Address: 0xA000

Effective mode: -

Min.: 0

Unit: -

Max.:	1	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: Speed control

1: Torque control

**Description**

This parameter specifies the control target: speed control or torque control.

**A0-01 Torque reference source in torque control mode (torque upper limit source)**

Address:	0xA001	Effective mode:	-
Min.:	0	Unit:	-
Max.:	7	Data type:	UInt16
Default:	0	Change:	Changeable only at stop

**Value Range:**

0: A0-03

1: AI1

2: AI2

3: AI3

4: Pulse

5: Communication

6: MIN (AI1, AI2)

7: MAX (AI1, AI2)

Others: F connector

**Description**

This parameter defines the torque reference source. There are a total of seven torque reference sources.

**A0-03 Torque reference in torque control mode**

Address:	0xA003	Effective mode:	-
Min.:	-200	Unit:	%
Max.:	200.0	Data type:	Int16
Default:	150.0	Change:	Changeable at any time

**Value Range:**

-200% to +200.0%

**Description**

This parameter defines the torque reference in torque control mode. The torque reference is a relative value. The value 100.0% corresponds to the rated torque of the AC drive. The value range is -200.0% to +200.0%, indicating that the maximum torque is twice the rated torque. When the torque reference is a positive value, the AC drive runs in the forward direction. When it is a negative value, the AC drive runs in the reverse direction.

**A0-04 Torque reference filter time (upper limit)**

Address:	0xA004	Effective mode:	-
Min.:	0	Unit:	ms
Max.:	10000	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0 ms to 10000 ms

**Description**

This parameter defines the torque reference filter time.

**A0-05 Maximum forward frequency in torque control**

Address:	0xA005	Effective mode:	-
Min.:	0.00	Unit:	Hz
Max.:	F0-10	Data type:	UInt16
Default:	0.00	Change:	Changeable at any time

**Value Range:**

0.00 Hz to F0-10

**Description**

This parameter defines the maximum running frequency of the AC drive in forward direction in torque control mode.

**A0-06 Maximum reverse frequency in torque control**

Address:	0xA006	Effective mode:	-
Min.:	0.00	Unit:	Hz
Max.:	F0-10	Data type:	UInt16
Default:	0.00	Change:	Changeable at any time

**Value Range:**

0.00 Hz to F0-10

**Description**

This parameter defines the maximum running frequency of the AC drive in reverse direction in torque control mode.

**A0-07 Torque rising filter time**

Address:	0xA007	Effective mode:	-
Min.:	0.00	Unit:	s
Max.:	650.00	Data type:	UInt16
Default:	0.00	Change:	Changeable at any time

**Value Range:**

0.00s to 650.00s

**Description**

This parameter defines the torque reference ramp-up time (relative to the rated torque).

**A0-08 Torque falling filter time**

Address:	0xA008	Effective mode:	-
Min.:	0.00	Unit:	s
Max.:	650.00	Data type:	UInt16
Default:	0.00	Change:	Changeable at any time

**Value Range:**

0.00s to 650.00s

**Description**

This parameter defines the torque reference ramp-down time (relative to the rated torque).

**A0-10 Torque mode**

Address:	0xA00A	Effective mode:	-
Min.:	0	Unit:	-
Max.:	1	Data type:	UInt16
Default:	0	Change:	Changeable only at stop

**Value Range:**

0: MD500 torque mode

1: Vanguard torque mode

**Description**

This parameter defines the torque mode (MD500 compatible mode or vanguard torque mode).

**A0-11 Torque acceleration time gain**

Address: 0xA00B

Min.: 0

Max.: 8

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0: 100%

1: AI1

2: AI2

3: AI3

4: Pulse reference

5: Communication

6: Multi-reference

7: Motor-driven potentiometer

8: PID

Others: F connector

**Description**

This parameter defines the torque reference ramp-up time adjustment gain in vanguard torque mode.

**A0-12 Torque deceleration time gain**

Address: 0xA00C

Min.: 0

Max.: 8

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0: 100%

1: AI1

2: AI2

3: AI3

4: Pulse reference

5: Communication

6: Multi-reference

7: Motor-driven potentiometer

8: PID

Others: F connector

**Description**

This parameter defines the torque reference ramp-down time adjustment gain in vanguard torque mode.

**A0-13 Torque reference source**

Address: 0xA00D

Min.: 0

Max.: 8

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0: Digital setting  
 1: AI1  
 2: AI2  
 3: AI3  
 4: Pulse reference  
 5: Communication  
 6: Multi-reference  
 7: Motor-driven potentiometer  
 8: PID  
 Others: F connector

**Description**

This parameter defines the torque reference source in vanguard torque mode.

**A0-14 Torque reference**

Address:	0xA00E	Effective mode:	-
Min.:	-400	Unit:	%
Max.:	400.0	Data type:	Int16
Default:	0.0	Change:	Changeable at any time

**Value Range:**

-400% to +400.0%

**Description**

This parameter defines the torque reference in vanguard torque mode.

**A0-15 Speed limit source in torque control mode**

Address:	0xA00F	Effective mode:	-
Min.:	0	Unit:	-
Max.:	1	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: Digital setting

1: Speed reference channel

**Description**

This parameter defines the speed limit source in vanguard torque mode.

**A0-16 Speed limit in torque control mode**

Address:	0xA010	Effective mode:	-
Min.:	-100	Unit:	%
Max.:	100.0	Data type:	Int16
Default:	0.0	Change:	Changeable at any time

**Value Range:**

-100% to +100.0%

**Description**

This parameter defines the speed limit in torque control mode.

**A0-17 Speed limit offset mode**

Address:	0xA011	Effective mode:	-
Min.:	0	Unit:	-
Max.:	2	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**



- 0: Bidirectional offset
- 1: Unidirectional offset
- 2: Compatible solution

**Description**

This parameter defines the speed limit offset mode in vanguard torque mode.

**A0-18 Speed limit offset source**

Address:	0xA012	Effective mode:	-
Min.:	0	Unit:	-
Max.:	8	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

- 0: Digital setting
- 1: AI1
- 2: AI2
- 3: AI3
- 4: Pulse reference
- 5: Communication
- 6: Multi-reference
- 7: Motor-driven potentiometer
- 8: PID

Others: F connector

**Description**

This parameter defines the speed limit offset source in vanguard torque mode.

**A0-19 Speed limit offset**

Address:	0xA013	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	300.0	Data type:	UInt16
Default:	5.0	Change:	Changeable at any time

**Value Range:**

0.0% to 300.0%

**Description**

This parameter defines the speed limit offset in vanguard torque mode.

**A0-20 Source of supplementary torque reference 1**

Address:	0xA014	Effective mode:	-
Min.:	0	Unit:	-
Max.:	8	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: Digital setting  
 1: AI1  
 2: AI2  
 3: AI3  
 4: Pulse reference  
 5: Communication  
 6: Multi-reference  
 7: Motor-driven potentiometer  
 8: PID  
 Others: F connector

**Description**

This parameter defines the source of supplementary torque 1 in vanguard torque mode.

**A0-21 Supplementary torque reference 1**

Address:	0xA015	Effective mode:	-
Min.:	-400	Unit:	%
Max.:	400.0	Data type:	Int16
Default:	0.0	Change:	Changeable at any time

**Value Range:**

-400% to +400.0%

**Description**

This parameter defines supplementary torque reference 1 in vanguard torque mode.

**A0-22 Source of supplementary torque reference 2**

Address:	0xA016	Effective mode:	-
Min.:	0	Unit:	-
Max.:	8	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: 0

1: AI1  
 2: AI2  
 3: AI3  
 4: Pulse reference  
 5: Communication  
 6: Multi-reference  
 7: Motor-driven potentiometer  
 8: PID  
 Others: F connector

**Description**

This parameter defines the source of supplementary torque 2 in vanguard torque mode.

**A0-23 Supplementary torque reference 2 input enable**

Address:	0xA017	Effective mode:	-
Min.:	0	Unit:	-
Max.:	18	Data type:	UInt16
Default:	1	Change:	Changeable at any time

**Value Range:**

- 0: Disabled
- 1: Enabled
- 3: DI1
- 4: DI2
- 5: DI3
- 6: DI4
- 7: DI5
- 8: DI6
- 9: DI7
- 10: DI8
- 11: DI9
- 12: DI10
- 13: DI11
- 14: DI12
- 15: DI13
- 16: DI14
- 17: DI15
- 18: DI16

Others: B connector

**Description**

This parameter defines whether to enable input of supplementary torque 2 in vanguard torque mode. When it is disabled, supplementary torque 2 does not take effect.

**A0-24**

**Torque filter time**

Address:	0xA018	Effective mode:	-
Min.:	0	Unit:	ms
Max.:	10000	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0 ms to 10000 ms

**Description**

This parameter defines the torque reference filter time in vanguard torque mode.

**A0-25**

**Torque acceleration time**

Address:	0xA019	Effective mode:	-
Min.:	0.000	Unit:	s
Max.:	60.000	Data type:	UInt16
Default:	0.000	Change:	Changeable at any time

**Value Range:**

0.000s to 60.000s

**Description**

This parameter defines the torque reference ramp-up time (relative to the rated torque) in vanguard torque mode.

**A0-26**

**Torque deceleration time**

Address:	0xA01A	Effective mode:	-
Min.:	0.000	Unit:	s
Max.:	60.000	Data type:	UInt16
Default:	0.000	Change:	Changeable at any time

**Value Range:**

0.000s to 60.000s

**Description**

This parameter defines the torque reference ramp-down time (relative to the rated torque) in vanguard torque mode.

**A0-27****Torque reference gain**

Address: 0xA01B

Min.: 0

Max.: 8

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0: 100%

1: AI1

2: AI2

3: AI3

4: Pulse reference

5: Communication

6: Multi-reference

7: Motor-driven potentiometer

8: PID

Others: F connector

**Description**

This parameter defines the source of the torque reference gain coefficient in vanguard torque mode.

## 4.18 A1: Virtual I/O Parameters

**A1-00****VDI1 function**

Address: 0xA100

Min.: 0

Max.: 80

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**Value Range:**

Same as F4-00

**Description**

Same as F4-00

**A1-01****VDI2 function**

Address: 0xA101

Min.: 0

Max.: 80

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**Value Range:**

Same as F4-00

**Description**

Same as F4-00

**A1-02****VDI3 function**

Address: 0xA102

Effective mode: -

## Parameter Group

---

Min.: 0  
Max.: 80  
Default: 0  
**Value Range:**  
Same as F4-00  
**Description**  
Same as F4-00

Unit: -  
Data type: UInt16  
Change: Changeable only at stop

### A1-03

#### VDI4 function

Address: 0xA103  
Min.: 0  
Max.: 80  
Default: 0

**Value Range:**  
Same as F4-00  
**Description**  
Same as F4-00

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Changeable only at stop

### A1-04

#### VDI5 function

Address: 0xA104  
Min.: 0  
Max.: 80  
Default: 0

**Value Range:**  
Same as F4-00  
**Description**  
Same as F4-00

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Changeable only at stop

### A1-05

#### VDI active state source

Address: 0xA105  
Min.: 0  
Max.: 55555  
Default: 0

**Value Range:**

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Changeable only at stop

Tens: VDI1 active state source  
 0: VDO1  
 1: A1-06  
 2: DI1  
 3: Communication setpoint (bit10 of F4-50)  
 4: AI1  
 5: Reserved

Tens: VDI2 active state source  
 0: VDO2  
 1: A1-06  
 2: DI2  
 3: Communication setpoint (bit11 of F4-50)  
 4: AI2  
 5: Reserved

Hundreds: VDI3 active state source  
 0: VDO3  
 1: A1-06  
 2: DI3  
 3: Communication setpoint (bit12 of F4-50)  
 4: AI3  
 5: Reserved

Thousands: VDI4 active state source  
 0: VDO4  
 1: A1-06  
 2: DI4  
 3: Communication setpoint (bit13 of F4-50)  
 4-5: Reserved

Ten thousands: VDI5 active state source  
 0: VDO5  
 1: A1-06  
 2: DI5  
 3: Communication setpoint (bit14 of F4-50)  
 4-5: Reserved

**Description**

-

**A1-06**

**VDI state**

Address: 0xA106  
 Min.: 0  
 Max.: 11111  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

Ones: VDI1  
 0: Inactive  
 1: Active  
 Tens: VDI2  
 0: Inactive  
 1: Active  
 Hundreds: VDI3  
 0: Inactive  
 1: Active  
 Thousands: VDI4  
 0: Inactive  
 1: Active  
 Ten thousands: VDI5  
 0: Inactive  
 1: Active

**Description**

-

**A1-07**

**A11 (used as DI) function**

Address: 0xA107  
 Min.: 0  
 Max.: 80  
 Default: 0

**Value Range:**

Same as F4-00

**Description**

Same as F4-00

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable only at stop

**A1-08**

**A12 (used as DI) function**

Address: 0xA108  
 Min.: 0  
 Max.: 80  
 Default: 0

**Value Range:**

Same as F4-00

**Description**

Same as F4-00

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable only at stop

**A1-09**

**A13 (used as DI) function**

Address: 0xA109  
 Min.: 0  
 Max.: 80  
 Default: 0

**Value Range:**

Same as F4-00

**Description**

Same as F4-00

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable only at stop

**A1-10**

**AI (used as DI) active mode**

Address: 0xA10A

Effective mode: -

Min.:	0	Unit:	-
Max.:	111	Data type:	UInt16
Default:	0	Change:	Changeable only at stop

**Value Range:**

Ones: AI1

0: Active low

1: Active high

Tens: AI2

0: Active low

1: Active high

Hundreds: AI3

0: Active low

1: Active high

**Description**

-

**A1-11****VDO1 function**

Address: 0xA10B

Min.: 0

Max.: 43

Default: 0

**Value Range:**

Same as F5-01

**Description**

Same as F5-01

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**A1-12****VDO2 function**

Address: 0xA10C

Min.: 0

Max.: 43

Default: 0

**Value Range:**

Same as F5-01

**Description**

Same as F5-01

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**A1-13****VDO3 function**

Address: 0xA10D

Min.: 0

Max.: 43

Default: 0

**Value Range:**

Same as F5-01

**Description**

Same as F5-01

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**A1-14****VDO4 function**

Address: 0xA10E

Min.: 0

Max.: 43

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time



**Value Range:**

Same as F5-01

**Description**

Same as F5-01

**A1-15**

**VDO5 function**

Address: 0xA10F

Min.: 0

Max.: 43

Default: 0

**Value Range:**

Same as F5-01

**Description**

Same as F5-01

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**A1-16**

**VDO1 output delay (invalid)**

Address: 0xA110

Min.: 0.0

Max.: 3600.0

Default: 0.0

**Value Range:**

0.0s to 3600.0s

**Description**

-

Effective mode: -

Unit: s

Data type: UInt16

Change: Changeable at any time

**A1-17**

**VDO2 output delay (invalid)**

Address: 0xA111

Min.: 0.0

Max.: 3600.0

Default: 0.0

**Value Range:**

0.0s to 3600.0s

**Description**

-

Effective mode: -

Unit: s

Data type: UInt16

Change: Changeable at any time

**A1-18**

**VDO3 output delay (invalid)**

Address: 0xA112

Min.: 0.0

Max.: 3600.0

Default: 0.0

**Value Range:**

0.0s to 3600.0s

**Description**

-

Effective mode: -

Unit: s

Data type: UInt16

Change: Changeable at any time

**A1-19**

**VDO4 output delay (invalid)**

Address: 0xA113

Min.: 0.0

Max.: 3600.0

Default: 0.0

**Value Range:**

0.0s to 3600.0s

Effective mode: -

Unit: s

Data type: UInt16

Change: Changeable at any time

**Description**

-

**A1-20 VDO5 output delay (invalid)**

Address: 0xA114

Min.: 0.0

Max.: 3600.0

Default: 0.0

**Value Range:**

0.0s to 3600.0s

**Description**

-

Effective mode: -

Unit: s

Data type: UInt16

Change: Changeable at any time

**A1-21 VDO active mode**

Address: 0xA115

Min.: 0

Max.: 11111

Default: 0

**Value Range:**

Ones: VDO1

0: Positive logic active

1: Negative logic active

Tens: VDO2

0: Positive logic active

1: Negative logic active

Hundreds: VDO3

0: Positive logic active

1: Negative logic active

Thousands: VDO4

0: Positive logic active

1: Negative logic active

Ten thousands: VDO5

0: Positive logic active

1: Negative logic active

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**A1-22 VDO1 output switch-on delay**

Address: 0xA116

Min.: 0.0

Max.: 3600.0

Default: 0.0

**Value Range:**

0.0s to 3600.0s

**Description**

-

Effective mode: -

Unit: s

Data type: UInt16

Change: Changeable at any time

**A1-23 VDO2 output switch-on delay**

Address: 0xA117

Min.: 0.0

Effective mode: -

Unit: s

Max.: 3600.0  
 Default: 0.0  
**Value Range:**  
 0.0s to 3600.0s  
**Description**  
 -

Data type: UInt16  
 Change: Changeable at any time

**A1-24 VDO3 output switch-on delay**

Address: 0xA118  
 Min.: 0.0  
 Max.: 3600.0  
 Default: 0.0  
**Value Range:**  
 0.0s to 3600.0s  
**Description**  
 -

Effective mode: -  
 Unit: s  
 Data type: UInt16  
 Change: Changeable at any time

**A1-25 VDO4 output switch-on delay**

Address: 0xA119  
 Min.: 0.0  
 Max.: 3600.0  
 Default: 0.0  
**Value Range:**  
 0.0s to 3600.0s  
**Description**  
 -

Effective mode: -  
 Unit: s  
 Data type: UInt16  
 Change: Changeable at any time

**A1-26 VDO5 output switch-on delay**

Address: 0xA11A  
 Min.: 0.0  
 Max.: 3600.0  
 Default: 0.0  
**Value Range:**  
 0.0s to 3600.0s  
**Description**  
 -

Effective mode: -  
 Unit: s  
 Data type: UInt16  
 Change: Changeable at any time

**A1-27 VDO1 output switch-off delay**

Address: 0xA11B  
 Min.: 0.0  
 Max.: 3600.0  
 Default: 0.0  
**Value Range:**  
 0.0s to 3600.0s  
**Description**  
 -

Effective mode: -  
 Unit: s  
 Data type: UInt16  
 Change: Changeable at any time

**A1-28 VDO2 output switch-off delay**

Address: 0xA11C  
 Min.: 0.0  
 Max.: 3600.0  
 Default: 0.0

Effective mode: -  
 Unit: s  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0.0s to 3600.0s

**Description**

-

**A1-29 VDO3 output switch-off delay**

Address: 0xA11D

Min.: 0.0

Max.: 3600.0

Default: 0.0

Effective mode: -

Unit: s

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0.0s to 3600.0s

**Description**

-

**A1-30 VDO4 output switch-off delay**

Address: 0xA11E

Min.: 0.0

Max.: 3600.0

Default: 0.0

Effective mode: -

Unit: s

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0.0s to 3600.0s

**Description**

-

**A1-31 VDO5 output switch-off delay**

Address: 0xA11F

Min.: 0.0

Max.: 3600.0

Default: 0.0

Effective mode: -

Unit: s

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0.0s to 3600.0s

**Description**

-

**A1-32 VDO6 function**

Address: 0xA120

Min.: 0

Max.: 43

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

Same as F5-01

**Description**

Same as F5-01

**A1-33 VDO7 function**

Address: 0xA121

Min.: 0

Max.: 43

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

Same as F5-01

**Description**

Same as F5-01

**A1-34**

**VDO8 function**

Address: 0xA122

Min.: 0

Max.: 43

Default: 0

**Value Range:**

Same as F5-01

**Description**

Same as F5-01

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**A1-35**

**VDO9 function**

Address: 0xA123

Min.: 0

Max.: 43

Default: 0

**Value Range:**

Same as F5-01

**Description**

Same as F5-01

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**A1-36**

**VDO10 function**

Address: 0xA124

Min.: 0

Max.: 43

Default: 0

**Value Range:**

Same as F5-01

**Description**

Same as F5-01

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**A1-37**

**VDO11 function**

Address: 0xA125

Min.: 0

Max.: 43

Default: 0

**Value Range:**

Same as F5-01

**Description**

Same as F5-01

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**A1-38**

**VDO6–VDO10 active mode**

Address: 0xA126

Min.: 0

Max.: 11111

Default: 0

**Value Range:**

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

Ones: VDO6  
 0: Positive logic active  
 1: Negative logic active  
 Tens: VDO7  
 0: Positive logic active  
 1: Negative logic active  
 Hundreds: VDO8  
 0: Positive logic active  
 1: Negative logic active  
 Thousands: VDO9  
 0: Positive logic active  
 1: Negative logic active  
 Ten thousands: VDO10  
 0: Positive logic active  
 1: Negative logic active

**Description**

-

**A1-39****VDO11 active mode**

Address: 0xA127  
 Min.: 0  
 Max.: 1  
 Default: 0

**Value Range:**

0: Positive logic active  
 1: Negative logic active

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**A1-40****VDI6 function**

Address: 0xA128  
 Min.: 0  
 Max.: 79  
 Default: 0

**Value Range:**

Same as A1-00

**Description**

Same as A1-00

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**A1-41****VDI6 hardware source**

Address: 0xA129  
 Min.: 0  
 Max.: 5  
 Default: 0

**Value Range:**

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

Ones: VDI6  
 0: VDO6  
 1: A1-42  
 2: DI6  
 3: Communication setpoint (bit15 of F4-50)  
 4: Reserved  
 5: Reserved  
**Description**  
 -

**A1-42**

**VDI6 state**

Address: 0xA12A  
 Min.: 0  
 Max.: 1  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

Ones: VDI6  
 0: Inactive  
 1: Active

**Description**

-

**A1-43**

**VDI1–VDI5 active mode**

Address: 0xA12B  
 Min.: 0  
 Max.: 11111  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**

Ones: VDI1

0: Active low  
 1: Active high

Tens: VDI2

0: Active low  
 1: Active high

Hundreds: VDI3

0: Active low  
 1: Active high

Thousands: VDI4

0: Active low  
 1: Active high

Ten thousands: VDI5

0: Active low  
 1: Active high

**Description**

-

**A1-44**

**VDI6 active mode**

Address: 0xA12C  
 Min.: 0

Effective mode: -  
 Unit: -

Max.: 1  
Default: 0

Data type: UInt16  
Change: Changeable only at stop

**Value Range:**

Ones: VDI6

0: Active low

1: Active high

**Description**

-

**A1-50****DIO edge count reset**

Address: 0xA132

Min.: 0

Max.: 5

Default: 0

**Value Range:**

0: Not reset

1: Counting module 1

2: Counting module 2

3: Counting module 3

4: Counting module 4

5: All counting modules

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**A1-51****DIO edge counting channel selection 1**

Address: 0xA133

Min.: 0

Max.: 32

Default: 0

**Value Range:**

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time



- 0: None
- 1: DI1
- 2: DI2
- 3: DI3
- 4: DI4
- 5: DI5
- 6: DI6
- 7: DI7
- 8: DI8
- 9: DI9
- 10: DI10
- 11: VDI1
- 12: VDI2
- 13: VDI3
- 14: VDI4
- 15: VDI5
- 16: VDI6
- 17: Relay 1 (DO3)
- 18: FMR
- 19: DO1
- 20: Relay 2 (DO4)
- 21: DO2
- 22: VDO1
- 23: VDO2
- 24: VDO3
- 25: VDO4
- 26: VDO5
- 27: VDO6
- 28: VDO7
- 29: VDO8
- 30: VDO9
- 31: VDO10
- 32: VDO11

**Description**

-

**A1-52 DIO edge counting channel selection 2**

Address: 0xA134  
 Min.: 0  
 Max.: 32  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

Same as A1-51

**Description**

-

<b>A1-53</b>	<b>DIO edge counting channel selection 3</b> Address: 0xA135 Min.: 0 Max.: 32 Default: 0 <b>Value Range:</b> Same as A1-51 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>A1-54</b>	<b>DIO edge counting channel selection 4</b> Address: 0xA136 Min.: 0 Max.: 32 Default: 0 <b>Value Range:</b> Same as A1-51 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>A1-55</b>	<b>DIO edge counting comparison value 1</b> Address: 0xA137 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>A1-56</b>	<b>DIO edge counting comparison value 2</b> Address: 0xA138 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>A1-57</b>	<b>DIO edge counting comparison value 3</b> Address: 0xA139 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>A1-58</b>	<b>DIO edge counting comparison value 4</b> Address: 0xA13A	Effective mode: -

Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**A1-59 DIO edge counting module count value 1**

Address: 0xA13B  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**A1-60 DIO edge counting module count value 2**

Address: 0xA13C  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**A1-61 DIO edge counting module count value 3**

Address: 0xA13D  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**A1-62 DIO edge counting module count value 4**

Address: 0xA13E  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

## 4.19 A2: Motor 2 Nameplate and Learning Parameters 1

### A2-00 Motor type

Address: 0xA200 Effective mode: -  
 Min.: 0 Unit: -  
 Max.: 2 Data type: UInt16  
 Default: 0 Change: Changeable only at stop

#### Value Range:

0: Common asynchronous motor  
 1: Variable frequency asynchronous motor  
 2: Permanent magnet synchronous motor

#### Description

-

### A2-01 Rated motor power

Address: 0xA201 Effective mode: -  
 Min.: 0.1 Unit: kW  
 Max.: 1000.0 Data type: UInt16  
 Default: 3.7 Change: Changeable only at stop

#### Value Range:

0.1 kW to 1000.0 kW

#### Description

-

### A2-02 Rated motor voltage

Address: 0xA202 Effective mode: -  
 Min.: 1 Unit: V  
 Max.: 2000 Data type: UInt16  
 Default: 380 Change: Changeable only at stop

#### Value Range:

1 V to 2000 V

#### Description

-

### A2-03 Rated motor current

Address: 0xA203 Effective mode: -  
 Min.: 0.01 Unit: A  
 Max.: 655.35 Data type: UInt16  
 Default: 9.00 Change: Changeable only at stop

#### Value Range:

0.01 A to 655.35 A

#### Description

-

### A2-04 Rated motor frequency

Address: 0xA204 Effective mode: -  
 Min.: 0.01 Unit: Hz  
 Max.: F0-10 Data type: UInt16  
 Default: 50.00 Change: Changeable only at stop

#### Value Range:

0.01 Hz to F0-10

**Description**

-

**A2-05**

**Rated motor speed**

Address: 0xA205

Min.: 1

Max.: 65535

Default: 1460

**Value Range:**

1 RPM to 65535 RPM

**Description**

-

Effective mode: -

Unit: RPM

Data type: UInt16

Change: Changeable only at stop

**A2-06**

**Asynchronous motor stator resistance**

Address: 0xA206

Min.: 0.001

Max.: 65.535

Default: 1.204

**Value Range:**

0.001 Ω to 65.535 Ω

**Description**

-

Effective mode: -

Unit: Ω

Data type: UInt16

Change: Changeable only at stop

**A2-07**

**Asynchronous motor rotor resistance**

Address: 0xA207

Min.: 0.001

Max.: 65.535

Default: 0.908

**Value Range:**

0.001 Ω to 65.535 Ω

**Description**

-

Effective mode: -

Unit: Ω

Data type: UInt16

Change: Changeable only at stop

**A2-08**

**Asynchronous motor leakage inductance**

Address: 0xA208

Min.: 0.01

Max.: 655.35

Default: 5.28

**Value Range:**

0.01 mH to 655.35 mH

**Description**

-

Effective mode: -

Unit: mH

Data type: UInt16

Change: Changeable only at stop

**A2-09**

**Asynchronous motor mutual inductance**

Address: 0xA209

Min.: 0.1

Max.: 6553.5

Default: 156.8

**Value Range:**

0.1 mH to 6553.5 mH

**Description**

-

Effective mode: -

Unit: mH

Data type: UInt16

Change: Changeable only at stop

<b>A2-10</b>	<b>Asynchronous motor no-load current</b> Address: 0xA20A Min.: 0.01 Max.: A2-03 Default: 4.20 <b>Value Range:</b> 0.01 A to A2-03 <b>Description</b> -	Effective mode: - Unit: A Data type: UInt16 Change: Changeable only at stop
<b>A2-16</b>	<b>Synchronous motor stator resistance</b> Address: 0xA210 Min.: 0.001 Max.: 65.535 Default: 1.204 <b>Value Range:</b> 0.001 Ω to 65.535 Ω <b>Description</b> -	Effective mode: - Unit: Ω Data type: UInt16 Change: Changeable only at stop
<b>A2-17</b>	<b>Synchronous motor D axis inductance</b> Address: 0xA211 Min.: 0.01 Max.: 655.35 Default: 5.28 <b>Value Range:</b> 0.01 mH to 655.35 mH <b>Description</b> -	Effective mode: - Unit: mH Data type: UInt16 Change: Changeable only at stop
<b>A2-18</b>	<b>Synchronous motor Q axis inductance</b> Address: 0xA212 Min.: 0.01 Max.: 655.35 Default: 5.28 <b>Value Range:</b> 0.01 mH to 655.35 mH <b>Description</b> -	Effective mode: - Unit: mH Data type: UInt16 Change: Changeable only at stop
<b>A2-20</b>	<b>Synchronous motor back EMF coefficient</b> Address: 0xA214 Min.: 0.0 Max.: 6553.5 Default: 300.0 <b>Value Range:</b> 0.0 V to 6553.5 V <b>Description</b> -	Effective mode: - Unit: V Data type: UInt16 Change: Changeable only at stop
<b>A2-27</b>	<b>Encoder PPR</b> Address: 0xA21B	Effective mode: -

Min.: 1  
 Max.: 65535  
 Default: 1024  
**Value Range:**  
 1 to 65535  
**Description**  
 -

Unit: -  
 Data type: UInt16  
 Change: Changeable only at stop

**A2-28**

**Encoder type**

Address: 0xA21C  
 Min.: 0  
 Max.: 3  
 Default: 0  
**Value Range:**  
 0: ABZ incremental encoder  
 1: 23-bit encoder  
 2: Resolver  
 3: External input

**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable only at stop

**A2-29**

**Speed feedback PG card**

Address: 0xA21D  
 Min.: 0  
 Max.: 1  
 Default: 0  
**Value Range:**  
 0: Local PG card  
 1: Extension PG card

**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable only at stop

**A2-30**

**A/B phase sequence of encoder**

Address: 0xA21E  
 Min.: 0  
 Max.: 1  
 Default: 0

**Value Range:**  
 0: Forward  
 1: Reverse

**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable only at stop

**A2-31**

**Encoder installation angle**

Address: 0xA21F  
 Min.: 0.0  
 Max.: 359.9  
 Default: 0.0

**Value Range:**  
 0.0° to 359.9°

Effective mode: -  
 Unit: °  
 Data type: UInt16  
 Change: Changeable only at stop

**Description**

-

**A2-34 Number of resolver pole pairs**

Address:	0xA222	Effective mode:	-
Min.:	1	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	1	Change:	Changeable only at stop

**Value Range:**

1 to 65535

**Description**

-

**A2-36 Speed feedback PG wire breakage detection time**

Address:	0xA224	Effective mode:	-
Min.:	0.0	Unit:	s
Max.:	10.0	Data type:	UInt16
Default:	0.0	Change:	Changeable only at stop

**Value Range:**

0.0s to 10.0s

**Description**

-

**A2-37 Auto-tuning**

Address:	0xA225	Effective mode:	-
Min.:	0	Unit:	-
Max.:	13	Data type:	UInt16
Default:	0	Change:	Changeable only at stop

**Value Range:**

0: No operation

1: Static auto-tuning on partial parameters of asynchronous motor

2: Dynamic auto-tuning on asynchronous motor

3: Static auto-tuning on all parameters of asynchronous motor

4: Inertia auto-tuning

5: Deadzone auto-tuning

11: With-load auto-tuning on synchronous motor (excluding back EMF)

12: No-load dynamic auto-tuning on synchronous motor

13: Static auto-tuning on all parameters of synchronous motor (excluding zero point angle)

**Description**

-

**A2-38 Speed loop proportional gain 1**

Address:	0xA226	Effective mode:	-
Min.:	1	Unit:	-
Max.:	100	Data type:	UInt16
Default:	30	Change:	Changeable at any time

**Value Range:**

1 to 100

**Description**

-



<b>A2-39</b>	<p><b>Speed loop integral time 1</b>          Address: 0xA227          Min.: 0.01          Max.: 10.00          Default: 0.50  <b>Value Range:</b>          0.01s to 10.00s  <b>Description</b>          -</p>	<p>Effective mode: -          Unit: s          Data type: UInt16          Change: Changeable at any time</p>
<b>A2-40</b>	<p><b>Switchover frequency 1</b>          Address: 0xA228          Min.: 0.00          Max.: A2-43          Default: 5.00  <b>Value Range:</b>          0.00 Hz to A2-43  <b>Description</b>          -</p>	<p>Effective mode: -          Unit: Hz          Data type: UInt16          Change: Changeable at any time</p>
<b>A2-41</b>	<p><b>Speed loop proportional gain 2</b>          Address: 0xA229          Min.: 1          Max.: 100          Default: 20  <b>Value Range:</b>          1 to 100  <b>Description</b>          -</p>	<p>Effective mode: -          Unit: -          Data type: UInt16          Change: Changeable at any time</p>
<b>A2-42</b>	<p><b>Speed loop integral time 2</b>          Address: 0xA22A          Min.: 0.01          Max.: 10.00          Default: 1.00  <b>Value Range:</b>          0.01s to 10.00s  <b>Description</b>          -</p>	<p>Effective mode: -          Unit: s          Data type: UInt16          Change: Changeable at any time</p>
<b>A2-43</b>	<p><b>Switchover frequency 2</b>          Address: 0xA22B          Min.: A2-40          Max.: F0-10          Default: 10.00  <b>Value Range:</b>          A2-40 to F0-10  <b>Description</b>          -</p>	<p>Effective mode: -          Unit: Hz          Data type: UInt16          Change: Changeable at any time</p>
<b>A2-44</b>	<p><b>Vector control slip gain</b>          Address: 0xA22C</p>	<p>Effective mode: -</p>

Min.:	50	Unit:	%
Max.:	200	Data type:	UInt16
Default:	100	Change:	Changeable at any time

**Value Range:**

50% to 200%

**Description**

-

**A2-45 Speed feedback filter time in SVC mode**

Address:	0xA22D	Effective mode:	-
Min.:	0.000	Unit:	s
Max.:	0.100	Data type:	UInt16
Default:	0.015	Change:	Changeable at any time

**Value Range:**

0.000s to 0.100s

**Description**

-

**A2-47 Torque upper limit source in speed control mode (motoring)**

Address:	0xA22F	Effective mode:	-
Min.:	0	Unit:	-
Max.:	7	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: Digital setting (F2-10)

1: AI1

2: AI2

3: AI3

4: Pulse reference

5: Communication

6: MIN (AI1, AI2)

7: MAX (AI1, AI2)

Others: F connector

**Description**

-

**A2-48 Torque upper limit in speed control mode**

Address:	0xA230	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	200.0	Data type:	UInt16
Default:	150.0	Change:	Changeable at any time

**Value Range:**

0.0% to 200.0%

**Description**

-

**A2-49 Torque upper limit source in speed control mode (generating)**

Address:	0xA231	Effective mode:	-
Min.:	0	Unit:	-
Max.:	8	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

- 0: Digital setting (F2-10)
- 1: AI1
- 2: AI2
- 3: AI3
- 4: Pulse reference (DI5)
- 5: Communication
- 6: MIN (AI1, AI2)
- 7: MAX (AI1, AI2)
- 8: Digital setting (F2-12)
- Others: F connector

**Description**

-

**A2-50**

**Torque upper limit in speed control mode (generating)**

Address:	0xA232	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	200.0	Data type:	UInt16
Default:	150.0	Change:	Changeable at any time

**Value Range:**

0.0% to 200.0%

**Description**

-

**A2-56**

**Field weakening mode**

Address:	0xA238	Effective mode:	-
Min.:	0	Unit:	-
Max.:	2	Data type:	UInt16
Default:	1	Change:	Changeable only at stop

**Value Range:**

- 0: No field weakening
- 1: Auto adjustment
- 2: Calculation+Auto adjustment

**Description**

0: No field weakening

Without field weakening control, the maximum motor speed is related to the bus voltage of the AC drive. The output current is smaller under the same load, but the running frequency cannot reach the frequency reference. Do not select this function if a higher speed is required.

1: Auto adjustment

This field weakening mode is simple and reliable. In scenarios requiring quick field weakening, the field weakening coefficient (F2-19) can be increased as appropriate. However, if the coefficient is too large, the current may be unstable.

2: Calculation+Auto adjustment

In this mode, the field weakening current is adjusted quickly. This mode can be selected in scenarios where the auto adjustment mode cannot meet requirements.

<b>A2-57</b>	<p><b>Field weakening gain</b></p> <p>Address: 0xA239</p> <p>Min.: 1</p> <p>Max.: 50</p> <p>Default: 5</p> <p><b>Value Range:</b> 1 to 50</p> <p><b>Description</b> Increasing the setpoint can improve dynamic response. However, an excessively large setpoint may also cause current oscillation.</p>	<p>Effective mode: -</p> <p>Unit: -</p> <p>Data type: UInt16</p> <p>Change: Changeable at any time</p>
<b>A2-60</b>	<p><b>Generating power limiting</b></p> <p>Address: 0xA23C</p> <p>Min.: 0</p> <p>Max.: 3</p> <p>Default: 0</p> <p><b>Value Range:</b> 0: Disabled 1: Enabled in the whole process 2: Enabled at constant speed 3: Enabled during deceleration</p> <p><b>Description</b> -</p>	<p>Effective mode: -</p> <p>Unit: -</p> <p>Data type: UInt16</p> <p>Change: Changeable at any time</p>
<b>A2-61</b>	<p><b>Generating power upper limit</b></p> <p>Address: 0xA23D</p> <p>Min.: 0.0</p> <p>Max.: 200.0</p> <p>Default: 20.0</p> <p><b>Value Range:</b> 0.0% to 200.0%</p> <p><b>Description</b> -</p>	<p>Effective mode: -</p> <p>Unit: %</p> <p>Data type: UInt16</p> <p>Change: Changeable at any time</p>
<b>A2-62</b>	<p><b>Motor 2 control mode</b></p> <p>Address: 0xA23E</p> <p>Min.: 0</p> <p>Max.: 2</p> <p>Default: 2</p> <p><b>Value Range:</b> 0: SVC 1: FVC 2: V/f</p> <p><b>Description</b> -</p>	<p>Effective mode: -</p> <p>Unit: -</p> <p>Data type: UInt16</p> <p>Change: Changeable only at stop</p>
<b>A2-64</b>	<p><b>Torque boost</b></p> <p>Address: 0xA240</p> <p>Min.: 0.0</p> <p>Max.: 30.0</p> <p>Default: 3.0</p>	<p>Effective mode: -</p> <p>Unit: %</p> <p>Data type: UInt16</p> <p>Change: Changeable at any time</p>

**Value Range:**

0.0% to 30.0%

**Description**

-

**A2-66 V/f oscillation suppression gain**

Address: 0xA242

Min.: 0

Max.: 100

Default: 40

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0 to 100

**Description**

-

**A2-67 Initial position angle detection current of synchronous motor**

Address: 0xA243

Min.: 50

Max.: 180

Default: 80

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**Value Range:**

50 to 180

**Description**

A smaller current indicates lower noise during detection. However, an excessively small current may lead to position detection inaccuracy. You are advised not to modify this parameter in FVC mode.

**A2-68 Initial position angle detection of synchronous motor**

Address: 0xA244

Min.: 0

Max.: 2

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0: Detected upon running

1: Not detected

2: Detected upon initial running after power-on

**Description**

The initial position angle detection can prevent reverse rotation at startup, but it causes certain noise. For scenarios where reverse rotation is not allowed at startup and the rotor position of the motor will change after stop, F2-25 must be set to 0. It can be set to 1 or 2 in other scenarios.

**A2-70 Salient pole rate adjustment gain of synchronous motor**

Address: 0xA246

Min.: 0.20

Max.: 3.00

Default: 1.00

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0.20 to 3.00

**Description**

If F2-28 is set to 1, you can adjust F2-27 when the output current does not decrease or even increase under the same load. When the load remains unchanged, adjust F2-27 until the output current is the smallest.

**A2-71 Maximum torque-to-current ratio control of synchronous motor**

Address:	0xA247	Effective mode:	-
Min.:	0	Unit:	-
Max.:	1	Data type:	UInt16
Default:	1	Change:	Changeable at any time

**Value Range:**

0: Disabled

1: Enabled

**Description**

When this function is enabled for the salient pole motor, the current will become smaller under the same load.

**A2-75 Z signal correction**

Address:	0xA24B	Effective mode:	-
Min.:	0	Unit:	-
Max.:	1	Data type:	UInt16
Default:	1	Change:	Changeable at any time

**Value Range:**

0: Disabled

1: Enabled

**Description**

-

**A2-80 Low speed carrier frequency**

Address:	0xA250	Effective mode:	-
Min.:	0.8	Unit:	kHz
Max.:	F0-15	Data type:	UInt16
Default:	2.0	Change:	Changeable at any time

**Value Range:**

0.8 kHz to F0-15

**Description**

-

**A2-86 Position lock**

Address:	0xA256	Effective mode:	-
Min.:	0	Unit:	-
Max.:	1	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0 to 1

**Description**

-

**A2-87 Switchover frequency**

Address:	0xA257	Effective mode:	-
Min.:	0.00	Unit:	Hz
Max.:	A2-40	Data type:	UInt16
Default:	0.30	Change:	Changeable at any time

**Value Range:**

0.00 Hz to A2-40

**Description**

-

**A2-88 Position lock speed loop proportional gain**

Address: 0xA258

Min.: 1

Max.: 100

Default: 10

**Value Range:**

1 to 100

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**A2-89 Position lock speed loop integral time**

Address: 0xA259

Min.: 0.01

Max.: 10.00

Default: 0.50

**Value Range:**

0.01s to 10.00s

**Description**

-

Effective mode: -

Unit: s

Data type: UInt16

Change: Changeable at any time

**A2-92 Auto-tuning free mode**

Address: 0xA25C

Min.: 0

Max.: 2

Default: 0

**Value Range:**

0: Disabled

1: Auto-tuning upon initial running after power-on

2: Auto-tuning upon running

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**A2-94 Initial position compensation angle**

Address: 0xA25E

Min.: 0.0

Max.: 359.9

Default: 0.0

**Value Range:**

0.0 to 359.9

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

## 4.20 A3: Motor 2 V/f Control Parameters

### A3-00 V/f curve

Address: 0xA300

Min.: 0

Max.: 11

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**Value Range:**

0: Straight-line V/f curve

1: Multi-point V/f curve

2: Reserved

3: Reserved

4: Reserved

5: Reserved

6: Reserved

7: Reserved

8: Reserved

9: Reserved

10: V/f complete separation mode

11: V/f half separation mode

**Description**

-

### A3-01 Torque boost

Address: 0xA301

Min.: 0.0

Max.: 30.0

Default: 3.0

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0.0% to 30.0%

**Description**

-

### A3-02 Cut-off frequency of torque boost

Address: 0xA302

Min.: 0.00

Max.: F0-10

Default: 50.00

Effective mode: -

Unit: Hz

Data type: UInt16

Change: Changeable only at stop

**Value Range:**

0.00 Hz to F0-10

**Description**

-

### A3-03 Multi-point V/f frequency 1

Address: 0xA303

Min.: 0.00

Max.: A3-05

Default: 0.00

Effective mode: -

Unit: Hz

Data type: UInt16

Change: Changeable only at stop

**Value Range:**

0.00 Hz to A3-05



**Description**

-

**A3-04 Multi-point V/f voltage 1**

Address: 0xA304  
 Min.: 0.0  
 Max.: 100.0  
 Default: 0.0

Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**

0.0% to +100.0%

**Description**

-

**A3-05 Multi-point V/f frequency 2**

Address: 0xA305  
 Min.: A3-03  
 Max.: A3-07  
 Default: 0.00

Effective mode: -  
 Unit: Hz  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**

A3-03 to A3-07

**Description**

-

**A3-06 Multi-point V/f voltage 2**

Address: 0xA306  
 Min.: 0.0  
 Max.: 100.0  
 Default: 0.0

Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**

0.0% to +100.0%

**Description**

-

**A3-07 Multi-point V/f frequency 3**

Address: 0xA307  
 Min.: A3-05  
 Max.: A2-04  
 Default: 0.00

Effective mode: -  
 Unit: Hz  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**

A3-05 to A2-04

**Description**

-

**A3-08 Multi-point V/f voltage 3**

Address: 0xA308  
 Min.: 0.0  
 Max.: 100.0  
 Default: 0.0

Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**

0.0% to +100.0%

**Description**

-

<b>A3-09</b>	<b>V/f slip compensation gain</b> Address: 0xA309 Min.: 0.0 Max.: 200.0 Default: 0.0 <b>Value Range:</b> 0.0 to 200.0 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>A3-10</b>	<b>V/f overexcitation gain</b> Address: 0xA30A Min.: 0 Max.: 200 Default: 64 <b>Value Range:</b> 0 to 200 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>A3-11</b>	<b>V/f oscillation suppression gain</b> Address: 0xA30B Min.: 0 Max.: 100 Default: 40 <b>Value Range:</b> 0 to 100 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>A3-12</b>	<b>V/f oscillation suppression</b> Address: 0xA30C Min.: 0 Max.: 1 Default: 1 <b>Value Range:</b> 0: Disabled 1: Enabled <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>A3-13</b>	<b>Voltage source for V/f separation</b> Address: 0xA30D Min.: 0 Max.: 8 Default: 0 <b>Value Range:</b>	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time

0: Digital setting (A3-14)

1: AI1

2: AI2

3: AI3

4: Pulse reference (DI5)

5: Multi-reference

6: Simple PLC

7: PID

8: Communication

Others: F connector

### **Description**

This parameter defines the source of the target voltage in V/f separation mode.

0: Digital setting (F3-14)

The V/f separation voltage is set by F3-14 (V/f separation voltage).

1: AI1

The V/f separation voltage is input with current or voltage signals through the AI1 terminal. The frequency is calculated according to the preset AI curve.

2: AI2

The V/f separation voltage is input with current or voltage signals through the AI2 terminal. The frequency is calculated according to the preset AI curve.

3: AI3

The V/f separation voltage is input with current or voltage signals through the AI3 terminal. The frequency is calculated according to the preset AI curve. The AC drive has two AI terminals by default, and the AI3 terminal needs to be provided through the I/O expansion card.

4: Pulse reference (DI5)

The V/f separation voltage is set through DI5. The frequency is calculated based on the curve reflecting the relationship between the pulse frequency and running frequency.

5: Multi-reference

When multi-reference is used as the source of the V/f separation voltage, different combinations of DI terminal states correspond to different reference values. The four multi-reference terminals can provide 16 state combinations, corresponding to 16 reference values (percentage x maximum frequency) of parameters in group FC.

6: Simple PLC

The V/f separation voltage is set by simple PLC. For details, see the function description of simple PLC.

7: PID

The V/f separation voltage is set by PID. For details, see the PID function description.

8: Communication

The main frequency is set through communication. The running frequency is input through remote communication. The AC drive must be equipped with a communication card to implement communication with the host controller. This mode applies to remote control or centralized control of multiple equipment.

Others: F connector

A function code is set for a floating-point connector, and the value of the connector is read as the motoring torque upper limit in speed control mode. This mode is used for expansion besides the common sources.

**A3-14 V/f separation voltage**

Address:	0xA30E	Effective mode:	-
Min.:	0	Unit:	V
Max.:	A2-02	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0 V to A2-02

**Description**

This parameter defines the V/f separation voltage.

**A3-15 Voltage rise time of V/f separation**

Address:	0xA30F	Effective mode:	-
Min.:	0.0	Unit:	s
Max.:	1000.0	Data type:	UInt16
Default:	0.0	Change:	Changeable at any time

**Value Range:**

0.0s to 1000.0s

**Description**

This parameter defines the time required for the output voltage to rise from 0 to the rated motor voltage.

**A3-16 Voltage fall time of V/f separation**

Address:	0xA310	Effective mode:	-
Min.:	0.0	Unit:	s
Max.:	1000.0	Data type:	UInt16
Default:	0.0	Change:	Changeable at any time

**Value Range:**

0.0s to 1000.0s

**Description**

This parameter defines the time required for the output voltage to fall from the rated motor voltage to 0.

**A3-17 Stop mode for V/f separation**

Address:	0xA311	Effective mode:	-
Min.:	0	Unit:	-
Max.:	2	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: Frequency and voltage decline to 0 independently

1: Frequency declines to 0 after voltage declines to 0

2: Coast to stop (new)

**Description**

0: The frequency and voltage decrease to 0 independently.

1: The frequency decreases to 0 according to the deceleration time after the voltage decreases to 0 according to the deceleration time.

2: The AC drive coasts to stop without following the stop deceleration curve.

**A3-18 Overcurrent stall suppression action current**

Address:	0xA312	Effective mode:	-
Min.:	50	Unit:	%
Max.:	200	Data type:	UInt16

Default: 150  
**Value Range:**  
 50% to 200%  
**Description**  
 -

Change: Changeable only at stop

**A3-19 Overcurrent stall suppression**

Address: 0xA313  
 Min.: 0  
 Max.: 1  
 Default: 1

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**  
 0: Disabled  
 1: Enabled  
**Description**  
 -

**A3-20 Overcurrent stall suppression gain**

Address: 0xA314  
 Min.: 1  
 Max.: 100  
 Default: 20

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**  
 1 to 100  
**Description**  
 -

**A3-21 Compensation coefficient of speed multiplying overcurrent stall suppression action current**

Address: 0xA315  
 Min.: 50  
 Max.: 200  
 Default: 100

Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**  
 50% to 200%  
**Description**  
 -

**A3-22 Overvoltage stall suppression action voltage**

Address: 0xA316  
 Min.: 330.0  
 Max.: 800.0  
 Default: 770.0

Effective mode: -  
 Unit: V  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**  
 330.0 V to 800.0 V  
**Description**  
 -

**A3-23 Overvoltage stall suppression**

Address: 0xA317  
 Min.: 0  
 Max.: 1  
 Default: 1

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**

0: Disabled

1: Enabled

**Description**

-

**A3-24 Overvoltage stall suppression frequency gain**

Address: 0xA318

Effective mode: -

Min.: 1

Unit: -

Max.: 100

Data type: UInt16

Default: 30

Change: Changeable at any time

**Value Range:**

1 to 100

**Description**

-

**A3-25 Overvoltage stall suppression voltage gain**

Address: 0xA319

Effective mode: -

Min.: 1

Unit: -

Max.: 100

Data type: UInt16

Default: 30

Change: Changeable at any time

**Value Range:**

1 to 100

**Description**

-

**A3-26 Frequency rise threshold for overvoltage stall suppression**

Address: 0xA31A

Effective mode: -

Min.: 0

Unit: Hz

Max.: 50

Data type: UInt16

Default: 5

Change: Changeable only at stop

**Value Range:**

0 Hz to 50 Hz

**Description**

-

**A3-27 Slip compensation filter time**

Address: 0xA31B

Effective mode: -

Min.: 0.1

Unit: s

Max.: 10.0

Data type: UInt16

Default: 0.5

Change: Changeable only at stop

**Value Range:**

0.1s to 10.0s

**Description**

-

**A3-28 Multi-point curve source**

Address: 0xA31C

Effective mode: -

Min.: 0

Unit: -

Max.: 2

Data type: UInt16

Default: 0

Change: Changeable only at stop

**Value Range:**

- 0: 3-point curve
- 1: Multi-point curve module A
- 2: Multi-point curve module B

**Description**

- 0: 3-point curve  
The 3-point curve is used by default, which is set in F3-03 to F3-08.
- 1: Multi-point curve module A  
The output of free module A is used as the voltage reference of the multi-point curve.
- 2: Multi-point curve module B  
The output of free module B is used as the voltage reference of the multi-point curve.

**A3-33 Online torque compensation gain**

Address:	0xA321	Effective mode:	-
Min.:	80	Unit:	-
Max.:	150	Data type:	UInt16
Default:	100	Change:	Changeable only at stop

**Value Range:**

80 to 150

**Description**

-

**A3-34 I<sub>maxKi</sub> coefficient**

Address:	0xA322	Effective mode:	-
Min.:	10	Unit:	%
Max.:	1000	Data type:	UInt16
Default:	100	Change:	Changeable only at stop

**Value Range:**

10% to 1000%

**Description**

-

**A3-35 Overcurrent suppression threshold (relative to rated motor current)**

Address:	0xA323	Effective mode:	-
Min.:	80	Unit:	%
Max.:	300	Data type:	UInt16
Default:	200	Change:	Changeable only at stop

**Value Range:**

80% to 300%

**Description**

-

**A3-36 Frequency threshold for overcurrent suppression field weakening**

Address:	0xA324	Effective mode:	-
Min.:	100	Unit:	%
Max.:	500	Data type:	UInt16
Default:	100	Change:	Changeable only at stop

**Value Range:**

100% to 500%

**Description**

-

<b>A3-37</b>	<b>IT filter time</b> Address: 0xA325 Min.: 10 Max.: 1000 Default: 100 <b>Value Range:</b> 10 ms to 1000 ms <b>Description</b> -	Effective mode: - Unit: ms Data type: UInt16 Change: Changeable only at stop
<b>A3-38</b>	<b>Slip compensation mode</b> Address: 0xA326 Min.: 0 Max.: 2 Default: 1 <b>Value Range:</b> 0: Disabled 1: Slip compensation without PG 2: Slip compensation with PG <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable only at stop
<b>A3-39</b>	<b>VdcMaxCtrl allowed runtime</b> Address: 0xA327 Min.: 0.0 Max.: 100.0 Default: 0.0 <b>Value Range:</b> 0.0s to 100.0s <b>Description</b> -	Effective mode: - Unit: s Data type: UInt16 Change: Changeable only at stop
<b>A3-40</b>	<b>Upper limit of V/f separation voltage</b> Address: 0xA328 Min.: 50.0 Max.: 200.0 Default: 100.0 <b>Value Range:</b> 50.0% to 200.0% <b>Description</b> This parameter defines the upper limit of the V/f separation voltage, which is a percentage relative to the rated motor voltage.	Effective mode: - Unit: % Data type: UInt16 Change: Changeable only at stop
<b>A3-41</b>	<b>RFG time of V/f separation frequency</b> Address: 0xA329 Min.: 0 Max.: 1 Default: 0 <b>Value Range:</b> 0: RFG time forced to 0 1: Preset RFG time	Effective mode: - Unit: - Data type: UInt16 Change: Changeable only at stop



**Description**

This parameter defines the RFG time of the V/f separation frequency. When it is set to 0, the frequency reference acceleration/deceleration time is forced to 0; when it is set to 1, the acceleration/deceleration time is set as normal.

**A3-42**

**Cut-off frequency of V/f oscillation suppression filter**

Address:	0xA32A	Effective mode:	-
Min.:	1.0	Unit:	Hz
Max.:	50.0	Data type:	UInt16
Default:	8.0	Change:	Changeable at any time

**Value Range:**

1.0 Hz to 50.0 Hz

**Description**

-

**A3-43**

**Cut-off frequency threshold for V/f oscillation suppression**

Address:	0xA32B	Effective mode:	-
Min.:	10	Unit:	Hz
Max.:	3000	Data type:	UInt16
Default:	200	Change:	Changeable at any time

**Value Range:**

10 Hz to 3000 Hz

**Description**

-

**A3-44**

**VdcMaxCtrl feedforward coefficient**

Address:	0xA32C	Effective mode:	-
Min.:	0	Unit:	%
Max.:	500	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0% to 500%

**Description**

-

**A3-50**

**PMVC low-speed IF**

Address:	0xA332	Effective mode:	-
Min.:	0	Unit:	-
Max.:	1	Data type:	UInt16
Default:	1	Change:	Changeable only at stop

**Value Range:**

0: Disabled

1: Enabled

**Description**

-

**A3-51**

**PMVC low-speed IF current**

Address:	0xA333	Effective mode:	-
Min.:	30	Unit:	-
Max.:	250	Data type:	UInt16
Default:	100	Change:	Changeable only at stop

**Value Range:**

30 to 250

**Description**

-

**A3-52 PMVC low-speed IF speed switching threshold**

Address: 0xA334

Effective mode: -

Min.: 2.0

Unit: %

Max.: 100.0

Data type: UInt16

Default: 10.0

Change: Changeable only at stop

**Value Range:**

2.0% to 100.0%

**Description**

-

**A3-53 PMVC oscillation suppression gain coefficient**

Address: 0xA335

Effective mode: -

Min.: 0

Unit: -

Max.: 500

Data type: UInt16

Default: 100

Change: Changeable at any time

**Value Range:**

0 to 500

**Description**

-

**A3-54 PMVC filter time coefficient**

Address: 0xA336

Effective mode: -

Min.: 0

Unit: -

Max.: 500

Data type: UInt16

Default: 100

Change: Changeable at any time

**Value Range:**

0 to 500

**Description**

-

**A3-55 PMVC energy conservation control mode**

Address: 0xA337

Effective mode: -

Min.: 0

Unit: -

Max.: 2

Data type: UInt16

Default: 2

Change: Changeable only at stop

**Value Range:**

0: Fixed straight-line V/f curve

1: Fixed 30% reactive current

2: MTPA control

**Description**

-

## 4.21 A4: Control Source Parameters

### A4-00

#### Control channel

Address: 0xA400

Min.: 0

Max.: 1

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0: Control channel 1

1: Control channel 2

**Description**

This parameter specifies the control channel between two custom channels.

### A4-01

#### Custom OFF1 source

Address: 0xA401

Min.: 0

Max.: 18

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0: Inactive

3: DI1

4: DI2

5: DI3

6: DI4

7: DI5

8: DI6

9: DI7

10: DI8

11: DI9

12: DI10

13: DI11

14: DI12

15: DI13

16: DI14

17: DI15

18: DI16

Others: B connector

**Description**

This parameter defines the source of start/stop control OFF1 for custom channel 1.

### A4-02

#### Custom OFF2 source 1

Address: 0xA402

Min.: 0

Max.: 18

Default: 1

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0: Active  
 1: Inactive  
 3: DI1  
 4: DI2  
 5: DI3  
 6: DI4  
 7: DI5  
 8: DI6  
 9: DI7  
 10: DI8  
 11: DI9  
 12: DI10  
 13: DI11  
 14: DI12  
 15: DI13  
 16: DI14  
 17: DI15  
 18: DI16

Others: B connector

#### **Description**

This parameter defines source 1 of coast to stop command OFF2 for custom channel 1. The coast to stop command OFF2 is valid if any of the three sources is active low.

#### **A4-03 Custom OFF3 source 1**

Address:	0xA403	Effective mode:	-
Min.:	0	Unit:	-
Max.:	18	Data type:	UInt16
Default:	1	Change:	Changeable at any time

#### **Value Range:**

Same as A4-02

#### **Description**

This parameter defines source 1 of emergency stop command OFF3 for custom channel 1. The emergency stop command OFF3 is valid if any of the three sources is active low.

#### **A4-04 Custom running permission source**

Address:	0xA404	Effective mode:	-
Min.:	0	Unit:	-
Max.:	18	Data type:	UInt16
Default:	1	Change:	Changeable at any time

#### **Value Range:**

0: Not permitted

1: Permitted

3: DI1

4: DI2

5: DI3

6: DI4

7: DI5

8: DI6

9: DI7

10: DI8

11: DI9

12: DI10

13: DI11

14: DI12

15: DI13

16: DI14

17: DI15

18: DI16

Others: B connector

**Description**

This parameter defines the running permission source for custom channel 1.

**A4-05**

**Custom fault reset source 1**

Address: 0xA405

Min.: 0

Max.: 18

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0: Inactive

1: Active

3: DI1

4: DI2

5: DI3

6: DI4

7: DI5

8: DI6

9: DI7

10: DI8

11: DI9

12: DI10

13: DI11

14: DI12

15: DI13

16: DI14

17: DI15

18: DI16

Others: B connector

**Description**

This parameter defines source 1 of the fault reset command for custom channel 1. The fault reset command is valid if any of the three sources is active high.

**A4-06****Custom JOG1 source**

Address:	0xA406	Effective mode:	-
Min.:	0	Unit:	-
Max.:	18	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

Same as A4-01

**Description**

This parameter defines the source of the JOG1 command for custom channel 1.

**A4-07****Custom JOG2 source**

Address:	0xA407	Effective mode:	-
Min.:	0	Unit:	-
Max.:	18	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

Same as A4-01

**Description**

This parameter defines the source of the JOG2 command for custom channel 1.

**A4-08****Custom speed negation source**

Address:	0xA408	Effective mode:	-
Min.:	0	Unit:	-
Max.:	18	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

Same as A4-05

**Description**

This parameter defines the source of the negation command for custom channel 1.

**A4-10****OFF2 source 2**

Address:	0xA40A	Effective mode:	-
Min.:	0	Unit:	-
Max.:	18	Data type:	UInt16
Default:	1	Change:	Changeable at any time

**Value Range:**

- 0: Active
- 1: Inactive
- 2: Terminal function input
- 3: DI1
- 4: DI2
- 5: DI3
- 6: DI4
- 7: DI5
- 8: DI6
- 9: DI7
- 10: DI8
- 11: DI9
- 12: DI10
- 13: DI11
- 14: DI12
- 15: DI13
- 16: DI14
- 17: DI15
- 18: DI16

Others: B connector

**Description**

This parameter defines source 2 of coast to stop command OFF2 for custom channel 1. The coast to stop command OFF2 is valid if any of the three sources is active low.

**A4-11**

**OFF2 source 3**

Address:	0xA40B	Effective mode:	-
Min.:	0	Unit:	-
Max.:	18	Data type:	UInt16
Default:	1	Change:	Changeable at any time

**Value Range:**

Same as A4-02

**Description**

This parameter defines source 3 of coast to stop command OFF2 for custom channel 1. The coast to stop command OFF2 is valid if any of the three sources is active low.

**A4-12**

**OFF3 source 2**

Address:	0xA40C	Effective mode:	-
Min.:	0	Unit:	-
Max.:	18	Data type:	UInt16
Default:	1	Change:	Changeable at any time

**Value Range:**

Same as A4-10

**Description**

This parameter defines source 2 of emergency stop command OFF3 for custom channel 1. The emergency stop command OFF3 is valid if any of the three sources is active low.

**A4-13**

**OFF3 source 3**

Address:	0xA40D	Effective mode:	-
Min.:	0	Unit:	-

Max.:	18	Data type:	UInt16
Default:	1	Change:	Changeable at any time

**Value Range:**

Same as A4-02

**Description**

This parameter defines source 3 of emergency stop command OFF3 for custom channel 1. The emergency stop command OFF3 is valid if any of the three sources is active low.

**A4-14 Fault reset source 2**

Address:	0xA40E	Effective mode:	-
Min.:	0	Unit:	-
Max.:	18	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

Same as A4-10

**Description**

This parameter defines source 2 of the fault reset command for custom channel 1. The fault reset command is valid if any of the three sources is active high.

**A4-15 Fault reset source 3**

Address:	0xA40F	Effective mode:	-
Min.:	0	Unit:	-
Max.:	18	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: Inactive

1: Active

3: DI1

4: DI2

5: DI3

6: DI4

7: DI5

8: DI6

9: DI7

10: DI8

11: DI9

12: DI10

13: DI11

14: DI12

15: DI13

16: DI14

17: DI15

18: DI16

Others: B connector

**Description**

This parameter defines source 3 of the fault reset command for custom channel 1. The fault reset command is valid if any of the three sources is active high.



**A4-16 RFG prohibition source**

Address:	0xA410	Effective mode:	-
Min.:	0	Unit:	-
Max.:	18	Data type:	UInt16
Default:	1	Change:	Changeable at any time

**Value Range:**

Same as A4-02

**Description**

This parameter defines the RFG prohibition source for custom channel 1. When it is active low, the RFG output is set to 0.

**A4-17 RFG pause source**

Address:	0xA411	Effective mode:	-
Min.:	0	Unit:	-
Max.:	18	Data type:	UInt16
Default:	1	Change:	Changeable at any time

**Value Range:**

Same as A4-10

**Description**

This parameter defines the RFG pause source for custom channel 1. When it is active low, the RFG calculation is suspended and the current output is maintained.

**A4-18 Source of setting RFG reference to 0**

Address:	0xA412	Effective mode:	-
Min.:	0	Unit:	-
Max.:	18	Data type:	UInt16
Default:	1	Change:	Changeable at any time

**Value Range:**

Same as A4-10

**Description**

This parameter defines the source of setting RFG input to 0 for custom channel 1. When it is active low, the RFG input is set to 0.

**A4-21 Custom OFF1 source**

Address:	0xA415	Effective mode:	-
Min.:	0	Unit:	-
Max.:	18	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

Same as A4-01

**Description**

This parameter defines the source of start/stop control OFF1 for custom channel 2.

**A4-22 Custom OFF2 source 1**

Address:	0xA416	Effective mode:	-
Min.:	0	Unit:	-
Max.:	18	Data type:	UInt16
Default:	1	Change:	Changeable at any time

**Value Range:**

Same as A4-02

**Description**

This parameter defines source 1 of coast to stop command OFF2 for custom channel 2. The coast to stop command OFF2 is valid if any of the three sources is active low.

**A4-23 Custom OFF3 source 1**

Address:	0xA417	Effective mode:	-
Min.:	0	Unit:	-
Max.:	18	Data type:	UInt16
Default:	1	Change:	Changeable at any time

**Value Range:**

Same as A4-02

**Description**

This parameter defines source 1 of emergency stop command OFF3 for custom channel 2. The emergency stop command OFF3 is valid if any of the three sources is active low.

**A4-24 Custom running permission source**

Address:	0xA418	Effective mode:	-
Min.:	0	Unit:	-
Max.:	18	Data type:	UInt16
Default:	1	Change:	Changeable at any time

**Value Range:**

A4-04

**Description**

This parameter defines the running permission source for custom channel 2.

**A4-25 Custom fault reset source 1**

Address:	0xA419	Effective mode:	-
Min.:	0	Unit:	-
Max.:	18	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

Same as A4-01

**Description**

This parameter defines source 1 of the fault reset command for custom channel 2. The fault reset command is valid if any of the three sources is active high.

**A4-26 Custom JOG1 source**

Address:	0xA41A	Effective mode:	-
Min.:	0	Unit:	-
Max.:	18	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

Same as A4-01

**Description**

This parameter defines the source of the JOG1 command for custom channel 2.

**A4-27 Custom JOG2 source**

Address:	0xA41B	Effective mode:	-
Min.:	0	Unit:	-
Max.:	18	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

Same as A4-01

**Description**

This parameter defines the source of the JOG2 command for custom channel 2.

**A4-28 Custom speed negation source**

Address: 0xA41C

Min.: 0

Max.: 18

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0: Inactive

1: Active

3: DI1

4: DI2

5: DI3

6: DI4

7: DI5

8: DI6

9: DI7

10: DI8

11: DI9

12: DI10

13: DI11

14: DI12

15: DI13

16: DI14

17: DI15

18: DI16

Others: B connector

**Description**

This parameter defines the source of the negation command for custom channel 2.

**A4-30 OFF2 source 2**

Address: 0xA41E

Min.: 0

Max.: 18

Default: 1

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

Same as A4-10

**Description**

This parameter defines source 2 of coast to stop command OFF2 for custom channel 2. The coast to stop command OFF2 is valid if any of the three sources is active low.

**A4-31 OFF2 source 3**

Address: 0xA41F

Min.: 0

Max.: 18

Default: 1

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

Same as A4-02

**Description**

This parameter defines source 3 of coast to stop command OFF2 for custom channel 2. The coast to stop command OFF2 is valid if any of the three sources is active low.

**A4-32****OFF3 source 2**

Address: 0xA420

Effective mode: -

Min.: 0

Unit: -

Max.: 18

Data type: UInt16

Default: 1

Change: Changeable at any time

**Value Range:**

Same as A4-10

**Description**

This parameter defines source 2 of emergency stop command OFF3 for custom channel 2. The emergency stop command OFF3 is valid if any of the three sources is active low.

**A4-33****OFF3 source 3**

Address: 0xA421

Effective mode: -

Min.: 0

Unit: -

Max.: 18

Data type: UInt16

Default: 1

Change: Changeable at any time

**Value Range:**

Same as A4-02

**Description**

This parameter defines source 3 of emergency stop command OFF3 for custom channel 2. The emergency stop command OFF3 is valid if any of the three sources is active low.

**A4-34****Fault reset source 2**

Address: 0xA422

Effective mode: -

Min.: 0

Unit: -

Max.: 18

Data type: UInt16

Default: 0

Change: Changeable at any time

**Value Range:**

Same as A4-10

**Description**

This parameter defines source 2 of the fault reset command for custom channel 2. The fault reset command is valid if any of the three sources is active high.

**A4-35****Fault reset source 3**

Address: 0xA423

Effective mode: -

Min.: 0

Unit: -

Max.: 18

Data type: UInt16

Default: 0

Change: Changeable at any time

**Value Range:**

A4-15

**Description**

This parameter defines source 3 of the fault reset command for custom channel 2. The fault reset command is valid if any of the three sources is active high.

**A4-36 RFG prohibition source**

Address:	0xA424	Effective mode:	-
Min.:	0	Unit:	-
Max.:	18	Data type:	UInt16
Default:	1	Change:	Changeable at any time

**Value Range:**

Same as A4-02

**Description**

This parameter defines the RFG prohibition source for custom channel 2. When it is active low, the RFG output is set to 0.

**A4-37 RFG pause source**

Address:	0xA425	Effective mode:	-
Min.:	0	Unit:	-
Max.:	18	Data type:	UInt16
Default:	1	Change:	Changeable at any time

**Value Range:**

Same as A4-10

**Description**

This parameter defines the RFG pause source for custom channel 2. When it is active low, the RFG calculation is suspended and the current output is maintained.

**A4-38 Source of setting RFG reference to 0**

Address:	0xA426	Effective mode:	-
Min.:	0	Unit:	-
Max.:	18	Data type:	UInt16
Default:	1	Change:	Changeable at any time

**Value Range:**

Same as A4-10

**Description**

This parameter defines the source of setting RFG input to 0 for custom channel 2. When it is active low, the RFG input is set to 0.

**A4-41 Terminal start/stop module A/B**

Address:	0xA429	Effective mode:	-
Min.:	0	Unit:	-
Max.:	1	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: Module A

1: Module B

**Description**

-

**A4-43 Input 1 of terminal start/stop module A**

Address:	0xA42B	Effective mode:	-
Min.:	0	Unit:	-
Max.:	18	Data type:	UInt16
Default:	2	Change:	Changeable at any time

**Value Range:**

0: Active  
 2: Terminal function input  
 3: DI1  
 4: DI2  
 5: DI3  
 6: DI4  
 7: DI5  
 8: DI6  
 9: DI7  
 10: DI8  
 11: DI9  
 12: DI10  
 13: DI11  
 14: DI12  
 15: DI13  
 16: DI14  
 17: DI15  
 18: DI16  
 Others: B connector

**Description**

-

**A4-44 Input 2 of terminal start/stop command A**

Address: 0xA42C  
 Min.: 0  
 Max.: 18  
 Default: 2

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

A4-43

**Description**

-

**A4-45 Input 3 of terminal start/stop command A**

Address: 0xA42D  
 Min.: 0  
 Max.: 18  
 Default: 2

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

A4-43

**Description**

-

**A4-46 Running permission source of terminal start/stop module A**

Address: 0xA42E  
 Min.: 0  
 Max.: 18  
 Default: 1

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

- 0: Inactive
- 1: Active
- 2: Terminal function input
- 3: DI1
- 4: DI2
- 5: DI3
- 6: DI4
- 7: DI5
- 8: DI6
- 9: DI7
- 10: DI8
- 11: DI9
- 12: DI10
- 13: DI11
- 14: DI12
- 15: DI13
- 16: DI14
- 17: DI15
- 18: DI16

Others: B connector

**Description**

-

**A4-47 Fault reset source of terminal start/stop module A**

Address:	0xA42F	Effective mode:	-
Min.:	0	Unit:	-
Max.:	18	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

A4-46

**Description**

-

**A4-48 JOG1 source of terminal start/stop module A**

Address:	0xA430	Effective mode:	-
Min.:	0	Unit:	-
Max.:	18	Data type:	UInt16
Default:	2	Change:	Changeable at any time

**Value Range:**

A4-43

**Description**

-

**A4-49 JOG2 source of terminal start/stop module A**

Address:	0xA431	Effective mode:	-
Min.:	0	Unit:	-
Max.:	18	Data type:	UInt16
Default:	2	Change:	Changeable at any time

**Value Range:**

A4-43

**Description**

-

**A4-50 Control mode of terminal start/stop module B**

Address: 0xA432

Effective mode: -

Min.: 0

Unit: -

Max.: 3

Data type: UInt16

Default: 0

Change: Changeable at any time

**Value Range:**

0: Two-wire mode 1

1: Two-wire mode 2

2: Three-wire mode 1

3: Three-wire mode 2

**Description**

-

**A4-51 Input 1 of terminal start/stop module B**

Address: 0xA433

Effective mode: -

Min.: 0

Unit: -

Max.: 18

Data type: UInt16

Default: 2

Change: Changeable at any time

**Value Range:**

A4-43

**Description**

-

**A4-52 Input 2 of terminal start/stop command B**

Address: 0xA434

Effective mode: -

Min.: 0

Unit: -

Max.: 18

Data type: UInt16

Default: 2

Change: Changeable at any time

**Value Range:**

A4-43

**Description**

-

**A4-53 Input 3 of terminal start/stop command B**

Address: 0xA435

Effective mode: -

Min.: 0

Unit: -

Max.: 18

Data type: UInt16

Default: 2

Change: Changeable at any time

**Value Range:**

A4-43

**Description**

-

**A4-54 Running permission source of terminal start/stop module B**

Address: 0xA436

Effective mode: -

Min.: 0

Unit: -

Max.: 18

Data type: UInt16



Default: 1  
**Value Range:**  
A4-46  
**Description**  
-

Change: Changeable at any time

**A4-55 Fault reset source of terminal start/stop module B**

Address: 0xA437  
Min.: 0  
Max.: 18  
Default: 2  
**Value Range:**  
A4-46  
**Description**  
-

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Changeable at any time

**A4-56 JOG1 source of terminal start/stop module B**

Address: 0xA438  
Min.: 0  
Max.: 18  
Default: 2  
**Value Range:**  
A4-43  
**Description**  
-

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Changeable at any time

**A4-57 JOG2 source of terminal start/stop module B**

Address: 0xA439  
Min.: 0  
Max.: 18  
Default: 2  
**Value Range:**  
A4-43  
**Description**  
-

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Changeable at any time

**A4-58 Reserved**

Address: 0xA43A  
Min.: 0  
Max.: 65535  
Default: 0  
**Value Range:**  
0 to 65535  
**Description**  
-

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Changeable at any time

**A4-59 Reserved**

Address: 0xA43B  
Min.: 0  
Max.: 65535  
Default: 0  
**Value Range:**

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Changeable at any time

0 to 65535

**Description**

-

**A4-60****Reserved**

Address: 0xA43C

Min.: 0

Max.: 65535

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0 to 65535

**Description**

-

**A4-61****Source of supplementary speed in speed control**

Address: 0xA43D

Min.: 0

Max.: 8

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0: 0

1: AI1

2: AI2

3: AI3

4: Pulse reference

5: Communication

6: Multi-reference

7: Motor-driven potentiometer

8: PID

Others: F connector

**Description**

-

**A4-62****JOG1 speed source**

Address: 0xA43E

Min.: 0

Max.: 8

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0: Digital setting

1: AI1

2: AI2

3: AI3

4: Pulse reference

5: Communication

6: Multi-reference

7: Motor-driven potentiometer

8: PID

Others: F connector

**Description**

-

**A4-65**

**Ramp rounding mode**

Address:	0xA441	Effective mode:	-
Min.:	0	Unit:	-
Max.:	1	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: Incontinuous smoothing  
 1: Continuous smoothing

**Description**

This parameter defines how the curve changes when the acceleration/deceleration trend changes.  
 0: Incontinuous smoothing  
 When the acceleration/deceleration trend changes, the curve switches to the new target reference direction immediately.  
 1: Continuous smoothing  
 When the acceleration/deceleration trend changes, the curve follows the end arc of the current acceleration/deceleration and then switches to the reference direction.

**A4-66**

**Jog ramp source**

Address:	0xA442	Effective mode:	-
Min.:	0	Unit:	-
Max.:	1	Data type:	UInt16
Default:	1	Change:	Changeable at any time

**Value Range:**

0: Normal running ramp time  
 1: Jog ramp time

**Description**

0: Normal running ramp time  
 The jog ramp time is the same as the normal running ramp time.  
 1: Jog ramp time  
 The jog ramp time is set separately (F8-01 and F8-02).

**A4-67**

**Proportion of starting arc in acceleration**

Address:	0xA443	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	100.0	Data type:	UInt16
Default:	30.0	Change:	Changeable only at stop

**Value Range:**

0.0% to +100.0%

**Description**

This parameter defines the proportion of the starting arc in acceleration.

**A4-68**

**Proportion of end arc in acceleration**

Address:	0xA444	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	100.0	Data type:	UInt16
Default:	30.0	Change:	Changeable only at stop

**Value Range:**

0.0% to +100.0%

**Description**

This parameter defines the proportion of the end arc in acceleration.

**A4-69 Proportion of starting arc in deceleration**

Address: 0xA445

Effective mode: -

Min.: 0.0

Unit: %

Max.: 100.0

Data type: UInt16

Default: 30.0

Change: Changeable only at stop

**Value Range:**

0.0% to +100.0%

**Description**

This parameter defines the proportion of the starting arc in deceleration.

**A4-70 Proportion of end arc in deceleration**

Address: 0xA446

Effective mode: -

Min.: 0.0

Unit: %

Max.: 100.0

Data type: UInt16

Default: 30.0

Change: Changeable only at stop

**Value Range:**

0.0% to +100.0%

**Description**

This parameter defines the proportion of the end arc in deceleration.

**A4-71 Ramp output forcing enable**

Address: 0xA447

Effective mode: -

Min.: 0

Unit: -

Max.: 18

Data type: UInt16

Default: 0

Change: Changeable at any time

**Value Range:**

0: Disabled

1: Enabled

3: DI1

4: DI2

5: DI3

6: DI4

7: DI5

8: DI6

9: DI7

10: DI8

11: DI9

12: DI10

13: DI11

14: DI12

15: DI13

16: DI14

17: DI15

18: DI16

Others: B connector

**Description**

-

**A4-72 Ramp output force value**

Address: 0xA448  
 Min.: 0  
 Max.: 8  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0: 100%  
 1: AI1  
 2: AI2  
 3: AI3  
 4: Pulse reference  
 5: Communication  
 6: Multi-reference  
 7: Motor-driven potentiometer  
 8: PID  
 Others: F connector

**Description**

-

**A4-73 Ramp input ramp shift enable**

Address: 0xA449  
 Min.: 0  
 Max.: 18  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

Same as A4-71

**Description**

-

**A4-74 Ramp input update interval**

Address: 0xA44A  
 Min.: 2  
 Max.: 10000  
 Default: 50

Effective mode: -  
 Unit: ms  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

2 ms to 10000 ms

**Description**

-

**A4-75 Ramp tracking enable**

Address: 0xA44B  
 Min.: 0  
 Max.: 1  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0: Disabled  
 1: Enabled

**Description**

-

**A4-76 Ramp tracking error**

Address: 0xA44C

Min.: 0.0

Max.: 100.0

Default: 10.0

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0.0% to +100.0%

**Description**

-

**A4-77 Frequency acceleration time in torque control**

Address: 0xA44D

Min.: 0.0

Max.: 6500.0

Default: 0.0

Effective mode: -

Unit: s

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0.0s to 6500.0s

**Description**

-

**A4-78 Frequency deceleration time in torque control**

Address: 0xA44E

Min.: 0.0

Max.: 6500.0

Default: 0.0

Effective mode: -

Unit: s

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0.0s to 6500.0s

**Description**

-

**A4-79 Forced use of the fourth set of time in torque control**

Address: 0xA44F

Min.: 0

Max.: 1

Default: 1

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0 to 1

**Description**

-

**A4-80 Speed limited running mode**

Address: 0xA450

Min.: 0

Max.: 1

Default: 1

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0: Run with a maximum speed limit

1: Run at a specified safe speed

**Description**

-

**A4-81 Forward speed limit in restricted running mode**

Address:	0xA451	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	100.0	Data type:	UInt16
Default:	100.0	Change:	Changeable at any time

**Value Range:**

0.0% to +100.0%

**Description**

-

**A4-82 Reverse speed limit in restricted running mode**

Address:	0xA452	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	100.0	Data type:	UInt16
Default:	100.0	Change:	Changeable at any time

**Value Range:**

0.0% to +100.0%

**Description**

-

**A4-83 Maximum motoring power in restricted running mode**

Address:	0xA453	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	400.0	Data type:	UInt16
Default:	50.0	Change:	Changeable at any time

**Value Range:**

0.0% to 400.0%

**Description**

-

**A4-84 Maximum regenerative power in restricted running mode**

Address:	0xA454	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	400.0	Data type:	UInt16
Default:	50.0	Change:	Changeable at any time

**Value Range:**

0.0% to 400.0%

**Description**

-

**A4-85 Forward torque limit in restricted running mode**

Address:	0xA455	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	400.0	Data type:	UInt16
Default:	50.0	Change:	Changeable at any time

**Value Range:**

0.0% to 400.0%

**Description**

-

<b>A4-86</b>	<b>Reverse torque limit in restricted running mode</b>	
Address:	0xA456	Effective mode: -
Min.:	0.0	Unit: %
Max.:	400.0	Data type: UInt16
Default:	50.0	Change: Changeable at any time

**Value Range:**

0.0% to 400.0%

**Description**

-

<b>A4-87</b>	<b>Maximum allowable current in restricted running mode</b>	
Address:	0xA457	Effective mode: -
Min.:	0.0	Unit: %
Max.:	400.0	Data type: UInt16
Default:	90.0	Change: Changeable at any time

**Value Range:**

0.0% to 400.0%

**Description**

-

## 4.22 A5: Control Optimization Parameters

<b>A5-00</b>	<b>DPWM switchover frequency upper limit</b>	
Address:	0xA500	Effective mode: -
Min.:	5.00	Unit: Hz
Max.:	F0-10	Data type: UInt16
Default:	15.00	Change: Changeable at any time

**Value Range:**

5.00 Hz to F0-10

**Description**

The AC drive supports two PWM modes: CPWM and DPWM. When the running frequency is higher than A5-00 (switchover frequency), the DPWM mode is used. When the running frequency is lower than A5-00 (switchover frequency), the CPWM mode is used. The DPWM mode can improve the AC drive efficiency, whereas the CPWM mode can reduce the motor noise.

Increasing the value of this parameter to the maximum frequency will reduce the motor noise.

<b>A5-01</b>	<b>PWM modulation mode</b>	
Address:	0xA501	Effective mode: -
Min.:	0	Unit: -
Max.:	1	Data type: UInt16
Default:	0	Change: Changeable at any time

**Value Range:**

0: Asynchronous modulation

1: Synchronous modulation

**Description**

Output current oscillation or high harmonics can occur if the carrier frequency divided by the running frequency is less than 10. In this case, you can use the synchronous modulation mode to reduce current harmonics.



**A5-02 Deadzone compensation**

Address:	0xA502	Effective mode:	-
Min.:	0	Unit:	-
Max.:	1	Data type:	UInt16
Default:	1	Change:	Changeable at any time

**Value Range:**

0: Disabled  
 1: Enabled (compensation mode 1)

**Description**

A deadzone must be reserved for the switch signals of the upper and lower switch transistors on the same bridge arm of the AC drive. Deadzone compensation can improve the current waveform when the motor runs at low frequency.

**A5-03 Random PWM depth**

Address:	0xA503	Effective mode:	-
Min.:	0	Unit:	-
Max.:	10	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0 to 10

**Description**

If the motor noise is strong, setting A5-03 to a non-zero value can suppress the motor noise. A larger value indicates better noise suppression effect. However, an excessively high value may affect motor control. Therefore, set this parameter to 1 at the beginning of commissioning and then increase it by 1 each time as required.

**A5-04 Pulse-by-pulse current limit protection**

Address:	0xA504	Effective mode:	-
Min.:	0	Unit:	-
Max.:	1	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: Disabled  
 1: Enabled

**Description**

This function is used to minimize the overcurrent faults, ensuring normal operation of the AC drive. You are advised to disable this function in hoist applications such as cranes.

**A5-05 Voltage overmodulation coefficient**

Address:	0xA505	Effective mode:	-
Min.:	100	Unit:	%
Max.:	110	Data type:	UInt16
Default:	105	Change:	Changeable at any time

**Value Range:**

100% to 110%

**Description**

Increasing the voltage overmodulation coefficient can enhance the voltage output capacity and effectively improve the load capacity of the motor in the field weakening region, but will increase output current distortion at the same time.

**A5-06 Undervoltage threshold**

Address:	0xA506	Effective mode:	-
Min.:	140.0	Unit:	V
Max.:	420.0	Data type:	UInt16
Default:	350.0	Change:	Changeable at any time

**Value Range:**

140.0 V to 420.0 V

**Description**

When the bus voltage is lower than the setpoint of A5-06, the AC drive reports E09.01.

**A5-08 Low speed carrier frequency upper limit**

Address:	0xA508	Effective mode:	-
Min.:	0.0	Unit:	kHz
Max.:	8.0	Data type:	UInt16
Default:	0.0	Change:	Changeable at any time

**Value Range:**

0.0 kHz to 8.0 kHz

**Description**

This parameter defines the upper limit of the carrier frequency when the AC drive is running at a low speed. The limit takes effect when the setpoint is greater than 0.

**A5-09 Overvoltage threshold**

Address:	0xA509	Effective mode:	-
Min.:	330.0	Unit:	V
Max.:	820.0	Data type:	UInt16
Default:	820.0	Change:	Changeable at any time

**Value Range:**

330.0 V to 820.0 V

**Description**

When the bus voltage is higher than the setpoint of A5-09, the AC drive reports E05.1.

**A5-10 Energy conservation control**

Address:	0xA50A	Effective mode:	-
Min.:	0	Unit:	-
Max.:	1	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: Disabled

1: Enabled

**Description**

This function is only valid for asynchronous motors in V/f control mode. Enabling energy conservation control can reduce energy consumption of the asynchronous motor when running with no load or light load.

## 4.23 A6: AI Curve Parameters

**A6-00 Minimum input of AI curve 4**

Address:	0xA600	Effective mode:	-
Min.:	-10	Unit:	V

Max.:	A6-02	Data type:	Int16
Default:	0.00	Change:	Changeable at any time
<b>Value Range:</b> -10 V to A6-02			

**Description**  
-

**A6-01 Percentage corresponding to minimum input of AI curve 4**

Address:	0xA601	Effective mode:	-
Min.:	-100	Unit:	%
Max.:	100.0	Data type:	Int16
Default:	0.0	Change:	Changeable at any time

**Value Range:**  
-100% to +100.0%

**Description**  
-

**A6-02 Inflection 1 input of AI curve 4**

Address:	0xA602	Effective mode:	-
Min.:	A6-00	Unit:	V
Max.:	A6-04	Data type:	Int16
Default:	3.00	Change:	Changeable at any time

**Value Range:**  
A6-00 to A6-04

**Description**  
-

**A6-03 Percentage corresponding to inflection 1 input of AI curve 4**

Address:	0xA603	Effective mode:	-
Min.:	-100	Unit:	%
Max.:	100.0	Data type:	Int16
Default:	30.0	Change:	Changeable at any time

**Value Range:**  
-100% to +100.0%

**Description**  
-

**A6-04 Inflection 2 input of AI curve 4**

Address:	0xA604	Effective mode:	-
Min.:	A6-02	Unit:	V
Max.:	A6-06	Data type:	Int16
Default:	6.00	Change:	Changeable at any time

**Value Range:**  
A6-02 to A6-06

**Description**  
-

**A6-05 Percentage corresponding to inflection 2 input of AI curve 4**

Address:	0xA605	Effective mode:	-
Min.:	-100	Unit:	%
Max.:	100.0	Data type:	Int16
Default:	60.0	Change:	Changeable at any time

**Value Range:**

-100% to +100.0%

**Description**

-

**A6-06****Maximum input of AI curve 4**

Address: 0xA606

Min.: A6-04

Max.: 10.00

Default: 10.00

Effective mode: -

Unit: V

Data type: Int16

Change: Changeable at any time

**Value Range:**

A6-04 to 10.00 V

**Description**

-

**A6-07****Percentage corresponding to maximum input of AI curve 4**

Address: 0xA607

Min.: -100

Max.: 100.0

Default: 100.0

Effective mode: -

Unit: %

Data type: Int16

Change: Changeable at any time

**Value Range:**

-100% to +100.0%

**Description**

-

**A6-08****Minimum input of AI curve 5**

Address: 0xA608

Min.: -10

Max.: A6-10

Default: -10

Effective mode: -

Unit: V

Data type: Int16

Change: Changeable at any time

**Value Range:**

-10 V to A6-10

**Description**

-

**A6-09****Percentage corresponding to minimum input of AI curve 5**

Address: 0xA609

Min.: -100

Max.: 100.0

Default: -100

Effective mode: -

Unit: %

Data type: Int16

Change: Changeable at any time

**Value Range:**

-100% to +100.0%

**Description**

-

**A6-10****Inflection 1 input of AI curve 5**

Address: 0xA60A

Min.: A6-08

Max.: A6-12

Default: -3

Effective mode: -

Unit: V

Data type: Int16

Change: Changeable at any time

**Value Range:**

A6-08 to A6-12

**Description**

-

**A6-11 Percentage corresponding to inflection 1 input of AI curve 5**

Address: 0xA60B

Effective mode: -

Min.: -100

Unit: %

Max.: 100.0

Data type: Int16

Default: -30

Change: Changeable at any time

**Value Range:**

-100% to +100.0%

**Description**

-

**A6-12 Inflection 2 input of AI curve 5**

Address: 0xA60C

Effective mode: -

Min.: A6-10

Unit: V

Max.: A6-14

Data type: Int16

Default: 3.00

Change: Changeable at any time

**Value Range:**

A6-10 to A6-14

**Description**

-

**A6-13 Percentage corresponding to inflection 2 input of AI curve 5**

Address: 0xA60D

Effective mode: -

Min.: -100

Unit: %

Max.: 100.0

Data type: Int16

Default: 30.0

Change: Changeable at any time

**Value Range:**

-100% to +100.0%

**Description**

-

**A6-14 Maximum input of AI curve 5**

Address: 0xA60E

Effective mode: -

Min.: A6-12

Unit: V

Max.: 10.00

Data type: Int16

Default: 10.00

Change: Changeable at any time

**Value Range:**

A6-12 to 10.00 V

**Description**

-

**A6-15 Percentage corresponding to maximum input of AI curve 5**

Address: 0xA60F

Effective mode: -

Min.: -100

Unit: %

Max.: 100.0

Data type: Int16

Default: 100.0

Change: Changeable at any time

**Value Range:**

-100% to +100.0%

**Description**

-

<b>A6-24</b>	<b>AI1 skip point</b> Address: 0xA618 Min.: -100 Max.: 100.0 Default: 0.0 <b>Value Range:</b> -100% to +100.0% <b>Description</b> -	Effective mode: - Unit: % Data type: Int16 Change: Changeable at any time
<b>A6-25</b>	<b>AI1 skip amplitude</b> Address: 0xA619 Min.: 0.0 Max.: 100.0 Default: 0.1 <b>Value Range:</b> 0.0% to +100.0% <b>Description</b> -	Effective mode: - Unit: % Data type: UInt16 Change: Changeable at any time
<b>A6-26</b>	<b>AI2 skip point</b> Address: 0xA61A Min.: -100 Max.: 100.0 Default: 0.0 <b>Value Range:</b> -100% to +100.0% <b>Description</b> -	Effective mode: - Unit: % Data type: Int16 Change: Changeable at any time
<b>A6-27</b>	<b>AI2 skip amplitude</b> Address: 0xA61B Min.: 0.0 Max.: 100.0 Default: 0.1 <b>Value Range:</b> 0.0% to +100.0% <b>Description</b> -	Effective mode: - Unit: % Data type: UInt16 Change: Changeable at any time
<b>A6-28</b>	<b>AI3 skip point</b> Address: 0xA61C Min.: -100 Max.: 100.0 Default: 0.0 <b>Value Range:</b> -100% to +100.0% <b>Description</b> -	Effective mode: - Unit: % Data type: Int16 Change: Changeable at any time
<b>A6-29</b>	<b>AI3 skip amplitude</b> Address: 0xA61D	Effective mode: -

Min.:	0.0	Unit:	%
Max.:	100.0	Data type:	UInt16
Default:	0.1	Change:	Changeable at any time

**Value Range:**  
0.0% to +100.0%

**Description**  
-

**A6-30**

**AI automatic curve calibration**

Address:	0xA61E	Effective mode:	-
Min.:	0	Unit:	-
Max.:	4134	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**  
Ones: Point selection (for setting)  
0: Disabled  
1: Point 1  
2: Point 2  
3: Point 3  
4: Point 4  
Tens: AI channel selection (for setting)  
0: Disabled  
1: AI1  
2: AI2  
3: AI3  
Hundreds: Enable control (for setting)  
0: Disabled  
1: Enabled  
Thousands: X-point curve (for display)  
0: The function is disabled or the channel is not selected.  
2: 2-point curve  
4: 4-point curve  
Ten thousands: Reserved

**Description**

-

**A6-31**

**AI1 input enable**

Address:	0xA61F	Effective mode:	-
Min.:	0	Unit:	-
Max.:	1	Data type:	UInt16
Default:	1	Change:	Changeable at any time

**Value Range:**  
0: Disabled  
1: Enabled  
Others: B connector

**Description**

-

<b>A6-32</b>	<p><b>AI2 input enable</b>  Address: 0xA620  Min.: 0  Max.: 1  Default: 1  <b>Value Range:</b>  0: Disabled  1: Enabled  Others: B connector  <b>Description</b>  -</p>	<p>Effective mode: -  Unit: -  Data type: UInt16  Change: Changeable at any time</p>
<b>A6-33</b>	<p><b>AI3 input enable</b>  Address: 0xA621  Min.: 0  Max.: 1  Default: 1  <b>Value Range:</b>  0: Disabled  1: Enabled  Others: B connector  <b>Description</b>  -</p>	<p>Effective mode: -  Unit: -  Data type: UInt16  Change: Changeable at any time</p>
<b>A6-34</b>	<p><b>AI polarity</b>  Address: 0xA622  Min.: 0  Max.: 333  Default: 0  <b>Value Range:</b>  Ones: AI1  0: Normal  1: Absolute value  2: Negated value  3: Negated absolute value  Tens: AI2  0: Normal  1: Absolute value  2: Negated value  3: Negated absolute value  Hundreds: AI3  0: Normal  1: Absolute value  2: Negated value  3: Negated absolute value  <b>Description</b>  -</p>	<p>Effective mode: -  Unit: -  Data type: UInt16  Change: Changeable at any time</p>
<b>A6-35</b>	<p><b>AI hardware source</b>  Address: 0xA623</p>	<p>Effective mode: -</p>



Min.:	0	Unit:	-
Max.:	111	Data type:	UInt16
Default:	0	Change:	Changeable only at stop

**Value Range:**

Ones: AI1 source  
 1: Hardware sampling  
 1: Force setpoint  
 Tens: AI2 source  
 1: Hardware sampling  
 1: Force setpoint  
 Hundreds: AI3 source  
 1: Hardware sampling  
 1: Force setpoint

**Description**

-

**A6-36**

**AI1 force setpoint**

Address:	0xA624	Effective mode:	-
Min.:	-10	Unit:	V
Max.:	10.00	Data type:	Int16
Default:	0.00	Change:	Changeable at any time

**Value Range:**

-10 V to +10.00 V

**Description**

-

**A6-37**

**AI2 force setpoint**

Address:	0xA625	Effective mode:	-
Min.:	-10	Unit:	V
Max.:	10.00	Data type:	Int16
Default:	0.00	Change:	Changeable at any time

**Value Range:**

-10 V to +10.00 V

**Description**

-

**A6-38**

**AI3 force setpoint**

Address:	0xA626	Effective mode:	-
Min.:	-10	Unit:	V
Max.:	10.00	Data type:	Int16
Default:	0.00	Change:	Changeable at any time

**Value Range:**

-10 V to +10.00 V

**Description**

-

**A6-39**

**High level for AI used as DI**

Address:	0xA627	Effective mode:	-
Min.:	5.5	Unit:	V
Max.:	9.0	Data type:	UInt16
Default:	7.0	Change:	Changeable at any time

**Value Range:**

5.5 V to 9.0 V

**Description**

-

**A6-40****Low level for AI used as DI**

Address: 0xA628

Min.: 1.0

Max.: 4.5

Default: 3.0

**Value Range:**

1.0 V to 4.5 V

**Description**

-

Effective mode: -

Unit: V

Data type: UInt16

Change: Changeable at any time

**A6-41****AI1 gain**

Address: 0xA629

Min.: -10

Max.: 10.00

Default: 1.00

**Value Range:**

-10 to +10.00

**Description**

-

Effective mode: -

Unit: -

Data type: Int16

Change: Changeable at any time

**A6-42****AI1 offset**

Address: 0xA62A

Min.: -10

Max.: 10.00

Default: 0.00

**Value Range:**

-10 V to +10.00 V

**Description**

-

Effective mode: -

Unit: V

Data type: Int16

Change: Changeable at any time

**A6-43****AI1 denoising threshold**

Address: 0xA62B

Min.: 0.0

Max.: 100.0

Default: 0.5

**Value Range:**

0.0% to +100.0%

**Description**

-

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable at any time

**A6-44****AI1 deadzone width**

Address: 0xA62C

Min.: 0.0

Max.: 100.0

Default: 0.5

**Value Range:**

0.0% to +100.0%

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable at any time

**Description**

-

**A6-45 AI1 input upper limit**

Address: 0xA62D  
 Min.: A6-46  
 Max.: 10.00  
 Default: 8.00

Effective mode: -  
 Unit: V  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

A6-46 to 10.00 V

**Description**

-

**A6-46 AI1 input lower limit**

Address: 0xA62E  
 Min.: 0.00  
 Max.: A6-45  
 Default: 2.00

Effective mode: -  
 Unit: V  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0.00 V to A6-45

**Description**

-

**A6-47 AI2 gain**

Address: 0xA62F  
 Min.: -10  
 Max.: 10.00  
 Default: 1.00

Effective mode: -  
 Unit: -  
 Data type: Int16  
 Change: Changeable at any time

**Value Range:**

-10 to +10.00

**Description**

-

**A6-48 AI2 offset**

Address: 0xA630  
 Min.: -10  
 Max.: 10.00  
 Default: 0.00

Effective mode: -  
 Unit: V  
 Data type: Int16  
 Change: Changeable at any time

**Value Range:**

-10 V to +10.00 V

**Description**

-

**A6-49 AI2 denoising threshold**

Address: 0xA631  
 Min.: 0.0  
 Max.: 100.0  
 Default: 0.5

Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0.0% to +100.0%

**Description**

-

<b>A6-50</b>	<b>AI2 deadzone width</b> Address: 0xA632 Min.: 0.0 Max.: 100.0 Default: 0.5 <b>Value Range:</b> 0.0% to +100.0% <b>Description</b> -	Effective mode: - Unit: % Data type: UInt16 Change: Changeable at any time
<b>A6-51</b>	<b>AI2 input upper limit</b> Address: 0xA633 Min.: A6-52 Max.: 10.00 Default: 8.00 <b>Value Range:</b> A6-52 to 10.00 V <b>Description</b> -	Effective mode: - Unit: V Data type: UInt16 Change: Changeable at any time
<b>A6-52</b>	<b>AI2 input lower limit</b> Address: 0xA634 Min.: 0.00 Max.: A6-51 Default: 2.00 <b>Value Range:</b> 0.00 V to A6-51 <b>Description</b> -	Effective mode: - Unit: V Data type: UInt16 Change: Changeable at any time
<b>A6-53</b>	<b>AI3 gain</b> Address: 0xA635 Min.: -10 Max.: 10.00 Default: 1.00 <b>Value Range:</b> -10 to +10.00 <b>Description</b> -	Effective mode: - Unit: - Data type: Int16 Change: Changeable at any time
<b>A6-54</b>	<b>AI3 offset</b> Address: 0xA636 Min.: -10 Max.: 10.00 Default: 0.00 <b>Value Range:</b> -10 V to +10.00 V <b>Description</b> -	Effective mode: - Unit: V Data type: Int16 Change: Changeable at any time
<b>A6-55</b>	<b>AI3 denoising threshold</b> Address: 0xA637	Effective mode: -

Min.: 0.0  
 Max.: 100.0  
 Default: 0.5  
**Value Range:**  
 0.0% to +100.0%  
**Description**  
 -

Unit: %  
 Data type: UInt16  
 Change: Changeable at any time

**A6-56 AI3 deadzone width**  
 Address: 0xA638  
 Min.: 0.0  
 Max.: 100.0  
 Default: 0.5  
**Value Range:**  
 0.0% to +100.0%  
**Description**  
 -

Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Changeable at any time

**A6-57 AI3 input upper limit**  
 Address: 0xA639  
 Min.: A6-58  
 Max.: 10.00  
 Default: 8.00  
**Value Range:**  
 A6-58 to 10.00 V  
**Description**  
 -

Effective mode: -  
 Unit: V  
 Data type: UInt16  
 Change: Changeable at any time

**A6-58 AI3 input lower limit**  
 Address: 0xA63A  
 Min.: 0.00  
 Max.: A6-57  
 Default: 2.00  
**Value Range:**  
 0.00 V to A6-57  
**Description**  
 -

Effective mode: -  
 Unit: V  
 Data type: UInt16  
 Change: Changeable at any time

**A6-59 AI input protection time**  
 Address: 0xA63B  
 Min.: 0.00  
 Max.: 1.00  
 Default: 0.01  
**Value Range:**  
 0.00s to 1.00s  
**Description**  
 -

Effective mode: -  
 Unit: s  
 Data type: UInt16  
 Change: Changeable at any time

## 4.24 A8: Point-to-Point Communication Parameters

### A8-00 Master/Slave control function

Address:	0xA800	Effective mode:	-
Min.:	0	Unit:	-
Max.:	1	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: Disabled

1: Enabled

**Description**

-

### A8-01 Master/Slave selection

Address:	0xA801	Effective mode:	-
Min.:	0	Unit:	-
Max.:	1	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: Master

1: Slave

**Description**

-

### A8-02 Slave following master's command

Address:	0xA802	Effective mode:	-
Min.:	0	Unit:	-
Max.:	111	Data type:	UInt16
Default:	11	Change:	Changeable only at stop

**Value Range:**

Ones: Whether the slave follows the operation command of the master

0: No

1: Yes

Tens: Whether the slave fault information is transmitted

0: No

1: Yes

Hundreds: Whether the master reports a fault (ERR-16) upon disconnection of the slave

0: No

1: Yes

**Description**

-

### A8-03 Function of slave RX data

Address:	0xA803	Effective mode:	-
Min.:	0	Unit:	-
Max.:	1	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: Running frequency

1: Target frequency

**Description**

-

**A8-04**

**RX data zero offset**

Address: 0xA804  
 Min.: -100  
 Max.: 100.00  
 Default: 0.00

Effective mode: -  
 Unit: %  
 Data type: Int16  
 Change: Changeable at any time

**Value Range:**

-100% to +100.00%

**Description**

-

**A8-05**

**RX data gain**

Address: 0xA805  
 Min.: -10  
 Max.: 100.00  
 Default: 1.00

Effective mode: -  
 Unit: %  
 Data type: Int16  
 Change: Changeable at any time

**Value Range:**

-10% to +100.00%

**Description**

-

**A8-06**

**Master-slave communication heartbeat time**

Address: 0xA806  
 Min.: 0.0  
 Max.: 10.0  
 Default: 1.0

Effective mode: -  
 Unit: s  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0.0s to 10.0s

**Description**

-

**A8-07**

**Master data TX cycle in point-to-point communication**

Address: 0xA807  
 Min.: 0.001  
 Max.: 10.000  
 Default: 0.001

Effective mode: -  
 Unit: s  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0.001s to 10.000s

**Description**

-

**A8-08**

**Zero offset of RX frequency data**

Address: 0xA808  
 Min.: -10000  
 Max.: 10000  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: Int16  
 Change: Changeable at any time

**Value Range:**

-10000 to +10000

**Description**

-

**A8-09 Gain of RX frequency data**

Address: 0xA809  
 Min.: -1000  
 Max.: 1000  
 Default: 100

Effective mode: -  
 Unit: -  
 Data type: Int16  
 Change: Changeable at any time

**Value Range:**  
 -1000 to +1000

**Description**

-

**A8-10 Maximum forward deviation of slave frequency**

Address: 0xA80A  
 Min.: 0  
 Max.: 10000  
 Default: 1000

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**  
 0 to 10000

**Description**

-

**A8-11 Maximum reverse deviation of slave frequency**

Address: 0xA80B  
 Min.: 0.20  
 Max.: 10.00  
 Default: 0.50

Effective mode: -  
 Unit: Hz  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**  
 0.20 Hz to 10.00 Hz

**Description**

-

**4.25 A9: Motor Parameters 1****A9-00 Number of parallel motors**

Address: 0xA900  
 Min.: 1  
 Max.: 200  
 Default: 1

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**  
 1 to 200

**Description**

-

**A9-01 Motor information command word**

Address: 0xA901  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x3

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**



- Bit00: Mutual inductance curve
  - 0: Disabled
  - 1: Enabled
- Bit01: D- and Q-axis inductance curve
  - 0: Disabled
  - 1: Enabled
- Bit02: Rotor resistance online auto-tuning
  - 0: Disabled
  - 1: Enabled
- Bit03: Rotor resistance online auto-tuning method
  - 0: Amplitude
  - 1: Phase
- Bit04: Motor thermal model
  - 0: Disabled
  - 1: Enabled
- Bit05: Temperature source of motor thermal model
  - 0: Estimated temperature
  - 1: Temperature detected by sensor
- Bit06: Torque coefficient calculation of asynchronous motor
  - 0: Torque formula
  - 1: Current distribution
- Bit07: Torque coefficient calculation of synchronous motor
  - 0: Torque formula
  - 1: Torque matching the rated torque
- Bit08: Zero speed friction torque calculation
  - 0: Torque linearly decreasing to zero
  - 1: Torque to maintain minimum speed
- Bit09: Calculation of model parameters based on nameplate parameters
  - 0: Disabled
  - 1: Enabled
- Bit10: Confirmation of calculating model parameters based on nameplate parameters
  - 0: Default
  - 1: Confirm

**Description**

-

**A9-02**

**Number of motor pole pairs**

Address: 0xA902

Min.: 0

Max.: 64

Default: 0

**Value Range:**

0 to 64

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**A9-03 Motor power factor**

Address: 0xA903  
 Min.: 0.600  
 Max.: 1.000  
 Default: 0.860

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**

0.600 to 1.000

**Description**

-

**A9-05 Expansion card**

Address: 0xA905  
 Min.: 1  
 Max.: 2  
 Default: 1

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**

1: Expansion card 1

2: Expansion card 2

**Description**

-

**A9-06 ABZ encoder speed measurement mode at low speed**

Address: 0xA906  
 Min.: 0  
 Max.: 2  
 Default: 2

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**

0: Maintain

1: Attenuate

2: Optimized solution

**Description**

When the AC drive runs at a low speed with no pulse, the following three speed measurement modes are available:

0: Maintain

The current speed is maintained when there is no pulse, and the speed is considered 0 when the situation continues for more than 4 ms.

1: Attenuate

The speed is attenuated exponentially by 1/2, and the speed is considered 0 when the situation continues for more than 4 ms.

2: Optimized solution

The speed is maintained for a certain number of beats and then attenuated. When the number of beats with no pulse reaches the threshold, the speed is considered 0.

**A9-07 Encoder speed measurement filter time constant**

Address: 0xA907  
 Min.: 0.000  
 Max.: 10.000  
 Default: 0.004

Effective mode: -  
 Unit: s  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0.000s to 10.000s

**Description**

Adjusting the encoder speed measurement filter time constant can change the encoder signal filtering effect. Longer filter time indicates smoother encoder feedback speed but longer feedback delay. Shorter filter time indicates shorter feedback delay but larger encoder feedback speed fluctuations. In FVC control mode, the filter time constant needs to be adjusted based on the actual working conditions and encoder signal quality. It cannot be too small if the signal quality of the resolver and other encoders is poor.

**A9-08 Encoder wire breakage software detection coefficient**

Address:	0xA908	Effective mode:	-
Min.:	0.000	Unit:	-
Max.:	8.000	Data type:	UInt16
Default:	1.000	Change:	Changeable at any time

**Value Range:**

0.000 to 8.000

**Description**

This parameter defines the speed glitch amplitude for determining speed exceptions. The default value is 100% and does not need not be modified in normal cases.

**A9-09 Encoder control word**

Address:	0xA909	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Changeable only at stop

**Value Range:**

Bit00: Speed measurement

0: Disabled

1: Enabled

Bit01: Software detection of wire breakage

0: Disabled

1: Enabled

Bit02: Glitch removal

0: Disabled

1: Enabled

Bit03: ABZ encoder speed measurement mode

0: Quadruplicated frequency

1: Single pulse

**Description**

Bit00: Speed measurement

When the FVC control mode is selected, speed measurement is enabled automatically. When another control mode is selected, you can enable or disable the speed measurement function of the encoder as required.

Bit01: Software detection of wire breakage

This function is used to detect encoder wire breakage during running based on speed measurement results of the encoder. It is unavailable in stop state. When this function is enabled, the glitch removal function is enabled automatically. The system reports the encoder wire breakage fault when the number of detected speed measurement exceptions exceeds the value of A9-10 (speed measurement exception count threshold).

Bit02: Glitch removal

This function is used to remove occasional speed measurement glitches. The glitch amplitude is defined by A9-08.

Bit03: ABZ encoder speed measurement mode

0: The quadruplicated frequency speed measurement mode is used.

1: The quadruplicated frequency speed measurement mode is used at low speed, and the single pulse speed measurement mode is used at high speed.

#### A9-10 Speed measurement exception count threshold

Address:	0xA90A	Effective mode:	-
Min.:	1	Unit:	-
Max.:	100	Data type:	UInt16
Default:	10	Change:	Changeable only at stop

##### Value Range:

1 to 100

##### Description

After software detection of encoder wire breakage is enabled, the encoder wire breakage fault is reported when the number of detected speed measurement exceptions exceeds the threshold defined by A9-10.

#### A9-11 Motor gear ratio (numerator)

Address:	0xA90B	Effective mode:	-
Min.:	1	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	1	Change:	Changeable only at stop

##### Value Range:

1 to 65535

##### Description

-

#### A9-12 Motor gear ratio (denominator)

Address:	0xA90C	Effective mode:	-
Min.:	1	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	1	Change:	Changeable only at stop

##### Value Range:

1 to 65535

##### Description

-

#### A9-13 External input source of encoder

Address:	0xA90D	Effective mode:	-
Min.:	0	Unit:	-
Max.:	8	Data type:	UInt16
Default:	0	Change:	Changeable only at stop

##### Value Range:

0: 0  
 1: AI1  
 2: AI2  
 3: AI3  
 4: Pulse reference  
 5: Communication  
 6: Multi-reference  
 7: Motor-driven potentiometer  
 8: PID  
 Others: F connector

**Description**

-

**A9-15 Stator leakage inductance**

Address: 0xA90F  
 Min.: 0.000  
 Max.: 65.535  
 Default: 6.540

Effective mode: -  
 Unit: mH  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**

0.000 mH to 65.535 mH

**Description**

-

**A9-16 Electromechanical time constant**

Address: 0xA910  
 Min.: 1  
 Max.: 65535  
 Default: 100

Effective mode: -  
 Unit: ms  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**

1 ms to 65535 ms

**Description**

-

**A9-17 Inertia ratio**

Address: 0xA911  
 Min.: 0.0  
 Max.: 6553.5  
 Default: 120.0

Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**

0.0% to 6553.5%

**Description**

-

**A9-18 Friction torque**

Address: 0xA912  
 Min.: 0.0  
 Max.: 6553.5  
 Default: 2.0

Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**

0.0% to 6553.5%

**Description**

-

**A9-19 Excitation current coefficient 1 of mutual inductance curve (rated)**

Address: 0xA913                                      Effective mode: -  
 Min.: 5.0    Unit: %  
 Max.: 100.0     Data type: UInt16  
 Default: 50.0                                         Change: Changeable only at stop

**Value Range:**

5.0% to 100.0%

**Description**

-

**A9-20 Excitation current coefficient 2 of mutual inductance curve (rated)**

Address: 0xA914                                      Effective mode: -  
 Min.: 5.0    Unit: %  
 Max.: 100.0     Data type: UInt16  
 Default: 75.0                                         Change: Changeable only at stop

**Value Range:**

5.0% to 100.0%

**Description**

-

**A9-21 Excitation current coefficient 3 of mutual inductance curve**

Address: 0xA915                                      Effective mode: -  
 Min.: 100.0    Unit: %  
 Max.: 800.0     Data type: UInt16  
 Default: 150.0                                        Change: Changeable only at stop

**Value Range:**

100.0% to 800.0%

**Description**

-

**A9-22 Excitation current coefficient 4 of mutual inductance curve**

Address: 0xA916                                      Effective mode: -  
 Min.: 100.0    Unit: %  
 Max.: 800.0     Data type: UInt16  
 Default: 210.0                                        Change: Changeable only at stop

**Value Range:**

100.0% to 800.0%

**Description**

-

**A9-23 Flux coefficient 1 of mutual inductance curve (rated)**

Address: 0xA917                                      Effective mode: -  
 Min.: 10.0    Unit: %  
 Max.: 100.0     Data type: UInt16  
 Default: 50.0                                         Change: Changeable only at stop

**Value Range:**

10.0% to 100.0%

**Description**

-

<b>A9-24</b>	<b>Flux coefficient 2 of mutual inductance curve (rated)</b> Address: 0xA918 Min.: 10.0 Max.: 100.0 Default: 85.0 <b>Value Range:</b> 10.0% to 100.0% <b>Description</b> -	Effective mode: - Unit: % Data type: UInt16 Change: Changeable only at stop
<b>A9-25</b>	<b>Flux coefficient 3 of mutual inductance curve</b> Address: 0xA919 Min.: 100.0 Max.: 300.0 Default: 115.0 <b>Value Range:</b> 100.0% to 300.0% <b>Description</b> -	Effective mode: - Unit: % Data type: UInt16 Change: Changeable only at stop
<b>A9-26</b>	<b>Flux coefficient 4 of mutual inductance curve</b> Address: 0xA91A Min.: 100.0 Max.: 300.0 Default: 125.0 <b>Value Range:</b> 100.0% to 300.0% <b>Description</b> -	Effective mode: - Unit: % Data type: UInt16 Change: Changeable only at stop
<b>A9-27</b>	<b>Speed point 1 of friction curve</b> Address: 0xA91B Min.: 0 Max.: 30000 Default: 15 <b>Value Range:</b> 0 RPM to 30000 RPM <b>Description</b> -	Effective mode: - Unit: RPM Data type: UInt16 Change: Changeable only at stop
<b>A9-28</b>	<b>Speed point 2 of friction curve</b> Address: 0xA91C Min.: 0 Max.: 30000 Default: 30 <b>Value Range:</b> 0 RPM to 30000 RPM <b>Description</b> -	Effective mode: - Unit: RPM Data type: UInt16 Change: Changeable only at stop
<b>A9-29</b>	<b>Speed point 3 of friction curve</b> Address: 0xA91D	Effective mode: -

Min.: 0  
 Max.: 30000  
 Default: 60

Unit: RPM  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**  
 0 RPM to 30000 RPM

**Description**  
 -

**A9-30 Speed point 4 of friction curve**

Address: 0xA91E  
 Min.: 0  
 Max.: 30000  
 Default: 120

Effective mode: -  
 Unit: RPM  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**  
 0 RPM to 30000 RPM

**Description**  
 -

**A9-31 Speed point 5 of friction curve**

Address: 0xA91F  
 Min.: 0  
 Max.: 30000  
 Default: 150

Effective mode: -  
 Unit: RPM  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**  
 0 RPM to 30000 RPM

**Description**  
 -

**A9-32 Speed point 6 of friction curve**

Address: 0xA920  
 Min.: 0  
 Max.: 30000  
 Default: 300

Effective mode: -  
 Unit: RPM  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**  
 0 RPM to 30000 RPM

**Description**  
 -

**A9-33 Speed point 7 of friction curve**

Address: 0xA921  
 Min.: 0  
 Max.: 30000  
 Default: 600

Effective mode: -  
 Unit: RPM  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**  
 0 RPM to 30000 RPM

**Description**  
 -

**A9-34 Speed point 8 of friction curve**

Address: 0xA922  
 Min.: 0  
 Max.: 30000

Effective mode: -  
 Unit: RPM  
 Data type: UInt16



Default: 1200  
**Value Range:**  
 0 RPM to 30000 RPM  
**Description**  
 -

Change: Changeable only at stop

**A9-35 Speed point 9 of friction curve**

Address: 0xA923  
 Min.: 0  
 Max.: 30000  
 Default: 1500

**Value Range:**  
 0 RPM to 30000 RPM  
**Description**  
 -

Effective mode: -  
 Unit: RPM  
 Data type: UInt16  
 Change: Changeable only at stop

**A9-36 Speed point 10 of friction curve**

Address: 0xA924  
 Min.: 0  
 Max.: 30000  
 Default: 3000

**Value Range:**  
 0 RPM to 30000 RPM  
**Description**  
 -

Effective mode: -  
 Unit: RPM  
 Data type: UInt16  
 Change: Changeable only at stop

**A9-37 Torque point 1 of friction curve**

Address: 0xA925  
 Min.: -320  
 Max.: 320.00  
 Default: 0.00

**Value Range:**  
 -320 N·m to +320 N·m  
**Description**  
 -

Effective mode: -  
 Unit: N·m  
 Data type: Int16  
 Change: Changeable only at stop

**A9-38 Torque point 2 of friction curve**

Address: 0xA926  
 Min.: -320  
 Max.: 320.00  
 Default: 0.00

**Value Range:**  
 -320 N·m to +320 N·m  
**Description**  
 -

Effective mode: -  
 Unit: N·m  
 Data type: Int16  
 Change: Changeable only at stop

**A9-39 Torque point 3 of friction curve**

Address: 0xA927  
 Min.: -320  
 Max.: 320.00  
 Default: 0.00

**Value Range:**

Effective mode: -  
 Unit: N·m  
 Data type: Int16  
 Change: Changeable only at stop

-320 N·m to +320 N·m

**Description**

-

**A9-40****Torque point 4 of friction curve**

Address: 0xA928

Min.: -320

Max.: 320.00

Default: 0.00

**Value Range:**

-320 N·m to +320 N·m

**Description**

-

Effective mode: -

Unit: N·m

Data type: Int16

Change: Changeable only at stop

**A9-41****Torque point 5 of friction curve**

Address: 0xA929

Min.: -320

Max.: 320.00

Default: 0.00

**Value Range:**

-320 N·m to +320 N·m

**Description**

-

Effective mode: -

Unit: N·m

Data type: Int16

Change: Changeable only at stop

**A9-42****Torque point 6 of friction curve**

Address: 0xA92A

Min.: -320

Max.: 320.00

Default: 0.00

**Value Range:**

-320 N·m to +320 N·m

**Description**

-

Effective mode: -

Unit: N·m

Data type: Int16

Change: Changeable only at stop

**A9-43****Torque point 7 of friction curve**

Address: 0xA92B

Min.: -320

Max.: 320.00

Default: 0.00

**Value Range:**

-320 N·m to +320 N·m

**Description**

-

Effective mode: -

Unit: N·m

Data type: Int16

Change: Changeable only at stop

**A9-44****Torque point 8 of friction curve**

Address: 0xA92C

Min.: -320

Max.: 320.00

Default: 0.00

**Value Range:**

-320 N·m to +320 N·m

Effective mode: -

Unit: N·m

Data type: Int16

Change: Changeable only at stop

**Description**

-

**A9-45 Torque point 9 of friction curve**

Address: 0xA92D

Min.: -320

Max.: 320.00

Default: 0.00

Effective mode: -

Unit: N·m

Data type: Int16

Change: Changeable only at stop

**Value Range:**

-320 N·m to +320 N·m

**Description**

-

**A9-46 Torque point 10 of friction curve**

Address: 0xA92E

Min.: -320

Max.: 320.00

Default: 0.00

Effective mode: -

Unit: N·m

Data type: Int16

Change: Changeable only at stop

**Value Range:**

-320 N·m to +320 N·m

**Description**

-

**A9-47 Current coefficient starting point of D- and Q-axis inductance curve**

Address: 0xA92F

Min.: -800

Max.: 800.0

Default: -200

Effective mode: -

Unit: %

Data type: Int16

Change: Changeable only at stop

**Value Range:**

-800% to +800.0%

**Description**

-

**A9-48 Current coefficient end point of D- and Q-axis inductance curve**

Address: 0xA930

Min.: -800

Max.: 800.0

Default: 200.0

Effective mode: -

Unit: %

Data type: Int16

Change: Changeable only at stop

**Value Range:**

-800% to +800.0%

**Description**

-

**A9-49 D axis inductance 1 of D- and Q-axis inductance curve**

Address: 0xA931

Min.: 0.0

Max.: 6553.5

Default: 100.0

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable only at stop

**Value Range:**

0.0% to 6553.5%

**Description**

-

<b>A9-50</b>	<b>D axis inductance 2 of D- and Q-axis inductance curve</b>
Address: 0xA932	Effective mode: -
Min.: 0.0	Unit: %
Max.: 6553.5	Data type: UInt16
Default: 100.0	Change: Changeable only at stop
<b>Value Range:</b> 0.0% to 6553.5%	
<b>Description</b> -	
<b>A9-51</b>	<b>D axis inductance 3 of D- and Q-axis inductance curve</b>
Address: 0xA933	Effective mode: -
Min.: 0.0	Unit: %
Max.: 6553.5	Data type: UInt16
Default: 100.0	Change: Changeable only at stop
<b>Value Range:</b> 0.0% to 6553.5%	
<b>Description</b> -	
<b>A9-52</b>	<b>D axis inductance 4 of D- and Q-axis inductance curve</b>
Address: 0xA934	Effective mode: -
Min.: 0.0	Unit: %
Max.: 6553.5	Data type: UInt16
Default: 100.0	Change: Changeable only at stop
<b>Value Range:</b> 0.0% to 6553.5%	
<b>Description</b> -	
<b>A9-53</b>	<b>D axis inductance 5 of D- and Q-axis inductance curve</b>
Address: 0xA935	Effective mode: -
Min.: 0.0	Unit: %
Max.: 6553.5	Data type: UInt16
Default: 100.0	Change: Changeable only at stop
<b>Value Range:</b> 0.0% to 6553.5%	
<b>Description</b> -	
<b>A9-54</b>	<b>D axis inductance 6 of D- and Q-axis inductance curve</b>
Address: 0xA936	Effective mode: -
Min.: 0.0	Unit: %
Max.: 6553.5	Data type: UInt16
Default: 100.0	Change: Changeable only at stop
<b>Value Range:</b> 0.0% to 6553.5%	
<b>Description</b> -	
<b>A9-55</b>	<b>D axis inductance 7 of D- and Q-axis inductance curve</b>
Address: 0xA937	Effective mode: -

Min.:	0.0	Unit:	%
Max.:	6553.5	Data type:	UInt16
Default:	100.0	Change:	Changeable only at stop

**Value Range:**  
0.0% to 6553.5%

**Description**  
-

**A9-56 D axis inductance 8 of D- and Q-axis inductance curve**

Address:	0xA938	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	6553.5	Data type:	UInt16
Default:	100.0	Change:	Changeable only at stop

**Value Range:**  
0.0% to 6553.5%

**Description**  
-

**A9-57 D axis inductance 9 of D- and Q-axis inductance curve**

Address:	0xA939	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	6553.5	Data type:	UInt16
Default:	100.0	Change:	Changeable only at stop

**Value Range:**  
0.0% to 6553.5%

**Description**  
-

**A9-58 D axis inductance 10 of D- and Q-axis inductance curve**

Address:	0xA93A	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	6553.5	Data type:	UInt16
Default:	100.0	Change:	Changeable only at stop

**Value Range:**  
0.0% to 6553.5%

**Description**  
-

**A9-59 D axis inductance 11 of D- and Q-axis inductance curve**

Address:	0xA93B	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	6553.5	Data type:	UInt16
Default:	100.0	Change:	Changeable only at stop

**Value Range:**  
0.0% to 6553.5%

**Description**  
-

**A9-60 D axis inductance 12 of D- and Q-axis inductance curve**

Address:	0xA93C	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	6553.5	Data type:	UInt16

Default: 100.0  
Change: Changeable only at stop  
**Value Range:**  
0.0% to 6553.5%  
**Description**  
-

**A9-61 Q axis inductance 1 of D- and Q-axis inductance curve**

Address: 0xA93D  
Min.: 0.0  
Max.: 6553.5  
Default: 100.0  
Effective mode: -  
Unit: %  
Data type: UInt16  
Change: Changeable only at stop

**Value Range:**  
0.0% to 6553.5%

**Description**  
-

**A9-62 Q axis inductance 2 of D- and Q-axis inductance curve**

Address: 0xA93E  
Min.: 0.0  
Max.: 6553.5  
Default: 100.0  
Effective mode: -  
Unit: %  
Data type: UInt16  
Change: Changeable only at stop

**Value Range:**  
0.0% to 6553.5%

**Description**  
-

**A9-63 Q axis inductance 3 of D- and Q-axis inductance curve**

Address: 0xA93F  
Min.: 0.0  
Max.: 6553.5  
Default: 100.0  
Effective mode: -  
Unit: %  
Data type: UInt16  
Change: Changeable only at stop

**Value Range:**  
0.0% to 6553.5%

**Description**  
-

**A9-64 Q axis inductance 4 of D- and Q-axis inductance curve**

Address: 0xA940  
Min.: 0.0  
Max.: 6553.5  
Default: 100.0  
Effective mode: -  
Unit: %  
Data type: UInt16  
Change: Changeable only at stop

**Value Range:**  
0.0% to 6553.5%

**Description**  
-

**A9-65 Q axis inductance 5 of D- and Q-axis inductance curve**

Address: 0xA941  
Min.: 0.0  
Max.: 6553.5  
Default: 100.0  
Effective mode: -  
Unit: %  
Data type: UInt16  
Change: Changeable only at stop

**Value Range:**

0.0% to 6553.5%

**Description**

-

**A9-66**

**Q axis inductance 6 of D- and Q-axis inductance curve**

Address:	0xA942	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	6553.5	Data type:	UInt16
Default:	100.0	Change:	Changeable only at stop

**Value Range:**

0.0% to 6553.5%

**Description**

-

**A9-67**

**Q axis inductance 7 of D- and Q-axis inductance curve**

Address:	0xA943	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	6553.5	Data type:	UInt16
Default:	100.0	Change:	Changeable only at stop

**Value Range:**

0.0% to 6553.5%

**Description**

-

**A9-68**

**Q axis inductance 8 of D- and Q-axis inductance curve**

Address:	0xA944	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	6553.5	Data type:	UInt16
Default:	100.0	Change:	Changeable only at stop

**Value Range:**

0.0% to 6553.5%

**Description**

-

**A9-69**

**Q axis inductance 9 of D- and Q-axis inductance curve**

Address:	0xA945	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	6553.5	Data type:	UInt16
Default:	100.0	Change:	Changeable only at stop

**Value Range:**

0.0% to 6553.5%

**Description**

-

**A9-70**

**Q axis inductance 10 of D- and Q-axis inductance curve**

Address:	0xA946	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	6553.5	Data type:	UInt16
Default:	100.0	Change:	Changeable only at stop

**Value Range:**

0.0% to 6553.5%

**Description**

-

**A9-71****Q axis inductance 11 of D- and Q-axis inductance curve**

Address: 0xA947

Effective mode: -

Min.: 0.0

Unit: %

Max.: 6553.5

Data type: UInt16

Default: 100.0

Change: Changeable only at stop

**Value Range:**

0.0% to 6553.5%

**Description**

-

**A9-72****Q axis inductance 12 of D- and Q-axis inductance curve**

Address: 0xA948

Effective mode: -

Min.: 0.0

Unit: %

Max.: 6553.5

Data type: UInt16

Default: 100.0

Change: Changeable only at stop

**Value Range:**

0.0% to 6553.5%

**Description**

-

**4.26 AA: Reserved****AA-00****Parameter auto-tuning upon startup**

Address: 0xAA00

Effective mode: -

Min.: 0

Unit: -

Max.: 65535

Data type: UInt16

Default: 1

Change: Changeable only at stop

**Value Range:**



Bit00: Synchronous motor pole position auto-tuning upon startup

0: Disabled

1: Enabled

Bit01: Quick stator resistance auto-tuning upon startup

0: Disabled

1: Enabled

Bit02–Bit03: HFI pole position auto-tuning

0: Disabled

1: Enabled

2: Adaptive

Bit04: IGBT shoot-through self-check upon startup

0: Disabled

1: Enabled

Bit05: Short-to-ground self-check upon startup (reserved)

0: Disabled

1: Enabled

Bit06: Phase loss self-check upon startup (reserved)

0: Disabled

1: Enabled

**Description**

-

**AA-01 Auto-tuning direction**

Address: 0xAA01

Min.: 0

Max.: 1

Default: 1

**Value Range:**

0 to 1

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**AA-02 Oscillation suppression gain of synchronous motor back EMF auto-tuning**

Address: 0xAA02

Min.: 0.0

Max.: 30.0

Default: 3.2

**Value Range:**

0.0 to 30.0

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**AA-03 Target speed of rotation auto-tuning**

Address: 0xAA03

Min.: 30.0

Max.: 100.0

Default: 70.0

**Value Range:**

30.0% to 100.0%

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable only at stop

**Description**

-

**AA-04 Target speed 1 of inertia auto-tuning**

Address: 0xAA04

Min.: 10.0

Max.: AA-05

Default: 40.0

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable only at stop

**Value Range:**

10.0% to AA-05

**Description**

-

**AA-05 Target speed 2 of inertia auto-tuning**

Address: 0xAA05

Min.: AA-04

Max.: 100.0

Default: 60.0

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable only at stop

**Value Range:**

AA-04 to 100.0%

**Description**

-

**AA-06 Overcurrent prevention of mutual inductance saturation curve**

Address: 0xAA06

Min.: 0

Max.: 1

Default: 1

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**Value Range:**

0 to 1

**Description**

-

**AA-07 Auto-tuning items**

Address: 0xAA07

Min.: 0

Max.: 65535

Default: 117

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**Value Range:**

Bit00: Speed loop parameter adaptation

0: Disabled

1: Enabled

Bit01: Current loop parameter adaptation

0: Disabled

1: Enabled

Bit02: Drive nonlinear auto-tuning

0: Disabled

1: Enabled

Bit03: Inter-phase deviation coefficient auto-tuning

0: Disabled

1: Enabled

Bit04: Auto-tuning of initial pole position of synchronous motor

0: Disabled

1: Enabled

Bit05: Auto-tuning of D- and Q-axis inductance model of synchronous motor

0: Disabled

1: Enabled

Bit06: System inertia auto-tuning

0: Disabled

1: Enabled

Bit07: HFI pole position auto-tuning

0: Disabled

1: Enabled

**Description**

-

**AA-08**

**OFF3 stop mode**

Address: 0xAA08

Min.: 0

Max.: 1

Default: 0

**Value Range:**

0: Quick stop

1: Stop at maximum capability

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**AA-09**

**Stop mode during running**

Address: 0xAA09

Min.: 0

Max.: 2

Default: 1

**Value Range:**

0: OFF1 stop mode

1: OFF2 stop mode

2: OFF3 stop mode

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**Description**

-

**AA-10 Stop mode for torque control**

Address: 0xAA0A Effective mode: -  
 Min.: 0 Unit: -  
 Max.: 2 Data type: UInt16  
 Default: 1 Change: Changeable only at stop

**Value Range:**

0: Coast to stop forcibly

1: Switch to speed control mode and then stop

2: Maintain torque control mode until zero speed and then block

**Description**

-

**AA-12 Proportional gain adjustment coefficient**

Address: 0xAA0C Effective mode: -  
 Min.: 0.1 Unit: -  
 Max.: 2.0 Data type: UInt16  
 Default: 1.0 Change: Changeable at any time

**Value Range:**

0.1 to 2.0

**Description**

-

**AA-13 Integral gain adjustment coefficient**

Address: 0xAA0D Effective mode: -  
 Min.: 0.1 Unit: -  
 Max.: 2.0 Data type: UInt16  
 Default: 1.0 Change: Changeable at any time

**Value Range:**

0.1 to 2.0

**Description**

-

**AA-14 Zero-speed threshold**

Address: 0xAA0E Effective mode: -  
 Min.: 0.1 Unit: %  
 Max.: 200.0 Data type: UInt16  
 Default: 2.0 Change: Changeable at any time

**Value Range:**

0.1% to 200.0%

**Description**

-

**AA-15 Zero-speed stop delay**

Address: 0xAA0F Effective mode: -  
 Min.: 0.00 Unit: s  
 Max.: 10.00 Data type: UInt16  
 Default: 0.10 Change: Changeable only at stop

**Value Range:**

0.00s to 10.00s

**Description**

-

**AA-16 Reference source execution interval**

Address: 0xAA10

Effective mode: -

Min.: 0

Unit: -

Max.: 20

Data type: UInt16

Default: 4

Change: Changeable only at stop

**Value Range:**

0 to 20

**Description**

-

**AA-17 Trial current for speed tracking of synchronous motor**

Address: 0xAA11

Effective mode: -

Min.: 5.0

Unit: %

Max.: 50.0

Data type: UInt16

Default: 10.0

Change: Changeable only at stop

**Value Range:**

5.0% to 50.0%

**Description**

-

**AA-18 Minimum frequency for speed tracking of synchronous motor**

Address: 0xAA12

Effective mode: -

Min.: 0.0

Unit: Hz

Max.: 100.0

Data type: UInt16

Default: 0.0

Change: Changeable only at stop

**Value Range:**

0.0 Hz to 100.0 Hz

**Description**

-

**AA-19 Angle compensation for speed tracking of synchronous motor**

Address: 0xAA13

Effective mode: -

Min.: 0

Unit: -

Max.: 360

Data type: UInt16

Default: 0

Change: Changeable only at stop

**Value Range:**

0 to 360

**Description**

-

**AA-20 Parameter auto-tuning of synchronous motor upon startup**

Address: 0xAA14

Effective mode: -

Min.: 0

Unit: -

Max.: 1

Data type: UInt16

Default: 0

Change: Changeable at any time

**Value Range:**

0 to 1

**Description**

-

**AA-21 Current motor angle**

Address: 0xAA15

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**AA-22 Forward torque limit 1**

Address: 0xAA16

Min.: 0.0

Max.: 400.0

Default: 150.0

**Value Range:**

0.0 to 400.0

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**AA-23 Reverse torque limit 1**

Address: 0xAA17

Min.: 0.0

Max.: 400.0

Default: 150.0

**Value Range:**

0.0 to 400.0

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**AA-24 Source of forward torque limit 2**

Address: 0xAA18

Min.: 0

Max.: 0

Default: 0

**Value Range:**

0: 400%

Others: F connector

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**AA-25 Source of reverse torque limit 2**

Address: 0xAA19

Min.: 0

Max.: 0

Default: 0

**Value Range:**

0: -400%

Others: F connector

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Description**

-

**AA-26 Ramp (FRG) selection bit0**

Address: 0xAA1A

Min.: 0

Max.: 18

Default: 0

**Value Range:**

0: 0

1: 1

2: Terminal function input

3: DI1

4: DI2

5: DI3

6: DI4

7: DI5

8: DI6

9: DI7

10: DI8

11: DI9

12: DI10

13: DI11

14: DI12

15: DI13

16: DI14

17: DI15

18: DI16

Others: B connector

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**AA-27 Ramp (FRG) selection bit1**

Address: 0xAA1B

Min.: 0

Max.: 18

Default: 0

**Value Range:**

Same as A4-26

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**AA-30 Motor protection**

Address: 0xAA1E

Min.: 0

Max.: 65535

Default: 537

**Value Range:**

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

Bit00: Motor overload determination (reserved)  
 Bit01: Motor overheat detection (reserved)  
 Bit02: PG fault detection (reserved)  
 Bit03: Current control error detection  
 Bit04: Motor stall error detection  
 Bit05: Locked-rotor detection  
 Bit06: Synchronous motor demagnetization protection  
 Bit07: Protection against locked-rotor in SVC speed open-loop control  
 Bit08: Reserved  
 Bit09: Parameter setting error

**Description**

-

**AA-31****Locked-rotor time**

Address: 0xAA1F  
 Min.: 0.0  
 Max.: 65.0  
 Default: 2.0

Effective mode: -  
 Unit: s  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0.0s to 65.0s

**Description**

-

**AA-32****Locked-rotor frequency**

Address: 0xAA20  
 Min.: 0.0  
 Max.: 600.0  
 Default: 6.0

Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0.0% to 600.0%

**Description**

-

**AA-33****Motor stall detection time**

Address: 0xAA21  
 Min.: 0.0  
 Max.: 10.0  
 Default: 0.5

Effective mode: -  
 Unit: s  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0.0s to 10.0s

**Description**

-

**AA-34****Stall detection threshold**

Address: 0xAA22  
 Min.: 0.0  
 Max.: 100.0  
 Default: 30.0

Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0.0% to +100.0%



**Description**

-

**AA-35 Current control exception detection time**

Address:	0xAA23	Effective mode:	-
Min.:	0.00	Unit:	s
Max.:	1.00	Data type:	UInt16
Default:	0.05	Change:	Changeable at any time

**Value Range:**

0.00s to 1.00s

**Description**

-

**AA-36 Current control exception detection threshold**

Address:	0xAA24	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	200.0	Data type:	UInt16
Default:	25.0	Change:	Changeable at any time

**Value Range:**

0.0% to 200.0%

**Description**

-

**AA-37 Synchronous motor overcurrent threshold**

Address:	0xAA25	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	500.0	Data type:	UInt16
Default:	300.0	Change:	Changeable at any time

**Value Range:**

0.0% to 500.0%

**Description**

-

**AA-39 Speed deviation detection**

Address:	0xAA27	Effective mode:	-
Min.:	0	Unit:	-
Max.:	1	Data type:	UInt16
Default:	1	Change:	Changeable at any time

**Value Range:**

0 to 1

**Description**

-

**AA-40 Asynchronous motor FVC model switchover frequency**

Address:	0xAA28	Effective mode:	-
Min.:	0	Unit:	%
Max.:	1000	Data type:	UInt16
Default:	20	Change:	Changeable only at stop

**Value Range:**

0% to 1000%

**Description**

-

<b>AA-41</b>	<b>Asynchronous motor FVC model switchover hysteresis frequency</b>	Address: 0xAA29	Effective mode: -
		Min.: 10	Unit: %
		Max.: 50	Data type: UInt16
		Default: 20	Change: Changeable only at stop
	<b>Value Range:</b>		
	10% to 50%		
	<b>Description</b>		
	-		
<b>AA-42</b>	<b>Asynchronous motor FVC observer filter time</b>	Address: 0xAA2A	Effective mode: -
		Min.: 5	Unit: ms
		Max.: 100	Data type: UInt16
		Default: 15	Change: Changeable only at stop
	<b>Value Range:</b>		
	5 ms to 100 ms		
	<b>Description</b>		
	-		
<b>AA-43</b>	<b>Asynchronous motor FVC current model mode</b>	Address: 0xAA2B	Effective mode: -
		Min.: 0	Unit: -
		Max.: 1	Data type: UInt16
		Default: 0	Change: Changeable only at stop
	<b>Value Range:</b>		
	0 to 1		
	<b>Description</b>		
	-		
<b>AA-44</b>	<b>Asynchronous motor FVC pre-excitation output observation angle mode</b>	Address: 0xAA2C	Effective mode: -
		Min.: 0	Unit: -
		Max.: 1	Data type: UInt16
		Default: 0	Change: Changeable only at stop
	<b>Value Range:</b>		
	0 to 1		
	<b>Description</b>		
	-		
<b>AA-45</b>	<b>Asynchronous motor SVC model switchover frequency</b>	Address: 0xAA2D	Effective mode: -
		Min.: 10	Unit: %
		Max.: 20	Data type: UInt16
		Default: 15	Change: Changeable only at stop
	<b>Value Range:</b>		
	10% to 20%		
	<b>Description</b>		
	-		
<b>AA-46</b>	<b>Asynchronous motor SVC observer filter time</b>	Address: 0xAA2E	Effective mode: -

Min.:	5	Unit:	ms
Max.:	50	Data type:	UInt16
Default:	10	Change:	Changeable at any time
<b>Value Range:</b>			
5 ms to 50 ms			
<b>Description</b>			
-			

**AA-47 Asynchronous motor SVC observer gain 1**

Address:	0xAA2F	Effective mode:	-
Min.:	10	Unit:	%
Max.:	500	Data type:	UInt16
Default:	100	Change:	Changeable at any time
<b>Value Range:</b>			
10% to 500%			
<b>Description</b>			
-			

**AA-48 Asynchronous motor SVC observer gain 2**

Address:	0xAA30	Effective mode:	-
Min.:	10	Unit:	%
Max.:	100	Data type:	UInt16
Default:	20	Change:	Changeable at any time
<b>Value Range:</b>			
10% to 100%			
<b>Description</b>			
-			

**AA-49 Asynchronous motor SVC observer mode**

Address:	0xAA31	Effective mode:	-
Min.:	0	Unit:	-
Max.:	3	Data type:	UInt16
Default:	0	Change:	Changeable only at stop
<b>Value Range:</b>			
0 to 3			
<b>Description</b>			
-			

**AA-50 Asynchronous motor SVC pre-excitation mode**

Address:	0xAA32	Effective mode:	-
Min.:	0	Unit:	-
Max.:	1	Data type:	UInt16
Default:	0	Change:	Changeable only at stop
<b>Value Range:</b>			
0 to 1			
<b>Description</b>			
-			

**AA-51 Asynchronous motor SVC speed tracking mode**

Address:	0xAA33	Effective mode:	-
Min.:	0	Unit:	-
Max.:	1	Data type:	UInt16

Default: 0  
**Value Range:**  
 0 to 1  
**Description**  
 -

Change: Changeable only at stop

#### AA-54 Synchronous motor 1 model control

Address: 0xAA36  
 Min.: 0  
 Max.: 65535  
 Default: 5  
**Value Range:**  
 Bit00: Low speed processing  
 Bit01: Low speed processing 1  
 Bit02: Online auto-tuning of resistance  
 Bit03: Online auto-tuning of back EMF  
 Bit04: KS

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

#### **Description**

-

#### AA-55 Synchronous motor model K1

Address: 0xAA37  
 Min.: 10  
 Max.: 3000  
 Default: 200

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

#### **Value Range:**

10 to 3000

#### **Description**

-

#### AA-56 Synchronous motor model K1Max

Address: 0xAA38  
 Min.: 100  
 Max.: 6000  
 Default: 3000

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

#### **Value Range:**

100 to 6000

#### **Description**

-

#### AA-57 Synchronous motor model KsMin

Address: 0xAA39  
 Min.: 0.0  
 Max.: 4.0  
 Default: 0.3

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

#### **Value Range:**

0.0 to 4.0

#### **Description**

-

**AA-58 Synchronous motor model Kspeed**

Address:	0xAA3A	Effective mode:	-
Min.:	50	Unit:	-
Max.:	2000	Data type:	UInt16
Default:	400	Change:	Changeable at any time

**Value Range:**

50 to 2000

**Description**

-

**AA-59 Synchronous motor frequency filter time constant**

Address:	0xAA3B	Effective mode:	-
Min.:	2	Unit:	ms
Max.:	100	Data type:	UInt16
Default:	10	Change:	Changeable at any time

**Value Range:**

2 ms to 100 ms

**Description**

-

**AA-60 Frequency upper limit of synchronous motor Rs online auto-tuning**

Address:	0xAA3C	Effective mode:	-
Min.:	1.0	Unit:	%
Max.:	20.0	Data type:	UInt16
Default:	3.5	Change:	Changeable at any time

**Value Range:**

1.0% to 20.0%

**Description**

-

**AA-61 Synchronous motor model Kr**

Address:	0xAA3D	Effective mode:	-
Min.:	0	Unit:	-
Max.:	50	Data type:	UInt16
Default:	10	Change:	Changeable at any time

**Value Range:**

0 to 50

**Description**

-

**AA-62 Synchronous motor model Kr1**

Address:	0xAA3E	Effective mode:	-
Min.:	0	Unit:	-
Max.:	50	Data type:	UInt16
Default:	5	Change:	Changeable at any time

**Value Range:**

0 to 50

**Description**

-

**AA-63 Synchronous motor low-speed D axis injection current**

Address:	0xAA3F	Effective mode:	-
----------	--------	-----------------	---

Min.: 0  
 Max.: 100  
 Default: 20

Unit: %  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0% to 100%

**Description**

-

**AA-64 Synchronous motor model LowFreqTime1**

Address: 0xAA40  
 Min.: 0  
 Max.: 500  
 Default: 50

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0 to 500

**Description**

-

**AA-67 Frequency lower limit of back EMF online auto-tuning**

Address: 0xAA43  
 Min.: 10  
 Max.: 100  
 Default: 25

Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

10% to 100%

**Description**

-

**AA-68 Synchronous motor model LowFreq**

Address: 0xAA44  
 Min.: 0.0  
 Max.: 2.0  
 Default: 0.3

Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0.0% to 2.0%

**Description**

-

**AA-69 Synchronous motor model LowFreqTime**

Address: 0xAA45  
 Min.: 0  
 Max.: 100  
 Default: 10

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0 to 100

**Description**

-

**AA-70 Percentage of pole auto-tuning current**

Address: 0xAA46  
 Min.: 50  
 Max.: 200

Effective mode: -  
 Unit: %  
 Data type: UInt16

Default: 100  
**Value Range:**  
 50% to 200%  
**Description**  
 -

Change: Changeable at any time

**AA-71 Percentage of high frequency response current**

Address: 0xAA47  
 Min.: 0  
 Max.: 100  
 Default: 25

Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**  
 0% to 100%  
**Description**  
 -

**AA-72 Percentage of HFI and SVC switching frequency**

Address: 0xAA48  
 Min.: 0  
 Max.: 30  
 Default: 10

Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**  
 0% to 30%  
**Description**  
 -

**AA-73 Observer parameter**

Address: 0xAA49  
 Min.: 10  
 Max.: 200  
 Default: 100

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**  
 10 to 200  
**Description**  
 -

**AA-74 Speed filter cut-off frequency**

Address: 0xAA4A  
 Min.: 1  
 Max.: 200  
 Default: 10

Effective mode: -  
 Unit: Hz  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**  
 1 Hz to 200 Hz  
**Description**  
 -

**AA-75 Carrier frequency during NS auto-tuning**

Address: 0xAA4B  
 Min.: 2.00  
 Max.: 16.00  
 Default: 8.00

Effective mode: -  
 Unit: Hz  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

2.00 Hz to 16.00 Hz

**Description**

-

**AA-76 Automatic calculation of NS auto-tuning voltage**

Address: 0xAA4C

Effective mode: -

Min.: 0

Unit: -

Max.: 1

Data type: UInt16

Default: 1

Change: Changeable at any time

**Value Range:**

0 to 1

**Description**

-

**AA-77 Percentage of NS auto-tuning voltage set manually**

Address: 0xAA4D

Effective mode: -

Min.: 0

Unit: %

Max.: 100

Data type: UInt16

Default: 10

Change: Changeable at any time

**Value Range:**

0% to 100%

**Description**

-

**AA-78 Duration of HFI stage 1**

Address: 0xAA4E

Effective mode: -

Min.: 50

Unit: ms

Max.: 500

Data type: UInt16

Default: 150

Change: Changeable at any time

**Value Range:**

50 ms to 500 ms

**Description**

-

**AA-80 Speed loop command word**

Address: 0xAA50

Effective mode: -

Min.: 0

Unit: -

Max.: 65535

Data type: UInt16

Default: 11

Change: Changeable at any time

**Value Range:**



Bit00: Speed loop  
 0: Disabled  
 1: Enabled  
 Bit01: Integration mode  
 0: Conventional integration  
 1: Position integration  
 Bit02: Acceleration torque  
 0: Disabled  
 1: Enabled  
 Bit03–Bit04: Acceleration source  
 0: Function transfer torque  
 1: Automatic calculation  
 2: Function transfer acceleration  
 Bit05: Anti-load disturbance  
 0: Disabled  
 1: Enabled

**Description**

-

**AA-81 Locked-rotor fast integral cancel coefficient**

Address:	0xAA51	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	100.0	Data type:	UInt16
Default:	0.0	Change:	Changeable at any time

**Value Range:**

0.0% to +100.0%

**Description**

-

**AA-82 Integral torque**

Address:	0xAA52	Effective mode:	-
Min.:	-100	Unit:	%
Max.:	100.0	Data type:	Int16
Default:	0.0	Change:	Changeable at any time

**Value Range:**

-100% to +100.0%

**Description**

-

**AA-83 Speed controller frequency window size**

Address:	0xAA53	Effective mode:	-
Min.:	0.00	Unit:	Hz
Max.:	10.00	Data type:	UInt16
Default:	0.00	Change:	Changeable only at stop

**Value Range:**

0.00 Hz to 10.00 Hz

**Description**

-

<b>AA-84</b>	<b>Current filter time for torque reference</b> Address: 0xAA54 Min.: 0.0 Max.: 100.0 Default: 0.0 <b>Value Range:</b> 0.0 ms to 100.0 ms <b>Description</b> -	Effective mode: - Unit: ms Data type: UInt16 Change: Changeable only at stop
<b>AA-85</b>	<b>Acceleration torque</b> Address: 0xAA55 Min.: 0 Max.: 8 Default: 0 <b>Value Range:</b> 0: Inactive 1: AI1 2: AI2 3: AI3 4: Pulse reference 5: Communication 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>AA-87</b>	<b>Reference model bandwidth</b> Address: 0xAA57 Min.: 0.00 Max.: 300.00 Default: 0.00 <b>Value Range:</b> 0.00 Hz to 300.00 Hz <b>Description</b> -	Effective mode: - Unit: Hz Data type: UInt16 Change: Changeable at any time
<b>AA-88</b>	<b>Torque feedforward coefficient</b> Address: 0xAA58 Min.: 0.0 Max.: 1000.0 Default: 100.0 <b>Value Range:</b> 0.0% to 1000.0% <b>Description</b> -	Effective mode: - Unit: % Data type: UInt16 Change: Changeable at any time
<b>AA-89</b>	<b>Vector control reference frequency filter time</b> Address: 0xAA59	Effective mode: -

Min.:	0.0	Unit:	ms
Max.:	100.0	Data type:	UInt16
Default:	0.0	Change:	Changeable only at stop

**Value Range:**  
0.0 ms to 100.0 ms

**Description**  
-

**AA-90 Vector control feedback frequency filter time**

Address:	0xAA5A	Effective mode:	-
Min.:	0.0	Unit:	ms
Max.:	100.0	Data type:	UInt16
Default:	0.0	Change:	Changeable only at stop

**Value Range:**  
0.0 ms to 100.0 ms

**Description**  
-

**AA-91 Load observation bandwidth**

Address:	0xAA5B	Effective mode:	-
Min.:	0.00	Unit:	Hz
Max.:	300.00	Data type:	UInt16
Default:	0.00	Change:	Changeable at any time

**Value Range:**  
0.00 Hz to 300.00 Hz

**Description**  
-

**AA-92 Load observation coefficient**

Address:	0xAA5C	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	1000.0	Data type:	UInt16
Default:	100.0	Change:	Changeable at any time

**Value Range:**  
0.0% to 1000.0%

**Description**  
-

**AA-93 Pseudo integral coefficient**

Address:	0xAA5D	Effective mode:	-
Min.:	0.000	Unit:	-
Max.:	10.000	Data type:	UInt16
Default:	1.000	Change:	Changeable at any time

**Value Range:**  
0.000 to 10.000

**Description**  
-

**AA-94 Torque coefficient enable**

Address:	0xAA5E	Effective mode:	-
Min.:	0	Unit:	-
Max.:	1	Data type:	UInt16

Default: 0  
**Value Range:**  
 0: Disabled  
 1: Enabled  
**Description**  
 -

Change: Changeable at any time

**AA-96 Center frequency of notch filter 1**

Address: 0xAA60  
 Min.: 0.0  
 Max.: 4000.0  
 Default: 4000.0

**Value Range:**  
 0.0 to 4000.0  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**AA-97 Center frequency of notch filter 2**

Address: 0xAA61  
 Min.: 0.0  
 Max.: 4000.0  
 Default: 4000.0

**Value Range:**  
 0.0 to 4000.0  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**AA-98 Integral setting control word**

Address: 0xAA62  
 Min.: 0  
 Max.: 1  
 Default: 0

**Value Range:**  
 0: Disabled  
 1: Enabled  
 Others: B connector  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**AA-99 Integral reference source**

Address: 0xAA63  
 Min.: 0  
 Max.: 8  
 Default: 0

**Value Range:**

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

- 0: Digital setting
  - 1: AI1
  - 2: AI2
  - 3: AI3
  - 4: Pulse reference
  - 5: Communication
  - 6: Multi-reference
  - 7: Motor-driven potentiometer
  - 8: PID
  - Others: F connector
- Description**
- 

## 4.27 AB: Motor Control Parameters 1

### AB-00 Externally transferred acceleration

Address:	0xAB00	Effective mode:	-
Min.:	0	Unit:	-
Max.:	8	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

- 0: Inactive
- 1: AI1
- 2: AI2
- 3: AI3
- 4: Pulse reference
- 5: Communication
- 6: Multi-reference
- 7: Motor-driven potentiometer
- 8: PID
- Others: F connector

**Description**

-

### AB-03 Overturning torque limiting coefficient

Address:	0xAB03	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	400.0	Data type:	UInt16
Default:	100.0	Change:	Changeable at any time

**Value Range:**

0.0% to 400.0%

**Description**

-

### AB-04 Motoring power limiting coefficient

Address:	0xAB04	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	400.0	Data type:	UInt16

Default: 400.0  
**Value Range:**  
 0.0% to 400.0%  
**Description**  
 -

Change: Changeable at any time

**AB-05 Generating power limiting coefficient**

Address: 0xAB05  
 Min.: 0.0  
 Max.: 400.0  
 Default: 400.0

**Value Range:**  
 0.0% to 400.0%

**Description**  
 -

Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Changeable at any time

**AB-06 Overspeed limiting enable**

Address: 0xAB06  
 Min.: 0  
 Max.: 1  
 Default: 1

**Value Range:**  
 0 to 1

**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**AB-07 Sine wave frequency of bandwidth test**

Address: 0xAB07  
 Min.: 0  
 Max.: 1000  
 Default: 0

**Value Range:**  
 0 Hz to 1000 Hz

**Description**  
 -

Effective mode: -  
 Unit: Hz  
 Data type: UInt16  
 Change: Changeable at any time

**AB-08 Sine wave amplitude of bandwidth test**

Address: 0xAB08  
 Min.: 0  
 Max.: 100  
 Default: 0

**Value Range:**  
 0% to 100%

**Description**  
 -

Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Changeable at any time

**AB-09 Bandwidth test enable**

Address: 0xAB09  
 Min.: 0  
 Max.: 4  
 Default: 0

**Value Range:**

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

0 to 4

**Description**

-

**AB-11 Speed loop parameter calculation mode**

Address: 0xAB0B

Min.: 0

Max.: 1

Default: 1

**Value Range:**

0: New solution

1: Compatible solution

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**AB-12 Speed loop proportional gain in FVC mode**

Address: 0xAB0C

Min.: 0.00

Max.: 100.00

Default: 8.00

**Value Range:**

0.00 Hz to 100.00 Hz

**Description**

-

Effective mode: -

Unit: Hz

Data type: UInt16

Change: Changeable at any time

**AB-13 Speed loop integral time in FVC mode**

Address: 0xAB0D

Min.: 0.000

Max.: 20.000

Default: 0.080

**Value Range:**

0.000s to 20.000s

**Description**

-

Effective mode: -

Unit: s

Data type: UInt16

Change: Changeable at any time

**AB-14 Speed loop proportional gain in SVC mode**

Address: 0xAB0E

Min.: 0.00

Max.: 100.00

Default: 5.00

**Value Range:**

0.00 Hz to 100.00 Hz

**Description**

-

Effective mode: -

Unit: Hz

Data type: UInt16

Change: Changeable at any time

**AB-15 Speed loop integral time in SVC mode**

Address: 0xAB0F

Min.: 0.000

Max.: 20.000

Default: 0.127

**Value Range:**

Effective mode: -

Unit: s

Data type: UInt16

Change: Changeable at any time

0.000s to 20.000s

**Description**

-

**AB-16 Low frequency proportional correction coefficient**

Address: 0xAB10

Effective mode: -

Min.: 0.0

Unit: %

Max.: 1000.0

Data type: UInt16

Default: 100.0

Change: Changeable at any time

**Value Range:**

0.0% to 1000.0%

**Description**

-

**AB-17 Low frequency integral correction coefficient**

Address: 0xAB11

Effective mode: -

Min.: 0.0

Unit: %

Max.: 1000.0

Data type: UInt16

Default: 100.0

Change: Changeable at any time

**Value Range:**

0.0% to 1000.0%

**Description**

-

**AB-18 Speed loop adaption factor**

Address: 0xAB12

Effective mode: -

Min.: 0.000

Unit: -

Max.: 10.000

Data type: UInt16

Default: 0.200

Change: Changeable at any time

**Value Range:**

0.000 to 10.000

**Description**

-

**AB-19 Speed loop adaption switchover lower limit**

Address: 0xAB13

Effective mode: -

Min.: 0.000

Unit: -

Max.: 10.000

Data type: UInt16

Default: 0.400

Change: Changeable at any time

**Value Range:**

0.000 to 10.000

**Description**

-

**AB-20 Speed loop adaption switchover upper limit**

Address: 0xAB14

Effective mode: -

Min.: 0.000

Unit: -

Max.: 10.000

Data type: UInt16

Default: 1.000

Change: Changeable at any time

**Value Range:**

0.000 to 10.000



**Description**

-

**AB-21 Speed loop adaption correction upper limit**

Address:	0xAB15	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	1000.0	Data type:	UInt16
Default:	100.0	Change:	Changeable at any time

**Value Range:**

0.0% to 1000.0%

**Description**

-

**AB-22 Speed loop adaption correction lower limit**

Address:	0xAB16	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	1000.0	Data type:	UInt16
Default:	100.0	Change:	Changeable at any time

**Value Range:**

0.0% to 1000.0%

**Description**

-

**AB-23 Flux adaptation enable**

Address:	0xAB17	Effective mode:	-
Min.:	0	Unit:	-
Max.:	1	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0 to 1

**Description**

-

**AB-24 Overspeed controller correction coefficient**

Address:	0xAB18	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	1000.0	Data type:	UInt16
Default:	100.0	Change:	Changeable at any time

**Value Range:**

0.0% to 1000.0%

**Description**

-

**AB-25 VDC control command word**

Address:	0xAB19	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

Bit00: VdcMin  
 0: Disabled  
 1: Enabled  
 Bit01: VdcMax  
 0: Disabled  
 1: Enabled  
 Bit02: Automatic calculation of VDC trigger voltage  
 0: Disabled  
 1: Enabled  
 Bit03: VDC control integral action  
 0: Disabled  
 1: Enabled

**Description**

-

**AB-26****Bus capacitance ratio**

Address: 0xAB1A  
 Min.: 50.0  
 Max.: 1000.0  
 Default: 100.0

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable at any time

**Value Range:**

50.0% to 1000.0%

**Description**

-

**AB-27****Undervoltage suppression exit hysteresis frequency**

Address: 0xAB1B  
 Min.: 0.00  
 Max.: 10.00  
 Default: 3.00

Effective mode: -

Unit: Hz

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0.00 Hz to 10.00 Hz

**Description**

-

**AB-28****Minimum VDC failure speed threshold**

Address: 0xAB1C  
 Min.: 0.00  
 Max.: 20.00  
 Default: 2.00

Effective mode: -

Unit: Hz

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0.00 Hz to 20.00 Hz

**Description**

-

**AB-29****Dynamic adjustment coefficient**

Address: 0xAB1D  
 Min.: 0.0  
 Max.: 1000.0  
 Default: 100.0

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0.0% to 1000.0%

**Description**

-

**AB-30 Minimum VDC activation voltage**

Address: 0xAB1E

Min.: 320.0

Max.: 540.0

Default: 430.0

**Value Range:**

320.0 V to 540.0 V

**Description**

-

Effective mode: -

Unit: V

Data type: UInt16

Change: Changeable at any time

**AB-31 Maximum VDC activation voltage**

Address: 0xAB1F

Min.: 650.0

Max.: 800.0

Default: 770.0

**Value Range:**

650.0 V to 800.0 V

**Description**

-

Effective mode: -

Unit: V

Data type: UInt16

Change: Changeable at any time

**AB-32 Flux linkage control command word**

Address: 0xAB20

Min.: 0

Max.: 65535

Default: 2357

**Value Range:**

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

Bit00: Output voltage limit calculation filtering mode

0: Symmetric filtering

1: Asymmetric filtering

Bit01: Asynchronous motor inverse proportion curve calculation

0: The inverse proportional synchronization frequency decreases.

1: The inverse proportional speed decreases.

Bit02: Flux linkage feedforward calculation by using inverse proportional speed

0: Disabled

1: Enabled

Bit03: Reserved

Bit04: Reserved

Bit05: Field weakening adjustment

0: Disabled

1: Enabled

Bit06: Flux linkage derivative feedforward

0: Disabled

1: Enabled

Bit07: Energy conservation control

0: Disabled

1: Enabled

Bit08: Asynchronous motor flux closed loop

0: Disabled

1: Enabled

Bit09: Reserved

Bit10: Reserved

Bit11: Asynchronous motor pre-excitation mode

0: Pre-excitation based on time

1: Pre-excitation based on current

Bit12: Asynchronous motor pre-excitation current

0: Reference current

1: Maximum current allowed by the drive

### Description

Bit00: Output voltage limit calculation filtering mode

0 indicates the usual first-order filtering, and 1 indicates filtering when the bus voltage rises and no filtering when it falls, so as to avoid overmodulation.

Bit01: Asynchronous motor inverse proportion curve calculation

You can select 1 to deliberately lower the break frequency to avoid saturation in the field-weakening range. The setting is valid only when Bit02 is set to 1.

Bit02: Flux linkage feedforward calculation by using inverse proportional speed

If it is set to 1, the inverse proportional speed of flux linkage reference decreases when the output frequency exceeds the break frequency, which can improve dynamic response during acceleration.

Bit05: Field weakening adjustment

When it is set to 1, voltage outer loop adjustment is valid.

Bit07: Energy conservation control

This function is valid for asynchronous motors. It can reduce copper loss at light load in vector control mode.

Bit11: Asynchronous motor pre-excitation mode

0: Pre-excitation is implemented according to the set time. The time will be shorter than the set time if remanence exists.

1: Fixed current is output during the pre-excitation process, and the motor exits the pre-excitation mode when it detects that the flux linkage reaches the setpoint.

Bit12: Asynchronous motor pre-excitation current

0: Pre-excitation is implemented based on the current defined by AB-51.

1: Pre-excitation is implemented based on the maximum current allowed by the drive, which can shorten the pre-excitation time.

**AB-33 Output voltage upper limit margin for field weakening adjustment**

Address:	0xAB21	Effective mode:	-
Min.:	1	Unit:	%
Max.:	50	Data type:	UInt16
Default:	5	Change:	Changeable at any time

**Value Range:**

1% to 50%

**Description**

Decreasing the setpoint can improve voltage utilization. The current is smaller under the same load in the field weakening region. However, an excessively small setpoint will affect dynamic performance.

**AB-34 Output voltage upper limit margin for auto adjustment of field weakening**

Address:	0xAB22	Effective mode:	-
Min.:	1	Unit:	%
Max.:	20	Data type:	UInt16
Default:	3	Change:	Changeable at any time

**Value Range:**

1% to 20%

**Description**

When F2-18 is set to 2 (calculation+auto adjustment), the value of this parameter affects the voltage margin, and the effect is similar to that of AB-33.

**AB-35 Filter time for calculating maximum output voltage**

Address:	0xAB23	Effective mode:	-
Min.:	0	Unit:	ms
Max.:	3000	Data type:	UInt16
Default:	30	Change:	Changeable at any time

**Value Range:**

0 ms to 3000 ms

**Description**

Increasing the filter time allows the maximum output voltage to change slowly but affects voltage utilization.

**AB-36 Rated flux adjustment coefficient for calculation**

Address:	0xAB24	Effective mode:	-
Min.:	0.5	Unit:	-
Max.:	2.0	Data type:	UInt16
Default:	1.0	Change:	Changeable at any time

**Value Range:**

0.5 to 2.0

**Description**

You can decrease the value of this parameter if underexcitation is required, or increase it if overexcitation is required.

**AB-37 Field weakening frequency adjustment coefficient for calculation**

Address:	0xAB25	Effective mode:	-
Min.:	0.8	Unit:	-
Max.:	1.2	Data type:	UInt16
Default:	1.0	Change:	Changeable at any time

**Value Range:**

0.8 to 1.2

**Description**

This parameter is used to adjust the break frequency calculated automatically by the AC drive. After flux linkage feedforward calculation by using inverse proportional speed is enabled, decreasing the value of this parameter enables the motor to enter the field weakening state in advance, which is applicable to occasions with short acceleration time and high dynamic response requirements.

**AB-38 Slip filter time for calculating field weakening frequency**

Address:	0xAB26	Effective mode:	-
Min.:	0	Unit:	ms
Max.:	3000	Data type:	UInt16
Default:	62	Change:	Changeable at any time

**Value Range:**

0 ms to 3000 ms

**Description**

When flux linkage feedforward calculation by using inverse proportional speed is enabled, increasing the value of this parameter can reduce the fluctuation range of the calculated reference flux linkage.

**AB-39 Feedback speed filtering**

Address:	0xAB27	Effective mode:	-
Min.:	0	Unit:	ms
Max.:	8000	Data type:	UInt16
Default:	50	Change:	Changeable at any time

**Value Range:**

0 ms to 8000 ms

**Description**

When flux linkage feedforward calculation by using inverse proportional speed is enabled, increasing the value of this parameter can reduce the disturbance to the calculated flux linkage feedforward introduced by speed test.

**AB-40 Flux linkage rising filter time**

Address:	0xAB28	Effective mode:	-
Min.:	0	Unit:	ms
Max.:	8000	Data type:	UInt16
Default:	20	Change:	Changeable at any time

**Value Range:**

0 ms to 8000 ms

**Description**

When flux linkage feedforward calculation by using inverse proportional speed is enabled, this parameter defines the filter time of the asymmetric filter that takes effect only when the reference flux linkage increases.

**AB-42 Feedback voltage filter time**

Address:	0xAB2A	Effective mode:	-
Min.:	0	Unit:	ms
Max.:	3000	Data type:	UInt16
Default:	5	Change:	Changeable at any time

**Value Range:**

0 ms to 3000 ms

**Description**

When field weakening adjustment is enabled, increasing this filter time can reduce the fluctuation of the reference excitation current. To increase the field weakening gain, you need to decrease the filter time to avoid system oscillation.

**AB-43 Maximum demagnetization current of synchronous motor**

Address:	0xAB2B	Effective mode:	-
Min.:	0	Unit:	%
Max.:	500	Data type:	UInt16
Default:	300	Change:	Changeable at any time

**Value Range:**

0% to 500%

**Description**

This parameter is used to limit the demagnetization current of synchronous motors to prevent faults such as overload. It is a percentage relative to the rated current.

**AB-44 Voltage outer loop lower limit coefficient**

Address:	0xAB2C	Effective mode:	-
Min.:	0	Unit:	-
Max.:	500	Data type:	UInt16
Default:	50	Change:	Changeable at any time

**Value Range:**

0 to 500

**Description**

This parameter is used to limit the lower limit of flux linkage during field weakening for asynchronous motors to avoid limiting torque reduction.

**AB-45 Flux linkage derivative feedforward coefficient**

Address:	0xAB2D	Effective mode:	-
Min.:	0.0	Unit:	-
Max.:	1.5	Data type:	UInt16
Default:	1.0	Change:	Changeable at any time

**Value Range:**

0.0 to 1.5

**Description**

When flux linkage derivative feedforward of an asynchronous motor is enabled, this parameter can adjust the ratio of effective feedforward. A smaller value indicates smaller feedforward effect.

**AB-46 Flux linkage derivative feedforward filter time**

Address:	0xAB2E	Effective mode:	-
Min.:	0	Unit:	ms
Max.:	3000	Data type:	UInt16
Default:	6	Change:	Changeable at any time

**Value Range:**

0 ms to 3000 ms

**Description**

Increasing the filter time can reduce the fluctuation of the calculated feedforward value.

**AB-47 Torque current rising filter time under energy conservation control**

Address:	0xAB2F	Effective mode:	-
Min.:	0	Unit:	ms
Max.:	3000	Data type:	UInt16
Default:	50	Change:	Changeable at any time

**Value Range:**

0 ms to 3000 ms

**Description**

When energy conservation control of an asynchronous motor is enabled, decreasing the value of this parameter can improve dynamic response and avoid a large drop in speed when a sudden load is applied. You need to increase this value when the output current fluctuates greatly.

**AB-48 Torque current falling filter time under energy conservation control**

Address:	0xAB30	Effective mode:	-
Min.:	0	Unit:	ms
Max.:	3000	Data type:	UInt16
Default:	100	Change:	Changeable at any time

**Value Range:**

0 ms to 3000 ms

**Description**

When energy conservation control of an asynchronous motor is enabled, decreasing the value of this parameter can make the output current decrease rapidly after the load is reduced. You need to increase this value when the output current fluctuates greatly.

**AB-49 Flux linkage lower limit coefficient under energy conservation control**

Address:	0xAB31	Effective mode:	-
Min.:	0.00	Unit:	-
Max.:	0.50	Data type:	UInt16
Default:	0.10	Change:	Changeable at any time

**Value Range:**

0.00 to 0.50

**Description**

This parameter defines the minimum flux linkage allowed under energy conservation control. A smaller value indicates more significant energy conservation effect when no load is applied, but it will affect dynamic response after the load is added.

**AB-51 Pre-excitation current**

Address:	0xAB33	Effective mode:	-
Min.:	1	Unit:	%
Max.:	200	Data type:	UInt16
Default:	100	Change:	Changeable at any time

**Value Range:**

1% to 200%

**Description**

When pre-excitation of an asynchronous motor is implemented based on current, this parameter defines the reference excitation current as a percentage of the rated current.



**AB-52 Pre-excitation time**

Address:	0xAB34	Effective mode:	-
Min.:	1	Unit:	ms
Max.:	30000	Data type:	UInt16
Default:	1000	Change:	Changeable at any time

**Value Range:**  
1 ms to 30000 ms

**Description**

When pre-excitation of an asynchronous motor is implemented based on time, this parameter defines the total excitation time. The actual excitation time will be shorter than the set time if remanence exists.

**AB-53 Flux linkage closed-loop bandwidth frequency**

Address:	0xAB35	Effective mode:	-
Min.:	0.0	Unit:	Hz
Max.:	100.0	Data type:	UInt16
Default:	2.0	Change:	Changeable at any time

**Value Range:**  
0.0 Hz to 100.0 Hz

**Description**

When flux closed loop is enabled, increasing the setpoint can reduce the deviation of the flux linkage from the rated value during dynamic processes such as sudden load or acceleration and deceleration of the asynchronous motor.

**AB-54 Feedback flux linkage filter time coefficient**

Address:	0xAB36	Effective mode:	-
Min.:	0	Unit:	-
Max.:	200	Data type:	UInt16
Default:	4	Change:	Changeable at any time

**Value Range:**  
0 to 200

**Description**

When flux closed loop is enabled, increasing the setpoint can reduce fluctuation of the reference flux linkage. It is a percentage relative to the rotor time constant.

**AB-55 Static output flux linkage filter time**

Address:	0xAB37	Effective mode:	-
Min.:	0	Unit:	ms
Max.:	5000	Data type:	UInt16
Default:	10	Change:	Changeable at any time

**Value Range:**  
0 ms to 5000 ms

**Description**

Increasing the setpoint can reduce fluctuation of the reference flux linkage.

**AB-56 Current loop mode**

Address:	0xAB38	Effective mode:	-
Min.:	0	Unit:	-
Max.:	3	Data type:	UInt16
Default:	1	Change:	Changeable only at stop

**Value Range:**

- 0: ImCsr2 mode
- 1: Complex vector mode
- 2: 880 mode
- 3: No field weakening

**Description**

Decreasing the value of this parameter can enhance current loop following but also increase the overshoot and harmonics of the output current.

**AB-57 PI regulator proportional gain adaptation with load**

Address:	0xAB39	Effective mode:	-
Min.:	0	Unit:	-
Max.:	1	Data type:	UInt16
Default:	0	Change:	Changeable only at stop

**Value Range:**

0: Disabled

1: Enabled

**Description**

-

**AB-58 Current loop damping**

Address:	0xAB3A	Effective mode:	-
Min.:	0.2	Unit:	-
Max.:	5.0	Data type:	UInt16
Default:	0.8	Change:	Changeable at any time

**Value Range:**

0.2 to 5.0

**Description**

Decreasing the value of this parameter can enhance current loop following but also increase the overshoot and harmonics of the output current.

**AB-59 Low-speed current loop Kp adjustment**

Address:	0xAB3B	Effective mode:	-
Min.:	0.1	Unit:	-
Max.:	10.0	Data type:	UInt16
Default:	1.0	Change:	Changeable at any time

**Value Range:**

0.1 to 10.0

**Description**

The AC drive automatically calculates the current loop gain based on motor parameters. You can decrease the value of this parameter as appropriate when low-speed current oscillation or torque fluctuation is large.

**AB-60 High-speed current loop Kp adjustment**

Address:	0xAB3C	Effective mode:	-
Min.:	0.1	Unit:	-
Max.:	10.0	Data type:	UInt16
Default:	1.0	Change:	Changeable at any time

**Value Range:**

0.1 to 10.0

**Description**

The AC drive automatically calculates the current loop gain based on motor parameters. You can decrease the value of this parameter as appropriate when low-speed current oscillation or torque fluctuation is large.

**AB-61 Low-speed current loop Ki adjustment**

Address:	0xAB3D	Effective mode:	-
Min.:	0.1	Unit:	-
Max.:	10.0	Data type:	UInt16
Default:	1.0	Change:	Changeable at any time

**Value Range:**

0.1 to 10.0

**Description**

The AC drive automatically calculates the current loop gain based on motor parameters. You can decrease the value of this parameter as appropriate when low-speed current oscillation or torque fluctuation is large.

**AB-62 High-speed current loop Ki adjustment**

Address:	0xAB3E	Effective mode:	-
Min.:	0.1	Unit:	-
Max.:	10.0	Data type:	UInt16
Default:	2.0	Change:	Changeable at any time

**Value Range:**

0.1 to 10.0

**Description**

The AC drive automatically calculates the current loop gain based on motor parameters. You can decrease the value of this parameter as appropriate when low-speed current oscillation or torque fluctuation is large.

**AB-63 D-axis current loop complex vector adjustment**

Address:	0xAB3F	Effective mode:	-
Min.:	0.1	Unit:	-
Max.:	10.0	Data type:	UInt16
Default:	1.0	Change:	Changeable at any time

**Value Range:**

0.1 to 10.0

**Description**

-

**AB-64 Q-axis current loop complex vector adjustment**

Address:	0xAB40	Effective mode:	-
Min.:	0.1	Unit:	-
Max.:	10.0	Data type:	UInt16
Default:	1.0	Change:	Changeable at any time

**Value Range:**

0.1 to 10.0

**Description**

-

**AB-65 Complex vector hysteresis frequency lower limit as a percentage of rated frequency**

Address:	0xAB41	Effective mode:	-
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Min.:	0	Unit:	%
Max.:	AB-66	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0% to AB-66

**Description**

-

**AB-66 Complex vector hysteresis frequency upper limit as a percentage of rated frequency**

Address:	0xAB42	Effective mode:	-
Min.:	AB-65	Unit:	%
Max.:	150	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

AB-65 to 150%

**Description**

-

**AB-67 ImCsr2 hysteresis switchover voltage upper limit as a percentage of saturation voltage**

Address:	0xAB43	Effective mode:	-
Min.:	AB-68	Unit:	%
Max.:	95	Data type:	UInt16
Default:	89	Change:	Changeable at any time

**Value Range:**

AB-68 to 95%

**Description**

-

**AB-68 ImCsr2 hysteresis switchover voltage lower limit as a percentage of saturation voltage**

Address:	0xAB44	Effective mode:	-
Min.:	60	Unit:	%
Max.:	AB-67	Data type:	UInt16
Default:	79	Change:	Changeable at any time

**Value Range:**

60% to AB-67

**Description**

-

**AB-69 ImCsr2 hysteresis switchover frequency hysteresis range as a percentage of rated frequency**

Address:	0xAB45	Effective mode:	-
Min.:	1	Unit:	%
Max.:	30	Data type:	UInt16
Default:	10	Change:	Changeable at any time

**Value Range:**

1% to 30%

**Description**

-

**AB-70 ImCsr2 hysteresis switchover frequency lower limit (below which the hysteresis condition does not take effect) as a percentage of the rated frequency**

Address:	0xAB46	Effective mode:	-
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Min.: 40  
 Max.: 80  
 Default: 60  
**Value Range:**  
 40% to 80%  
**Description**  
 -

Unit: %  
 Data type: UInt16  
 Change: Changeable at any time

**AB-71 ImCsr2 current loop Kss adjustment**

Address: 0xAB47  
 Min.: 0.1  
 Max.: 10.0  
 Default: 1.0

**Value Range:**  
 0.1 to 10.0  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**AB-72 Proportional gain adjustment coefficient corresponding to the maximum torque when proportional gain is adjusted with load**

Address: 0xAB48  
 Min.: 0.1  
 Max.: 1.0  
 Default: 0.5

**Value Range:**  
 0.1 to 1.0  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**AB-73 Torque upper limit setpoint as a percentage of rated torque when proportional gain is adjusted with load**

Address: 0xAB49  
 Min.: AB-74  
 Max.: 300  
 Default: 200

**Value Range:**  
 AB-74 to 300%  
**Description**  
 -

Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Changeable at any time

**AB-74 Torque lower limit setpoint as a percentage of rated torque when proportional gain is adjusted with load**

Address: 0xAB4A  
 Min.: 10  
 Max.: AB-73  
 Default: 100

**Value Range:**  
 10% to AB-73  
**Description**  
 -

Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Changeable at any time

**AB-75 Derivative feedforward adjustment**

Address: 0xAB4B  
 Min.: 0.0  
 Max.: 1.0  
 Default: 0.0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0.0 to 1.0

**Description**

-

**AB-76 Decoupling control start frequency as a percentage of rated frequency**

Address: 0xAB4C  
 Min.: 20  
 Max.: 150  
 Default: 40

Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

20% to 150%

**Description**

-

**AB-77 Decoupling control filter time adjustment coefficient**

Address: 0xAB4D  
 Min.: 0.1  
 Max.: 3.0  
 Default: 1.0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0.1 to 3.0

**Description**

-

**AB-78 Decoupling control output adjustment coefficient**

Address: 0xAB4E  
 Min.: 0.0  
 Max.: 1.0  
 Default: 1.0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0.0 to 1.0

**Description**

-

**AB-79 CPC feedforward enable**

Address: 0xAB4F  
 Min.: 0  
 Max.: 1  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0: Disabled

1: Enabled

**Description**

-

**AB-80 Current loop auxiliary command word**

Address:	0xAB50	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

Bit00: Complex vector angle limiting

0: Disabled

1: Enabled

Bit01: Voltage angle limiting

0: Program internal limiting

1: Parameter setting

Bit02: 0 by default

0: No lower limit on the excitation current is imposed during the dynamic process.

1: A lower limit on the excitation current is imposed during the dynamic process in ImCsr2 mode.

Bit03–Bit15: Reserved (0 by default)

**Description**

-

**AB-81 Voltage angle upper limit**

Address:	0xAB51	Effective mode:	-
Min.:	90	Unit:	°
Max.:	180	Data type:	UInt16
Default:	150	Change:	Changeable at any time

**Value Range:**

90° to 180°

**Description**

-

**AB-82 Voltage angle lower limit**

Address:	0xAB52	Effective mode:	-
Min.:	0	Unit:	°
Max.:	90	Data type:	UInt16
Default:	30	Change:	Changeable at any time

**Value Range:**

0° to 90°

**Description**

-

**AB-83 Asynchronous motor D axis integral limit**

Address:	0xAB53	Effective mode:	-
Min.:	0.500	Unit:	-
Max.:	1.000	Data type:	UInt16
Default:	0.707	Change:	Changeable at any time

**Value Range:**

0.500 to 1.000

**Description**

-

<b>AB-84</b>	<b>Current loop carrier frequency upper limit</b> Address: 0xAB54 Min.: 5.0 Max.: 16.0 Default: 8.0 <b>Value Range:</b> 5.0 to 16.0 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>AB-85</b>	<b>Droop enable</b> Address: 0xAB55 Min.: 0 Max.: 1 Default: 0 <b>Value Range:</b> 0 to 1 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable only at stop
<b>AB-86</b>	<b>Droop source</b> Address: 0xAB56 Min.: 0 Max.: 3 Default: 1 <b>Value Range:</b> 0: Line current 1: Torque reference 2: Speed adjustment output 3: Speed adjustment integral component <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable only at stop
<b>AB-87</b>	<b>Frequency reference droop coefficient</b> Address: 0xAB57 Min.: 0.0 Max.: 50.0 Default: 0.0 <b>Value Range:</b> 0.0% to 50.0% <b>Description</b> -	Effective mode: - Unit: % Data type: UInt16 Change: Changeable at any time
<b>AB-88</b>	<b>FVC-SVC switchover mode</b> Address: 0xAB58 Min.: 0 Max.: 3 Default: 0 <b>Value Range:</b>	Effective mode: - Unit: - Data type: UInt16 Change: Changeable only at stop



0: No switchover

1: Active switchover

2: Passive switchover (The AC drive switches to SVC mode upon detection of encoder wire breakage, and it switches back to FVC mode when the encoder recovers during stop and does not switch back to FVC mode when the encoder recovers during running.)

3: Passive switchover (The AC drive switches to SVC mode upon detection of encoder wire breakage, and it switches back to FVC mode when the encoder recovers during running or stop.)

**Description**

-

**AB-89 FVC-SVC switchover frequency**

Address: 0xAB59

Min.: 10

Max.: 500

Default: 50

**Value Range:**

10% to 500%

**Description**

-

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable only at stop

**AB-90 FVC-SVC switchover hysteresis**

Address: 0xAB5A

Min.: 10

Max.: 100

Default: 10

**Value Range:**

10% to 100%

**Description**

-

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable only at stop

## 4.28 AC: AI/AO Correction Parameters

**AC-00 AI1 measured voltage 1**

Address: 0xAC00

Min.: -10

Max.: 10.000

Default: 2.000

**Value Range:**

-10 V to +10.000 V

**Description**

-

Effective mode: -

Unit: V

Data type: Int16

Change: Changeable only at stop

**AC-01 AI1 displayed voltage 1**

Address: 0xAC01

Min.: -10

Max.: 10.000

Default: 2.000

**Value Range:**

-10 V to +10.000 V

Effective mode: -

Unit: V

Data type: Int16

Change: Changeable only at stop

**Description**

-

**AC-02 AI1 measured voltage 2**

Address: 0xAC02

Min.: -10

Max.: 10.000

Default: 8.000

**Value Range:**

-10 V to +10.000 V

**Description**

-

Effective mode: -

Unit: V

Data type: Int16

Change: Changeable only at stop

**AC-03 AI1 displayed voltage 2**

Address: 0xAC03

Min.: -10

Max.: 10.000

Default: 8.000

**Value Range:**

-10 V to +10.000 V

**Description**

-

Effective mode: -

Unit: V

Data type: Int16

Change: Changeable only at stop

**AC-04 AI2 measured voltage 1**

Address: 0xAC04

Min.: -10

Max.: 10.000

Default: 2.000

**Value Range:**

-10 V to +10.000 V

**Description**

-

Effective mode: -

Unit: V

Data type: Int16

Change: Changeable only at stop

**AC-05 AI2 displayed voltage 1**

Address: 0xAC05

Min.: -10

Max.: 10.000

Default: 2.000

**Value Range:**

-10 V to +10.000 V

**Description**

-

Effective mode: -

Unit: V

Data type: Int16

Change: Changeable only at stop

**AC-06 AI2 measured voltage 2**

Address: 0xAC06

Min.: -10

Max.: 10.000

Default: 8.000

**Value Range:**

-10 V to +10.000 V

**Description**

-

Effective mode: -

Unit: V

Data type: Int16

Change: Changeable only at stop

<b>AC-07</b>	<b>AI2 displayed voltage 2</b> Address: 0xAC07 Min.: -10 Max.: 10.000 Default: 8.000 <b>Value Range:</b> -10 V to +10.000 V <b>Description</b> -	Effective mode: - Unit: V Data type: Int16 Change: Changeable only at stop
<b>AC-08</b>	<b>AI3 measured voltage 1</b> Address: 0xAC08 Min.: -10 Max.: 10.000 Default: 2.000 <b>Value Range:</b> -10 V to +10.000 V <b>Description</b> -	Effective mode: - Unit: V Data type: Int16 Change: Changeable only at stop
<b>AC-09</b>	<b>AI3 displayed voltage 1</b> Address: 0xAC09 Min.: -10 Max.: 10.000 Default: 2.000 <b>Value Range:</b> -10 V to +10.000 V <b>Description</b> -	Effective mode: - Unit: V Data type: Int16 Change: Changeable only at stop
<b>AC-10</b>	<b>AI3 measured voltage 2</b> Address: 0xAC0A Min.: -10 Max.: 10.000 Default: 8.000 <b>Value Range:</b> -10 V to +10.000 V <b>Description</b> -	Effective mode: - Unit: V Data type: Int16 Change: Changeable only at stop
<b>AC-11</b>	<b>AI3 displayed voltage 2</b> Address: 0xAC0B Min.: -10 Max.: 10.000 Default: 8.000 <b>Value Range:</b> -10 V to +10.000 V <b>Description</b> -	Effective mode: - Unit: V Data type: Int16 Change: Changeable only at stop
<b>AC-12</b>	<b>A01 target voltage 1</b> Address: 0xAC0C	Effective mode: -

Min.: -10  
 Max.: 10.000  
 Default: 2.000

Unit: V  
 Data type: Int16  
 Change: Changeable only at stop

**Value Range:**  
 -10 V to +10.000 V

**Description**

-

**AC-13 AO1 measured voltage 1**

Address: 0xAC0D  
 Min.: -10  
 Max.: 10.000  
 Default: 2.000

Effective mode: -  
 Unit: V  
 Data type: Int16  
 Change: Changeable only at stop

**Value Range:**  
 -10 V to +10.000 V

**Description**

-

**AC-14 AO1 target voltage 2**

Address: 0xAC0E  
 Min.: -10  
 Max.: 10.000  
 Default: 8.000

Effective mode: -  
 Unit: V  
 Data type: Int16  
 Change: Changeable only at stop

**Value Range:**  
 -10 V to +10.000 V

**Description**

-

**AC-15 AO1 measured voltage 2**

Address: 0xAC0F  
 Min.: -10  
 Max.: 10.000  
 Default: 8.000

Effective mode: -  
 Unit: V  
 Data type: Int16  
 Change: Changeable only at stop

**Value Range:**  
 -10 V to +10.000 V

**Description**

-

**AC-16 AO2 target voltage 1**

Address: 0xAC10  
 Min.: -10  
 Max.: 10.000  
 Default: 2.000

Effective mode: -  
 Unit: V  
 Data type: Int16  
 Change: Changeable only at stop

**Value Range:**  
 -10 V to +10.000 V

**Description**

-

**AC-17 AO2 measured voltage 1**

Address: 0xAC11  
 Min.: -10  
 Max.: 10.000

Effective mode: -  
 Unit: V  
 Data type: Int16

Default: 2.000  
**Value Range:**  
 -10 V to +10.000 V  
**Description**  
 -

Change: Changeable only at stop

**AC-18 A02 target voltage 2**

Address: 0xAC12  
 Min.: -10  
 Max.: 10.000  
 Default: 8.000  
**Value Range:**  
 -10 V to +10.000 V  
**Description**  
 -

Effective mode: -  
 Unit: V  
 Data type: Int16  
 Change: Changeable only at stop

**AC-19 A02 measured voltage 2**

Address: 0xAC13  
 Min.: -10  
 Max.: 10.000  
 Default: 8.000  
**Value Range:**  
 -10 V to +10.000 V  
**Description**  
 -

Effective mode: -  
 Unit: V  
 Data type: Int16  
 Change: Changeable only at stop

## 4.29 AF: Process Data Address Mapping Parameters

**AF-00 RPD01-SubIndex0-H**

Address: 0xAF00  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0  
**Value Range:**  
 0x0 to 0xFFFF  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**AF-01 RPD01-SubIndex0-L**

Address: 0xAF01  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0  
**Value Range:**  
 0x0 to 0xFFFF  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**AF-02 RPD01-SubIndex1-H**

Address: 0xAF02

Effective mode: -

Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0x0 to 0xFFFF

**Description**

-

**AF-03 RPD01-SubIndex1-L**

Address: 0xAF03  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0

**Value Range:**

0x0 to 0xFFFF

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**AF-04 RPD01-SubIndex2-H**

Address: 0xAF04  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0

**Value Range:**

0x0 to 0xFFFF

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**AF-05 RPD01-SubIndex2-L**

Address: 0xAF05  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0

**Value Range:**

0x0 to 0xFFFF

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**AF-06 RPD01-SubIndex3-H**

Address: 0xAF06  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0

**Value Range:**

0x0 to 0xFFFF

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**AF-07 RPD01-SubIndex3-L**

Address: 0xAF07  
 Min.: 0x0  
 Max.: 0xFFFF

Effective mode: -

Unit: -

Data type: UInt16

Default: 0x0  
**Value Range:**  
 0x0 to 0xFFFF  
**Description**  
 -

Change: Changeable at any time

**AF-08 RPDO2-SubIndex0-H**

Address: 0xAF08  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0

**Value Range:**  
 0x0 to 0xFFFF  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**AF-09 RPDO2-SubIndex0-L**

Address: 0xAF09  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0

**Value Range:**  
 0x0 to 0xFFFF  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**AF-10 RPDO2-SubIndex1-H**

Address: 0xAF0A  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0

**Value Range:**  
 0x0 to 0xFFFF  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**AF-11 RPDO2-SubIndex1-L**

Address: 0xAF0B  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0

**Value Range:**  
 0x0 to 0xFFFF  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**AF-12 RPDO2-SubIndex2-H**

Address: 0xAF0C  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0

**Value Range:**

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

0x0 to 0xFFFF

**Description**

-

**AF-13****RPDO2-SubIndex2-L**

Address: 0xAF0D

Min.: 0x0

Max.: 0xFFFF

Default: 0x0

**Value Range:**

0x0 to 0xFFFF

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**AF-14****RPDO2-SubIndex3-H**

Address: 0xAF0E

Min.: 0x0

Max.: 0xFFFF

Default: 0x0

**Value Range:**

0x0 to 0xFFFF

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**AF-15****RPDO2-SubIndex3-L**

Address: 0xAF0F

Min.: 0x0

Max.: 0xFFFF

Default: 0x0

**Value Range:**

0x0 to 0xFFFF

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**AF-16****RPDO3-SubIndex0-H**

Address: 0xAF10

Min.: 0x0

Max.: 0xFFFF

Default: 0x0

**Value Range:**

0x0 to 0xFFFF

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**AF-17****RPDO3-SubIndex0-L**

Address: 0xAF11

Min.: 0x0

Max.: 0xFFFF

Default: 0x0

**Value Range:**

0x0 to 0xFFFF

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time



**Description**

-

**AF-18**

**RPDO3-SubIndex1-H**

Address: 0xAF12  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0x0 to 0xFFFF

**Description**

-

**AF-19**

**RPDO3-SubIndex1-L**

Address: 0xAF13  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0x0 to 0xFFFF

**Description**

-

**AF-20**

**RPDO3-SubIndex2-H**

Address: 0xAF14  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0x0 to 0xFFFF

**Description**

-

**AF-21**

**RPDO3-SubIndex2-L**

Address: 0xAF15  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0x0 to 0xFFFF

**Description**

-

**AF-22**

**RPDO3-SubIndex3-H**

Address: 0xAF16  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0x0 to 0xFFFF

**Description**

-

<b>AF-23</b>	<b>RPDO3-SubIndex3-L</b> Address: 0xAF17 Min.: 0x0 Max.: 0xFFFF Default: 0x0 <b>Value Range:</b> 0x0 to 0xFFFF <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>AF-24</b>	<b>RPDO4-SubIndex0-H</b> Address: 0xAF18 Min.: 0x0 Max.: 0xFFFF Default: 0x0 <b>Value Range:</b> 0x0 to 0xFFFF <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>AF-25</b>	<b>RPDO4-SubIndex0-L</b> Address: 0xAF19 Min.: 0x0 Max.: 0xFFFF Default: 0x0 <b>Value Range:</b> 0x0 to 0xFFFF <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>AF-26</b>	<b>RPDO4-SubIndex1-H</b> Address: 0xAF1A Min.: 0x0 Max.: 0xFFFF Default: 0x0 <b>Value Range:</b> 0x0 to 0xFFFF <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>AF-27</b>	<b>RPDO4-SubIndex1-L</b> Address: 0xAF1B Min.: 0x0 Max.: 0xFFFF Default: 0x0 <b>Value Range:</b> 0x0 to 0xFFFF <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>AF-28</b>	<b>RPDO4-SubIndex2-H</b> Address: 0xAF1C	Effective mode: -

Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0  
**Value Range:**  
 0x0 to 0xFFFF  
**Description**  
 -

Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**AF-29**      **RPDO4-SubIndex2-L**  
 Address: 0xAF1D  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0  
**Value Range:**  
 0x0 to 0xFFFF  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**AF-30**      **RPDO4-SubIndex3-H**  
 Address: 0xAF1E  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0  
**Value Range:**  
 0x0 to 0xFFFF  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**AF-31**      **RPDO4-SubIndex3-L**  
 Address: 0xAF1F  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0  
**Value Range:**  
 0x0 to 0xFFFF  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**AF-32**      **TPDO1-SubIndex0-H**  
 Address: 0xAF20  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0  
**Value Range:**  
 0x0 to 0xFFFF  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**AF-33**      **TPDO1-SubIndex0-L**  
 Address: 0xAF21  
 Min.: 0x0  
 Max.: 0xFFFF

Effective mode: -  
 Unit: -  
 Data type: UInt16

Default: 0x0  
**Value Range:**  
 0x0 to 0xFFFF  
**Description**  
 -

Change: Changeable at any time

**AF-34 TPDO1-SubIndex1-H**

Address: 0xAF22  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0

**Value Range:**  
 0x0 to 0xFFFF  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**AF-35 TPDO1-SubIndex1-L**

Address: 0xAF23  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0

**Value Range:**  
 0x0 to 0xFFFF  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**AF-36 TPDO1-SubIndex2-H**

Address: 0xAF24  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0

**Value Range:**  
 0x0 to 0xFFFF  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**AF-37 TPDO1-SubIndex2-L**

Address: 0xAF25  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0

**Value Range:**  
 0x0 to 0xFFFF  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**AF-38 TPDO1-SubIndex3-H**

Address: 0xAF26  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0

**Value Range:**

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

0x0 to 0xFFFF

**Description**

-

**AF-39**

**TPDO1-SubIndex3-L**

Address: 0xAF27  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0x0 to 0xFFFF

**Description**

-

**AF-40**

**TPDO2-SubIndex0-H**

Address: 0xAF28  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0x0 to 0xFFFF

**Description**

-

**AF-41**

**TPDO2-SubIndex0-L**

Address: 0xAF29  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0x0 to 0xFFFF

**Description**

-

**AF-42**

**TPDO2-SubIndex1-H**

Address: 0xAF2A  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0x0 to 0xFFFF

**Description**

-

**AF-43**

**TPDO2-SubIndex1-L**

Address: 0xAF2B  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0x0 to 0xFFFF

	<b>Description</b>	
	-	
<b>AF-44</b>	<b>TPDO2-SubIndex2-H</b>	
	Address: 0xAF2C	Effective mode: -
	Min.: 0x0	Unit: -
	Max.: 0xFFFF	Data type: UInt16
	Default: 0x0	Change: Changeable at any time
	<b>Value Range:</b>	
	0x0 to 0xFFFF	
	<b>Description</b>	
	-	
<b>AF-45</b>	<b>TPDO2-SubIndex2-L</b>	
	Address: 0xAF2D	Effective mode: -
	Min.: 0x0	Unit: -
	Max.: 0xFFFF	Data type: UInt16
	Default: 0x0	Change: Changeable at any time
	<b>Value Range:</b>	
	0x0 to 0xFFFF	
	<b>Description</b>	
	-	
<b>AF-46</b>	<b>TPDO2-SubIndex3-H</b>	
	Address: 0xAF2E	Effective mode: -
	Min.: 0x0	Unit: -
	Max.: 0xFFFF	Data type: UInt16
	Default: 0x0	Change: Changeable at any time
	<b>Value Range:</b>	
	0x0 to 0xFFFF	
	<b>Description</b>	
	-	
<b>AF-47</b>	<b>TPDO2-SubIndex3-L</b>	
	Address: 0xAF2F	Effective mode: -
	Min.: 0x0	Unit: -
	Max.: 0xFFFF	Data type: UInt16
	Default: 0x0	Change: Changeable at any time
	<b>Value Range:</b>	
	0x0 to 0xFFFF	
	<b>Description</b>	
	-	
<b>AF-48</b>	<b>TPDO3-SubIndex0-H</b>	
	Address: 0xAF30	Effective mode: -
	Min.: 0x0	Unit: -
	Max.: 0xFFFF	Data type: UInt16
	Default: 0x0	Change: Changeable at any time
	<b>Value Range:</b>	
	0x0 to 0xFFFF	
	<b>Description</b>	
	-	

<b>AF-49</b>	<b>TPDO3-SubIndex0-L</b> Address: 0xAF31 Min.: 0x0 Max.: 0xFFFF Default: 0x0 <b>Value Range:</b> 0x0 to 0xFFFF <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>AF-50</b>	<b>TPDO3-SubIndex1-H</b> Address: 0xAF32 Min.: 0x0 Max.: 0xFFFF Default: 0x0 <b>Value Range:</b> 0x0 to 0xFFFF <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>AF-51</b>	<b>TPDO3-SubIndex1-L</b> Address: 0xAF33 Min.: 0x0 Max.: 0xFFFF Default: 0x0 <b>Value Range:</b> 0x0 to 0xFFFF <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>AF-52</b>	<b>TPDO3-SubIndex2-H</b> Address: 0xAF34 Min.: 0x0 Max.: 0xFFFF Default: 0x0 <b>Value Range:</b> 0x0 to 0xFFFF <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>AF-53</b>	<b>TPDO3-SubIndex2-L</b> Address: 0xAF35 Min.: 0x0 Max.: 0xFFFF Default: 0x0 <b>Value Range:</b> 0x0 to 0xFFFF <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>AF-54</b>	<b>TPDO3-SubIndex3-H</b> Address: 0xAF36	Effective mode: -

Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0x0 to 0xFFFF

**Description**

-

**AF-55 TPDO3-SubIndex3-L**

Address: 0xAF37  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0

**Value Range:**

0x0 to 0xFFFF

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**AF-56 TPDO4-SubIndex0-H**

Address: 0xAF38  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0

**Value Range:**

0x0 to 0xFFFF

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**AF-57 TPDO4-SubIndex0-L**

Address: 0xAF39  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0

**Value Range:**

0x0 to 0xFFFF

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**AF-58 TPDO4-SubIndex1-H**

Address: 0xAF3A  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0

**Value Range:**

0x0 to 0xFFFF

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**AF-59 TPDO4-SubIndex1-L**

Address: 0xAF3B  
 Min.: 0x0  
 Max.: 0xFFFF

Effective mode: -

Unit: -

Data type: UInt16



Default: 0x0  
**Value Range:**  
 0x0 to 0xFFFF  
**Description**  
 -

Change: Changeable at any time

**AF-60 TPDO4-SubIndex2-H**

Address: 0xAF3C  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0

**Value Range:**  
 0x0 to 0xFFFF  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**AF-61 TPDO4-SubIndex2-L**

Address: 0xAF3D  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0

**Value Range:**  
 0x0 to 0xFFFF  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**AF-62 TPDO4-SubIndex3-H**

Address: 0xAF3E  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0

**Value Range:**  
 0x0 to 0xFFFF  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**AF-63 TPDO4-SubIndex3-L**

Address: 0xAF3F  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0

**Value Range:**  
 0x0 to 0xFFFF  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**AF-66 Number of valid RPDs**

Address: 0xAF42  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0

**Value Range:**

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

0x0 to 0xFFFF

**Description**

-

**AF-67****Number of valid TPDOs**

Address: 0xAF43

Min.: 0x0

Max.: 0xFFFF

Default: 0x0

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**Value Range:**

0x0 to 0xFFFF

**Description**

-

## 4.30 B6: Motor 2 Startup Control and Protection Parameters

**B6-00****Startup mode**

Address: 0xB600

Min.: 0

Max.: 3

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0: Direct start

1: Flying start

2: Pre-excitation start (AC asynchronous motor)

3: SVC quick start

**Description**

Flying start is recommended if you need to start a motor that is rotating at a high speed.

Pre-excitation start and SVC quick start apply only to AC asynchronous motors.

**B6-01****Speed tracking mode**

Address: 0xB601

Min.: 0

Max.: 4

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0: From the stop frequency

1: From the power frequency

2: From the maximum frequency

3: Reserved

4: Magnetic field directional speed tracking (MD290)

**Description**

-

**B6-02****Speed of speed tracking**

Address: 0xB602

Min.: 1

Max.: 100

Default: 20

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

1 to 100

**Description**

-

**B6-03**

**Startup frequency**

Address: 0xB603

Min.: 0.00

Max.: 10.00

Default: 0.00

Effective mode: -

Unit: Hz

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0.00 Hz to 10.00 Hz

**Description**

This parameter defines the startup frequency for direct start of the AC drive. When the frequency reference is lower than the startup frequency, the AC drive will not start but stay standby.

**B6-04**

**Startup frequency hold time**

Address: 0xB604

Min.: 0.0

Max.: 100.0

Default: 0.0

Effective mode: -

Unit: s

Data type: UInt16

Change: Changeable only at stop

**Value Range:**

0.0s to 100.0s

**Description**

This parameter defines the hold time during which the output frequency remains at the startup frequency. After this hold time elapses, the AC drive will accelerate/decelerate to the reference frequency.

**B6-05**

**DC braking current at startup**

Address: 0xB605

Min.: 0

Max.: 100

Default: 50

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable only at stop

**Value Range:**

0% to 100%

**Description**

A larger DC braking current indicates stronger braking force. 100% corresponds to the rated motor current (the current upper limit is 80% of the rated current of the AC drive).

**B6-06**

**DC braking time at startup**

Address: 0xB606

Min.: 0.0

Max.: 100.0

Default: 0.0

Effective mode: -

Unit: s

Data type: UInt16

Change: Changeable only at stop

**Value Range:**

0.0s to 100.0s

**Description**

This parameter defines the time for DC braking at startup, which is valid only when the startup mode is direct start.

<b>B6-07</b>	<p><b>Stop mode</b></p> <p>Address: 0xB607</p> <p>Min.: 0</p> <p>Max.: 2</p> <p>Default: 0</p> <p><b>Value Range:</b></p> <p>0: Decelerate to stop</p> <p>1: Coast to stop</p> <p>2: Stop at maximum capability</p> <p><b>Description</b></p> <p>-</p>	<p>Effective mode: -</p> <p>Unit: -</p> <p>Data type: UInt16</p> <p>Change: Changeable at any time</p>
<b>B6-08</b>	<p><b>Start frequency of DC braking at stop</b></p> <p>Address: 0xB608</p> <p>Min.: 0.00</p> <p>Max.: F0-10</p> <p>Default: 0.00</p> <p><b>Value Range:</b></p> <p>0.00 Hz to F0-10</p> <p><b>Description</b></p> <p>The AC drive starts DC braking when the running frequency decreases to the value of this parameter during deceleration to stop.</p>	<p>Effective mode: -</p> <p>Unit: Hz</p> <p>Data type: UInt16</p> <p>Change: Changeable at any time</p>
<b>B6-09</b>	<p><b>DC braking delay at stop</b></p> <p>Address: 0xB609</p> <p>Min.: 0.0</p> <p>Max.: 100.0</p> <p>Default: 0.0</p> <p><b>Value Range:</b></p> <p>0.0s to 100.0s</p> <p><b>Description</b></p> <p>When the running frequency decreases to the start frequency of DC braking at stop, the AC drive stops output and starts DC braking after this waiting time.</p>	<p>Effective mode: -</p> <p>Unit: s</p> <p>Data type: UInt16</p> <p>Change: Changeable at any time</p>
<b>B6-10</b>	<p><b>DC braking current at stop</b></p> <p>Address: 0xB60A</p> <p>Min.: 0</p> <p>Max.: 100</p> <p>Default: 50</p> <p><b>Value Range:</b></p> <p>0% to 100%</p> <p><b>Description</b></p> <p>A larger DC braking current indicates stronger braking force. 100% corresponds to the rated motor current (the current upper limit is 80% of the rated current of the AC drive).</p>	<p>Effective mode: -</p> <p>Unit: %</p> <p>Data type: UInt16</p> <p>Change: Changeable at any time</p>
<b>B6-11</b>	<p><b>DC braking time at stop</b></p> <p>Address: 0xB60B</p> <p>Min.: 0.0</p> <p>Max.: 100.0</p> <p>Default: 0.0</p> <p><b>Value Range:</b></p>	<p>Effective mode: -</p> <p>Unit: s</p> <p>Data type: UInt16</p> <p>Change: Changeable at any time</p>

0.0s to 100.0s

**Description**

If this parameter is set to 0, DC braking is disabled.

**B6-12 Speed tracking sweep current limit closed loop Kp**

Address:	0xB60C	Effective mode:	-
Min.:	0	Unit:	-
Max.:	1000	Data type:	UInt16
Default:	500	Change:	Changeable at any time

**Value Range:**

0 to 1000

**Description**

-

**B6-13 Speed tracking sweep current limit closed loop Ki**

Address:	0xB60D	Effective mode:	-
Min.:	0	Unit:	-
Max.:	1000	Data type:	UInt16
Default:	800	Change:	Changeable at any time

**Value Range:**

0 to 1000

**Description**

-

**B6-14 Speed tracking current**

Address:	0xB60E	Effective mode:	-
Min.:	30	Unit:	%
Max.:	200	Data type:	UInt16
Default:	80	Change:	Changeable only at stop

**Value Range:**

30% to 200%

**Description**

-

**B6-15 Current loop multiple**

Address:	0xB60F	Effective mode:	-
Min.:	10	Unit:	%
Max.:	600	Data type:	UInt16
Default:	100	Change:	Changeable at any time

**Value Range:**

10% to 600%

**Description**

-

**B6-16 Demagnetization time (valid for asynchronous motors)**

Address:	0xB610	Effective mode:	-
Min.:	0.00	Unit:	s
Max.:	5.00	Data type:	UInt16
Default:	0.50	Change:	Changeable at any time

**Value Range:**

0.00s to 5.00s

**Description**

This parameter defines the minimum waiting time for restart after shutdown.

**B6-17****Overexcitation enable**

Address: 0xB611

Min.: 0

Max.: 2

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0: Disabled

2: Enabled during deceleration

3: Enabled always

**Description**

This parameter defines the active mode of overexcitation in vector control mode for asynchronous motors. When it is set to 2, overexcitation takes effect during acceleration, operation at constant speed, and deceleration.

**B6-18****Overexcitation suppression current**

Address: 0xB612

Min.: 0

Max.: 150

Default: 100

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0% to 150%

**Description**

This parameter defines the target current after overexcitation takes effect and is a percentage relative to the rated motor current.

**B6-19****Overexcitation gain**

Address: 0xB613

Min.: 0.01

Max.: 2.50

Default: 1.25

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0.01 to 2.50

**Description**

-

**B6-25****Skip frequency 1**

Address: 0xB619

Min.: 0.00

Max.: F0-10

Default: 0.00

Effective mode: -

Unit: Hz

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0.00 Hz to F0-10

**Description**

-

**B6-26****Skip frequency 2**

Address: 0xB61A

Min.: 0.00

Effective mode: -

Unit: Hz

Max.: F0-10  
 Default: 0.00  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**  
 0.00 Hz to F0-10

**Description**  
 -

**B6-27**

**Skip frequency 3**

Address: 0xB61B  
 Min.: 0.00  
 Max.: F0-10  
 Default: 0.00

Effective mode: -  
 Unit: Hz  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**  
 0.00 Hz to F0-10

**Description**  
 -

**B6-28**

**Skip frequency 4**

Address: 0xB61C  
 Min.: 0.00  
 Max.: F0-10  
 Default: 0.00

Effective mode: -  
 Unit: Hz  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**  
 0.00 Hz to F0-10

**Description**  
 -

**B6-29**

**Skip frequency band**

Address: 0xB61D  
 Min.: 0.00  
 Max.: F0-10  
 Default: 0.00

Effective mode: -  
 Unit: Hz  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**  
 0.00 Hz to F0-10

**Description**  
 -

**B6-30**

**Source of frequency upper limit**

Address: 0xB61E  
 Min.: 0  
 Max.: 5  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**  
 0: F0-12  
 1: AI1  
 2: AI2  
 3: AI3  
 4: Pulse reference  
 5: Communication  
 Others: F connector

**Description**

-

**B6-31 Frequency upper limit**

Address: 0xB61F

Min.: B6-33

Max.: F0-10

Default: 50.00

**Value Range:**

B6-33 to F0-10

**Description**

-

Effective mode: -

Unit: Hz

Data type: UInt16

Change: Changeable at any time

**B6-32 Frequency upper limit offset**

Address: 0xB620

Min.: 0.00

Max.: F0-10

Default: 0.00

**Value Range:**

0.00 Hz to F0-10 (maximum frequency)

**Description**

-

Effective mode: -

Unit: Hz

Data type: UInt16

Change: Changeable at any time

**B6-33 Frequency lower limit**

Address: 0xB621

Min.: 0.00

Max.: B6-31

Default: 0.00

**Value Range:**

0.00 Hz to B6-31

**Description**

-

Effective mode: -

Unit: Hz

Data type: UInt16

Change: Changeable at any time

**B6-34 Speed/Torque control mode**

Address: 0xB622

Min.: 0

Max.: 1

Default: 0

**Value Range:**

0: Speed control

1: Torque control

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**B6-35 Motor overload protection**

Address: 0xB623

Min.: 0

Max.: 1

Default: 1

**Value Range:**

0: Disabled

1: Enabled

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time



**Description**

-

**B6-36 Motor overload protection gain**

Address: 0xB624  
 Min.: 0.20  
 Max.: 10.00  
 Default: 1.00

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0.20 to 10.00

**Description**

-

**B6-37 Motor overload pre-warning coefficient**

Address: 0xB625  
 Min.: 50  
 Max.: 100  
 Default: 80

Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

50% to 100%

**Description**

-

**B6-38 Overvoltage stall suppression gain**

Address: 0xB626  
 Min.: 1  
 Max.: 100  
 Default: 30

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

1 to 100

**Description**

-

**B6-39 Overvoltage stall protection voltage**

Address: 0xB627  
 Min.: 330.0  
 Max.: 800.0  
 Default: 770.0

Effective mode: -  
 Unit: V  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

330.0 V to 800.0 V

**Description**

-

**B6-40 Input phase loss/Contactor pickup protection**

Address: 0xB628  
 Min.: 0  
 Max.: 13  
 Default: 11

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

Ones: Input phase loss protection

0: Disabled

1: Protection enabled when both software and hardware input phase loss conditions are met

2: Protection enabled when software input phase loss conditions are met

3: Protection enabled when hardware input phase loss conditions are met

Tens: Contactor pickup protection

0: Disabled

1: Enabled

**Description**

-

**B6-41 Output phase loss protection**

Address: 0xB629

Effective mode: -

Min.: 0

Unit: -

Max.: 11

Data type: UInt16

Default: 1

Change: Changeable at any time

**Value Range:**

Ones: Output phase loss protection upon power-on

0: Disabled

1: Enabled

Tens: Output phase loss protection before running

0: Disabled

1: Enabled

**Description**

-

**B6-42 Power dip ride-through**

Address: 0xB62A

Effective mode: -

Min.: 0

Unit: -

Max.: 3

Data type: UInt16

Default: 0

Change: Changeable only at stop

**Value Range:**

0: Disabled

1: Decelerate

2: Decelerate to stop

3: Suppress voltage dip

**Description**

-

**B6-43 Voltage threshold for disabling power dip ride-through**

Address: 0xB62B

Effective mode: -

Min.: 80

Unit: %

Max.: 100

Data type: UInt16

Default: 85

Change: Changeable only at stop

**Value Range:**

80% to 100%

**Description**

-

<b>B6-44</b>	<b>Delay of voltage recovery from power dip</b> Address: 0xB62C Min.: 0.0 Max.: 100.0 Default: 0.5 <b>Value Range:</b> 0.0s to 100.0s <b>Description</b> -	Effective mode: - Unit: s Data type: UInt16 Change: Changeable only at stop
<b>B6-45</b>	<b>Voltage threshold for enabling power dip ride-through</b> Address: 0xB62D Min.: 60 Max.: 100 Default: 80 <b>Value Range:</b> 60% to 100% <b>Description</b> -	Effective mode: - Unit: % Data type: UInt16 Change: Changeable only at stop
<b>B6-46</b>	<b>Protection upon load loss</b> Address: 0xB62E Min.: 0 Max.: 1 Default: 0 <b>Value Range:</b> 0: Disabled 1: Enabled <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>B6-47</b>	<b>Load loss detection level</b> Address: 0xB62F Min.: 0.0 Max.: 100.0 Default: 10.0 <b>Value Range:</b> 0.0% to +100.0% <b>Description</b> -	Effective mode: - Unit: % Data type: UInt16 Change: Changeable at any time
<b>B6-48</b>	<b>Load loss detection time</b> Address: 0xB630 Min.: 0.0 Max.: 60.0 Default: 1.0 <b>Value Range:</b> 0.0s to 60.0s <b>Description</b> -	Effective mode: - Unit: s Data type: UInt16 Change: Changeable at any time

<b>B6-49</b>	<b>Overspeed detection level</b> Address: 0xB631 Min.: 0.0 Max.: 50.0 Default: 20.0 <b>Value Range:</b> 0.0% to 50.0% <b>Description</b> -	Effective mode: - Unit: % Data type: UInt16 Change: Changeable at any time
<b>B6-50</b>	<b>Overspeed detection time</b> Address: 0xB632 Min.: 0.0 Max.: 60.0 Default: 1.0 <b>Value Range:</b> 0.0s to 60.0s <b>Description</b> -	Effective mode: - Unit: s Data type: UInt16 Change: Changeable at any time
<b>B6-51</b>	<b>Detection level of excessive speed deviation</b> Address: 0xB633 Min.: 0.0 Max.: 50.0 Default: 20.0 <b>Value Range:</b> 0.0% to 50.0% <b>Description</b> -	Effective mode: - Unit: % Data type: UInt16 Change: Changeable at any time
<b>B6-52</b>	<b>Detection time of excessive speed deviation</b> Address: 0xB634 Min.: 0.0 Max.: 60.0 Default: 5.0 <b>Value Range:</b> 0.0s to 60.0s <b>Description</b> -	Effective mode: - Unit: s Data type: UInt16 Change: Changeable at any time
<b>B6-53</b>	<b>Power dip ride-through gain Kp</b> Address: 0xB635 Min.: 1 Max.: 100 Default: 40 <b>Value Range:</b> 1 to 100 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>B6-54</b>	<b>Power dip ride-through integral coefficient Ki</b> Address: 0xB636	Effective mode: -

Min.:	1	Unit:	-
Max.:	100	Data type:	UInt16
Default:	30	Change:	Changeable at any time
<b>Value Range:</b>			
1 to 100			
<b>Description</b>			
-			

**B6-55 Deceleration time of power dip ride-through**

Address:	0xB637	Effective mode:	-
Min.:	0.0	Unit:	s
Max.:	300.0	Data type:	UInt16
Default:	20.0	Change:	Changeable at any time
<b>Value Range:</b>			
0.0s to 300.0s			
<b>Description</b>			
-			

**B6-56 Voltage dip suppression time**

Address:	0xB638	Effective mode:	-
Min.:	0.1	Unit:	s
Max.:	600.0	Data type:	UInt16
Default:	0.5	Change:	Changeable at any time
<b>Value Range:</b>			
0.1s to 600.0s			
<b>Description</b>			
-			

## 4.31 B7: Motor 2 Nameplate and Learning Parameters 2

**B7-00 Number of parallel motors**

Address:	0xB700	Effective mode:	-
Min.:	1	Unit:	-
Max.:	200	Data type:	UInt16
Default:	1	Change:	Changeable only at stop
<b>Value Range:</b>			
1 to 200			
<b>Description</b>			
-			

**B7-01 Motor information command word**

Address:	0xB701	Effective mode:	-
Min.:	0x0	Unit:	-
Max.:	0xFFFF	Data type:	UInt16
Default:	0x3	Change:	Changeable only at stop
<b>Value Range:</b>			

Bit00: Mutual inductance curve

0: Disabled

1: Enabled

Bit01: D- and Q-axis inductance curve

0: Disabled

1: Enabled

Bit02: Rotor resistance online auto-tuning

0: Disabled

1: Enabled

Bit03: Rotor resistance online auto-tuning method

0: Amplitude

1: Phase

Bit04: Motor thermal model

0: Disabled

1: Enabled

Bit05: Temperature source of motor thermal model

0: Estimated temperature

1: Temperature detected by sensor

Bit06: Torque coefficient calculation of asynchronous motor

0: Torque formula

1: Current distribution

Bit07: Torque coefficient calculation of synchronous motor

0: Torque formula

1: Torque matching the rated torque

Bit08: Zero speed friction torque calculation

0: Torque linearly decreasing to zero

1: Torque to maintain minimum speed

Bit09: Calculation of model parameters based on nameplate parameters

0: Disabled

1: Enabled

Bit10: Confirmation of calculating model parameters based on nameplate parameters

0: Default

1: Confirm

**Description**

-

**B7-02 Number of motor pole pairs**

Address: 0xB702

Min.: 0

Max.: 64

Default: 0

**Value Range:**

0 to 64

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**B7-03 Motor power factor**

Address:	0xB703	Effective mode:	-
Min.:	0.600	Unit:	-
Max.:	1.000	Data type:	UInt16
Default:	0.860	Change:	Changeable only at stop

**Value Range:**

0.600 to 1.000

**Description**

-

**B7-05 Expansion card**

Address:	0xB705	Effective mode:	-
Min.:	1	Unit:	-
Max.:	2	Data type:	UInt16
Default:	1	Change:	Changeable only at stop

**Value Range:**

1: Expansion card 1

2: Expansion card 2

**Description**

-

**B7-06 ABZ encoder speed measurement mode at low speed**

Address:	0xB706	Effective mode:	-
Min.:	0	Unit:	-
Max.:	2	Data type:	UInt16
Default:	2	Change:	Changeable only at stop

**Value Range:**

0: Maintain

1: Attenuate

2: Optimized solution

**Description**

-

**B7-07 Encoder speed measurement filter time constant**

Address:	0xB707	Effective mode:	-
Min.:	0.000	Unit:	s
Max.:	10.000	Data type:	UInt16
Default:	0.004	Change:	Changeable at any time

**Value Range:**

0.000s to 10.000s

**Description**

-

**B7-08 Encoder wire breakage software detection coefficient**

Address:	0xB708	Effective mode:	-
Min.:	0.000	Unit:	-
Max.:	8.000	Data type:	UInt16
Default:	1.000	Change:	Changeable at any time

**Value Range:**

0.000 to 8.000

**Description**

-

**B7-09 Encoder control word**

Address: 0xB709

Min.: 0

Max.: 65535

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**Value Range:**

Bit00: Speed measurement

0: Disabled

1: Enabled

Bit01: Software detection of wire breakage

0: Disabled

1: Enabled

Bit02: Glitch removal

0: Disabled

1: Enabled

Bit03: ABZ encoder speed measurement mode

0: Quadruplicated frequency

1: Single pulse

**Description**

-

**B7-10 Speed measurement exception count threshold**

Address: 0xB70A

Min.: 1

Max.: 100

Default: 10

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**Value Range:**

1 to 100

**Description**

-

**B7-11 Motor gear ratio (numerator)**

Address: 0xB70B

Min.: 1

Max.: 65535

Default: 1

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**Value Range:**

1 to 65535

**Description**

-

**B7-12 Motor gear ratio (denominator)**

Address: 0xB70C

Min.: 1

Max.: 65535

Default: 1

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**Value Range:**



1 to 65535

**Description**

-

**B7-13**

**External input source of encoder**

Address: 0xB70D

Min.: 0

Max.: 8

Default: 0

**Value Range:**

0: 0

1: AI1

2: AI2

3: AI3

4: Pulse reference

5: Communication

6: Multi-reference

7: Motor-driven potentiometer

8: PID

Others: F connector

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**B7-15**

**Stator leakage inductance**

Address: 0xB70F

Min.: 0.000

Max.: 65.535

Default: 6.540

**Value Range:**

0.000 mH to 65.535 mH

**Description**

-

Effective mode: -

Unit: mH

Data type: UInt16

Change: Changeable only at stop

**B7-16**

**Electromechanical time constant**

Address: 0xB710

Min.: 1

Max.: 65535

Default: 100

**Value Range:**

1 ms to 65535 ms

**Description**

-

Effective mode: -

Unit: ms

Data type: UInt16

Change: Unchangeable

**B7-17**

**Inertia ratio**

Address: 0xB711

Min.: 0.0

Max.: 6553.5

Default: 120.0

**Value Range:**

0.0% to 6553.5%

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable only at stop

**Description**

-

**B7-18****Friction torque**

Address: 0xB712

Min.: 0.0

Max.: 6553.5

Default: 2.0

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable only at stop

**Value Range:**

0.0% to 6553.5%

**Description**

-

**B7-19****Excitation current coefficient 1 of mutual inductance curve (rated)**

Address: 0xB713

Min.: 5.0

Max.: 100.0

Default: 50.0

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable only at stop

**Value Range:**

5.0% to 100.0%

**Description**

-

**B7-20****Excitation current coefficient 2 of mutual inductance curve (rated)**

Address: 0xB714

Min.: 5.0

Max.: 100.0

Default: 75.0

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable only at stop

**Value Range:**

5.0% to 100.0%

**Description**

-

**B7-21****Excitation current coefficient 3 of mutual inductance curve**

Address: 0xB715

Min.: 100.0

Max.: 800.0

Default: 150.0

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable only at stop

**Value Range:**

100.0% to 800.0%

**Description**

-

**B7-22****Excitation current coefficient 4 of mutual inductance curve**

Address: 0xB716

Min.: 100.0

Max.: 800.0

Default: 210.0

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable only at stop

**Value Range:**

100.0% to 800.0%

**Description**

-

<b>B7-23</b>	<b>Flux coefficient 1 of mutual inductance curve (rated)</b> Address: 0xB717 Min.: 10.0 Max.: 100.0 Default: 50.0 <b>Value Range:</b> 10.0% to 100.0% <b>Description</b> -	Effective mode: - Unit: % Data type: UInt16 Change: Changeable only at stop
<b>B7-24</b>	<b>Flux coefficient 2 of mutual inductance curve (rated)</b> Address: 0xB718 Min.: 10.0 Max.: 100.0 Default: 85.0 <b>Value Range:</b> 10.0% to 100.0% <b>Description</b> -	Effective mode: - Unit: % Data type: UInt16 Change: Changeable only at stop
<b>B7-25</b>	<b>Flux coefficient 3 of mutual inductance curve</b> Address: 0xB719 Min.: 100.0 Max.: 300.0 Default: 115.0 <b>Value Range:</b> 100.0% to 300.0% <b>Description</b> -	Effective mode: - Unit: % Data type: UInt16 Change: Changeable only at stop
<b>B7-26</b>	<b>Flux coefficient 4 of mutual inductance curve</b> Address: 0xB71A Min.: 100.0 Max.: 300.0 Default: 125.0 <b>Value Range:</b> 100.0% to 300.0% <b>Description</b> -	Effective mode: - Unit: % Data type: UInt16 Change: Changeable only at stop
<b>B7-27</b>	<b>Speed point 1 of friction curve</b> Address: 0xB71B Min.: 0 Max.: 30000 Default: 15 <b>Value Range:</b> 0 RPM to 30000 RPM <b>Description</b> -	Effective mode: - Unit: RPM Data type: UInt16 Change: Changeable only at stop
<b>B7-28</b>	<b>Speed point 2 of friction curve</b> Address: 0xB71C	Effective mode: -

Min.: 0  
 Max.: 30000  
 Default: 30

Unit: RPM  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**  
 0 RPM to 30000 RPM

**Description**  
 -

**B7-29 Speed point 3 of friction curve**

Address: 0xB71D  
 Min.: 0  
 Max.: 30000  
 Default: 60

Effective mode: -  
 Unit: RPM  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**  
 0 RPM to 30000 RPM

**Description**  
 -

**B7-30 Speed point 4 of friction curve**

Address: 0xB71E  
 Min.: 0  
 Max.: 30000  
 Default: 120

Effective mode: -  
 Unit: RPM  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**  
 0 RPM to 30000 RPM

**Description**  
 -

**B7-31 Speed point 5 of friction curve**

Address: 0xB71F  
 Min.: 0  
 Max.: 30000  
 Default: 150

Effective mode: -  
 Unit: RPM  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**  
 0 RPM to 30000 RPM

**Description**  
 -

**B7-32 Speed point 6 of friction curve**

Address: 0xB720  
 Min.: 0  
 Max.: 30000  
 Default: 300

Effective mode: -  
 Unit: RPM  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**  
 0 RPM to 30000 RPM

**Description**  
 -

**B7-33 Speed point 7 of friction curve**

Address: 0xB721  
 Min.: 0  
 Max.: 30000

Effective mode: -  
 Unit: RPM  
 Data type: UInt16

Default: 600  
**Value Range:**  
 0 RPM to 30000 RPM  
**Description**  
 -

Change: Changeable only at stop

**B7-34 Speed point 8 of friction curve**

Address: 0xB722  
 Min.: 0  
 Max.: 30000  
 Default: 1200

**Value Range:**  
 0 RPM to 30000 RPM  
**Description**  
 -

Effective mode: -  
 Unit: RPM  
 Data type: UInt16  
 Change: Changeable only at stop

**B7-35 Speed point 9 of friction curve**

Address: 0xB723  
 Min.: 0  
 Max.: 30000  
 Default: 1500

**Value Range:**  
 0 RPM to 30000 RPM  
**Description**  
 -

Effective mode: -  
 Unit: RPM  
 Data type: UInt16  
 Change: Changeable only at stop

**B7-36 Speed point 10 of friction curve**

Address: 0xB724  
 Min.: 0  
 Max.: 30000  
 Default: 3000

**Value Range:**  
 0 RPM to 30000 RPM  
**Description**  
 -

Effective mode: -  
 Unit: RPM  
 Data type: UInt16  
 Change: Changeable only at stop

**B7-37 Torque point 1 of friction curve**

Address: 0xB725  
 Min.: -320  
 Max.: 320.00  
 Default: 0.00

**Value Range:**  
 -320 N·m to +320 N·m  
**Description**  
 -

Effective mode: -  
 Unit: N·m  
 Data type: Int16  
 Change: Changeable only at stop

**B7-38 Torque point 2 of friction curve**

Address: 0xB726  
 Min.: -320  
 Max.: 320.00  
 Default: 0.00

**Value Range:**

Effective mode: -  
 Unit: N·m  
 Data type: Int16  
 Change: Changeable only at stop

-320 N·m to +320 N·m

**Description**

-

**B7-39 Torque point 3 of friction curve**

Address: 0xB727

Min.: -320

Max.: 320.00

Default: 0.00

**Value Range:**

-320 N·m to +320 N·m

**Description**

-

Effective mode: -

Unit: N·m

Data type: Int16

Change: Changeable only at stop

**B7-40 Torque point 4 of friction curve**

Address: 0xB728

Min.: -320

Max.: 320.00

Default: 0.00

**Value Range:**

-320 N·m to +320 N·m

**Description**

-

Effective mode: -

Unit: N·m

Data type: Int16

Change: Changeable only at stop

**B7-41 Torque point 5 of friction curve**

Address: 0xB729

Min.: -320

Max.: 320.00

Default: 0.00

**Value Range:**

-320 N·m to +320 N·m

**Description**

-

Effective mode: -

Unit: N·m

Data type: Int16

Change: Changeable only at stop

**B7-42 Torque point 6 of friction curve**

Address: 0xB72A

Min.: -320

Max.: 320.00

Default: 0.00

**Value Range:**

-320 N·m to +320 N·m

**Description**

-

Effective mode: -

Unit: N·m

Data type: Int16

Change: Changeable only at stop

**B7-43 Torque point 7 of friction curve**

Address: 0xB72B

Min.: -320

Max.: 320.00

Default: 0.00

**Value Range:**

-320 N·m to +320 N·m

Effective mode: -

Unit: N·m

Data type: Int16

Change: Changeable only at stop

**Description**

-

**B7-44 Torque point 8 of friction curve**

Address: 0xB72C

Min.: -320

Max.: 320.00

Default: 0.00

**Value Range:**

-320 N·m to +320 N·m

**Description**

-

Effective mode: -

Unit: N·m

Data type: Int16

Change: Changeable only at stop

**B7-45 Torque point 9 of friction curve**

Address: 0xB72D

Min.: -320

Max.: 320.00

Default: 0.00

**Value Range:**

-320 N·m to +320 N·m

**Description**

-

Effective mode: -

Unit: N·m

Data type: Int16

Change: Changeable only at stop

**B7-46 Torque point 10 of friction curve**

Address: 0xB72E

Min.: -320

Max.: 320.00

Default: 0.00

**Value Range:**

-320 N·m to +320 N·m

**Description**

-

Effective mode: -

Unit: N·m

Data type: Int16

Change: Changeable only at stop

**B7-47 Current coefficient starting point of D- and Q-axis inductance curve**

Address: 0xB72F

Min.: -800

Max.: 800.0

Default: -200

**Value Range:**

-800% to +800.0%

**Description**

-

Effective mode: -

Unit: %

Data type: Int16

Change: Changeable only at stop

**B7-48 Current coefficient end point of D- and Q-axis inductance curve**

Address: 0xB730

Min.: -800

Max.: 800.0

Default: 200.0

**Value Range:**

-800% to +800.0%

**Description**

-

Effective mode: -

Unit: %

Data type: Int16

Change: Changeable only at stop

<b>B7-49</b>	<b>D axis inductance 1 of D- and Q-axis inductance curve</b>
Address: 0xB731	Effective mode: -
Min.: 0.0	Unit: %
Max.: 6553.5	Data type: UInt16
Default: 100.0	Change: Changeable only at stop
<b>Value Range:</b>	
0.0% to 6553.5%	
<b>Description</b>	
-	
<b>B7-50</b>	<b>D axis inductance 2 of D- and Q-axis inductance curve</b>
Address: 0xB732	Effective mode: -
Min.: 0.0	Unit: %
Max.: 6553.5	Data type: UInt16
Default: 100.0	Change: Changeable only at stop
<b>Value Range:</b>	
0.0% to 6553.5%	
<b>Description</b>	
-	
<b>B7-51</b>	<b>D axis inductance 3 of D- and Q-axis inductance curve</b>
Address: 0xB733	Effective mode: -
Min.: 0.0	Unit: %
Max.: 6553.5	Data type: UInt16
Default: 100.0	Change: Changeable only at stop
<b>Value Range:</b>	
0.0% to 6553.5%	
<b>Description</b>	
-	
<b>B7-52</b>	<b>D axis inductance 4 of D- and Q-axis inductance curve</b>
Address: 0xB734	Effective mode: -
Min.: 0.0	Unit: %
Max.: 6553.5	Data type: UInt16
Default: 100.0	Change: Changeable only at stop
<b>Value Range:</b>	
0.0% to 6553.5%	
<b>Description</b>	
-	
<b>B7-53</b>	<b>D axis inductance 5 of D- and Q-axis inductance curve</b>
Address: 0xB735	Effective mode: -
Min.: 0.0	Unit: %
Max.: 6553.5	Data type: UInt16
Default: 100.0	Change: Changeable only at stop
<b>Value Range:</b>	
0.0% to 6553.5%	
<b>Description</b>	
-	
<b>B7-54</b>	<b>D axis inductance 6 of D- and Q-axis inductance curve</b>
Address: 0xB736	Effective mode: -



Min.:	0.0	Unit:	%
Max.:	6553.5	Data type:	UInt16
Default:	100.0	Change:	Changeable only at stop

**Value Range:**  
0.0% to 6553.5%

**Description**  
-

**B7-55 D axis inductance 7 of D- and Q-axis inductance curve**

Address:	0xB737	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	6553.5	Data type:	UInt16
Default:	100.0	Change:	Changeable only at stop

**Value Range:**  
0.0% to 6553.5%

**Description**  
-

**B7-56 D axis inductance 8 of D- and Q-axis inductance curve**

Address:	0xB738	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	6553.5	Data type:	UInt16
Default:	100.0	Change:	Changeable only at stop

**Value Range:**  
0.0% to 6553.5%

**Description**  
-

**B7-57 D axis inductance 9 of D- and Q-axis inductance curve**

Address:	0xB739	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	6553.5	Data type:	UInt16
Default:	100.0	Change:	Changeable only at stop

**Value Range:**  
0.0% to 6553.5%

**Description**  
-

**B7-58 D axis inductance 10 of D- and Q-axis inductance curve**

Address:	0xB73A	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	6553.5	Data type:	UInt16
Default:	100.0	Change:	Changeable only at stop

**Value Range:**  
0.0% to 6553.5%

**Description**  
-

**B7-59 D axis inductance 11 of D- and Q-axis inductance curve**

Address:	0xB73B	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	6553.5	Data type:	UInt16

Default: 100.0 Change: Changeable only at stop  
**Value Range:**  
 0.0% to 6553.5%  
**Description**  
 -

**B7-60 D axis inductance 12 of D- and Q-axis inductance curve**

Address: 0xB73C Effective mode: -  
 Min.: 0.0 Unit: %  
 Max.: 6553.5 Data type: UInt16  
 Default: 100.0 Change: Changeable only at stop

**Value Range:**  
 0.0% to 6553.5%  
**Description**  
 -

**B7-61 Q axis inductance 1 of D- and Q-axis inductance curve**

Address: 0xB73D Effective mode: -  
 Min.: 0.0 Unit: %  
 Max.: 6553.5 Data type: UInt16  
 Default: 100.0 Change: Changeable only at stop

**Value Range:**  
 0.0% to 6553.5%  
**Description**  
 -

**B7-62 Q axis inductance 2 of D- and Q-axis inductance curve**

Address: 0xB73E Effective mode: -  
 Min.: 0.0 Unit: %  
 Max.: 6553.5 Data type: UInt16  
 Default: 100.0 Change: Changeable only at stop

**Value Range:**  
 0.0% to 6553.5%  
**Description**  
 -

**B7-63 Q axis inductance 3 of D- and Q-axis inductance curve**

Address: 0xB73F Effective mode: -  
 Min.: 0.0 Unit: %  
 Max.: 6553.5 Data type: UInt16  
 Default: 100.0 Change: Changeable only at stop

**Value Range:**  
 0.0% to 6553.5%  
**Description**  
 -

**B7-64 Q axis inductance 4 of D- and Q-axis inductance curve**

Address: 0xB740 Effective mode: -  
 Min.: 0.0 Unit: %  
 Max.: 6553.5 Data type: UInt16  
 Default: 100.0 Change: Changeable only at stop

**Value Range:**

0.0% to 6553.5%

**Description**

-

**B7-65 Q axis inductance 5 of D- and Q-axis inductance curve**

Address:	0xB741	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	6553.5	Data type:	UInt16
Default:	100.0	Change:	Changeable only at stop

**Value Range:**

0.0% to 6553.5%

**Description**

-

**B7-66 Q axis inductance 6 of D- and Q-axis inductance curve**

Address:	0xB742	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	6553.5	Data type:	UInt16
Default:	100.0	Change:	Changeable only at stop

**Value Range:**

0.0% to 6553.5%

**Description**

-

**B7-67 Q axis inductance 7 of D- and Q-axis inductance curve**

Address:	0xB743	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	6553.5	Data type:	UInt16
Default:	100.0	Change:	Changeable only at stop

**Value Range:**

0.0% to 6553.5%

**Description**

-

**B7-68 Q axis inductance 8 of D- and Q-axis inductance curve**

Address:	0xB744	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	6553.5	Data type:	UInt16
Default:	100.0	Change:	Changeable only at stop

**Value Range:**

0.0% to 6553.5%

**Description**

-

**B7-69 Q axis inductance 9 of D- and Q-axis inductance curve**

Address:	0xB745	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	6553.5	Data type:	UInt16
Default:	100.0	Change:	Changeable only at stop

**Value Range:**

0.0% to 6553.5%

**Description**

-

**B7-70 Q axis inductance 10 of D- and Q-axis inductance curve**

Address:	0xB746	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	6553.5	Data type:	UInt16
Default:	100.0	Change:	Changeable only at stop

**Value Range:**

0.0% to 6553.5%

**Description**

-

**B7-71 Q axis inductance 11 of D- and Q-axis inductance curve**

Address:	0xB747	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	6553.5	Data type:	UInt16
Default:	100.0	Change:	Changeable only at stop

**Value Range:**

0.0% to 6553.5%

**Description**

-

**B7-72 Q axis inductance 12 of D- and Q-axis inductance curve**

Address:	0xB748	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	6553.5	Data type:	UInt16
Default:	100.0	Change:	Changeable only at stop

**Value Range:**

0.0% to 6553.5%

**Description**

-

**4.32 B8: Motor 2 Control, Protection, and Vector Parameters 1****B8-00 Parameter auto-tuning upon startup**

Address:	0xB800	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	1	Change:	Changeable only at stop

**Value Range:**

Bit00: Synchronous motor pole position auto-tuning upon startup

0: Disabled

1: Enabled

Bit01: Quick stator resistance auto-tuning upon startup

0: Disabled

1: Enabled

Bit02–Bit03: HFI pole position auto-tuning

0: Disabled

1: Enabled

2: Adaptive

Bit04: IGBT shoot-through self-check upon startup

0: Disabled

1: Enabled

Bit05: Short-to-ground self-check upon startup (reserved)

0: Disabled

1: Enabled

Bit06: Phase loss self-check upon startup (reserved)

0: Disabled

1: Enabled

**Description**

-

**B8-01 Auto-tuning direction**

Address: 0xB801

Min.: 0

Max.: 1

Default: 1

**Value Range:**

0 to 1

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**B8-02 Oscillation suppression gain of synchronous motor back EMF auto-tuning**

Address: 0xB802

Min.: 0.0

Max.: 30.0

Default: 3.2

**Value Range:**

0.0 to 30.0

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**B8-03 Target speed of rotation auto-tuning**

Address: 0xB803

Min.: 30.0

Max.: 100.0

Default: 70.0

**Value Range:**

30.0% to 100.0%

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable only at stop

**Description**

-

**B8-04 Target speed 1 of inertia auto-tuning**

Address: 0xB804

Min.: 10.0

Max.: B8-05

Default: 40.0

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable only at stop

**Value Range:**

10.0% to B8-05

**Description**

-

**B8-05 Target speed 2 of inertia auto-tuning**

Address: 0xB805

Min.: B8-04

Max.: 100.0

Default: 60.0

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable only at stop

**Value Range:**

B8-04 to 100.0%

**Description**

-

**B8-06 Overcurrent prevention of mutual inductance saturation curve**

Address: 0xB806

Min.: 0

Max.: 1

Default: 1

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**Value Range:**

0 to 1

**Description**

-

**B8-07 Auto-tuning items**

Address: 0xB807

Min.: 0

Max.: 65535

Default: 117

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**Value Range:**

Bit00: Speed loop parameter adaptation

0: Disabled

1: Enabled

Bit01: Current loop parameter adaptation

0: Disabled

1: Enabled

Bit02: Drive nonlinear auto-tuning

0: Disabled

1: Enabled

Bit03: Inter-phase deviation coefficient auto-tuning

0: Disabled

1: Enabled

Bit04: Auto-tuning of initial pole position of synchronous motor

0: Disabled

1: Enabled

Bit05: Auto-tuning of D- and Q-axis inductance model of synchronous motor

0: Disabled

1: Enabled

Bit06: System inertia auto-tuning

0: Disabled

1: Enabled

Bit07: HFI pole position auto-tuning

0: Disabled

1: Enabled

**Description**

-

**B8-08**

**OFF3 stop mode**

Address: 0xB808

Min.: 0

Max.: 1

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**Value Range:**

0: Quick stop

1: Stop at maximum capability

**Description**

-

**B8-09**

**Stop mode during running**

Address: 0xB809

Min.: 0

Max.: 2

Default: 1

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**Value Range:**

0: OFF1 stop mode

1: OFF2 stop mode

2: OFF3 stop mode

**Description**

-

**B8-10 Stop mode for torque control**

Address: 0xB80A Effective mode: -  
 Min.: 0 Unit: -  
 Max.: 2 Data type: UInt16  
 Default: 1 Change: Changeable only at stop

**Value Range:**

0: Coast to stop forcibly

1: Switch to speed control mode and then stop

2: Maintain torque control mode until zero speed and then block

**Description**

-

**B8-12 Proportional gain adjustment coefficient**

Address: 0xB80C Effective mode: -  
 Min.: 0.1 Unit: -  
 Max.: 2.0 Data type: UInt16  
 Default: 1.0 Change: Changeable at any time

**Value Range:**

0.1 to 2.0

**Description**

-

**B8-13 Integral gain adjustment coefficient**

Address: 0xB80D Effective mode: -  
 Min.: 0.1 Unit: -  
 Max.: 2.0 Data type: UInt16  
 Default: 1.0 Change: Changeable at any time

**Value Range:**

0.1 to 2.0

**Description**

-

**B8-14 Zero-speed threshold**

Address: 0xB80E Effective mode: -  
 Min.: 0.1 Unit: %  
 Max.: 200.0 Data type: UInt16  
 Default: 2.0 Change: Changeable at any time

**Value Range:**

0.1% to 200.0%

**Description**

-

**B8-15 Zero-speed stop delay**

Address: 0xB80F Effective mode: -  
 Min.: 0.00 Unit: s  
 Max.: 10.00 Data type: UInt16  
 Default: 0.10 Change: Changeable only at stop

**Value Range:**



0.00s to 10.00s

**Description**

-

**B8-16 Reference source execution interval**

Address: 0xB810

Effective mode: -

Min.: 0

Unit: -

Max.: 20

Data type: UInt16

Default: 4

Change: Changeable only at stop

**Value Range:**

0 to 20

**Description**

-

**B8-17 Trial current for speed tracking of synchronous motor**

Address: 0xB811

Effective mode: -

Min.: 5.0

Unit: %

Max.: 50.0

Data type: UInt16

Default: 10.0

Change: Changeable only at stop

**Value Range:**

5.0% to 50.0%

**Description**

-

**B8-18 Minimum frequency for speed tracking of synchronous motor**

Address: 0xB812

Effective mode: -

Min.: 0.0

Unit: Hz

Max.: 100.0

Data type: UInt16

Default: 0.0

Change: Changeable only at stop

**Value Range:**

0.0 Hz to 100.0 Hz

**Description**

-

**B8-19 Angle compensation for speed tracking of synchronous motor**

Address: 0xB813

Effective mode: -

Min.: 0

Unit: -

Max.: 360

Data type: UInt16

Default: 0

Change: Changeable only at stop

**Value Range:**

0 to 360

**Description**

-

**B8-20 Parameter auto-tuning of synchronous motor upon startup**

Address: 0xB814

Effective mode: -

Min.: 0

Unit: -

Max.: 1

Data type: UInt16

Default: 0

Change: Changeable at any time

**Value Range:**

0 to 1

**Description**

-

**B8-21 Current motor angle**

Address: 0xB815

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**B8-22 Forward torque limit 1**

Address: 0xB816

Min.: 0.0

Max.: 400.0

Default: 150.0

**Value Range:**

0.0 to 400.0

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**B8-23 Reverse torque limit 1**

Address: 0xB817

Min.: 0.0

Max.: 400.0

Default: 150.0

**Value Range:**

0.0 to 400.0

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**B8-24 Source of forward torque limit 2**

Address: 0xB818

Min.: 0

Max.: 0

Default: 0

**Value Range:**

0: 400%

Others: F connector

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**B8-25 Source of reverse torque limit 2**

Address: 0xB819

Min.: 0

Max.: 0

Default: 0

**Value Range:**

0: -400%

Others: F connector

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Description**

-

**B8-26**

**Ramp (FRG) selection bit0**

Address: 0xB81A

Min.: 0

Max.: 18

Default: 0

**Value Range:**

0: 0

1: 1

2: Terminal function input

3: DI1

4: DI2

5: DI3

6: DI4

7: DI5

8: DI6

9: DI7

10: DI8

11: DI9

12: DI10

13: DI11

14: DI12

15: DI13

16: DI14

17: DI15

18: DI16

Others: B connector

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**B8-27**

**Ramp (FRG) selection bit1**

Address: 0xB81B

Min.: 0

Max.: 18

Default: 0

**Value Range:**

Same as B8-26

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**B8-30**

**Motor protection**

Address: 0xB81E

Min.: 0

Max.: 65535

Default: 537

**Value Range:**

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

Bit00: Motor overload determination (reserved)  
 Bit01: Motor overheat detection (reserved)  
 Bit02: PG fault detection (reserved)  
 Bit03: Current control error detection  
 Bit04: Motor stall error detection  
 Bit05: Locked-rotor detection  
 Bit06: Synchronous motor demagnetization protection  
 Bit07: Protection against locked-rotor in SVC speed open-loop control  
 Bit08: Reserved  
 Bit09: Parameter setting error

**Description**

-

**B8-31****Locked-rotor time**

Address: 0xB81F  
 Min.: 0.0  
 Max.: 65.0  
 Default: 2.0

Effective mode: -  
 Unit: s  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0.0s to 65.0s

**Description**

-

**B8-32****Locked-rotor frequency**

Address: 0xB820  
 Min.: 0.0  
 Max.: 600.0  
 Default: 6.0

Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0.0% to 600.0%

**Description**

-

**B8-33****Motor stall detection time**

Address: 0xB821  
 Min.: 0.0  
 Max.: 10.0  
 Default: 0.5

Effective mode: -  
 Unit: s  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0.0s to 10.0s

**Description**

-

**B8-34****Stall detection threshold**

Address: 0xB822  
 Min.: 0.0  
 Max.: 100.0  
 Default: 30.0

Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0.0% to +100.0%

**Description**

-

**B8-35 Current control exception detection time**

Address:	0xB823	Effective mode:	-
Min.:	0.00	Unit:	s
Max.:	1.00	Data type:	UInt16
Default:	0.05	Change:	Changeable at any time

**Value Range:**

0.00s to 1.00s

**Description**

-

**B8-36 Current control exception detection threshold**

Address:	0xB824	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	200.0	Data type:	UInt16
Default:	25.0	Change:	Changeable at any time

**Value Range:**

0.0% to 200.0%

**Description**

-

**B8-37 Synchronous motor overcurrent threshold**

Address:	0xB825	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	500.0	Data type:	UInt16
Default:	300.0	Change:	Changeable at any time

**Value Range:**

0.0% to 500.0%

**Description**

-

**B8-39 Speed deviation detection**

Address:	0xB827	Effective mode:	-
Min.:	0	Unit:	-
Max.:	1	Data type:	UInt16
Default:	1	Change:	Changeable at any time

**Value Range:**

0 to 1

**Description**

-

**B8-40 Asynchronous motor FVC model switchover frequency**

Address:	0xB828	Effective mode:	-
Min.:	0	Unit:	%
Max.:	1000	Data type:	UInt16
Default:	20	Change:	Changeable only at stop

**Value Range:**

0% to 1000%

**Description**

-

<b>B8-41</b>	<b>Asynchronous motor FVC model switchover hysteresis frequency</b>	Address: 0xB829	Effective mode: -
		Min.: 10	Unit: %
		Max.: 50	Data type: UInt16
		Default: 20	Change: Changeable only at stop
	<b>Value Range:</b>		
	10% to 50%		
	<b>Description</b>		
	-		
<b>B8-42</b>	<b>Asynchronous motor FVC observer filter time</b>	Address: 0xB82A	Effective mode: -
		Min.: 5	Unit: ms
		Max.: 100	Data type: UInt16
		Default: 15	Change: Changeable only at stop
	<b>Value Range:</b>		
	5 ms to 100 ms		
	<b>Description</b>		
	-		
<b>B8-43</b>	<b>Asynchronous motor FVC current model mode</b>	Address: 0xB82B	Effective mode: -
		Min.: 0	Unit: -
		Max.: 1	Data type: UInt16
		Default: 0	Change: Changeable only at stop
	<b>Value Range:</b>		
	0 to 1		
	<b>Description</b>		
	-		
<b>B8-44</b>	<b>Asynchronous motor FVC pre-excitation output observation angle mode</b>	Address: 0xB82C	Effective mode: -
		Min.: 0	Unit: -
		Max.: 1	Data type: UInt16
		Default: 0	Change: Changeable only at stop
	<b>Value Range:</b>		
	0 to 1		
	<b>Description</b>		
	-		
<b>B8-45</b>	<b>Asynchronous motor SVC model switchover frequency</b>	Address: 0xB82D	Effective mode: -
		Min.: 10	Unit: %
		Max.: 20	Data type: UInt16
		Default: 15	Change: Changeable only at stop
	<b>Value Range:</b>		
	10% to 20%		
	<b>Description</b>		
	-		
<b>B8-46</b>	<b>Asynchronous motor SVC observer filter time</b>	Address: 0xB82E	Effective mode: -

Min.:	5	Unit:	ms
Max.:	50	Data type:	UInt16
Default:	10	Change:	Changeable at any time
<b>Value Range:</b>			
5 ms to 50 ms			
<b>Description</b>			
-			

**B8-47 Asynchronous motor SVC observer gain 1**

Address:	0xB82F	Effective mode:	-
Min.:	10	Unit:	%
Max.:	500	Data type:	UInt16
Default:	100	Change:	Changeable at any time
<b>Value Range:</b>			
10% to 500%			
<b>Description</b>			
-			

**B8-48 Asynchronous motor SVC observer gain 2**

Address:	0xB830	Effective mode:	-
Min.:	10	Unit:	%
Max.:	100	Data type:	UInt16
Default:	20	Change:	Changeable at any time
<b>Value Range:</b>			
10% to 100%			
<b>Description</b>			
-			

**B8-49 Asynchronous motor SVC observer mode**

Address:	0xB831	Effective mode:	-
Min.:	0	Unit:	-
Max.:	3	Data type:	UInt16
Default:	0	Change:	Changeable only at stop
<b>Value Range:</b>			
0 to 3			
<b>Description</b>			
-			

**B8-50 Asynchronous motor SVC pre-excitation mode**

Address:	0xB832	Effective mode:	-
Min.:	0	Unit:	-
Max.:	1	Data type:	UInt16
Default:	0	Change:	Changeable only at stop
<b>Value Range:</b>			
0 to 1			
<b>Description</b>			
-			

**B8-51 Asynchronous motor SVC speed tracking mode**

Address:	0xB833	Effective mode:	-
Min.:	0	Unit:	-
Max.:	1	Data type:	UInt16

Default: 0  
**Value Range:**  
 0 to 1  
**Description**  
 -

Change: Changeable only at stop

#### B8-54 Synchronous motor 1 model control

Address: 0xB836  
 Min.: 0  
 Max.: 65535  
 Default: 5  
**Value Range:**  
 Bit00: Low speed processing  
 Bit01: Low speed processing 1  
 Bit02: Online auto-tuning of resistance  
 Bit03: Online auto-tuning of back EMF  
 Bit04: KS

##### Description

-

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

#### B8-55 Synchronous motor model K1

Address: 0xB837  
 Min.: 10  
 Max.: 3000  
 Default: 200

##### Value Range:

10 to 3000

##### Description

-

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

#### B8-56 Synchronous motor model K1Max

Address: 0xB838  
 Min.: 100  
 Max.: 6000  
 Default: 3000

##### Value Range:

100 to 6000

##### Description

-

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

#### B8-57 Synchronous motor model KsMin

Address: 0xB839  
 Min.: 0.0  
 Max.: 4.0  
 Default: 0.3

##### Value Range:

0.0 to 4.0

##### Description

-

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time



**B8-58 Synchronous motor model Kspeed**

Address:	0xB83A	Effective mode:	-
Min.:	50	Unit:	-
Max.:	2000	Data type:	UInt16
Default:	400	Change:	Changeable at any time

**Value Range:**

50 to 2000

**Description**

-

**B8-59 Synchronous motor frequency filter time constant**

Address:	0xB83B	Effective mode:	-
Min.:	2	Unit:	ms
Max.:	100	Data type:	UInt16
Default:	10	Change:	Changeable at any time

**Value Range:**

2 ms to 100 ms

**Description**

-

**B8-60 Frequency upper limit of synchronous motor Rs online auto-tuning**

Address:	0xB83C	Effective mode:	-
Min.:	1.0	Unit:	%
Max.:	20.0	Data type:	UInt16
Default:	3.5	Change:	Changeable at any time

**Value Range:**

1.0% to 20.0%

**Description**

-

**B8-61 Synchronous motor model Kr**

Address:	0xB83D	Effective mode:	-
Min.:	0	Unit:	-
Max.:	50	Data type:	UInt16
Default:	10	Change:	Changeable at any time

**Value Range:**

0 to 50

**Description**

-

**B8-62 Synchronous motor model Kr1**

Address:	0xB83E	Effective mode:	-
Min.:	0	Unit:	-
Max.:	50	Data type:	UInt16
Default:	5	Change:	Changeable at any time

**Value Range:**

0 to 50

**Description**

-

**B8-63 Synchronous motor low-speed D axis injection current**

Address:	0xB83F	Effective mode:	-
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Min.:	0	Unit:	%
Max.:	100	Data type:	UInt16
Default:	20	Change:	Changeable at any time

**Value Range:**

0% to 100%

**Description**

-

**B8-64 Synchronous motor model LowFreqTime1**

Address:	0xB840	Effective mode:	-
Min.:	0	Unit:	-
Max.:	500	Data type:	UInt16
Default:	50	Change:	Changeable at any time

**Value Range:**

0 to 500

**Description**

-

**B8-67 Frequency lower limit of back EMF online auto-tuning**

Address:	0xB843	Effective mode:	-
Min.:	10	Unit:	%
Max.:	100	Data type:	UInt16
Default:	25	Change:	Changeable at any time

**Value Range:**

10% to 100%

**Description**

-

**B8-68 Synchronous motor model LowFreq**

Address:	0xB844	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	2.0	Data type:	UInt16
Default:	0.3	Change:	Changeable at any time

**Value Range:**

0.0% to 2.0%

**Description**

-

**B8-69 Synchronous motor model LowFreqTime**

Address:	0xB845	Effective mode:	-
Min.:	0	Unit:	-
Max.:	100	Data type:	UInt16
Default:	10	Change:	Changeable at any time

**Value Range:**

0 to 100

**Description**

-

**B8-70 Percentage of pole auto-tuning current**

Address:	0xB846	Effective mode:	-
Min.:	50	Unit:	%
Max.:	200	Data type:	UInt16

Default: 100  
**Value Range:**  
 50% to 200%  
**Description**  
 -

Change: Changeable at any time

**B8-71 Percentage of high frequency response current**

Address: 0xB847  
 Min.: 0  
 Max.: 100  
 Default: 25

Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**  
 0% to 100%  
**Description**  
 -

**B8-72 Percentage of HFI and SVC switching frequency**

Address: 0xB848  
 Min.: 0  
 Max.: 30  
 Default: 10

Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**  
 0% to 30%  
**Description**  
 -

**B8-73 Observer parameter**

Address: 0xB849  
 Min.: 10  
 Max.: 200  
 Default: 100

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**  
 10 to 200  
**Description**  
 -

**B8-74 Speed filter cut-off frequency**

Address: 0xB84A  
 Min.: 1  
 Max.: 200  
 Default: 10

Effective mode: -  
 Unit: Hz  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**  
 1 Hz to 200 Hz  
**Description**  
 -

**B8-75 Carrier frequency during NS auto-tuning**

Address: 0xB84B  
 Min.: 2.00  
 Max.: 16.00  
 Default: 8.00

Effective mode: -  
 Unit: Hz  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

2.00 Hz to 16.00 Hz

**Description**

-

**B8-76 Automatic calculation of NS auto-tuning voltage**

Address: 0xB84C

Effective mode: -

Min.: 0

Unit: -

Max.: 1

Data type: UInt16

Default: 1

Change: Changeable at any time

**Value Range:**

0 to 1

**Description**

-

**B8-77 Percentage of NS auto-tuning voltage set manually**

Address: 0xB84D

Effective mode: -

Min.: 0

Unit: %

Max.: 100

Data type: UInt16

Default: 10

Change: Changeable at any time

**Value Range:**

0% to 100%

**Description**

-

**B8-78 Duration of HFI stage 1**

Address: 0xB84E

Effective mode: -

Min.: 50

Unit: ms

Max.: 500

Data type: UInt16

Default: 150

Change: Changeable at any time

**Value Range:**

50 ms to 500 ms

**Description**

-

**B8-80 Speed loop command word**

Address: 0xB850

Effective mode: -

Min.: 0

Unit: -

Max.: 65535

Data type: UInt16

Default: 11

Change: Changeable at any time

**Value Range:**

Bit00: Speed loop  
 0: Disabled  
 1: Enabled  
 Bit01: Integration mode  
 0: Conventional integration  
 1: Position integration  
 Bit02: Acceleration torque  
 0: Disabled  
 1: Enabled  
 Bit03–Bit04: Acceleration source  
 0: Function transfer torque  
 1: Automatic calculation  
 2: Function transfer acceleration  
 Bit05: Anti-load disturbance  
 0: Disabled  
 1: Enabled

**Description**

-

**B8-81 Locked-rotor fast integral cancel coefficient**

Address:	0xB851	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	100.0	Data type:	UInt16
Default:	0.0	Change:	Changeable at any time

**Value Range:**

0.0% to +100.0%

**Description**

-

**B8-82 Integral torque**

Address:	0xB852	Effective mode:	-
Min.:	-100	Unit:	%
Max.:	100.0	Data type:	Int16
Default:	0.0	Change:	Changeable at any time

**Value Range:**

-100% to +100.0%

**Description**

-

**B8-83 Speed controller frequency window size**

Address:	0xB853	Effective mode:	-
Min.:	0.00	Unit:	Hz
Max.:	10.00	Data type:	UInt16
Default:	0.00	Change:	Changeable only at stop

**Value Range:**

0.00 Hz to 10.00 Hz

**Description**

-

<b>B8-84</b>	<b>Current filter time for torque reference</b> Address: 0xB854 Min.: 0.0 Max.: 100.0 Default: 0.0 <b>Value Range:</b> 0.0 ms to 100.0 ms <b>Description</b> -	Effective mode: - Unit: ms Data type: UInt16 Change: Changeable only at stop
<b>B8-85</b>	<b>Acceleration torque</b> Address: 0xB855 Min.: 0 Max.: 8 Default: 0 <b>Value Range:</b> 0: Inactive 1: AI1 2: AI2 3: AI3 4: Pulse reference 5: Communication 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>B8-87</b>	<b>Reference model bandwidth</b> Address: 0xB857 Min.: 0.00 Max.: 300.00 Default: 0.00 <b>Value Range:</b> 0.00 Hz to 300.00 Hz <b>Description</b> -	Effective mode: - Unit: Hz Data type: UInt16 Change: Changeable at any time
<b>B8-88</b>	<b>Torque feedforward coefficient</b> Address: 0xB858 Min.: 0.0 Max.: 1000.0 Default: 100.0 <b>Value Range:</b> 0.0% to 1000.0% <b>Description</b> -	Effective mode: - Unit: % Data type: UInt16 Change: Changeable at any time
<b>B8-89</b>	<b>Vector control reference frequency filter time</b> Address: 0xB859 	Effective mode: -

Min.:	0.0	Unit:	ms
Max.:	100.0	Data type:	UInt16
Default:	0.0	Change:	Changeable only at stop

**Value Range:**  
0.0 ms to 100.0 ms

**Description**

-

**B8-90 Vector control feedback frequency filter time**

Address:	0xB85A	Effective mode:	-
Min.:	0.0	Unit:	ms
Max.:	100.0	Data type:	UInt16
Default:	0.0	Change:	Changeable only at stop

**Value Range:**  
0.0 ms to 100.0 ms

**Description**

-

**B8-91 Load observation bandwidth**

Address:	0xB85B	Effective mode:	-
Min.:	0.00	Unit:	Hz
Max.:	300.00	Data type:	UInt16
Default:	0.00	Change:	Changeable at any time

**Value Range:**  
0.00 Hz to 300.00 Hz

**Description**

-

**B8-92 Load observation coefficient**

Address:	0xB85C	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	1000.0	Data type:	UInt16
Default:	100.0	Change:	Changeable at any time

**Value Range:**  
0.0% to 1000.0%

**Description**

-

**B8-93 Pseudo integral coefficient**

Address:	0xB85D	Effective mode:	-
Min.:	0.000	Unit:	-
Max.:	10.000	Data type:	UInt16
Default:	1.000	Change:	Changeable at any time

**Value Range:**  
0.000 to 10.000

**Description**

-

**B8-94 Torque coefficient enable**

Address:	0xB85E	Effective mode:	-
Min.:	0	Unit:	-
Max.:	1	Data type:	UInt16

Default: 0  
**Value Range:**  
 0: Disabled  
 1: Enabled  
**Description**  
 -

Change: Changeable at any time

**B8-96 Center frequency of notch filter 1**

Address: 0xB860  
 Min.: 0.0  
 Max.: 4000.0  
 Default: 4000.0

**Value Range:**  
 0.0 to 4000.0  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**B8-97 Center frequency of notch filter 2**

Address: 0xB861  
 Min.: 0.0  
 Max.: 4000.0  
 Default: 4000.0

**Value Range:**  
 0.0 to 4000.0  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**B8-98 Integral setting control word**

Address: 0xB862  
 Min.: 0  
 Max.: 1  
 Default: 0

**Value Range:**  
 0: Disabled  
 1: Enabled  
 Others: B connector  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**B8-99 Integral reference source**

Address: 0xB863  
 Min.: 0  
 Max.: 8  
 Default: 0

**Value Range:**

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time



- 0: Digital setting
  - 1: AI1
  - 2: AI2
  - 3: AI3
  - 4: Pulse reference
  - 5: Communication
  - 6: Multi-reference
  - 7: Motor-driven potentiometer
  - 8: PID
  - Others: F connector
- Description**  
-

## 4.33 B9: Motor 2 Vector Control Parameters 2

### B9-00 Externally transferred acceleration

Address:	0xB900	Effective mode:	-
Min.:	0	Unit:	-
Max.:	8	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**  
 0: Inactive  
 1: AI1  
 2: AI2  
 3: AI3  
 4: Pulse reference  
 5: Communication  
 6: Multi-reference  
 7: Motor-driven potentiometer  
 8: PID  
 Others: F connector

**Description**  
-

### B9-03 Overturning torque limiting coefficient

Address:	0xB903	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	400.0	Data type:	UInt16
Default:	100.0	Change:	Changeable at any time

**Value Range:**  
 0.0% to 400.0%

**Description**  
-

### B9-04 Motoring power limiting coefficient

Address:	0xB904	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	400.0	Data type:	UInt16

Default: 400.0  
**Value Range:**  
 0.0% to 400.0%  
**Description**  
 -

Change: Changeable at any time

**B9-05 Generating power limiting coefficient**

Address: 0xB905  
 Min.: 0.0  
 Max.: 400.0  
 Default: 400.0

**Value Range:**  
 0.0% to 400.0%

**Description**  
 -

Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Changeable at any time

**B9-06 Overspeed limiting enable**

Address: 0xB906  
 Min.: 0  
 Max.: 1  
 Default: 1

**Value Range:**  
 0 to 1

**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**B9-07 Sine wave frequency of bandwidth test**

Address: 0xB907  
 Min.: 0  
 Max.: 1000  
 Default: 0

**Value Range:**  
 0 Hz to 1000 Hz

**Description**  
 -

Effective mode: -  
 Unit: Hz  
 Data type: UInt16  
 Change: Changeable at any time

**B9-08 Sine wave amplitude of bandwidth test**

Address: 0xB908  
 Min.: 0  
 Max.: 100  
 Default: 0

**Value Range:**  
 0% to 100%

**Description**  
 -

Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Changeable at any time

**B9-09 Bandwidth test enable**

Address: 0xB909  
 Min.: 0  
 Max.: 4  
 Default: 0

**Value Range:**

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

0 to 4

**Description**

-

**B9-11 Speed loop parameter calculation mode**

Address: 0xB90B

Min.: 0

Max.: 1

Default: 1

**Value Range:**

0: New solution

1: Compatible solution

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**B9-12 Speed loop proportional gain in FVC mode**

Address: 0xB90C

Min.: 0.00

Max.: 100.00

Default: 8.00

**Value Range:**

0.00 Hz to 100.00 Hz

**Description**

-

Effective mode: -

Unit: Hz

Data type: UInt16

Change: Changeable at any time

**B9-13 Speed loop integral time in FVC mode**

Address: 0xB90D

Min.: 0.000

Max.: 20.000

Default: 0.080

**Value Range:**

0.000s to 20.000s

**Description**

-

Effective mode: -

Unit: s

Data type: UInt16

Change: Changeable at any time

**B9-14 Speed loop proportional gain in SVC mode**

Address: 0xB90E

Min.: 0.00

Max.: 100.00

Default: 5.00

**Value Range:**

0.00 Hz to 100.00 Hz

**Description**

-

Effective mode: -

Unit: Hz

Data type: UInt16

Change: Changeable at any time

**B9-15 Speed loop integral time in SVC mode**

Address: 0xB90F

Min.: 0.000

Max.: 20.000

Default: 0.127

**Value Range:**

Effective mode: -

Unit: s

Data type: UInt16

Change: Changeable at any time

0.000s to 20.000s

**Description**

-

**B9-16 Low frequency proportional correction coefficient**

Address: 0xB910

Effective mode: -

Min.: 0.0

Unit: %

Max.: 1000.0

Data type: UInt16

Default: 100.0

Change: Changeable at any time

**Value Range:**

0.0% to 1000.0%

**Description**

-

**B9-17 Low frequency integral correction coefficient**

Address: 0xB911

Effective mode: -

Min.: 0.0

Unit: %

Max.: 1000.0

Data type: UInt16

Default: 100.0

Change: Changeable at any time

**Value Range:**

0.0% to 1000.0%

**Description**

-

**B9-18 Speed loop adaption factor**

Address: 0xB912

Effective mode: -

Min.: 0.000

Unit: -

Max.: 10.000

Data type: UInt16

Default: 0.200

Change: Changeable at any time

**Value Range:**

0.000 to 10.000

**Description**

-

**B9-19 Speed loop adaption switchover lower limit**

Address: 0xB913

Effective mode: -

Min.: 0.000

Unit: -

Max.: 10.000

Data type: UInt16

Default: 0.400

Change: Changeable at any time

**Value Range:**

0.000 to 10.000

**Description**

-

**B9-20 Speed loop adaption switchover upper limit**

Address: 0xB914

Effective mode: -

Min.: 0.000

Unit: -

Max.: 10.000

Data type: UInt16

Default: 1.000

Change: Changeable at any time

**Value Range:**

0.000 to 10.000

**Description**

-

**B9-21 Speed loop adaption correction upper limit**

Address: 0xB915

Min.: 0.0

Max.: 1000.0

Default: 100.0

**Value Range:**

0.0% to 1000.0%

**Description**

-

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable at any time

**B9-22 Speed loop adaption correction lower limit**

Address: 0xB916

Min.: 0.0

Max.: 1000.0

Default: 100.0

**Value Range:**

0.0% to 1000.0%

**Description**

-

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable at any time

**B9-23 Flux adaptation enable**

Address: 0xB917

Min.: 0

Max.: 1

Default: 0

**Value Range:**

0 to 1

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**B9-24 Overspeed controller correction coefficient**

Address: 0xB918

Min.: 0.0

Max.: 1000.0

Default: 100.0

**Value Range:**

0.0% to 1000.0%

**Description**

-

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable at any time

**B9-25 VDC control command word**

Address: 0xB919

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

Bit00: VdcMin  
 0: Disabled  
 1: Enabled  
 Bit01: VdcMax  
 0: Disabled  
 1: Enabled  
 Bit02: Automatic calculation of VDC trigger voltage  
 0: Disabled  
 1: Enabled  
 Bit03: VDC control integral action  
 0: Disabled  
 1: Enabled

**Description**

-

**B9-26****Bus capacitance ratio**

Address: 0xB91A  
 Min.: 50.0  
 Max.: 1000.0  
 Default: 100.0

Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

50.0% to 1000.0%

**Description**

-

**B9-27****Undervoltage suppression exit hysteresis frequency**

Address: 0xB91B  
 Min.: 0.00  
 Max.: 10.00  
 Default: 3.00

Effective mode: -  
 Unit: Hz  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0.00 Hz to 10.00 Hz

**Description**

-

**B9-28****Minimum VDC failure speed threshold**

Address: 0xB91C  
 Min.: 0.00  
 Max.: 20.00  
 Default: 2.00

Effective mode: -  
 Unit: Hz  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0.00 Hz to 20.00 Hz

**Description**

-

**B9-29****Dynamic adjustment coefficient**

Address: 0xB91D  
 Min.: 0.0  
 Max.: 1000.0  
 Default: 100.0

Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0.0% to 1000.0%

**Description**

-

**B9-30 Minimum VDC activation voltage**

Address: 0xB91E

Min.: 320.0

Max.: 540.0

Default: 430.0

**Value Range:**

320.0 V to 540.0 V

**Description**

-

Effective mode: -

Unit: V

Data type: UInt16

Change: Changeable at any time

**B9-31 Maximum VDC activation voltage**

Address: 0xB91F

Min.: 650.0

Max.: 800.0

Default: 770.0

**Value Range:**

650.0 V to 800.0 V

**Description**

-

Effective mode: -

Unit: V

Data type: UInt16

Change: Changeable at any time

**B9-32 Flux linkage control command word**

Address: 0xB920

Min.: 0

Max.: 65535

Default: 2357

**Value Range:**

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

Bit00: Output voltage limit calculation filtering mode

0: Symmetric filtering

1: Asymmetric filtering

Bit01: Asynchronous motor inverse proportion curve calculation

0: The inverse proportional synchronization frequency decreases.

1: The inverse proportional speed decreases.

Bit02: Flux linkage feedforward calculation by using inverse proportional speed

0: Disabled

1: Enabled

Bit03: Reserved

Bit04: Reserved

Bit05: Field weakening adjustment

0: Disabled

1: Enabled

Bit06: Flux linkage derivative feedforward

0: Disabled

1: Enabled

Bit07: Energy conservation control

0: Disabled

1: Enabled

Bit08: Asynchronous motor flux closed loop

0: Disabled

1: Enabled

Bit09: Reserved

Bit10: Reserved

Bit11: Asynchronous motor pre-excitation mode

0: Pre-excitation based on time

1: Pre-excitation based on current

Bit12: Asynchronous motor pre-excitation current

0: Reference current

1: Maximum current allowed by the drive

### Description

Bit00: Output voltage limit calculation filtering mode

0 indicates the usual first-order filtering, and 1 indicates filtering when the bus voltage rises and no filtering when it falls, so as to avoid overmodulation.

Bit01: Asynchronous motor inverse proportion curve calculation

You can select 1 to deliberately lower the break frequency to avoid saturation in the field-weakening range. The setting is valid only when Bit02 is set to 1.

Bit02: Flux linkage feedforward calculation by using inverse proportional speed

If it is set to 1, the inverse proportional speed of flux linkage reference decreases when the output frequency exceeds the break frequency, which can improve dynamic response during acceleration.

Bit05: Field weakening adjustment

When it is set to 1, voltage outer loop adjustment is valid.

Bit07: Energy conservation control

This function is valid for asynchronous motors. It can reduce copper loss at light load in vector control mode.

Bit11: Asynchronous motor pre-excitation mode



0: Pre-excitation is implemented according to the set time. The time will be shorter than the set time if remanence exists.

1: Fixed current is output during the pre-excitation process, and the motor exits the pre-excitation mode when it detects that the flux linkage reaches the setpoint.

Bit12: Asynchronous motor pre-excitation current

0: Pre-excitation is implemented based on the current defined by AB-51.

1: Pre-excitation is implemented based on the maximum current allowed by the drive, which can shorten the pre-excitation time.

**B9-33 Output voltage upper limit margin for field weakening adjustment**

Address:	0xB921	Effective mode:	-
Min.:	1	Unit:	%
Max.:	50	Data type:	UInt16
Default:	5	Change:	Changeable at any time

**Value Range:**

1% to 50%

**Description**

Decreasing the setpoint can improve voltage utilization. The current is smaller under the same load in the field weakening region. However, an excessively small setpoint will affect dynamic performance.

**B9-34 Output voltage upper limit margin for auto adjustment of field weakening**

Address:	0xB922	Effective mode:	-
Min.:	1	Unit:	%
Max.:	20	Data type:	UInt16
Default:	3	Change:	Changeable at any time

**Value Range:**

1% to 20%

**Description**

When F2-18 is set to 2 (calculation+auto adjustment), the value of this parameter affects the voltage margin, and the effect is similar to that of AB-33.

**B9-35 Filter time for calculating maximum output voltage**

Address:	0xB923	Effective mode:	-
Min.:	0	Unit:	ms
Max.:	3000	Data type:	UInt16
Default:	30	Change:	Changeable at any time

**Value Range:**

0 ms to 3000 ms

**Description**

Increasing the filter time allows the maximum output voltage to change slowly but affects voltage utilization.

**B9-36 Rated flux adjustment coefficient for calculation**

Address:	0xB924	Effective mode:	-
Min.:	0.5	Unit:	-
Max.:	2.0	Data type:	UInt16
Default:	1.0	Change:	Changeable at any time

**Value Range:**

0.5 to 2.0

**Description**

You can decrease the value of this parameter if underexcitation is required, or increase it if overexcitation is required.

**B9-37 Field weakening frequency adjustment coefficient for calculation**

Address:	0xB925	Effective mode:	-
Min.:	0.8	Unit:	-
Max.:	1.2	Data type:	UInt16
Default:	1.0	Change:	Changeable at any time

**Value Range:**

0.8 to 1.2

**Description**

This parameter is used to adjust the break frequency calculated automatically by the AC drive. After flux linkage feedforward calculation by using inverse proportional speed is enabled, decreasing the value of this parameter enables the motor to enter the field weakening state in advance, which is applicable to occasions with short acceleration time and high dynamic response requirements.

**B9-38 Slip filter time for calculating field weakening frequency**

Address:	0xB926	Effective mode:	-
Min.:	0	Unit:	ms
Max.:	3000	Data type:	UInt16
Default:	62	Change:	Changeable at any time

**Value Range:**

0 ms to 3000 ms

**Description**

When flux linkage feedforward calculation by using inverse proportional speed is enabled, increasing the value of this parameter can reduce the fluctuation range of the calculated reference flux linkage.

**B9-39 Feedback speed filtering**

Address:	0xB927	Effective mode:	-
Min.:	0	Unit:	ms
Max.:	8000	Data type:	UInt16
Default:	50	Change:	Changeable at any time

**Value Range:**

0 ms to 8000 ms

**Description**

When flux linkage feedforward calculation by using inverse proportional speed is enabled, increasing the value of this parameter can reduce the disturbance to the calculated flux linkage feedforward introduced by speed test.

**B9-40 Flux linkage rising filter time**

Address:	0xB928	Effective mode:	-
Min.:	0	Unit:	ms
Max.:	8000	Data type:	UInt16
Default:	20	Change:	Changeable at any time

**Value Range:**

0 ms to 8000 ms

**Description**

When flux linkage feedforward calculation by using inverse proportional speed is enabled, this parameter defines the filter time of the asymmetric filter that takes effect only when the reference flux linkage increases.

**B9-42 Feedback voltage filter time**

Address:	0xB92A	Effective mode:	-
Min.:	0	Unit:	ms
Max.:	3000	Data type:	UInt16
Default:	5	Change:	Changeable at any time

**Value Range:**

0 ms to 3000 ms

**Description**

When field weakening adjustment is enabled, increasing this filter time can reduce the fluctuation of the reference excitation current. To increase the field weakening gain, you need to decrease the filter time to avoid system oscillation.

**B9-43 Maximum demagnetization current of synchronous motor**

Address:	0xB92B	Effective mode:	-
Min.:	0	Unit:	%
Max.:	500	Data type:	UInt16
Default:	300	Change:	Changeable at any time

**Value Range:**

0% to 500%

**Description**

This parameter is used to limit the demagnetization current of synchronous motors to prevent faults such as overload. It is a percentage relative to the rated current.

**B9-44 Voltage outer loop lower limit coefficient**

Address:	0xB92C	Effective mode:	-
Min.:	0	Unit:	-
Max.:	500	Data type:	UInt16
Default:	50	Change:	Changeable at any time

**Value Range:**

0 to 500

**Description**

This parameter is used to limit the lower limit of flux linkage during field weakening for asynchronous motors to avoid limiting torque reduction.

**B9-45 Flux linkage derivative feedforward coefficient**

Address:	0xB92D	Effective mode:	-
Min.:	0.0	Unit:	-
Max.:	1.5	Data type:	UInt16
Default:	1.0	Change:	Changeable at any time

**Value Range:**

0.0 to 1.5

**Description**

When flux linkage derivative feedforward of an asynchronous motor is enabled, this parameter can adjust the ratio of effective feedforward. A smaller value indicates smaller feedforward effect.

**B9-46 Flux linkage derivative feedforward filter time**

Address:	0xB92E	Effective mode:	-
Min.:	0	Unit:	ms
Max.:	3000	Data type:	UInt16
Default:	6	Change:	Changeable at any time

**Value Range:**

0 ms to 3000 ms

**Description**

Increasing the filter time can reduce the fluctuation of the calculated feedforward value.

**B9-47 Torque current rising filter time under energy conservation control**

Address:	0xB92F	Effective mode:	-
Min.:	0	Unit:	ms
Max.:	3000	Data type:	UInt16
Default:	50	Change:	Changeable at any time

**Value Range:**

0 ms to 3000 ms

**Description**

When energy conservation control of an asynchronous motor is enabled, decreasing the value of this parameter can improve dynamic response and avoid a large drop in speed when a sudden load is applied. You need to increase this value when the output current fluctuates greatly.

**B9-48 Torque current falling filter time under energy conservation control**

Address:	0xB930	Effective mode:	-
Min.:	0	Unit:	ms
Max.:	3000	Data type:	UInt16
Default:	100	Change:	Changeable at any time

**Value Range:**

0 ms to 3000 ms

**Description**

When energy conservation control of an asynchronous motor is enabled, decreasing the value of this parameter can make the output current decrease rapidly after the load is reduced. You need to increase this value when the output current fluctuates greatly.

**B9-49 Flux linkage lower limit coefficient under energy conservation control**

Address:	0xB931	Effective mode:	-
Min.:	0.00	Unit:	-
Max.:	0.50	Data type:	UInt16
Default:	0.10	Change:	Changeable at any time

**Value Range:**

0.00 to 0.50

**Description**

This parameter defines the minimum flux linkage allowed under energy conservation control. A smaller value indicates more significant energy conservation effect when no load is applied, but it will affect dynamic response after the load is added.

**B9-51 Pre-excitation current**

Address:	0xB933	Effective mode:	-
Min.:	1	Unit:	%
Max.:	200	Data type:	UInt16
Default:	100	Change:	Changeable at any time

**Value Range:**

1% to 200%

**Description**

When pre-excitation of an asynchronous motor is implemented based on current, this parameter defines the reference excitation current as a percentage of the rated current.

**B9-52 Pre-excitation time**

Address:	0xB934	Effective mode:	-
Min.:	1	Unit:	ms
Max.:	30000	Data type:	UInt16
Default:	1000	Change:	Changeable at any time

**Value Range:**  
1 ms to 30000 ms

**Description**

When pre-excitation of an asynchronous motor is implemented based on time, this parameter defines the total excitation time. The actual excitation time will be shorter than the set time if remanence exists.

**B9-53 Flux linkage closed-loop bandwidth frequency**

Address:	0xB935	Effective mode:	-
Min.:	0.0	Unit:	Hz
Max.:	100.0	Data type:	UInt16
Default:	2.0	Change:	Changeable at any time

**Value Range:**  
0.0 Hz to 100.0 Hz

**Description**

When flux closed loop is enabled, increasing the setpoint can reduce the deviation of the flux linkage from the rated value during dynamic processes such as sudden load or acceleration and deceleration of the asynchronous motor.

**B9-54 Feedback flux linkage filter time coefficient**

Address:	0xB936	Effective mode:	-
Min.:	0	Unit:	-
Max.:	200	Data type:	UInt16
Default:	4	Change:	Changeable at any time

**Value Range:**  
0 to 200

**Description**

When flux closed loop is enabled, increasing the setpoint can reduce fluctuation of the reference flux linkage. It is a percentage relative to the rotor time constant.

**B9-55 Static output flux linkage filter time**

Address:	0xB937	Effective mode:	-
Min.:	0	Unit:	ms
Max.:	5000	Data type:	UInt16
Default:	10	Change:	Changeable at any time

**Value Range:**  
0 ms to 5000 ms

**Description**

Increasing the setpoint can reduce fluctuation of the reference flux linkage.

**B9-56 Current loop mode**

Address:	0xB938	Effective mode:	-
Min.:	0	Unit:	-
Max.:	3	Data type:	UInt16
Default:	1	Change:	Changeable only at stop

**Value Range:**

- 0: ImCsr2 mode
- 1: Complex vector mode
- 2: 880 mode
- 3: No field weakening

**Description**

Decreasing the value of this parameter can enhance current loop following but also increase the overshoot and harmonics of the output current.

**B9-57 PI regulator proportional gain adaptation with load**

Address:	0xB939	Effective mode:	-
Min.:	0	Unit:	-
Max.:	1	Data type:	UInt16
Default:	0	Change:	Changeable only at stop

**Value Range:**

0 to 1

**Description**

-

**B9-58 Current loop damping**

Address:	0xB93A	Effective mode:	-
Min.:	0.2	Unit:	-
Max.:	5.0	Data type:	UInt16
Default:	0.8	Change:	Changeable at any time

**Value Range:**

0.2 to 5.0

**Description**

Decreasing the value of this parameter can enhance current loop following but also increase the overshoot and harmonics of the output current.

**B9-59 Low-speed current loop Kp adjustment**

Address:	0xB93B	Effective mode:	-
Min.:	0.1	Unit:	-
Max.:	10.0	Data type:	UInt16
Default:	1.0	Change:	Changeable at any time

**Value Range:**

0.1 to 10.0

**Description**

The AC drive automatically calculates the current loop gain based on motor parameters. You can decrease the value of this parameter as appropriate when low-speed current oscillation or torque fluctuation is large.

**B9-60 High-speed current loop Kp adjustment**

Address:	0xB93C	Effective mode:	-
Min.:	0.1	Unit:	-
Max.:	10.0	Data type:	UInt16
Default:	1.0	Change:	Changeable at any time

**Value Range:**

0.1 to 10.0

**Description**

The AC drive automatically calculates the current loop gain based on motor parameters. You can decrease the value of this parameter as appropriate when low-speed current oscillation or torque fluctuation is large.

**B9-61 Low-speed current loop Ki adjustment**

Address:	0xB93D	Effective mode:	-
Min.:	0.1	Unit:	-
Max.:	10.0	Data type:	UInt16
Default:	1.0	Change:	Changeable at any time

**Value Range:**

0.1 to 10.0

**Description**

The AC drive automatically calculates the current loop gain based on motor parameters. You can decrease the value of this parameter as appropriate when low-speed current oscillation or torque fluctuation is large.

**B9-62 High-speed current loop Ki adjustment**

Address:	0xB93E	Effective mode:	-
Min.:	0.1	Unit:	-
Max.:	10.0	Data type:	UInt16
Default:	2.0	Change:	Changeable at any time

**Value Range:**

0.1 to 10.0

**Description**

The AC drive automatically calculates the current loop gain based on motor parameters. You can decrease the value of this parameter as appropriate when low-speed current oscillation or torque fluctuation is large.

**B9-63 D-axis current loop complex vector adjustment**

Address:	0xB93F	Effective mode:	-
Min.:	0.1	Unit:	-
Max.:	10.0	Data type:	UInt16
Default:	1.0	Change:	Changeable at any time

**Value Range:**

0.1 to 10.0

**Description**

-

**B9-64 Q-axis current loop complex vector adjustment**

Address:	0xB940	Effective mode:	-
Min.:	0.1	Unit:	-
Max.:	10.0	Data type:	UInt16
Default:	1.0	Change:	Changeable at any time

**Value Range:**

0.1 to 10.0

**Description**

-

**B9-65 Complex vector hysteresis frequency lower limit as a percentage of rated frequency**

Address:	0xB941	Effective mode:	-
----------	--------	-----------------	---

Min.:	0	Unit:	%
Max.:	B9-66	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0% to B9-66

**Description**

-

**B9-66 Complex vector hysteresis frequency upper limit as a percentage of rated frequency**

Address:	0xB942	Effective mode:	-
Min.:	B9-65	Unit:	%
Max.:	150	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

B9-65 to 150%

**Description**

-

**B9-67 ImCsr2 hysteresis switchover voltage upper limit as a percentage of saturation voltage**

Address:	0xB943	Effective mode:	-
Min.:	B9-68	Unit:	%
Max.:	95	Data type:	UInt16
Default:	89	Change:	Changeable at any time

**Value Range:**

B9-68 to 95%

**Description**

-

**B9-68 ImCsr2 hysteresis switchover voltage lower limit as a percentage of saturation voltage**

Address:	0xB944	Effective mode:	-
Min.:	60	Unit:	%
Max.:	B9-67	Data type:	UInt16
Default:	79	Change:	Changeable at any time

**Value Range:**

60% to B9-67

**Description**

-

**B9-69 ImCsr2 hysteresis switchover frequency hysteresis range as a percentage of rated frequency**

Address:	0xB945	Effective mode:	-
Min.:	1	Unit:	%
Max.:	30	Data type:	UInt16
Default:	10	Change:	Changeable at any time

**Value Range:**

1% to 30%

**Description**

-

**B9-70 ImCsr2 hysteresis switchover frequency lower limit (below which the hysteresis condition does not take effect) as a percentage of the rated frequency**

Address:	0xB946	Effective mode:	-
----------	--------	-----------------	---



Min.:	40	Unit:	%
Max.:	80	Data type:	UInt16
Default:	60	Change:	Changeable at any time
<b>Value Range:</b>			
40% to 80%			
<b>Description</b>			
-			

**B9-71 ImCsr2 current loop Kss adjustment**

Address:	0xB947	Effective mode:	-
Min.:	0.1	Unit:	-
Max.:	10.0	Data type:	UInt16
Default:	1.0	Change:	Changeable at any time
<b>Value Range:</b>			
0.1 to 10.0			
<b>Description</b>			
-			

**B9-72 Proportional gain adjustment coefficient corresponding to the maximum torque when proportional gain is adjusted with load**

Address:	0xB948	Effective mode:	-
Min.:	0.1	Unit:	-
Max.:	1.0	Data type:	UInt16
Default:	0.5	Change:	Changeable at any time
<b>Value Range:</b>			
0.1 to 1.0			
<b>Description</b>			
-			

**B9-73 Torque upper limit setpoint as a percentage of rated torque when proportional gain is adjusted with load**

Address:	0xB949	Effective mode:	-
Min.:	B9-74	Unit:	%
Max.:	300	Data type:	UInt16
Default:	200	Change:	Changeable at any time
<b>Value Range:</b>			
B9-74 to 300%			
<b>Description</b>			
-			

**B9-74 Torque lower limit setpoint as a percentage of rated torque when proportional gain is adjusted with load**

Address:	0xB94A	Effective mode:	-
Min.:	10	Unit:	%
Max.:	B9-73	Data type:	UInt16
Default:	100	Change:	Changeable at any time
<b>Value Range:</b>			
10% to B9-73			
<b>Description</b>			
-			

**B9-75 Derivative feedforward adjustment**

Address: 0xB94B Effective mode: -  
Min.: 0.0 Unit: -  
Max.: 1.0 Data type: UInt16  
Default: 0.0 Change: Changeable at any time

**Value Range:**

0.0 to 1.0

**Description**

-

**B9-76 Decoupling control start frequency as a percentage of rated frequency**

Address: 0xB94C Effective mode: -  
Min.: 20 Unit: %  
Max.: 150 Data type: UInt16  
Default: 40 Change: Changeable at any time

**Value Range:**

20% to 150%

**Description**

-

**B9-77 Decoupling control filter time adjustment coefficient**

Address: 0xB94D Effective mode: -  
Min.: 0.1 Unit: -  
Max.: 3.0 Data type: UInt16  
Default: 1.0 Change: Changeable at any time

**Value Range:**

0.1 to 3.0

**Description**

-

**B9-78 Decoupling control output adjustment coefficient**

Address: 0xB94E Effective mode: -  
Min.: 0.0 Unit: -  
Max.: 1.0 Data type: UInt16  
Default: 1.0 Change: Changeable at any time

**Value Range:**

0.0 to 1.0

**Description**

-

**B9-79 CPC feedforward enable**

Address: 0xB94F Effective mode: -  
Min.: 0 Unit: -  
Max.: 1 Data type: UInt16  
Default: 0 Change: Changeable at any time

**Value Range:**

0: Disabled

1: Enabled

**Description**

-

**B9-80 Current loop auxiliary command word**

Address:	0xB950	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

Bit00: Complex vector angle limiting

0: Disabled

1: Enabled

Bit01: Voltage angle limiting

0: Program internal limiting

1: Parameter setting

Bit02: 0 by default

0: No lower limit on the excitation current is imposed during the dynamic process.

1: A lower limit on the excitation current is imposed during the dynamic process in ImCsr2 mode.

Bit03–Bit15: Reserved (0 by default)

**Description**

-

**B9-81 Voltage angle upper limit**

Address:	0xB951	Effective mode:	-
Min.:	90	Unit:	°
Max.:	180	Data type:	UInt16
Default:	150	Change:	Changeable at any time

**Value Range:**

90° to 180°

**Description**

-

**B9-82 Voltage angle lower limit**

Address:	0xB952	Effective mode:	-
Min.:	0	Unit:	°
Max.:	90	Data type:	UInt16
Default:	30	Change:	Changeable at any time

**Value Range:**

0° to 90°

**Description**

-

**B9-83 Asynchronous motor D axis integral limit**

Address:	0xB953	Effective mode:	-
Min.:	0.500	Unit:	-
Max.:	1.000	Data type:	UInt16
Default:	0.707	Change:	Changeable at any time

**Value Range:**

0.500 to 1.000

**Description**

-

<b>B9-84</b>	<b>Current loop carrier frequency upper limit</b> Address: 0xB954 Min.: 5.0 Max.: 16.0 Default: 8.0 <b>Value Range:</b> 5.0 to 16.0 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>B9-85</b>	<b>Droop enable</b> Address: 0xB955 Min.: 0 Max.: 1 Default: 0 <b>Value Range:</b> 0 to 1 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable only at stop
<b>B9-86</b>	<b>Droop source</b> Address: 0xB956 Min.: 0 Max.: 3 Default: 1 <b>Value Range:</b> 0: Line current 1: Torque reference 2: Speed adjustment output 3: Speed adjustment integral component <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable only at stop
<b>B9-87</b>	<b>Frequency reference droop coefficient</b> Address: 0xB957 Min.: 0.0 Max.: 50.0 Default: 0.0 <b>Value Range:</b> 0.0% to 50.0% <b>Description</b> -	Effective mode: - Unit: % Data type: UInt16 Change: Changeable at any time
<b>B9-88</b>	<b>FVC-SVC switchover mode</b> Address: 0xB958 Min.: 0 Max.: 3 Default: 0 <b>Value Range:</b>	Effective mode: - Unit: - Data type: UInt16 Change: Changeable only at stop

0: No switchover

1: Active switchover

2: Passive switchover (The AC drive switches to SVC mode upon detection of encoder wire breakage, and it switches back to FVC mode when the encoder recovers during stop and does not switch back to FVC mode when the encoder recovers during running.)

3: Passive switchover (The AC drive switches to SVC mode upon detection of encoder wire breakage, and it switches back to FVC mode when the encoder recovers during running or stop.)

**Description**

-

**B9-89 FVC-SVC switchover frequency**

Address: 0xB959

Min.: 10

Max.: 500

Default: 50

**Value Range:**

10% to 500%

**Description**

-

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable only at stop

**B9-90 FVC-SVC switchover hysteresis**

Address: 0xB95A

Min.: 10

Max.: 100

Default: 10

**Value Range:**

10% to 100%

**Description**

-

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable only at stop

## 4.34 BA: Motor 3 Nameplate and Learning Parameters

**BA-00 Motor type**

Address: 0xBA00

Min.: 0

Max.: 2

Default: 0

**Value Range:**

0: Common asynchronous motor

1: Variable frequency asynchronous motor

2: Permanent magnet synchronous motor

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**BA-01 Rated motor power**

Address: 0xBA01

Min.: 0.1

Max.: 1000.0

Default: 3.7

Effective mode: -

Unit: kW

Data type: UInt16

Change: Changeable only at stop

**Value Range:**

0.1 kW to 1000.0 kW

**Description**

-

**BA-02****Rated motor voltage**

Address: 0xBA02

Min.: 1

Max.: 2000

Default: 380

**Value Range:**

1 V to 2000 V

**Description**

-

Effective mode: -

Unit: V

Data type: UInt16

Change: Changeable only at stop

**BA-03****Rated motor current**

Address: 0xBA03

Min.: 0.01

Max.: 655.35

Default: 9.00

**Value Range:**

0.01 A to 655.35 A

**Description**

-

Effective mode: -

Unit: A

Data type: UInt16

Change: Changeable only at stop

**BA-04****Rated motor frequency**

Address: 0xBA04

Min.: 0.01

Max.: F0-10

Default: 50.00

**Value Range:**

0.01 Hz to F0-10

**Description**

-

Effective mode: -

Unit: Hz

Data type: UInt16

Change: Changeable only at stop

**BA-05****Rated motor speed**

Address: 0xBA05

Min.: 1

Max.: 65535

Default: 1460

**Value Range:**

1 RPM to 65535 RPM

**Description**

-

Effective mode: -

Unit: RPM

Data type: UInt16

Change: Changeable only at stop

**BA-06****Number of parallel motors**

Address: 0xBA06

Min.: 1

Max.: 200

Default: 1

**Value Range:**

1 to 200

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**Description**

-

**BA-07**

**Motor information command word**

Address:	0xBA07	Effective mode:	-
Min.:	0x0	Unit:	-
Max.:	0xFFFF	Data type:	UInt16
Default:	0x3	Change:	Changeable only at stop

**Value Range:**

Bit00: Mutual inductance curve  
 0: Disabled  
 1: Enabled

Bit01: D- and Q-axis inductance curve  
 0: Disabled  
 1: Enabled

Bit02: Rotor resistance online auto-tuning  
 0: Disabled  
 1: Enabled

Bit03: Rotor resistance online auto-tuning method  
 0: Amplitude  
 1: Phase

Bit04: Motor thermal model  
 0: Disabled  
 1: Enabled

Bit05: Temperature source of motor thermal model  
 0: Estimated temperature  
 1: Temperature detected by sensor

Bit06: Torque coefficient calculation of asynchronous motor  
 0: Torque formula  
 1: Current distribution

Bit07: Torque coefficient calculation of synchronous motor  
 0: Torque formula  
 1: Torque matching the rated torque

Bit08: Zero speed friction torque calculation  
 0: Torque linearly decreasing to zero  
 1: Torque to maintain minimum speed

Bit09: Calculation of model parameters based on nameplate parameters  
 0: Disabled  
 1: Enabled

Bit10: Confirmation of calculating model parameters based on nameplate parameters  
 0: Default  
 1: Confirm

**Description**

-

**BA-08**

**Number of motor pole pairs**

Address:	0xBA08	Effective mode:	-
Min.:	0	Unit:	-

Max.: 64  
 Default: 0

Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**  
 0 to 64

**Description**  
 -

**BA-09 Motor power factor**

Address: 0xBA09  
 Min.: 0.600  
 Max.: 1.000  
 Default: 0.860

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**  
 0.600 to 1.000

**Description**  
 -

**BA-10 Encoder PPR**

Address: 0xBA0A  
 Min.: 1  
 Max.: 65535  
 Default: 1024

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**  
 1 to 65535

**Description**  
 -

**BA-11 Encoder type**

Address: 0xBA0B  
 Min.: 0  
 Max.: 3  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**

0: ABZ incremental encoder  
 1: 23-bit encoder  
 2: Resolver  
 3: External input

**Description**  
 -

**BA-12 Speed feedback PG card**

Address: 0xBA0C  
 Min.: 0  
 Max.: 1  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**

0: Local PG card  
 1: Extension PG card

**Description**  
 -



**BA-13 Number of resolver pole pairs**

Address: 0xBA0D  
 Min.: 1  
 Max.: 65535  
 Default: 1

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**  
 1 to 65535

**Description**  
 -

**BA-15 Speed feedback PG wire breakage detection time**

Address: 0xBA0F  
 Min.: 0.0  
 Max.: 10.0  
 Default: 0.0

Effective mode: -  
 Unit: s  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**  
 0.0s to 10.0s

**Description**  
 -

**BA-16 A/B phase sequence of encoder**

Address: 0xBA10  
 Min.: 0  
 Max.: 1  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**  
 0: Forward  
 1: Reverse

**Description**  
 -

**BA-17 Encoder installation angle**

Address: 0xBA11  
 Min.: 0.0  
 Max.: 359.9  
 Default: 0.0

Effective mode: -  
 Unit: °  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**  
 0.0° to 359.9°

**Description**  
 -

**BA-18 Expansion card**

Address: 0xBA12  
 Min.: 1  
 Max.: 2  
 Default: 1

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**  
 1: Expansion card 1  
 2: Expansion card 2

**Description**  
 -

<b>BA-19</b>	<b>ABZ encoder speed measurement mode at low speed</b>	Address: 0xBA13	Effective mode: -
		Min.: 0	Unit: -
		Max.: 2	Data type: UInt16
		Default: 2	Change: Changeable only at stop
	<b>Value Range:</b>		
	0: Maintain		
	1: Attenuate		
	2: Optimized solution		
	<b>Description</b>		
	-		
<b>BA-20</b>	<b>Encoder speed measurement filter time constant</b>	Address: 0xBA14	Effective mode: -
		Min.: 0.000	Unit: s
		Max.: 10.000	Data type: UInt16
		Default: 0.004	Change: Changeable at any time
	<b>Value Range:</b>		
	0.000s to 10.000s		
	<b>Description</b>		
	-		
<b>BA-21</b>	<b>Encoder wire breakage software detection coefficient</b>	Address: 0xBA15	Effective mode: -
		Min.: 0.000	Unit: -
		Max.: 8.000	Data type: UInt16
		Default: 1.000	Change: Changeable at any time
	<b>Value Range:</b>		
	0.000 to 8.000		
	<b>Description</b>		
	-		
<b>BA-22</b>	<b>Encoder control word</b>	Address: 0xBA16	Effective mode: -
		Min.: 0	Unit: -
		Max.: 65535	Data type: UInt16
		Default: 0	Change: Changeable only at stop
	<b>Value Range:</b>		
	Bit00: Speed measurement		
	0: Disabled		
	1: Enabled		
	Bit01: Software detection of wire breakage		
	0: Disabled		
	1: Enabled		
	Bit02: Glitch removal		
	0: Disabled		
	1: Enabled		
	Bit03: ABZ encoder speed measurement mode		
	0: Quadruplicated frequency		
	1: Single pulse		

**Description**

-

**BA-23 Speed measurement exception count threshold**

Address:	0xBA17	Effective mode:	-
Min.:	1	Unit:	-
Max.:	100	Data type:	UInt16
Default:	10	Change:	Changeable only at stop

**Value Range:**

1 to 100

**Description**

-

**BA-24 Motor gear ratio (numerator)**

Address:	0xBA18	Effective mode:	-
Min.:	1	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	1	Change:	Changeable only at stop

**Value Range:**

1 to 65535

**Description**

-

**BA-25 Motor gear ratio (denominator)**

Address:	0xBA19	Effective mode:	-
Min.:	1	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	1	Change:	Changeable only at stop

**Value Range:**

1 to 65535

**Description**

-

**BA-26 External input source of encoder**

Address:	0xBA1A	Effective mode:	-
Min.:	0	Unit:	-
Max.:	8	Data type:	UInt16
Default:	0	Change:	Unchangeable

**Value Range:**

0: 0

1: AI1

2: AI2

3: AI3

4: Pulse reference

5: Communication

6: Multi-reference

7: Motor-driven potentiometer

8: PID

Others: F connector

**Description**

-

<b>BA-29</b>	<b>Auto-tuning</b>	Address: 0xBA1D	Effective mode: -
		Min.: 0	Unit: -
		Max.: 13	Data type: UInt16
		Default: 0	Change: Changeable only at stop
	<b>Value Range:</b>		
	0: No operation		
	1: Static auto-tuning on partial parameters of asynchronous motor		
	2: Dynamic auto-tuning on asynchronous motor		
	3: Static auto-tuning on all parameters of asynchronous motor		
	4: Inertia auto-tuning		
	5: Deadzone auto-tuning		
	11: With-load auto-tuning on synchronous motor (excluding back EMF)		
	12: No-load dynamic auto-tuning on synchronous motor		
	13: Static auto-tuning on all parameters of synchronous motor (excluding zero point angle)		
	<b>Description</b>		
	-		
<b>BA-30</b>	<b>Asynchronous motor stator resistance</b>	Address: 0xBA1E	Effective mode: -
		Min.: 0.001	Unit: $\Omega$
		Max.: 65.535	Data type: UInt16
		Default: 1.204	Change: Changeable only at stop
	<b>Value Range:</b>		
	0.001 $\Omega$ to 65.535 $\Omega$		
	<b>Description</b>		
	-		
<b>BA-31</b>	<b>Asynchronous motor rotor resistance</b>	Address: 0xBA1F	Effective mode: -
		Min.: 0.001	Unit: $\Omega$
		Max.: 65.535	Data type: UInt16
		Default: 0.908	Change: Changeable only at stop
	<b>Value Range:</b>		
	0.001 $\Omega$ to 65.535 $\Omega$		
	<b>Description</b>		
	-		
<b>BA-32</b>	<b>Asynchronous motor leakage inductance</b>	Address: 0xBA20	Effective mode: -
		Min.: 0.01	Unit: mH
		Max.: 655.35	Data type: UInt16
		Default: 5.28	Change: Changeable only at stop
	<b>Value Range:</b>		
	0.01 mH to 655.35 mH		
	<b>Description</b>		
	-		
<b>BA-33</b>	<b>Asynchronous motor mutual inductance</b>	Address: 0xBA21	Effective mode: -
		Min.: 0.1	Unit: mH

Max.: 6553.5  
 Default: 156.8  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**  
 0.1 mH to 6553.5 mH

**Description**

-

**BA-34 Asynchronous motor no-load current**

Address: 0xBA22  
 Min.: 0.01  
 Max.: BA-03  
 Default: 4.20  
 Effective mode: -  
 Unit: A  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**

0.01 A to BA-03

**Description**

-

**BA-35 Synchronous motor stator resistance**

Address: 0xBA23  
 Min.: 0.001  
 Max.: 65.535  
 Default: 1.204  
 Effective mode: -  
 Unit: Ω  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**

0.001 Ω to 65.535 Ω

**Description**

-

**BA-36 Synchronous motor D axis inductance**

Address: 0xBA24  
 Min.: 0.01  
 Max.: 655.35  
 Default: 5.28  
 Effective mode: -  
 Unit: mH  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**

0.01 mH to 655.35 mH

**Description**

-

**BA-37 Synchronous motor Q axis inductance**

Address: 0xBA25  
 Min.: 0.01  
 Max.: 655.35  
 Default: 5.28  
 Effective mode: -  
 Unit: mH  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**

0.01 mH to 655.35 mH

**Description**

-

**BA-39 Synchronous motor back EMF coefficient**

Address: 0xBA27  
 Min.: 0.0  
 Max.: 6553.5  
 Default: 300.0  
 Effective mode: -  
 Unit: V  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**

0.0 V to 6553.5 V

**Description**

-

**BA-40****Stator leakage inductance**

Address: 0xBA28

Min.: 0.000

Max.: 65.535

Default: 6.540

Effective mode: -

Unit: mH

Data type: UInt16

Change: Changeable only at stop

**Value Range:**

0.000 mH to 65.535 mH

**Description**

-

**BA-41****Electromechanical time constant**

Address: 0xBA29

Min.: 1

Max.: 65535

Default: 100

Effective mode: -

Unit: ms

Data type: UInt16

Change: Unchangeable

**Value Range:**

1 ms to 65535 ms

**Description**

-

**BA-42****Inertia ratio**

Address: 0xBA2A

Min.: 0.0

Max.: 6553.5

Default: 120.0

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable only at stop

**Value Range:**

0.0% to 6553.5%

**Description**

-

**BA-43****Friction torque**

Address: 0xBA2B

Min.: 0.0

Max.: 6553.5

Default: 2.0

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable only at stop

**Value Range:**

0.0% to 6553.5%

**Description**

-

**BA-44****Excitation current coefficient 1 of mutual inductance curve (rated)**

Address: 0xBA2C

Min.: 5.0

Max.: 100.0

Default: 50.0

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable only at stop

**Value Range:**

5.0% to 100.0%

**Description**

-

**BA-45 Excitation current coefficient 2 of mutual inductance curve (rated)**

Address:	0xBA2D	Effective mode:	-
Min.:	5.0	Unit:	%
Max.:	100.0	Data type:	UInt16
Default:	75.0	Change:	Changeable only at stop

**Value Range:**

5.0% to 100.0%

**Description**

-

**BA-46 Excitation current coefficient 3 of mutual inductance curve**

Address:	0xBA2E	Effective mode:	-
Min.:	100.0	Unit:	%
Max.:	800.0	Data type:	UInt16
Default:	150.0	Change:	Changeable only at stop

**Value Range:**

100.0% to 800.0%

**Description**

-

**BA-47 Excitation current coefficient 4 of mutual inductance curve**

Address:	0xBA2F	Effective mode:	-
Min.:	100.0	Unit:	%
Max.:	800.0	Data type:	UInt16
Default:	210.0	Change:	Changeable only at stop

**Value Range:**

100.0% to 800.0%

**Description**

-

**BA-48 Flux coefficient 1 of mutual inductance curve (rated)**

Address:	0xBA30	Effective mode:	-
Min.:	10.0	Unit:	%
Max.:	100.0	Data type:	UInt16
Default:	50.0	Change:	Changeable only at stop

**Value Range:**

10.0% to 100.0%

**Description**

-

**BA-49 Flux coefficient 2 of mutual inductance curve (rated)**

Address:	0xBA31	Effective mode:	-
Min.:	10.0	Unit:	%
Max.:	100.0	Data type:	UInt16
Default:	85.0	Change:	Changeable only at stop

**Value Range:**

10.0% to 100.0%

**Description**

-

<b>BA-50</b>	<b>Flux coefficient 3 of mutual inductance curve</b> Address: 0xBA32 Min.: 100.0 Max.: 300.0 Default: 115.0 <b>Value Range:</b> 100.0% to 300.0% <b>Description</b> -	Effective mode: - Unit: % Data type: UInt16 Change: Changeable only at stop
<b>BA-51</b>	<b>Flux coefficient 4 of mutual inductance curve</b> Address: 0xBA33 Min.: 100.0 Max.: 300.0 Default: 125.0 <b>Value Range:</b> 100.0% to 300.0% <b>Description</b> -	Effective mode: - Unit: % Data type: UInt16 Change: Changeable only at stop
<b>BA-52</b>	<b>Speed point 1 of friction curve</b> Address: 0xBA34 Min.: 0 Max.: 30000 Default: 15 <b>Value Range:</b> 0 RPM to 30000 RPM <b>Description</b> -	Effective mode: - Unit: RPM Data type: UInt16 Change: Changeable only at stop
<b>BA-53</b>	<b>Speed point 2 of friction curve</b> Address: 0xBA35 Min.: 0 Max.: 30000 Default: 30 <b>Value Range:</b> 0 RPM to 30000 RPM <b>Description</b> -	Effective mode: - Unit: RPM Data type: UInt16 Change: Changeable only at stop
<b>BA-54</b>	<b>Speed point 3 of friction curve</b> Address: 0xBA36 Min.: 0 Max.: 30000 Default: 60 <b>Value Range:</b> 0 RPM to 30000 RPM <b>Description</b> -	Effective mode: - Unit: RPM Data type: UInt16 Change: Changeable only at stop
<b>BA-55</b>	<b>Speed point 4 of friction curve</b> Address: 0xBA37	Effective mode: -



Min.:	0	Unit:	RPM
Max.:	30000	Data type:	UInt16
Default:	120	Change:	Changeable only at stop
<b>Value Range:</b>			
0 RPM to 30000 RPM			
<b>Description</b>			
-			

**BA-56 Speed point 5 of friction curve**

Address:	0xBA38	Effective mode:	-
Min.:	0	Unit:	RPM
Max.:	30000	Data type:	UInt16
Default:	150	Change:	Changeable only at stop
<b>Value Range:</b>			
0 RPM to 30000 RPM			
<b>Description</b>			
-			

**BA-57 Speed point 6 of friction curve**

Address:	0xBA39	Effective mode:	-
Min.:	0	Unit:	RPM
Max.:	30000	Data type:	UInt16
Default:	300	Change:	Changeable only at stop
<b>Value Range:</b>			
0 RPM to 30000 RPM			
<b>Description</b>			
-			

**BA-58 Speed point 7 of friction curve**

Address:	0xBA3A	Effective mode:	-
Min.:	0	Unit:	RPM
Max.:	30000	Data type:	UInt16
Default:	600	Change:	Changeable only at stop
<b>Value Range:</b>			
0 RPM to 30000 RPM			
<b>Description</b>			
-			

**BA-59 Speed point 8 of friction curve**

Address:	0xBA3B	Effective mode:	-
Min.:	0	Unit:	RPM
Max.:	30000	Data type:	UInt16
Default:	1200	Change:	Changeable only at stop
<b>Value Range:</b>			
0 RPM to 30000 RPM			
<b>Description</b>			
-			

**BA-60 Speed point 9 of friction curve**

Address:	0xBA3C	Effective mode:	-
Min.:	0	Unit:	RPM
Max.:	30000	Data type:	UInt16

Default: 1500  
**Value Range:**  
 0 RPM to 30000 RPM  
**Description**  
 -

Change: Changeable only at stop

**BA-61 Speed point 10 of friction curve**

Address: 0xBA3D  
 Min.: 0  
 Max.: 30000  
 Default: 3000

**Value Range:**  
 0 RPM to 30000 RPM

**Description**  
 -

Effective mode: -  
 Unit: RPM  
 Data type: UInt16  
 Change: Changeable only at stop

**BA-62 Torque point 1 of friction curve**

Address: 0xBA3E  
 Min.: -320  
 Max.: 320.00  
 Default: 0.00

**Value Range:**  
 -320 N·m to +320 N·m

**Description**  
 -

Effective mode: -  
 Unit: N·m  
 Data type: Int16  
 Change: Changeable only at stop

**BA-63 Torque point 2 of friction curve**

Address: 0xBA3F  
 Min.: -320  
 Max.: 320.00  
 Default: 0.00

**Value Range:**  
 -320 N·m to +320 N·m

**Description**  
 -

Effective mode: -  
 Unit: N·m  
 Data type: Int16  
 Change: Changeable only at stop

**BA-64 Torque point 3 of friction curve**

Address: 0xBA40  
 Min.: -320  
 Max.: 320.00  
 Default: 0.00

**Value Range:**  
 -320 N·m to +320 N·m

**Description**  
 -

Effective mode: -  
 Unit: N·m  
 Data type: Int16  
 Change: Changeable only at stop

**BA-65 Torque point 4 of friction curve**

Address: 0xBA41  
 Min.: -320  
 Max.: 320.00  
 Default: 0.00

**Value Range:**

Effective mode: -  
 Unit: N·m  
 Data type: Int16  
 Change: Changeable only at stop

-320 N·m to +320 N·m

**Description**

-

**BA-66 Torque point 5 of friction curve**

Address: 0xBA42

Min.: -320

Max.: 320.00

Default: 0.00

**Value Range:**

-320 N·m to +320 N·m

**Description**

-

Effective mode: -

Unit: N·m

Data type: Int16

Change: Changeable only at stop

**BA-67 Torque point 6 of friction curve**

Address: 0xBA43

Min.: -320

Max.: 320.00

Default: 0.00

**Value Range:**

-320 N·m to +320 N·m

**Description**

-

Effective mode: -

Unit: N·m

Data type: Int16

Change: Changeable only at stop

**BA-68 Torque point 7 of friction curve**

Address: 0xBA44

Min.: -320

Max.: 320.00

Default: 0.00

**Value Range:**

-320 N·m to +320 N·m

**Description**

-

Effective mode: -

Unit: N·m

Data type: Int16

Change: Changeable only at stop

**BA-69 Torque point 8 of friction curve**

Address: 0xBA45

Min.: -320

Max.: 320.00

Default: 0.00

**Value Range:**

-320 N·m to +320 N·m

**Description**

-

Effective mode: -

Unit: N·m

Data type: Int16

Change: Changeable only at stop

**BA-70 Torque point 9 of friction curve**

Address: 0xBA46

Min.: -320

Max.: 320.00

Default: 0.00

**Value Range:**

-320 N·m to +320 N·m

Effective mode: -

Unit: N·m

Data type: Int16

Change: Changeable only at stop

**Description**

-

**BA-71 Torque point 10 of friction curve**

Address:	0xBA47	Effective mode:	-
Min.:	-320	Unit:	N·m
Max.:	320.00	Data type:	Int16
Default:	0.00	Change:	Changeable only at stop

**Value Range:**

-320 N·m to +320 N·m

**Description**

-

**BA-72 Current coefficient starting point of D- and Q-axis inductance curve**

Address:	0xBA48	Effective mode:	-
Min.:	-800	Unit:	%
Max.:	800.0	Data type:	Int16
Default:	-200	Change:	Changeable only at stop

**Value Range:**

-800% to +800.0%

**Description**

-

**BA-73 Current coefficient end point of D- and Q-axis inductance curve**

Address:	0xBA49	Effective mode:	-
Min.:	-800	Unit:	%
Max.:	800.0	Data type:	Int16
Default:	200.0	Change:	Changeable only at stop

**Value Range:**

-800% to +800.0%

**Description**

-

**BA-74 D axis inductance 1 of D- and Q-axis inductance curve**

Address:	0xBA4A	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	6553.5	Data type:	UInt16
Default:	100.0	Change:	Changeable only at stop

**Value Range:**

0.0% to 6553.5%

**Description**

-

**BA-75 D axis inductance 2 of D- and Q-axis inductance curve**

Address:	0xBA4B	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	6553.5	Data type:	UInt16
Default:	100.0	Change:	Changeable only at stop

**Value Range:**

0.0% to 6553.5%

**Description**

-

<b>BA-76</b>	<b>D axis inductance 3 of D- and Q-axis inductance curve</b>	
	Address: 0xBA4C	Effective mode: -
	Min.: 0.0	Unit: %
	Max.: 6553.5	Data type: UInt16
	Default: 100.0	Change: Changeable only at stop
	<b>Value Range:</b>	
	0.0% to 6553.5%	
<b>Description</b>		
-		
<b>BA-77</b>	<b>D axis inductance 4 of D- and Q-axis inductance curve</b>	
	Address: 0xBA4D	Effective mode: -
	Min.: 0.0	Unit: %
	Max.: 6553.5	Data type: UInt16
	Default: 100.0	Change: Changeable only at stop
	<b>Value Range:</b>	
	0.0% to 6553.5%	
<b>Description</b>		
-		
<b>BA-78</b>	<b>D axis inductance 5 of D- and Q-axis inductance curve</b>	
	Address: 0xBA4E	Effective mode: -
	Min.: 0.0	Unit: %
	Max.: 6553.5	Data type: UInt16
	Default: 100.0	Change: Changeable only at stop
	<b>Value Range:</b>	
	0.0% to 6553.5%	
<b>Description</b>		
-		
<b>BA-79</b>	<b>D axis inductance 6 of D- and Q-axis inductance curve</b>	
	Address: 0xBA4F	Effective mode: -
	Min.: 0.0	Unit: %
	Max.: 6553.5	Data type: UInt16
	Default: 100.0	Change: Changeable only at stop
	<b>Value Range:</b>	
	0.0% to 6553.5%	
<b>Description</b>		
-		
<b>BA-80</b>	<b>D axis inductance 7 of D- and Q-axis inductance curve</b>	
	Address: 0xBA50	Effective mode: -
	Min.: 0.0	Unit: %
	Max.: 6553.5	Data type: UInt16
	Default: 100.0	Change: Changeable only at stop
	<b>Value Range:</b>	
	0.0% to 6553.5%	
<b>Description</b>		
-		
<b>BA-81</b>	<b>D axis inductance 8 of D- and Q-axis inductance curve</b>	
	Address: 0xBA51	Effective mode: -

Min.:	0.0	Unit:	%
Max.:	6553.5	Data type:	UInt16
Default:	100.0	Change:	Changeable only at stop

**Value Range:**  
0.0% to 6553.5%

**Description**

-

**BA-82 D axis inductance 9 of D- and Q-axis inductance curve**

Address:	0xBA52	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	6553.5	Data type:	UInt16
Default:	100.0	Change:	Changeable only at stop

**Value Range:**  
0.0% to 6553.5%

**Description**

-

**BA-83 D axis inductance 10 of D- and Q-axis inductance curve**

Address:	0xBA53	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	6553.5	Data type:	UInt16
Default:	100.0	Change:	Changeable only at stop

**Value Range:**  
0.0% to 6553.5%

**Description**

-

**BA-84 D axis inductance 11 of D- and Q-axis inductance curve**

Address:	0xBA54	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	6553.5	Data type:	UInt16
Default:	100.0	Change:	Changeable only at stop

**Value Range:**  
0.0% to 6553.5%

**Description**

-

**BA-85 D axis inductance 12 of D- and Q-axis inductance curve**

Address:	0xBA55	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	6553.5	Data type:	UInt16
Default:	100.0	Change:	Changeable only at stop

**Value Range:**  
0.0% to 6553.5%

**Description**

-

**BA-86 Q axis inductance 1 of D- and Q-axis inductance curve**

Address:	0xBA56	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	6553.5	Data type:	UInt16

Default: 100.0  
**Value Range:**  
 0.0% to 6553.5%  
**Description**  
 -

Change: Changeable only at stop

**BA-87 Q axis inductance 2 of D- and Q-axis inductance curve**

Address: 0xBA57  
 Min.: 0.0  
 Max.: 6553.5  
 Default: 100.0

Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**  
 0.0% to 6553.5%  
**Description**  
 -

**BA-88 Q axis inductance 3 of D- and Q-axis inductance curve**

Address: 0xBA58  
 Min.: 0.0  
 Max.: 6553.5  
 Default: 100.0

Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**  
 0.0% to 6553.5%  
**Description**  
 -

**BA-89 Q axis inductance 4 of D- and Q-axis inductance curve**

Address: 0xBA59  
 Min.: 0.0  
 Max.: 6553.5  
 Default: 100.0

Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**  
 0.0% to 6553.5%  
**Description**  
 -

**BA-90 Q axis inductance 5 of D- and Q-axis inductance curve**

Address: 0xBA5A  
 Min.: 0.0  
 Max.: 6553.5  
 Default: 100.0

Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**  
 0.0% to 6553.5%  
**Description**  
 -

**BA-91 Q axis inductance 6 of D- and Q-axis inductance curve**

Address: 0xBA5B  
 Min.: 0.0  
 Max.: 6553.5  
 Default: 100.0

Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**

0.0% to 6553.5%

**Description**

-

**BA-92 Q axis inductance 7 of D- and Q-axis inductance curve**

Address:	0xBA5C	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	6553.5	Data type:	UInt16
Default:	100.0	Change:	Changeable only at stop

**Value Range:**

0.0% to 6553.5%

**Description**

-

**BA-93 Q axis inductance 8 of D- and Q-axis inductance curve**

Address:	0xBA5D	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	6553.5	Data type:	UInt16
Default:	100.0	Change:	Changeable only at stop

**Value Range:**

0.0% to 6553.5%

**Description**

-

**BA-94 Q axis inductance 9 of D- and Q-axis inductance curve**

Address:	0xBA5E	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	6553.5	Data type:	UInt16
Default:	100.0	Change:	Changeable only at stop

**Value Range:**

0.0% to 6553.5%

**Description**

-

**BA-95 Q axis inductance 10 of D- and Q-axis inductance curve**

Address:	0xBA5F	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	6553.5	Data type:	UInt16
Default:	100.0	Change:	Changeable only at stop

**Value Range:**

0.0% to 6553.5%

**Description**

-

**BA-96 Q axis inductance 11 of D- and Q-axis inductance curve**

Address:	0xBA60	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	6553.5	Data type:	UInt16
Default:	100.0	Change:	Changeable only at stop

**Value Range:**

0.0% to 6553.5%



**Description**

-

**BA-97**

**Q axis inductance 12 of D- and Q-axis inductance curve**

Address:	0xBA61	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	6553.5	Data type:	UInt16
Default:	100.0	Change:	Changeable only at stop

**Value Range:**

0.0% to 6553.5%

**Description**

-

## 4.35 BB: Motor 3 V/f Control Parameters

**BB-00**

**V/f curve**

Address:	0xBB00	Effective mode:	-
Min.:	0	Unit:	-
Max.:	11	Data type:	UInt16
Default:	0	Change:	Changeable only at stop

**Value Range:**

- 0: Straight-line V/f curve
- 1: Multi-point V/f curve
- 2: Reserved
- 3: Reserved
- 4: Reserved
- 5: Reserved
- 6: Reserved
- 7: Reserved
- 8: Reserved
- 9: Reserved
- 10: V/f complete separation mode
- 11: V/f half separation mode

**Description**

-

**BB-01**

**Torque boost**

Address:	0xBB01	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	30.0	Data type:	UInt16
Default:	3.0	Change:	Changeable at any time

**Value Range:**

0.0% to 30.0%

**Description**

-

**BB-02**

**Cut-off frequency of torque boost**

Address:	0xBB02	Effective mode:	-
----------	--------	-----------------	---

Min.: 0.00  
 Max.: F0-10  
 Default: 50.00

Unit: Hz  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**  
 0.00 Hz to F0-10

**Description**

-

**BB-03 Multi-point V/f frequency 1**

Address: 0xBB03  
 Min.: 0.00  
 Max.: BB-05  
 Default: 0.00

Effective mode: -  
 Unit: Hz  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**  
 0.00 Hz to BB-05

**Description**

-

**BB-04 Multi-point V/f voltage 1**

Address: 0xBB04  
 Min.: 0.0  
 Max.: 100.0  
 Default: 0.0

Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**  
 0.0% to +100.0%

**Description**

-

**BB-05 Multi-point V/f frequency 2**

Address: 0xBB05  
 Min.: BB-03  
 Max.: BB-07  
 Default: 0.00

Effective mode: -  
 Unit: Hz  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**  
 BB-03 to BB-07

**Description**

-

**BB-06 Multi-point V/f voltage 2**

Address: 0xBB06  
 Min.: 0.0  
 Max.: 100.0  
 Default: 0.0

Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**  
 0.0% to +100.0%

**Description**

-

**BB-07 Multi-point V/f frequency 3**

Address: 0xBB07  
 Min.: BB-05  
 Max.: BA-04

Effective mode: -  
 Unit: Hz  
 Data type: UInt16

Default: 0.00  
**Value Range:**  
 BB-05 to BA-04  
**Description**  
 -

Change: Changeable only at stop

**BB-08 Multi-point V/f voltage 3**

Address: 0xBB08  
 Min.: 0.0  
 Max.: 100.0  
 Default: 0.0

**Value Range:**  
 0.0% to +100.0%

**Description**  
 -

Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Changeable only at stop

**BB-09 V/f slip compensation gain**

Address: 0xBB09  
 Min.: 0.0  
 Max.: 200.0  
 Default: 0.0

**Value Range:**  
 0.0 to 200.0

**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**BB-10 V/f overexcitation gain**

Address: 0xBB0A  
 Min.: 0  
 Max.: 200  
 Default: 64

**Value Range:**  
 0 to 200

**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**BB-11 V/f oscillation suppression gain**

Address: 0xBB0B  
 Min.: 0  
 Max.: 100  
 Default: 40

**Value Range:**  
 0 to 100

**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**BB-12 V/f oscillation suppression**

Address: 0xBB0C  
 Min.: 0  
 Max.: 1  
 Default: 1

**Value Range:**

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

0: Disabled

1: Enabled

**Description**

-

**BB-13 Voltage source for V/f separation**

Address: 0xBB0D

Effective mode: -

Min.: 0

Unit: -

Max.: 8

Data type: UInt16

Default: 0

Change: Changeable at any time

**Value Range:**

0: Digital setting (BB-14)

1: AI1

2: AI2

3: AI3

4: Pulse reference (DI5)

5: Multi-reference

6: Simple PLC

7: PID

8: Communication

Others: F connector

**Description**

This parameter defines the source of the target voltage in V/f separation mode.

0: Digital setting (F3-14)

The V/f separation voltage is set by F3-14 (V/f separation voltage).

1: AI1

The V/f separation voltage is input with current or voltage signals through the AI1 terminal. The frequency is calculated according to the preset AI curve.

2: AI2

The V/f separation voltage is input with current or voltage signals through the AI2 terminal. The frequency is calculated according to the preset AI curve.

3: AI3

The V/f separation voltage is input with current or voltage signals through the AI3 terminal. The frequency is calculated according to the preset AI curve. The AC drive has two AI terminals by default, and the AI3 terminal needs to be provided through the I/O expansion card.

4: Pulse reference (DI5)

The V/f separation voltage is set through DI5. The frequency is calculated based on the curve reflecting the relationship between the pulse frequency and running frequency.

5: Multi-reference

When multi-reference is used as the source of the V/f separation voltage, different combinations of DI terminal states correspond to different reference values. The four multi-reference terminals can provide 16 state combinations, corresponding to 16 reference values (percentage x maximum frequency) of parameters in group FC.

6: Simple PLC

The V/f separation voltage is set by simple PLC. For details, see the function description of simple PLC.

7: PID

The V/f separation voltage is set by PID. For details, see the PID function description.

8: Communication

The main frequency is set through communication. The running frequency is input through remote communication. The AC drive must be equipped with a communication card to implement communication with the host controller. This mode applies to remote control or centralized control of multiple equipment.

Others: F connector

A function code is set for a floating-point connector, and the value of the connector is read as the motoring torque upper limit in speed control mode. This mode is used for expansion besides the common sources.

**BB-14 V/f separation voltage**

Address:	0xBB0E	Effective mode:	-
Min.:	0	Unit:	V
Max.:	BA-02	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0 V to BA-02

**Description**

This parameter defines the V/f separation voltage.

**BB-15 Voltage rise time of V/f separation**

Address:	0xBB0F	Effective mode:	-
Min.:	0.0	Unit:	s
Max.:	1000.0	Data type:	UInt16
Default:	0.0	Change:	Changeable at any time

**Value Range:**

0.0s to 1000.0s

**Description**

This parameter defines the time required for the output voltage to rise from 0 to the rated motor voltage.

**BB-16 Voltage fall time of V/f separation**

Address:	0xBB10	Effective mode:	-
Min.:	0.0	Unit:	s
Max.:	1000.0	Data type:	UInt16
Default:	0.0	Change:	Changeable at any time

**Value Range:**

0.0s to 1000.0s

**Description**

This parameter defines the time required for the output voltage to fall from the rated motor voltage to 0.

**BB-17 Stop mode for V/f separation**

Address:	0xBB11	Effective mode:	-
Min.:	0	Unit:	-
Max.:	2	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: Frequency and voltage decline to 0 independently

1: Frequency declines to 0 after voltage declines to 0

2: Coast to stop (new)

**Description**

0: The frequency and voltage decrease to 0 independently.

1: The frequency decreases to 0 according to the deceleration time after the voltage decreases to 0 according to the deceleration time.

2: The AC drive coasts to stop without following the stop deceleration curve.

**BB-18 Overcurrent stall suppression action current**

Address: 0xBB12

Min.: 50

Max.: 200

Default: 150

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable only at stop

**Value Range:**

50% to 200%

**Description**

-

**BB-19 Overcurrent stall suppression**

Address: 0xBB13

Min.: 0

Max.: 1

Default: 1

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**Value Range:**

0: Disabled

1: Enabled

**Description**

-

**BB-20 Overcurrent stall suppression gain**

Address: 0xBB14

Min.: 1

Max.: 100

Default: 20

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

1 to 100

**Description**

-

**BB-21 Compensation coefficient of speed multiplying overcurrent stall suppression action current**

Address: 0xBB15

Min.: 50

Max.: 200

Default: 100

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable only at stop

**Value Range:**

50% to 200%

**Description**

-

**BB-22 Overvoltage stall suppression action voltage**

Address: 0xBB16

Min.: 330.0

Max.: 800.0

Effective mode: -

Unit: V

Data type: UInt16

Default: 770.0  
**Value Range:**  
 330.0 V to 800.0 V  
**Description**  
 -

Change: Changeable at any time

**BB-23 Overvoltage stall suppression**

Address: 0xBB17  
 Min.: 0  
 Max.: 1  
 Default: 1

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**  
 0: Disabled  
 1: Enabled  
**Description**  
 -

**BB-24 Overvoltage stall suppression frequency gain**

Address: 0xBB18  
 Min.: 1  
 Max.: 100  
 Default: 30

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**  
 1 to 100  
**Description**  
 -

**BB-25 Overvoltage stall suppression voltage gain**

Address: 0xBB19  
 Min.: 1  
 Max.: 100  
 Default: 30

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**  
 1 to 100  
**Description**  
 -

**BB-26 Frequency rise threshold for overvoltage stall suppression**

Address: 0xBB1A  
 Min.: 0  
 Max.: 50  
 Default: 5

Effective mode: -  
 Unit: Hz  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**  
 0 Hz to 50 Hz  
**Description**  
 -

**BB-27 Slip compensation filter time**

Address: 0xBB1B  
 Min.: 0.1  
 Max.: 10.0  
 Default: 0.5

Effective mode: -  
 Unit: s  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**

0.1s to 10.0s

**Description**

-

**BB-28****Multi-point curve source**

Address: 0xBB1C

Min.: 0

Max.: 2

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**Value Range:**

0: 3-point curve

1: Multi-point curve module A

2: Multi-point curve module B

**Description**

0: 3-point curve

The 3-point curve is used by default, which is set in F3-03 to F3-08.

1: Multi-point curve module A

The output of free module A is used as the voltage reference of the multi-point curve.

2: Multi-point curve module B

The output of free module B is used as the voltage reference of the multi-point curve.

**BB-33****Online torque compensation gain**

Address: 0xBB21

Min.: 80

Max.: 150

Default: 100

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**Value Range:**

80 to 150

**Description**

-

**BB-34****I<sub>maxKi</sub> coefficient**

Address: 0xBB22

Min.: 10

Max.: 1000

Default: 100

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable only at stop

**Value Range:**

10% to 1000%

**Description**

-

**BB-35****Overcurrent suppression threshold (relative to rated motor current)**

Address: 0xBB23

Min.: 80

Max.: 300

Default: 200

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable only at stop

**Value Range:**

80% to 300%

**Description**

-



**BB-36 Frequency threshold for overcurrent suppression field weakening**

Address:	0xBB24	Effective mode:	-
Min.:	100	Unit:	%
Max.:	500	Data type:	UInt16
Default:	100	Change:	Changeable only at stop

**Value Range:**

100% to 500%

**Description**

-

**BB-37 IT filter time**

Address:	0xBB25	Effective mode:	-
Min.:	10	Unit:	ms
Max.:	1000	Data type:	UInt16
Default:	100	Change:	Changeable only at stop

**Value Range:**

10 ms to 1000 ms

**Description**

-

**BB-38 Slip compensation mode**

Address:	0xBB26	Effective mode:	-
Min.:	0	Unit:	-
Max.:	2	Data type:	UInt16
Default:	1	Change:	Changeable only at stop

**Value Range:**

0: Disabled

1: Slip compensation without PG

2: Slip compensation with PG

**Description**

-

**BB-39 VdcMaxCtrl allowed runtime**

Address:	0xBB27	Effective mode:	-
Min.:	0.0	Unit:	s
Max.:	100.0	Data type:	UInt16
Default:	0.0	Change:	Changeable only at stop

**Value Range:**

0.0s to 100.0s

**Description**

-

**BB-40 Upper limit of V/f separation voltage**

Address:	0xBB28	Effective mode:	-
Min.:	50.0	Unit:	%
Max.:	200.0	Data type:	UInt16
Default:	100.0	Change:	Changeable only at stop

**Value Range:**

50.0% to 200.0%

**Description**

This parameter defines the upper limit of the V/f separation voltage, which is a percentage relative to the rated motor voltage.

**BB-41 RFG time of V/f separation frequency**

Address: 0xBB29  
 Min.: 0  
 Max.: 1  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**

0: RFG time forced to 0

1: Preset RFG time

**Description**

This parameter defines the RFG time of the V/f separation frequency. When it is set to 0, the frequency reference acceleration/deceleration time is forced to 0; when it is set to 1, the acceleration/deceleration time is set as normal.

**BB-42 Cut-off frequency of V/f oscillation suppression filter**

Address: 0xBB2A  
 Min.: 1.0  
 Max.: 50.0  
 Default: 8.0

Effective mode: -  
 Unit: Hz  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

1.0 Hz to 50.0 Hz

**Description**

-

**BB-43 Cut-off frequency threshold for V/f oscillation suppression**

Address: 0xBB2B  
 Min.: 10  
 Max.: 3000  
 Default: 200

Effective mode: -  
 Unit: Hz  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

10 Hz to 3000 Hz

**Description**

-

**BB-44 VdcMaxCtrl feedforward coefficient**

Address: 0xBB2C  
 Min.: 0  
 Max.: 500  
 Default: 0

Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0% to 500%

**Description**

-

**BB-50 PMVC low-speed IF**

Address: 0xBB32  
 Min.: 0  
 Max.: 1  
 Default: 1

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**

0: Disabled

1: Enabled

**Description**

-

**BB-51 PMVC low-speed IF current**  
 Address: 0xBB33 Effective mode: -  
 Min.: 30 Unit: -  
 Max.: 250 Data type: UInt16  
 Default: 100 Change: Changeable only at stop  
**Value Range:**  
 30 to 250  
**Description**  
 -

**BB-52 PMVC low-speed IF speed switching threshold**  
 Address: 0xBB34 Effective mode: -  
 Min.: 2.0 Unit: %  
 Max.: 100.0 Data type: UInt16  
 Default: 10.0 Change: Changeable only at stop  
**Value Range:**  
 2.0% to 100.0%  
**Description**  
 -

**BB-53 PMVC oscillation suppression gain coefficient**  
 Address: 0xBB35 Effective mode: -  
 Min.: 0 Unit: -  
 Max.: 500 Data type: UInt16  
 Default: 100 Change: Changeable at any time  
**Value Range:**  
 0 to 500  
**Description**  
 -

**BB-54 PMVC filter time coefficient**  
 Address: 0xBB36 Effective mode: -  
 Min.: 0 Unit: -  
 Max.: 500 Data type: UInt16  
 Default: 100 Change: Changeable at any time  
**Value Range:**  
 0 to 500  
**Description**  
 -

**BB-55 PMVC energy conservation control mode**  
 Address: 0xBB37 Effective mode: -  
 Min.: 0 Unit: -  
 Max.: 2 Data type: UInt16  
 Default: 2 Change: Changeable only at stop  
**Value Range:**  
 0: Fixed straight-line V/f curve  
 1: Fixed 30% reactive current  
 2: MTPA control

**Description**

-

## 4.36 BC: Motor 3 Control and Protection Parameters

**BC-00****Startup mode**

Address: 0xBC00

Min.: 0

Max.: 3

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0: Direct start

1: Flying start

2: Pre-excitation start (AC asynchronous motor)

3: SVC quick start

**Description**

Flying start is recommended if you need to start a motor that is rotating at a high speed.

Pre-excitation start and SVC quick start apply only to AC asynchronous motors.

**BC-01****Speed tracking mode**

Address: 0xBC01

Min.: 0

Max.: 4

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0: From the stop frequency

1: From the power frequency

2: From the maximum frequency

3: Reserved

4: Magnetic field directional speed tracking (MD290)

**Description**

-

**BC-02****Speed of speed tracking**

Address: 0xBC02

Min.: 1

Max.: 100

Default: 20

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

1 to 100

**Description**

-

**BC-03****Startup frequency**

Address: 0xBC03

Min.: 0.00

Max.: 10.00

Default: 0.00

Effective mode: -

Unit: Hz

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0.00 Hz to 10.00 Hz

**Description**

This parameter defines the startup frequency for direct start of the AC drive. When the frequency reference is lower than the startup frequency, the AC drive will not start but stay standby.

**BC-04 Startup frequency hold time**

Address:	0xBC04	Effective mode:	-
Min.:	0.0	Unit:	s
Max.:	100.0	Data type:	UInt16
Default:	0.0	Change:	Changeable only at stop

**Value Range:**

0.0s to 100.0s

**Description**

This parameter defines the hold time during which the output frequency remains at the startup frequency. After this hold time elapses, the AC drive will accelerate/decelerate to the reference frequency.

**BC-05 DC braking current at startup**

Address:	0xBC05	Effective mode:	-
Min.:	0	Unit:	%
Max.:	100	Data type:	UInt16
Default:	50	Change:	Changeable only at stop

**Value Range:**

0% to 100%

**Description**

A larger DC braking current indicates stronger braking force. 100% corresponds to the rated motor current (the current upper limit is 80% of the rated current of the AC drive).

**BC-06 DC braking time at startup**

Address:	0xBC06	Effective mode:	-
Min.:	0.0	Unit:	s
Max.:	100.0	Data type:	UInt16
Default:	0.0	Change:	Changeable only at stop

**Value Range:**

0.0s to 100.0s

**Description**

This parameter defines the time for DC braking at startup, which is valid only when the startup mode is direct start.

**BC-07 Stop mode**

Address:	0xBC07	Effective mode:	-
Min.:	0	Unit:	-
Max.:	2	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: Decelerate to stop

1: Coast to stop

2: Stop at maximum capability

**Description**

-

**BC-08 Start frequency of DC braking at stop**

Address:	0xBC08	Effective mode:	-
Min.:	0.00	Unit:	Hz
Max.:	F0-10	Data type:	UInt16
Default:	0.00	Change:	Changeable at any time

**Value Range:**

0.00 Hz to F0-10

**Description**

The AC drive starts DC braking when the running frequency decreases to the value of this parameter during deceleration to stop.

**BC-09 DC braking delay at stop**

Address:	0xBC09	Effective mode:	-
Min.:	0.0	Unit:	s
Max.:	100.0	Data type:	UInt16
Default:	0.0	Change:	Changeable at any time

**Value Range:**

0.0s to 100.0s

**Description**

When the running frequency decreases to the start frequency of DC braking at stop, the AC drive stops output and starts DC braking after this waiting time.

**BC-10 DC braking current at stop**

Address:	0xBC0A	Effective mode:	-
Min.:	0	Unit:	%
Max.:	100	Data type:	UInt16
Default:	50	Change:	Changeable at any time

**Value Range:**

0% to 100%

**Description**

A larger DC braking current indicates stronger braking force. 100% corresponds to the rated motor current (the current upper limit is 80% of the rated current of the AC drive).

**BC-11 DC braking time at stop**

Address:	0xBC0B	Effective mode:	-
Min.:	0.0	Unit:	s
Max.:	100.0	Data type:	UInt16
Default:	0.0	Change:	Changeable at any time

**Value Range:**

0.0s to 100.0s

**Description**

If this parameter is set to 0, DC braking is disabled.

**BC-12 Speed tracking sweep current limit closed loop Kp**

Address:	0xBC0C	Effective mode:	-
Min.:	0	Unit:	-
Max.:	1000	Data type:	UInt16
Default:	500	Change:	Changeable at any time

**Value Range:**

0 to 1000

**Description**

-

**BC-13 Speed tracking sweep current limit closed loop Ki**

Address:	0xBC0D	Effective mode:	-
Min.:	0	Unit:	-
Max.:	1000	Data type:	UInt16
Default:	800	Change:	Changeable at any time

**Value Range:**

0 to 1000

**Description**

-

**BC-14 Speed tracking current**

Address:	0xBC0E	Effective mode:	-
Min.:	30	Unit:	%
Max.:	200	Data type:	UInt16
Default:	80	Change:	Changeable only at stop

**Value Range:**

30% to 200%

**Description**

-

**BC-15 Current loop multiple**

Address:	0xBC0F	Effective mode:	-
Min.:	10	Unit:	%
Max.:	600	Data type:	UInt16
Default:	100	Change:	Changeable at any time

**Value Range:**

10% to 600%

**Description**

-

**BC-16 Demagnetization time (valid for asynchronous motors)**

Address:	0xBC10	Effective mode:	-
Min.:	0.00	Unit:	s
Max.:	5.00	Data type:	UInt16
Default:	0.50	Change:	Changeable at any time

**Value Range:**

0.00s to 5.00s

**Description**

This parameter defines the minimum waiting time for restart after shutdown.

**BC-17 Overexcitation enable**

Address:	0xBC11	Effective mode:	-
Min.:	0	Unit:	-
Max.:	2	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: Disabled

2: Enabled during deceleration

3: Enabled always

**Description**

This parameter defines the active mode of overexcitation in vector control mode for asynchronous motors. When it is set to 2, overexcitation takes effect during acceleration, operation at constant speed, and deceleration.

**BC-18 Overexcitation suppression current**

Address: 0xBC12

Min.: 0

Max.: 150

Default: 100

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0% to 150%

**Description**

This parameter defines the target current after overexcitation takes effect and is a percentage relative to the rated motor current.

**BC-19 Overexcitation gain**

Address: 0xBC13

Min.: 0.01

Max.: 2.50

Default: 1.25

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0.01 to 2.50

**Description**

-

**BC-20 Parameter auto-tuning upon startup**

Address: 0xBC14

Min.: 0

Max.: 65535

Default: 1

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**Value Range:**



Bit00: Synchronous motor pole position auto-tuning upon startup

0: Disabled

1: Enabled

Bit01: Quick stator resistance auto-tuning upon startup

0: Disabled

1: Enabled

Bit02–Bit03: HFI pole position auto-tuning

0: Disabled

1: Enabled

2: Adaptive

Bit04: IGBT shoot-through self-check upon startup

0: Disabled

1: Enabled

Bit05: Short-to-ground self-check upon startup (reserved)

0: Disabled

1: Enabled

Bit06: Phase loss self-check upon startup (reserved)

0: Disabled

1: Enabled

**Description**

-

**BC-21 Auto-tuning direction**

Address: 0xBC15

Min.: 0

Max.: 1

Default: 1

**Value Range:**

0 to 1

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**BC-22 Oscillation suppression gain of synchronous motor back EMF auto-tuning**

Address: 0xBC16

Min.: 0.0

Max.: 30.0

Default: 3.2

**Value Range:**

0.0 to 30.0

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**BC-23 Target speed of rotation auto-tuning**

Address: 0xBC17

Min.: 30.0

Max.: 100.0

Default: 70.0

**Value Range:**

30.0% to 100.0%

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable only at stop

**Description**

-

**BC-24 Target speed 1 of inertia auto-tuning**

Address: 0xBC18

Min.: 10.0

Max.: BC-25

Default: 40.0

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable only at stop

**Value Range:**

10.0% to BC-25

**Description**

-

**BC-25 Target speed 2 of inertia auto-tuning**

Address: 0xBC19

Min.: BC-24

Max.: 100.0

Default: 60.0

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable only at stop

**Value Range:**

BC-24 to 100.0%

**Description**

-

**BC-26 Overcurrent prevention of mutual inductance saturation curve**

Address: 0xBC1A

Min.: 0

Max.: 1

Default: 1

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**Value Range:**

0 to 1

**Description**

-

**BC-27 Auto-tuning items**

Address: 0xBC1B

Min.: 0

Max.: 65535

Default: 117

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**Value Range:**

Bit00: Speed loop parameter adaptation

0: Disabled

1: Enabled

Bit01: Current loop parameter adaptation

0: Disabled

1: Enabled

Bit02: Drive nonlinear auto-tuning

0: Disabled

1: Enabled

Bit03: Inter-phase deviation coefficient auto-tuning

0: Disabled

1: Enabled

Bit04: Auto-tuning of initial pole position of synchronous motor

0: Disabled

1: Enabled

Bit05: Auto-tuning of D- and Q-axis inductance model of synchronous motor

0: Disabled

1: Enabled

Bit06: System inertia auto-tuning

0: Disabled

1: Enabled

Bit07: HFI pole position auto-tuning

0: Disabled

1: Enabled

**Description**

-

**BC-28**

**OFF3 stop mode**

Address: 0xBC1C

Min.: 0

Max.: 1

Default: 0

**Value Range:**

0: Quick stop

1: Stop at maximum capability

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**BC-29**

**Stop mode during running**

Address: 0xBC1D

Min.: 0

Max.: 2

Default: 1

**Value Range:**

0: OFF1 stop mode

1: OFF2 stop mode

2: OFF3 stop mode

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**Description**

-

**BC-30 Stop mode for torque control**

Address: 0xBC1E Effective mode: -  
 Min.: 0 Unit: -  
 Max.: 2 Data type: UInt16  
 Default: 1 Change: Changeable only at stop

**Value Range:**

0: Coast to stop forcibly

1: Switch to speed control mode and then stop

2: Maintain torque control mode until zero speed and then block

**Description**

-

**BC-32 Proportional gain adjustment coefficient**

Address: 0xBC20 Effective mode: -  
 Min.: 0.1 Unit: -  
 Max.: 2.0 Data type: UInt16  
 Default: 1.0 Change: Changeable at any time

**Value Range:**

0.1 to 2.0

**Description**

-

**BC-33 Integral gain adjustment coefficient**

Address: 0xBC21 Effective mode: -  
 Min.: 0.1 Unit: -  
 Max.: 2.0 Data type: UInt16  
 Default: 1.0 Change: Changeable at any time

**Value Range:**

0.1 to 2.0

**Description**

-

**BC-34 Zero-speed threshold**

Address: 0xBC22 Effective mode: -  
 Min.: 0.1 Unit: %  
 Max.: 200.0 Data type: UInt16  
 Default: 2.0 Change: Changeable at any time

**Value Range:**

0.1% to 200.0%

**Description**

-

**BC-35 Zero-speed stop delay**

Address: 0xBC23 Effective mode: -  
 Min.: 0.00 Unit: s  
 Max.: 10.00 Data type: UInt16  
 Default: 0.10 Change: Changeable only at stop

**Value Range:**

0.00s to 10.00s

**Description**

-

**BC-36 Reference source execution interval**

Address: 0xBC24

Effective mode: -

Min.: 0

Unit: -

Max.: 20

Data type: UInt16

Default: 4

Change: Changeable only at stop

**Value Range:**

0 to 20

**Description**

-

**BC-37 Trial current for speed tracking of synchronous motor**

Address: 0xBC25

Effective mode: -

Min.: 5.0

Unit: %

Max.: 50.0

Data type: UInt16

Default: 10.0

Change: Changeable only at stop

**Value Range:**

5.0% to 50.0%

**Description**

-

**BC-38 Minimum frequency for speed tracking of synchronous motor**

Address: 0xBC26

Effective mode: -

Min.: 0.0

Unit: Hz

Max.: 100.0

Data type: UInt16

Default: 0.0

Change: Changeable only at stop

**Value Range:**

0.0 Hz to 100.0 Hz

**Description**

-

**BC-39 Angle compensation for speed tracking of synchronous motor**

Address: 0xBC27

Effective mode: -

Min.: 0

Unit: -

Max.: 360

Data type: UInt16

Default: 0

Change: Changeable only at stop

**Value Range:**

0 to 360

**Description**

-

**BC-40 Parameter auto-tuning of synchronous motor upon startup**

Address: 0xBC28

Effective mode: -

Min.: 0

Unit: -

Max.: 1

Data type: UInt16

Default: 0

Change: Changeable at any time

**Value Range:**

0 to 1

**Description**

-

**BC-41 Current motor angle**

Address: 0xBC29

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**BC-42 Forward torque limit 1**

Address: 0xBC2A

Min.: 0.0

Max.: 400.0

Default: 150.0

**Value Range:**

0.0 to 400.0

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**BC-43 Reverse torque limit 1**

Address: 0xBC2B

Min.: 0.0

Max.: 400.0

Default: 150.0

**Value Range:**

0.0 to 400.0

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**BC-44 Source of forward torque limit 2**

Address: 0xBC2C

Min.: 0

Max.: 0

Default: 0

**Value Range:**

0: 400%

Others: F connector

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**BC-45 Source of reverse torque limit 2**

Address: 0xBC2D

Min.: 0

Max.: 0

Default: 0

**Value Range:**

0: -400%

Others: F connector

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Description**

-

**BC-46**

**Ramp (FRG) selection bit0**

Address: 0xBC2E

Min.: 0

Max.: 18

Default: 0

**Value Range:**

0: 0

1: 1

2: Terminal function input

3: DI1

4: DI2

5: DI3

6: DI4

7: DI5

8: DI6

9: DI7

10: DI8

11: DI9

12: DI10

13: DI11

14: DI12

15: DI13

16: DI14

17: DI15

18: DI16

Others: B connector

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**BC-47**

**Ramp (FRG) selection bit1**

Address: 0xBC2F

Min.: 0

Max.: 18

Default: 0

**Value Range:**

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

0: 0  
 1: 1  
 2: Terminal function input  
 3: DI1  
 4: DI2  
 5: DI3  
 6: DI4  
 7: DI5  
 8: DI6  
 9: DI7  
 10: DI8  
 11: DI9  
 12: DI10  
 13: DI11  
 14: DI12  
 15: DI13  
 16: DI14  
 17: DI15  
 18: DI16

Others: B connector

**Description**

-

**BC-50**

**Motor overload protection**

Address: 0xBC32  
 Min.: 0  
 Max.: 1  
 Default: 1

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0: Disabled

1: Enabled

**Description**

-

**BC-51**

**Motor overload protection gain**

Address: 0xBC33  
 Min.: 0.20  
 Max.: 10.00  
 Default: 1.00

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0.20 to 10.00

**Description**

-

**BC-52**

**Motor overload pre-warning coefficient**

Address: 0xBC34  
 Min.: 50  
 Max.: 100  
 Default: 80

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable at any time



**Value Range:**

50% to 100%

**Description**

-

**BC-53      Overvoltage stall suppression gain**

Address: 0xBC35

Min.: 1

Max.: 100

Default: 30

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

1 to 100

**Description**

-

**BC-54      Overvoltage stall protection voltage**

Address: 0xBC36

Min.: 330.0

Max.: 800.0

Default: 770.0

Effective mode: -

Unit: V

Data type: UInt16

Change: Changeable at any time

**Value Range:**

330.0 V to 800.0 V

**Description**

-

**BC-55      Input phase loss/Contactor pickup protection**

Address: 0xBC37

Min.: 0

Max.: 13

Default: 11

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

Ones: Input phase loss protection

0: Disabled

1: Protection enabled when both software and hardware input phase loss conditions are met

2: Protection enabled when software input phase loss conditions are met

3: Protection enabled when hardware input phase loss conditions are met

Tens: Contactor pickup protection

0: Disabled

1: Enabled

**Description**

-

**BC-56      Output phase loss protection**

Address: 0xBC38

Min.: 0

Max.: 11

Default: 1

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

Ones: Output phase loss protection upon power-on

0: Disabled

1: Enabled

Tens: Output phase loss protection before running

0: Disabled

1: Enabled

**Description**

-

**BC-57 Power dip ride-through**

Address: 0xBC39

Min.: 0

Max.: 3

Default: 0

**Value Range:**

0: Disabled

1: Decelerate

2: Decelerate to stop

3: Suppress voltage dip

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**BC-58 Voltage threshold for disabling power dip ride-through**

Address: 0xBC3A

Min.: 80

Max.: 100

Default: 85

**Value Range:**

80% to 100%

**Description**

-

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable only at stop

**BC-59 Delay of voltage recovery from power dip**

Address: 0xBC3B

Min.: 0.0

Max.: 100.0

Default: 0.5

**Value Range:**

0.0s to 100.0s

**Description**

-

Effective mode: -

Unit: s

Data type: UInt16

Change: Changeable only at stop

**BC-60 Voltage threshold for enabling power dip ride-through**

Address: 0xBC3C

Min.: 60

Max.: 100

Default: 80

**Value Range:**

60% to 100%

**Description**

-

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable only at stop

**BC-61 Protection upon load loss**

Address: 0xBC3D  
 Min.: 0  
 Max.: 1  
 Default: 0

**Value Range:**

0: Disabled  
 1: Enabled

**Description**

-

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**BC-62 Load loss detection level**

Address: 0xBC3E  
 Min.: 0.0  
 Max.: 100.0  
 Default: 10.0

**Value Range:**

0.0% to +100.0%

**Description**

-

Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Changeable at any time

**BC-63 Load loss detection time**

Address: 0xBC3F  
 Min.: 0.0  
 Max.: 60.0  
 Default: 1.0

**Value Range:**

0.0s to 60.0s

**Description**

-

Effective mode: -  
 Unit: s  
 Data type: UInt16  
 Change: Changeable at any time

**BC-64 Overspeed detection level**

Address: 0xBC40  
 Min.: 0.0  
 Max.: 50.0  
 Default: 20.0

**Value Range:**

0.0% to 50.0%

**Description**

-

Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Changeable at any time

**BC-65 Overspeed detection time**

Address: 0xBC41  
 Min.: 0.0  
 Max.: 60.0  
 Default: 1.0

**Value Range:**

0.0s to 60.0s

**Description**

-

Effective mode: -  
 Unit: s  
 Data type: UInt16  
 Change: Changeable at any time

<b>BC-66</b>	<b>Detection level of excessive speed deviation</b>	
Address:	0xBC42	Effective mode: -
Min.:	0.0	Unit: %
Max.:	50.0	Data type: UInt16
Default:	20.0	Change: Changeable at any time
<b>Value Range:</b>		
	0.0% to 50.0%	
<b>Description</b>		
	-	
<b>BC-67</b>	<b>Detection time of excessive speed deviation</b>	
Address:	0xBC43	Effective mode: -
Min.:	0.0	Unit: s
Max.:	60.0	Data type: UInt16
Default:	5.0	Change: Changeable at any time
<b>Value Range:</b>		
	0.0s to 60.0s	
<b>Description</b>		
	-	
<b>BC-68</b>	<b>Power dip ride-through gain Kp</b>	
Address:	0xBC44	Effective mode: -
Min.:	1	Unit: -
Max.:	100	Data type: UInt16
Default:	40	Change: Changeable at any time
<b>Value Range:</b>		
	1 to 100	
<b>Description</b>		
	-	
<b>BC-69</b>	<b>Power dip ride-through integral coefficient Ki</b>	
Address:	0xBC45	Effective mode: -
Min.:	1	Unit: -
Max.:	100	Data type: UInt16
Default:	30	Change: Changeable at any time
<b>Value Range:</b>		
	1 to 100	
<b>Description</b>		
	-	
<b>BC-70</b>	<b>Deceleration time of power dip ride-through</b>	
Address:	0xBC46	Effective mode: -
Min.:	0.0	Unit: s
Max.:	300.0	Data type: UInt16
Default:	20.0	Change: Changeable at any time
<b>Value Range:</b>		
	0.0s to 300.0s	
<b>Description</b>		
	-	
<b>BC-71</b>	<b>Voltage dip suppression time</b>	
Address:	0xBC47	Effective mode: -

Min.:	0.1	Unit:	s
Max.:	600.0	Data type:	UInt16
Default:	0.5	Change:	Changeable at any time

**Value Range:**  
0.1s to 600.0s

**Description**  
-

**BC-72 Motor protection**

Address:	0xBC48	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	537	Change:	Changeable at any time

**Value Range:**

Bit00: Motor overload determination (reserved)  
 Bit01: Motor overheat detection (reserved)  
 Bit02: PG fault detection (reserved)  
 Bit03: Current control error detection  
 Bit04: Motor stall error detection  
 Bit05: Locked-rotor detection  
 Bit06: Synchronous motor demagnetization protection  
 Bit07: Protection against locked-rotor in SVC speed open-loop control  
 Bit08: Reserved  
 Bit09: Parameter setting error

**Description**  
-

**BC-73 Locked-rotor time**

Address:	0xBC49	Effective mode:	-
Min.:	0.0	Unit:	s
Max.:	65.0	Data type:	UInt16
Default:	2.0	Change:	Changeable at any time

**Value Range:**  
0.0s to 65.0s

**Description**  
-

**BC-74 Locked-rotor frequency**

Address:	0xBC4A	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	600.0	Data type:	UInt16
Default:	6.0	Change:	Changeable at any time

**Value Range:**  
0.0% to 600.0%

**Description**  
-

**BC-75 Motor stall detection time**

Address:	0xBC4B	Effective mode:	-
Min.:	0.0	Unit:	s

Max.: 10.0  
 Default: 0.5  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**  
 0.0s to 10.0s

**Description**  
 -

#### BC-76 Stall detection threshold

Address: 0xBC4C  
 Min.: 0.0  
 Max.: 100.0  
 Default: 30.0  
 Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**  
 0.0% to +100.0%

**Description**  
 -

#### BC-77 Current control exception detection time

Address: 0xBC4D  
 Min.: 0.00  
 Max.: 1.00  
 Default: 0.05  
 Effective mode: -  
 Unit: s  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**  
 0.00s to 1.00s

**Description**  
 -

#### BC-78 Current control exception detection threshold

Address: 0xBC4E  
 Min.: 0.0  
 Max.: 200.0  
 Default: 25.0  
 Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**  
 0.0% to 200.0%

**Description**  
 -

#### BC-79 Synchronous motor overcurrent threshold

Address: 0xBC4F  
 Min.: 0.0  
 Max.: 500.0  
 Default: 300.0  
 Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**  
 0.0% to 500.0%

**Description**  
 -

#### BC-81 Speed deviation detection

Address: 0xBC51  
 Min.: 0  
 Max.: 1  
 Default: 1  
 Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0 to 1

**Description**

-

**BC-82**

**Skip frequency 1**

Address: 0xBC52

Min.: 0.00

Max.: F0-10

Default: 0.00

**Value Range:**

0.00 Hz to F0-10

**Description**

-

Effective mode: -

Unit: Hz

Data type: UInt16

Change: Changeable at any time

**BC-83**

**Skip frequency 2**

Address: 0xBC53

Min.: 0.00

Max.: F0-10

Default: 0.00

**Value Range:**

0.00 Hz to F0-10

**Description**

-

Effective mode: -

Unit: Hz

Data type: UInt16

Change: Changeable at any time

**BC-84**

**Skip frequency 3**

Address: 0xBC54

Min.: 0.00

Max.: F0-10

Default: 0.00

**Value Range:**

0.00 Hz to F0-10

**Description**

-

Effective mode: -

Unit: Hz

Data type: UInt16

Change: Changeable at any time

**BC-85**

**Skip frequency 4**

Address: 0xBC55

Min.: 0.00

Max.: F0-10

Default: 0.00

**Value Range:**

0.00 Hz to F0-10

**Description**

-

Effective mode: -

Unit: Hz

Data type: UInt16

Change: Changeable at any time

**BC-86**

**Skip frequency band**

Address: 0xBC56

Min.: 0.00

Max.: F0-10

Default: 0.00

**Value Range:**

0.00 Hz to F0-10

Effective mode: -

Unit: Hz

Data type: UInt16

Change: Changeable at any time

**Description**

-

**BC-87 Source of frequency upper limit**

Address: 0xBC57

Min.: 0

Max.: 5

Default: 0

**Value Range:**

0: F0-12

1: AI1

2: AI2

3: AI3

4: Pulse reference

5: Communication

Others: F connector

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**BC-88 Frequency upper limit**

Address: 0xBC58

Min.: BC-90

Max.: F0-10

Default: 50.00

**Value Range:**

BC-90 to F0-10

**Description**

-

Effective mode: -

Unit: Hz

Data type: UInt16

Change: Changeable at any time

**BC-89 Frequency upper limit offset**

Address: 0xBC59

Min.: 0.00

Max.: F0-10

Default: 0.00

**Value Range:**

0.00 Hz to F0-10 (maximum frequency)

**Description**

-

Effective mode: -

Unit: Hz

Data type: UInt16

Change: Changeable at any time

**BC-90 Frequency lower limit**

Address: 0xBC5A

Min.: 0.00

Max.: BC-88

Default: 0.00

**Value Range:**

0.00 Hz to BC-88

**Description**

-

Effective mode: -

Unit: Hz

Data type: UInt16

Change: Changeable at any time

**BC-91 Speed/Torque control mode**

Address: 0xBC5B

Effective mode: -



Min.:	0	Unit:	-
Max.:	1	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: Speed control  
1: Torque control

**Description**

-

## 4.37 BD: Motor 3 Observation and Vector Parameters

### BD-00 Asynchronous motor FVC model switchover frequency

Address:	0xBD00	Effective mode:	-
Min.:	0	Unit:	%
Max.:	1000	Data type:	UInt16
Default:	20	Change:	Changeable only at stop

**Value Range:**

0% to 1000%

**Description**

-

### BD-01 Asynchronous motor FVC model switchover hysteresis frequency

Address:	0xBD01	Effective mode:	-
Min.:	10	Unit:	%
Max.:	50	Data type:	UInt16
Default:	20	Change:	Changeable only at stop

**Value Range:**

10% to 50%

**Description**

-

### BD-02 Asynchronous motor FVC observer filter time

Address:	0xBD02	Effective mode:	-
Min.:	5	Unit:	ms
Max.:	100	Data type:	UInt16
Default:	15	Change:	Changeable only at stop

**Value Range:**

5 ms to 100 ms

**Description**

-

### BD-03 Asynchronous motor FVC current model mode

Address:	0xBD03	Effective mode:	-
Min.:	0	Unit:	-
Max.:	1	Data type:	UInt16
Default:	0	Change:	Changeable only at stop

**Value Range:**

0 to 1

**Description**

-

<b>BD-04</b>	<b>Asynchronous motor FVC pre-excitation output observation angle mode</b>	
Address:	0xBD04	Effective mode: -
Min.:	0	Unit: -
Max.:	1	Data type: UInt16
Default:	0	Change: Changeable only at stop
<b>Value Range:</b>		
	0 to 1	
<b>Description</b>		
	-	
<b>BD-05</b>	<b>Asynchronous motor SVC model switchover frequency</b>	
Address:	0xBD05	Effective mode: -
Min.:	10	Unit: %
Max.:	20	Data type: UInt16
Default:	15	Change: Changeable only at stop
<b>Value Range:</b>		
	10% to 20%	
<b>Description</b>		
	-	
<b>BD-06</b>	<b>Asynchronous motor SVC observer filter time</b>	
Address:	0xBD06	Effective mode: -
Min.:	5	Unit: ms
Max.:	50	Data type: UInt16
Default:	10	Change: Changeable at any time
<b>Value Range:</b>		
	5 ms to 50 ms	
<b>Description</b>		
	-	
<b>BD-07</b>	<b>Asynchronous motor SVC observer gain 1</b>	
Address:	0xBD07	Effective mode: -
Min.:	10	Unit: %
Max.:	500	Data type: UInt16
Default:	100	Change: Changeable at any time
<b>Value Range:</b>		
	10% to 500%	
<b>Description</b>		
	-	
<b>BD-08</b>	<b>Asynchronous motor SVC observer gain 2</b>	
Address:	0xBD08	Effective mode: -
Min.:	10	Unit: %
Max.:	100	Data type: UInt16
Default:	20	Change: Changeable at any time
<b>Value Range:</b>		
	10% to 100%	
<b>Description</b>		
	-	
<b>BD-09</b>	<b>Asynchronous motor SVC observer mode</b>	
Address:	0xBD09	Effective mode: -

Min.: 0  
 Max.: 3  
 Default: 0  
**Value Range:**  
 0 to 3  
**Description**  
 -

Unit: -  
 Data type: UInt16  
 Change: Changeable only at stop

**BD-10 Asynchronous motor SVC pre-excitation mode**

Address: 0xBD0A  
 Min.: 0  
 Max.: 1  
 Default: 0  
**Value Range:**  
 0 to 1  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable only at stop

**BD-11 Asynchronous motor SVC speed tracking mode**

Address: 0xBD0B  
 Min.: 0  
 Max.: 1  
 Default: 0  
**Value Range:**  
 0 to 1  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable only at stop

**BD-14 Synchronous motor 1 model control**

Address: 0xBD0E  
 Min.: 0  
 Max.: 65535  
 Default: 5  
**Value Range:**  
 Bit00: Low speed processing  
 Bit01: Low speed processing 1  
 Bit02: Online auto-tuning of resistance  
 Bit03: Online auto-tuning of back EMF  
 Bit04: KS  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**BD-15 Synchronous motor model K1**

Address: 0xBD0F  
 Min.: 10  
 Max.: 3000  
 Default: 200  
**Value Range:**  
 10 to 3000  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

<b>BD-16</b>	<b>Synchronous motor model K1Max</b> Address: 0xBD10 Min.: 100 Max.: 6000 Default: 3000 <b>Value Range:</b> 100 to 6000 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>BD-17</b>	<b>Synchronous motor model KsMin</b> Address: 0xBD11 Min.: 0.0 Max.: 4.0 Default: 0.3 <b>Value Range:</b> 0.0 to 4.0 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>BD-18</b>	<b>Synchronous motor model Kspeed</b> Address: 0xBD12 Min.: 50 Max.: 2000 Default: 400 <b>Value Range:</b> 50 to 2000 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>BD-19</b>	<b>Synchronous motor frequency filter time constant</b> Address: 0xBD13 Min.: 2 Max.: 100 Default: 10 <b>Value Range:</b> 2 ms to 100 ms <b>Description</b> -	Effective mode: - Unit: ms Data type: UInt16 Change: Changeable at any time
<b>BD-20</b>	<b>Frequency upper limit of synchronous motor Rs online auto-tuning</b> Address: 0xBD14 Min.: 1.0 Max.: 20.0 Default: 3.5 <b>Value Range:</b> 1.0% to 20.0% <b>Description</b> -	Effective mode: - Unit: % Data type: UInt16 Change: Changeable at any time
<b>BD-21</b>	<b>Synchronous motor model Kr</b> Address: 0xBD15	Effective mode: -

Min.:	0	Unit:	-
Max.:	50	Data type:	UInt16
Default:	10	Change:	Changeable at any time
<b>Value Range:</b>			
0 to 50			
<b>Description</b>			
-			

**BD-22 Synchronous motor model Kr1**

Address:	0xBD16	Effective mode:	-
Min.:	0	Unit:	-
Max.:	50	Data type:	UInt16
Default:	5	Change:	Changeable at any time
<b>Value Range:</b>			
0 to 50			
<b>Description</b>			
-			

**BD-23 Synchronous motor low-speed D axis injection current**

Address:	0xBD17	Effective mode:	-
Min.:	0	Unit:	%
Max.:	100	Data type:	UInt16
Default:	20	Change:	Changeable at any time
<b>Value Range:</b>			
0% to 100%			
<b>Description</b>			
-			

**BD-24 Synchronous motor model LowFreqTime1**

Address:	0xBD18	Effective mode:	-
Min.:	0	Unit:	-
Max.:	500	Data type:	UInt16
Default:	50	Change:	Changeable at any time
<b>Value Range:</b>			
0 to 500			
<b>Description</b>			
-			

**BD-27 Frequency lower limit of back EMF online auto-tuning**

Address:	0xBD1B	Effective mode:	-
Min.:	10	Unit:	%
Max.:	100	Data type:	UInt16
Default:	25	Change:	Changeable at any time
<b>Value Range:</b>			
10% to 100%			
<b>Description</b>			
-			

**BD-28 Synchronous motor model LowFreq**

Address:	0xBD1C	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	2.0	Data type:	UInt16

Default: 0.3  
**Value Range:**  
 0.0% to 2.0%  
**Description**  
 -

Change: Changeable at any time

**BD-29 Synchronous motor model LowFreqTime**

Address: 0xBD1D  
 Min.: 0  
 Max.: 100  
 Default: 10

**Value Range:**  
 0 to 100

**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**BD-30 Percentage of pole auto-tuning current**

Address: 0xBD1E  
 Min.: 50  
 Max.: 200  
 Default: 100

**Value Range:**  
 50% to 200%

**Description**  
 -

Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Changeable at any time

**BD-31 Percentage of high frequency response current**

Address: 0xBD1F  
 Min.: 0  
 Max.: 100  
 Default: 25

**Value Range:**  
 0% to 100%

**Description**  
 -

Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Changeable at any time

**BD-32 Percentage of HFI and SVC switching frequency**

Address: 0xBD20  
 Min.: 0  
 Max.: 30  
 Default: 10

**Value Range:**  
 0% to 30%

**Description**  
 -

Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Changeable at any time

**BD-33 Observer parameter**

Address: 0xBD21  
 Min.: 10  
 Max.: 200  
 Default: 100

**Value Range:**

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

10 to 200

**Description**

-

**BD-34 Speed filter cut-off frequency**

Address: 0xBD22

Min.: 1  
Max.: 200

Default: 10

**Value Range:**

1 Hz to 200 Hz

**Description**

-

Effective mode: -

Unit: Hz

Data type: UInt16

Change: Changeable at any time

**BD-35 Carrier frequency during NS auto-tuning**

Address: 0xBD23

Min.: 2.00  
Max.: 16.00

Default: 8.00

**Value Range:**

2.00 Hz to 16.00 Hz

**Description**

-

Effective mode: -

Unit: Hz

Data type: UInt16

Change: Changeable at any time

**BD-36 Automatic calculation of NS auto-tuning voltage**

Address: 0xBD24

Min.: 0  
Max.: 1

Default: 1

**Value Range:**

0: Disabled

1: Enabled

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**BD-37 Percentage of NS auto-tuning voltage set manually**

Address: 0xBD25

Min.: 0  
Max.: 100

Default: 10

**Value Range:**

0% to 100%

**Description**

-

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable at any time

**BD-38 Duration of HFI stage 1**

Address: 0xBD26

Min.: 50  
Max.: 500

Default: 150

**Value Range:**

50 ms to 500 ms

Effective mode: -

Unit: ms

Data type: UInt16

Change: Changeable at any time

**Description**

-

**BD-40 Speed loop proportional gain 1**

Address: 0xBD28

Min.: 1

Max.: 100

Default: 30

**Value Range:**

1 to 100

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**BD-41 Speed loop integral time 1**

Address: 0xBD29

Min.: 0.01

Max.: 10.00

Default: 0.50

**Value Range:**

0.01s to 10.00s

**Description**

-

Effective mode: -

Unit: s

Data type: UInt16

Change: Changeable at any time

**BD-42 Switchover frequency 1**

Address: 0xBD2A

Min.: 0.00

Max.: BD-45

Default: 5.00

**Value Range:**

0.00 Hz to BD-45

**Description**

-

Effective mode: -

Unit: Hz

Data type: UInt16

Change: Changeable at any time

**BD-43 Speed loop proportional gain 2**

Address: 0xBD2B

Min.: 1

Max.: 100

Default: 20

**Value Range:**

1 to 100

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**BD-44 Speed loop integral time 2**

Address: 0xBD2C

Min.: 0.01

Max.: 10.00

Default: 1.00

**Value Range:**

0.01s to 10.00s

**Description**

-

Effective mode: -

Unit: s

Data type: UInt16

Change: Changeable at any time



**BD-45 Switchover frequency 2**

Address: 0xBD2D

Min.: BD-42

Max.: F0-10

Default: 10.00

**Value Range:**

BD-42 to F0-10

**Description**

-

Effective mode: -

Unit: Hz

Data type: UInt16

Change: Changeable at any time

**BD-46 Vector control slip gain**

Address: 0xBD2E

Min.: 50

Max.: 200

Default: 100

**Value Range:**

50% to 200%

**Description**

-

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable at any time

**BD-47 Speed feedback filter time in SVC mode**

Address: 0xBD2F

Min.: 0.000

Max.: 0.100

Default: 0.015

**Value Range:**

0.000s to 0.100s

**Description**

-

Effective mode: -

Unit: s

Data type: UInt16

Change: Changeable at any time

**BD-49 Torque upper limit source in speed control mode (motoring)**

Address: 0xBD31

Min.: 0

Max.: 7

Default: 0

**Value Range:**

0: Digital setting (F2-10)

1: AI1

2: AI2

3: AI3

4: Pulse reference

5: Communication

6: MIN (AI1, AI2)

7: MAX (AI1, AI2)

Others: F connector

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**BD-50 Torque upper limit in speed control mode**

Address: 0xBD32

Min.: 0.0

Effective mode: -

Unit: %

Max.:	200.0	Data type:	UInt16
Default:	150.0	Change:	Changeable at any time
<b>Value Range:</b> 0.0% to 200.0%			
<b>Description</b> -			

**BD-51 Torque upper limit source in speed control mode (generating)**

Address:	0xBD33	Effective mode:	-
Min.:	0	Unit:	-
Max.:	8	Data type:	UInt16
Default:	0	Change:	Changeable at any time
<b>Value Range:</b> 0: Digital setting (F2-10) 1: AI1 2: AI2 3: AI3 4: Pulse reference (DI5) 5: Communication 6: MIN (AI1, AI2) 7: MAX (AI1, AI2) 8: Digital setting (F2-12) Others: F connector			
<b>Description</b> -			

**BD-52 Torque upper limit in speed control mode (generating)**

Address:	0xBD34	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	200.0	Data type:	UInt16
Default:	150.0	Change:	Changeable at any time
<b>Value Range:</b> 0.0% to 200.0%			
<b>Description</b> -			

**BD-53 Field weakening mode**

Address:	0xBD35	Effective mode:	-
Min.:	0	Unit:	-
Max.:	2	Data type:	UInt16
Default:	1	Change:	Changeable only at stop
<b>Value Range:</b> 0: No field weakening 1: Auto adjustment 2: Calculation+Auto adjustment			
<b>Description</b> 0: No field weakening Without field weakening control, the maximum motor speed is related to the bus voltage of the AC drive. The output current is smaller under the same load, but the running frequency cannot reach the frequency reference. Do not select this function if a higher speed is required.			

1: Auto adjustment

This field weakening mode is simple and reliable. In scenarios requiring quick field weakening, the field weakening coefficient (F2-19) can be increased as appropriate. However, if the coefficient is too large,

the current may be unstable.

2: Calculation+Auto adjustment

In this mode, the field weakening current is adjusted quickly. This mode can be selected in scenarios where the auto adjustment mode cannot meet requirements.

**BD-54 Field weakening gain**

Address: 0xBD36

Min.: 1

Max.: 50

Default: 5

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

1 to 50

**Description**

Increasing the setpoint can improve dynamic response. However, an excessively large setpoint may also cause current oscillation.

**BD-57 Generating power limiting**

Address: 0xBD39

Min.: 0

Max.: 3

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0: Disabled

1: Enabled in the whole process

2: Enabled at constant speed

3: Enabled during deceleration

**Description**

-

**BD-58 Generating power upper limit**

Address: 0xBD3A

Min.: 0.0

Max.: 200.0

Default: 20.0

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0.0% to 200.0%

**Description**

-

**BD-59 Motor 3 control mode**

Address: 0xBD3B

Min.: 0

Max.: 2

Default: 2

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**Value Range:**

0: SVC

1: FVC

2: V/f

**Description**

-

**BD-60 Initial position angle detection current of synchronous motor**

Address:	0xBD3C	Effective mode:	-
Min.:	50	Unit:	-
Max.:	180	Data type:	UInt16
Default:	80	Change:	Changeable only at stop

**Value Range:**

50 to 180

**Description**

A smaller current indicates lower noise during detection. However, an excessively small current may lead to position detection inaccuracy. You are advised not to modify this parameter in FVC mode.

**BD-61 Initial position angle detection of synchronous motor**

Address:	0xBD3D	Effective mode:	-
Min.:	0	Unit:	-
Max.:	2	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: Detected upon running

1: Not detected

2: Detected upon initial running after power-on

**Description**

The initial position angle detection can prevent reverse rotation at startup, but it causes certain noise. For scenarios where reverse rotation is not allowed at startup and the rotor position of the motor will change after stop, F2-25 must be set to 0. It can be set to 1 or 2 in other scenarios.

**BD-63 Salient pole rate adjustment gain of synchronous motor**

Address:	0xBD3F	Effective mode:	-
Min.:	0.20	Unit:	-
Max.:	3.00	Data type:	UInt16
Default:	1.00	Change:	Changeable at any time

**Value Range:**

0.20 to 3.00

**Description**

If F2-28 is set to 1, you can adjust F2-27 when the output current does not decrease or even increase under the same load. When the load remains unchanged, adjust F2-27 until the output current is the smallest.

**BD-64 Maximum torque-to-current ratio control of synchronous motor**

Address:	0xBD40	Effective mode:	-
Min.:	0	Unit:	-
Max.:	1	Data type:	UInt16
Default:	1	Change:	Changeable at any time

**Value Range:**

0: Disabled

1: Enabled

**Description**

When this function is enabled for the salient pole motor, the current will become smaller under the same load.

**BD-65**

**Z signal correction**

Address: 0xBD41

Min.: 0

Max.: 1

Default: 1

**Value Range:**

0: Disabled

1: Enabled

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**BD-67**

**Low speed carrier frequency**

Address: 0xBD43

Min.: 0.8

Max.: F0-15

Default: 2.0

**Value Range:**

0.8 kHz to F0-15

**Description**

-

Effective mode: -

Unit: kHz

Data type: UInt16

Change: Changeable at any time

**BD-68**

**Position lock**

Address: 0xBD44

Min.: 0

Max.: 1

Default: 0

**Value Range:**

0 to 1

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**BD-69**

**Switchover frequency**

Address: 0xBD45

Min.: 0.00

Max.: BD-42

Default: 0.30

**Value Range:**

0.00 Hz to BD-42

**Description**

-

Effective mode: -

Unit: Hz

Data type: UInt16

Change: Changeable at any time

**BD-70**

**Position lock speed loop proportional gain**

Address: 0xBD46

Min.: 1

Max.: 100

Default: 10

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

1 to 100

**Description**

-

**BD-71 Position lock speed loop integral time**

Address: 0xBD47

Min.: 0.01

Max.: 10.00

Default: 0.50

Effective mode: -

Unit: s

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0.01s to 10.00s

**Description**

-

**BD-74 Auto-tuning free mode**

Address: 0xBD4A

Min.: 0

Max.: 2

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0: Disabled

1: Auto-tuning upon initial running after power-on

2: Auto-tuning upon running

**Description**

-

**BD-76 Initial position compensation angle**

Address: 0xBD4C

Min.: 0.0

Max.: 359.9

Default: 0.0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0.0 to 359.9

**Description**

-

**BD-80 Speed loop command word**

Address: 0xBD50

Min.: 0

Max.: 65535

Default: 11

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

Bit00: Speed loop  
 0: Disabled  
 1: Enabled  
 Bit01: Integration mode  
 0: Conventional integration  
 1: Position integration  
 Bit02: Acceleration torque  
 0: Disabled  
 1: Enabled  
 Bit03–Bit04: Acceleration source  
 0: Function transfer torque  
 1: Automatic calculation  
 2: Function transfer acceleration  
 Bit05: Anti-load disturbance  
 0: Disabled  
 1: Enabled

**Description**

-

**BD-81 Locked-rotor fast integral cancel coefficient**

Address:	0xBD51	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	100.0	Data type:	UInt16
Default:	0.0	Change:	Changeable at any time

**Value Range:**

0.0% to +100.0%

**Description**

-

**BD-82 Integral torque**

Address:	0xBD52	Effective mode:	-
Min.:	-100	Unit:	%
Max.:	100.0	Data type:	Int16
Default:	0.0	Change:	Changeable at any time

**Value Range:**

-100% to +100.0%

**Description**

-

**BD-83 Speed controller frequency window size**

Address:	0xBD53	Effective mode:	-
Min.:	0.00	Unit:	Hz
Max.:	10.00	Data type:	UInt16
Default:	0.00	Change:	Changeable only at stop

**Value Range:**

0.00 Hz to 10.00 Hz

**Description**

-

<b>BD-84</b>	<b>Current filter time for torque reference</b> Address: 0xBD54 Min.: 0.0 Max.: 100.0 Default: 0.0 <b>Value Range:</b> 0.0 ms to 100.0 ms <b>Description</b> -	Effective mode: - Unit: ms Data type: UInt16 Change: Changeable only at stop
<b>BD-85</b>	<b>Acceleration torque</b> Address: 0xBD55 Min.: 0 Max.: 8 Default: 0 <b>Value Range:</b> 0: Inactive 1: AI1 2: AI2 3: AI3 4: Pulse reference 5: Communication 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>BD-87</b>	<b>Reference model bandwidth</b> Address: 0xBD57 Min.: 0.00 Max.: 300.00 Default: 0.00 <b>Value Range:</b> 0.00 Hz to 300.00 Hz <b>Description</b> -	Effective mode: - Unit: Hz Data type: UInt16 Change: Changeable at any time
<b>BD-88</b>	<b>Torque feedforward coefficient</b> Address: 0xBD58 Min.: 0.0 Max.: 1000.0 Default: 100.0 <b>Value Range:</b> 0.0% to 1000.0% <b>Description</b> -	Effective mode: - Unit: % Data type: UInt16 Change: Changeable at any time
<b>BD-89</b>	<b>Vector control reference frequency filter time</b> Address: 0xBD59 	Effective mode: -



Min.:	0.0	Unit:	ms
Max.:	100.0	Data type:	UInt16
Default:	0.0	Change:	Changeable only at stop
<b>Value Range:</b>			
0.0 ms to 100.0 ms			
<b>Description</b>			
-			

**BD-90 Vector control feedback frequency filter time**

Address:	0xBD5A	Effective mode:	-
Min.:	0.0	Unit:	ms
Max.:	100.0	Data type:	UInt16
Default:	0.0	Change:	Changeable only at stop
<b>Value Range:</b>			
0.0 ms to 100.0 ms			
<b>Description</b>			
-			

**BD-91 Load observation bandwidth**

Address:	0xBD5B	Effective mode:	-
Min.:	0.00	Unit:	Hz
Max.:	300.00	Data type:	UInt16
Default:	0.00	Change:	Changeable at any time
<b>Value Range:</b>			
0.00 Hz to 300.00 Hz			
<b>Description</b>			
-			

**BD-92 Load observation coefficient**

Address:	0xBD5C	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	1000.0	Data type:	UInt16
Default:	100.0	Change:	Changeable at any time
<b>Value Range:</b>			
0.0% to 1000.0%			
<b>Description</b>			
-			

**BD-93 Pseudo integral coefficient**

Address:	0xBD5D	Effective mode:	-
Min.:	0.000	Unit:	-
Max.:	10.000	Data type:	UInt16
Default:	1.000	Change:	Changeable at any time
<b>Value Range:</b>			
0.000 to 10.000			
<b>Description</b>			
-			

**BD-94 Torque coefficient enable**

Address:	0xBD5E	Effective mode:	-
Min.:	0	Unit:	-
Max.:	1	Data type:	UInt16

Default: 0  
**Value Range:**  
 0: Disabled  
 1: Enabled  
**Description**  
 -

Change: Changeable at any time

**BD-96 Center frequency of notch filter 1**

Address: 0xBD60  
 Min.: 0.0  
 Max.: 4000.0  
 Default: 4000.0

**Value Range:**  
 0.0 to 4000.0

**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**BD-97 Center frequency of notch filter 2**

Address: 0xBD61  
 Min.: 0.0  
 Max.: 4000.0  
 Default: 4000.0

**Value Range:**  
 0.0 to 4000.0

**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**BD-98 Integral setting control word**

Address: 0xBD62  
 Min.: 0  
 Max.: 1  
 Default: 0

**Value Range:**  
 0: Disabled

1: Enabled

Others: B connector

**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**BD-99 Integral reference source**

Address: 0xBD63  
 Min.: 0  
 Max.: 8  
 Default: 0

**Value Range:**

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

- 0: Digital setting
  - 1: AI1
  - 2: AI2
  - 3: AI3
  - 4: Pulse reference
  - 5: Communication
  - 6: Multi-reference
  - 7: Motor-driven potentiometer
  - 8: PID
  - Others: F connector
- Description**  
-

## 4.38 BE: Motor 3 Vector Parameters

### BE-00 Externally transferred acceleration

Address:	0xBE00	Effective mode:	-
Min.:	0	Unit:	-
Max.:	8	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**  
 0: Inactive  
 1: AI1  
 2: AI2  
 3: AI3  
 4: Pulse reference  
 5: Communication  
 6: Multi-reference  
 7: Motor-driven potentiometer  
 8: PID  
 Others: F connector

**Description**  
-

### BE-03 Overturning torque limiting coefficient

Address:	0xBE03	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	400.0	Data type:	UInt16
Default:	100.0	Change:	Changeable at any time

**Value Range:**  
 0.0% to 400.0%

**Description**  
-

### BE-04 Motoring power limiting coefficient

Address:	0xBE04	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	400.0	Data type:	UInt16

Default: 400.0  
**Value Range:**  
 0.0% to 400.0%  
**Description**  
 -

Change: Changeable at any time

**BE-05 Generating power limiting coefficient**

Address: 0xBE05  
 Min.: 0.0  
 Max.: 400.0  
 Default: 400.0

**Value Range:**  
 0.0% to 400.0%

**Description**  
 -

Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Changeable at any time

**BE-06 Overspeed limiting enable**

Address: 0xBE06  
 Min.: 0  
 Max.: 1  
 Default: 1

**Value Range:**  
 0 to 1

**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**BE-07 Sine wave frequency of bandwidth test**

Address: 0xBE07  
 Min.: 0  
 Max.: 1000  
 Default: 0

**Value Range:**  
 0 Hz to 1000 Hz

**Description**  
 -

Effective mode: -  
 Unit: Hz  
 Data type: UInt16  
 Change: Changeable at any time

**BE-08 Sine wave amplitude of bandwidth test**

Address: 0xBE08  
 Min.: 0  
 Max.: 100  
 Default: 0

**Value Range:**  
 0% to 100%

**Description**  
 -

Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Changeable at any time

**BE-09 Bandwidth test enable**

Address: 0xBE09  
 Min.: 0  
 Max.: 4  
 Default: 0

**Value Range:**

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

0 to 4

**Description**

-

**BE-11 Speed loop parameter calculation mode**

Address: 0xBE0B

Min.: 0

Max.: 1

Default: 1

**Value Range:**

0: New solution

1: Compatible solution

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**BE-12 Speed loop proportional gain in FVC mode**

Address: 0xBE0C

Min.: 0.00

Max.: 100.00

Default: 8.00

**Value Range:**

0.00 Hz to 100.00 Hz

**Description**

-

Effective mode: -

Unit: Hz

Data type: UInt16

Change: Changeable at any time

**BE-13 Speed loop integral time in FVC mode**

Address: 0xBE0D

Min.: 0.000

Max.: 20.000

Default: 0.080

**Value Range:**

0.000s to 20.000s

**Description**

-

Effective mode: -

Unit: s

Data type: UInt16

Change: Changeable at any time

**BE-14 Speed loop proportional gain in SVC mode**

Address: 0xBE0E

Min.: 0.00

Max.: 100.00

Default: 5.00

**Value Range:**

0.00 Hz to 100.00 Hz

**Description**

-

Effective mode: -

Unit: Hz

Data type: UInt16

Change: Changeable at any time

**BE-15 Speed loop integral time in SVC mode**

Address: 0xBE0F

Min.: 0.000

Max.: 20.000

Default: 0.127

**Value Range:**

Effective mode: -

Unit: s

Data type: UInt16

Change: Changeable at any time

0.000s to 20.000s

**Description**

-

**BE-16 Low frequency proportional correction coefficient**

Address: 0xBE10

Effective mode: -

Min.: 0.0

Unit: %

Max.: 1000.0

Data type: UInt16

Default: 100.0

Change: Changeable at any time

**Value Range:**

0.0% to 1000.0%

**Description**

-

**BE-17 Low frequency integral correction coefficient**

Address: 0xBE11

Effective mode: -

Min.: 0.0

Unit: %

Max.: 1000.0

Data type: UInt16

Default: 100.0

Change: Changeable at any time

**Value Range:**

0.0% to 1000.0%

**Description**

-

**BE-18 Speed loop adaption factor**

Address: 0xBE12

Effective mode: -

Min.: 0.000

Unit: -

Max.: 10.000

Data type: UInt16

Default: 0.200

Change: Changeable at any time

**Value Range:**

0.000 to 10.000

**Description**

-

**BE-19 Speed loop adaption switchover lower limit**

Address: 0xBE13

Effective mode: -

Min.: 0.000

Unit: -

Max.: 10.000

Data type: UInt16

Default: 0.400

Change: Changeable at any time

**Value Range:**

0.000 to 10.000

**Description**

-

**BE-20 Speed loop adaption switchover upper limit**

Address: 0xBE14

Effective mode: -

Min.: 0.000

Unit: -

Max.: 10.000

Data type: UInt16

Default: 1.000

Change: Changeable at any time

**Value Range:**

0.000 to 10.000

**Description**

-

**BE-21 Speed loop adaption correction upper limit**

Address: 0xBE15

Min.: 0.0

Max.: 1000.0

Default: 100.0

**Value Range:**

0.0% to 1000.0%

**Description**

-

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable at any time

**BE-22 Speed loop adaption correction lower limit**

Address: 0xBE16

Min.: 0.0

Max.: 1000.0

Default: 100.0

**Value Range:**

0.0% to 1000.0%

**Description**

-

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable at any time

**BE-23 Flux adaption enable**

Address: 0xBE17

Min.: 0

Max.: 1

Default: 0

**Value Range:**

0 to 1

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**BE-24 Overspeed controller correction coefficient**

Address: 0xBE18

Min.: 0.0

Max.: 1000.0

Default: 100.0

**Value Range:**

0.0% to 1000.0%

**Description**

-

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable at any time

**BE-25 VDC control command word**

Address: 0xBE19

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

Bit00: VdcMin  
 0: Disabled  
 1: Enabled  
 Bit01: VdcMax  
 0: Disabled  
 1: Enabled  
 Bit02: Automatic calculation of VDC trigger voltage  
 0: Disabled  
 1: Enabled  
 Bit03: VDC control integral action  
 0: Disabled  
 1: Enabled

**Description**

-

**BE-26****Bus capacitance ratio**

Address: 0xBE1A  
 Min.: 50.0  
 Max.: 1000.0  
 Default: 100.0

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable at any time

**Value Range:**

50.0% to 1000.0%

**Description**

-

**BE-27****Undervoltage suppression exit hysteresis frequency**

Address: 0xBE1B  
 Min.: 0.00  
 Max.: 10.00  
 Default: 3.00

Effective mode: -

Unit: Hz

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0.00 Hz to 10.00 Hz

**Description**

-

**BE-28****Minimum VDC failure speed threshold**

Address: 0xBE1C  
 Min.: 0.00  
 Max.: 20.00  
 Default: 2.00

Effective mode: -

Unit: Hz

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0.00 Hz to 20.00 Hz

**Description**

-

**BE-29****Dynamic adjustment coefficient**

Address: 0xBE1D  
 Min.: 0.0  
 Max.: 1000.0  
 Default: 100.0

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable at any time



**Value Range:**

0.0% to 1000.0%

**Description**

-

**BE-30 Minimum VDC activation voltage**

Address: 0xBE1E

Min.: 320.0

Max.: 540.0

Default: 430.0

**Value Range:**

320.0 V to 540.0 V

**Description**

-

Effective mode: -

Unit: V

Data type: UInt16

Change: Changeable at any time

**BE-31 Maximum VDC activation voltage**

Address: 0xBE1F

Min.: 650.0

Max.: 800.0

Default: 770.0

**Value Range:**

650.0 V to 800.0 V

**Description**

-

Effective mode: -

Unit: V

Data type: UInt16

Change: Changeable at any time

**BE-32 Flux linkage control command word**

Address: 0xBE20

Min.: 0

Max.: 65535

Default: 2357

**Value Range:**

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

Bit00: Output voltage limit calculation filtering mode

0: Symmetric filtering

1: Asymmetric filtering

Bit01: Asynchronous motor inverse proportion curve calculation

0: The inverse proportional synchronization frequency decreases.

1: The inverse proportional speed decreases.

Bit02: Flux linkage feedforward calculation by using inverse proportional speed

0: Disabled

1: Enabled

Bit03: Reserved

Bit04: Reserved

Bit05: Field weakening adjustment

0: Disabled

1: Enabled

Bit06: Flux linkage derivative feedforward

0: Disabled

1: Enabled

Bit07: Energy conservation control

0: Disabled

1: Enabled

Bit08: Asynchronous motor flux closed loop

0: Disabled

1: Enabled

Bit09: Reserved

Bit10: Reserved

Bit11: Asynchronous motor pre-excitation mode

0: Pre-excitation based on time

1: Pre-excitation based on current

Bit12: Asynchronous motor pre-excitation current

0: Reference current

1: Maximum current allowed by the drive

### Description

Bit00: Output voltage limit calculation filtering mode

0 indicates the usual first-order filtering, and 1 indicates filtering when the bus voltage rises and no filtering when it falls, so as to avoid overmodulation.

Bit01: Asynchronous motor inverse proportion curve calculation

You can select 1 to deliberately lower the break frequency to avoid saturation in the field-weakening range. The setting is valid only when Bit02 is set to 1.

Bit02: Flux linkage feedforward calculation by using inverse proportional speed

If it is set to 1, the inverse proportional speed of flux linkage reference decreases when the output frequency exceeds the break frequency, which can improve dynamic response during acceleration.

Bit05: Field weakening adjustment

When it is set to 1, voltage outer loop adjustment is valid.

Bit07: Energy conservation control

This function is valid for asynchronous motors. It can reduce copper loss at light load in vector control mode.

Bit11: Asynchronous motor pre-excitation mode

0: Pre-excitation is implemented according to the set time. The time will be shorter than the set time if remanence exists.

1: Fixed current is output during the pre-excitation process, and the motor exits the pre-excitation mode when it detects that the flux linkage reaches the setpoint.

Bit12: Asynchronous motor pre-excitation current

0: Pre-excitation is implemented based on the current defined by AB-51.

1: Pre-excitation is implemented based on the maximum current allowed by the drive, which can shorten the pre-excitation time.

**BE-33 Output voltage upper limit margin for field weakening adjustment**

Address:	0xBE21	Effective mode:	-
Min.:	1	Unit:	%
Max.:	50	Data type:	UInt16
Default:	5	Change:	Changeable at any time

**Value Range:**

1% to 50%

**Description**

Decreasing the setpoint can improve voltage utilization. The current is smaller under the same load in the field weakening region. However, an excessively small setpoint will affect dynamic performance.

**BE-34 Output voltage upper limit margin for auto adjustment of field weakening**

Address:	0xBE22	Effective mode:	-
Min.:	1	Unit:	%
Max.:	20	Data type:	UInt16
Default:	3	Change:	Changeable at any time

**Value Range:**

1% to 20%

**Description**

When F2-18 is set to 2 (calculation+auto adjustment), the value of this parameter affects the voltage margin, and the effect is similar to that of AB-33.

**BE-35 Filter time for calculating maximum output voltage**

Address:	0xBE23	Effective mode:	-
Min.:	0	Unit:	ms
Max.:	3000	Data type:	UInt16
Default:	30	Change:	Changeable at any time

**Value Range:**

0 ms to 3000 ms

**Description**

Increasing the filter time allows the maximum output voltage to change slowly but affects voltage utilization.

**BE-36 Rated flux adjustment coefficient for calculation**

Address:	0xBE24	Effective mode:	-
Min.:	0.5	Unit:	-
Max.:	2.0	Data type:	UInt16
Default:	1.0	Change:	Changeable at any time

**Value Range:**

0.5 to 2.0

**Description**

You can decrease the value of this parameter if underexcitation is required, or increase it if overexcitation is required.

**BE-37 Field weakening frequency adjustment coefficient for calculation**

Address:	0xBE25	Effective mode:	-
Min.:	0.8	Unit:	-
Max.:	1.2	Data type:	UInt16
Default:	1.0	Change:	Changeable at any time

**Value Range:**

0.8 to 1.2

**Description**

This parameter is used to adjust the break frequency calculated automatically by the AC drive. After flux linkage feedforward calculation by using inverse proportional speed is enabled, decreasing the value of this parameter enables the motor to enter the field weakening state in advance, which is applicable to occasions with short acceleration time and high dynamic response requirements.

**BE-38 Slip filter time for calculating field weakening frequency**

Address:	0xBE26	Effective mode:	-
Min.:	0	Unit:	ms
Max.:	3000	Data type:	UInt16
Default:	62	Change:	Changeable at any time

**Value Range:**

0 ms to 3000 ms

**Description**

When flux linkage feedforward calculation by using inverse proportional speed is enabled, increasing the value of this parameter can reduce the fluctuation range of the calculated reference flux linkage.

**BE-39 Feedback speed filtering**

Address:	0xBE27	Effective mode:	-
Min.:	0	Unit:	ms
Max.:	8000	Data type:	UInt16
Default:	50	Change:	Changeable at any time

**Value Range:**

0 ms to 8000 ms

**Description**

When flux linkage feedforward calculation by using inverse proportional speed is enabled, increasing the value of this parameter can reduce the disturbance to the calculated flux linkage feedforward introduced by speed test.

**BE-40 Flux linkage rising filter time**

Address:	0xBE28	Effective mode:	-
Min.:	0	Unit:	ms
Max.:	8000	Data type:	UInt16
Default:	20	Change:	Changeable at any time

**Value Range:**

0 ms to 8000 ms

**Description**

When flux linkage feedforward calculation by using inverse proportional speed is enabled, this parameter defines the filter time of the asymmetric filter that takes effect only when the reference flux linkage increases.

**BE-42 Feedback voltage filter time**

Address:	0xBE2A	Effective mode:	-
Min.:	0	Unit:	ms
Max.:	3000	Data type:	UInt16
Default:	5	Change:	Changeable at any time

**Value Range:**

0 ms to 3000 ms

**Description**

When field weakening adjustment is enabled, increasing this filter time can reduce the fluctuation of the reference excitation current. To increase the field weakening gain, you need to decrease the filter time to avoid system oscillation.

**BE-43 Maximum demagnetization current of synchronous motor**

Address:	0xBE2B	Effective mode:	-
Min.:	0	Unit:	%
Max.:	500	Data type:	UInt16
Default:	300	Change:	Changeable at any time

**Value Range:**

0% to 500%

**Description**

This parameter is used to limit the demagnetization current of synchronous motors to prevent faults such as overload. It is a percentage relative to the rated current.

**BE-44 Voltage outer loop lower limit coefficient**

Address:	0xBE2C	Effective mode:	-
Min.:	0	Unit:	-
Max.:	500	Data type:	UInt16
Default:	50	Change:	Changeable at any time

**Value Range:**

0 to 500

**Description**

This parameter is used to limit the lower limit of flux linkage during field weakening for asynchronous motors to avoid limiting torque reduction.

**BE-45 Flux linkage derivative feedforward coefficient**

Address:	0xBE2D	Effective mode:	-
Min.:	0.0	Unit:	-
Max.:	1.5	Data type:	UInt16
Default:	1.0	Change:	Changeable at any time

**Value Range:**

0.0 to 1.5

**Description**

When flux linkage derivative feedforward of an asynchronous motor is enabled, this parameter can adjust the ratio of effective feedforward. A smaller value indicates smaller feedforward effect.

**BE-46 Flux linkage derivative feedforward filter time**

Address:	0xBE2E	Effective mode:	-
Min.:	0	Unit:	ms
Max.:	3000	Data type:	UInt16
Default:	6	Change:	Changeable at any time

**Value Range:**

0 ms to 3000 ms

**Description**

Increasing the filter time can reduce the fluctuation of the calculated feedforward value.

**BE-47 Torque current rising filter time under energy conservation control**

Address:	0xBE2F	Effective mode:	-
Min.:	0	Unit:	ms
Max.:	3000	Data type:	UInt16
Default:	50	Change:	Changeable at any time

**Value Range:**

0 ms to 3000 ms

**Description**

When energy conservation control of an asynchronous motor is enabled, decreasing the value of this parameter can improve dynamic response and avoid a large drop in speed when a sudden load is applied. You need to increase this value when the output current fluctuates greatly.

**BE-48 Torque current falling filter time under energy conservation control**

Address:	0xBE30	Effective mode:	-
Min.:	0	Unit:	ms
Max.:	3000	Data type:	UInt16
Default:	100	Change:	Changeable at any time

**Value Range:**

0 ms to 3000 ms

**Description**

When energy conservation control of an asynchronous motor is enabled, decreasing the value of this parameter can make the output current decrease rapidly after the load is reduced. You need to increase this value when the output current fluctuates greatly.

**BE-49 Flux linkage lower limit coefficient under energy conservation control**

Address:	0xBE31	Effective mode:	-
Min.:	0.00	Unit:	-
Max.:	0.50	Data type:	UInt16
Default:	0.10	Change:	Changeable at any time

**Value Range:**

0.00 to 0.50

**Description**

This parameter defines the minimum flux linkage allowed under energy conservation control. A smaller value indicates more significant energy conservation effect when no load is applied, but it will affect dynamic response after the load is added.

**BE-51 Pre-excitation current**

Address:	0xBE33	Effective mode:	-
Min.:	1	Unit:	%
Max.:	200	Data type:	UInt16
Default:	100	Change:	Changeable at any time

**Value Range:**

1% to 200%

**Description**

When pre-excitation of an asynchronous motor is implemented based on current, this parameter defines the reference excitation current as a percentage of the rated current.

**BE-52 Pre-excitation time**

Address:	0xBE34	Effective mode:	-
Min.:	1	Unit:	ms
Max.:	30000	Data type:	UInt16
Default:	1000	Change:	Changeable at any time

**Value Range:**  
1 ms to 30000 ms

**Description**

When pre-excitation of an asynchronous motor is implemented based on time, this parameter defines the total excitation time. The actual excitation time will be shorter than the set time if remanence exists.

**BE-53 Flux linkage closed-loop bandwidth frequency**

Address:	0xBE35	Effective mode:	-
Min.:	0.0	Unit:	Hz
Max.:	100.0	Data type:	UInt16
Default:	2.0	Change:	Changeable at any time

**Value Range:**  
0.0 Hz to 100.0 Hz

**Description**

When flux closed loop is enabled, increasing the setpoint can reduce the deviation of the flux linkage from the rated value during dynamic processes such as sudden load or acceleration and deceleration of the asynchronous motor.

**BE-54 Feedback flux linkage filter time coefficient**

Address:	0xBE36	Effective mode:	-
Min.:	0	Unit:	-
Max.:	200	Data type:	UInt16
Default:	4	Change:	Changeable at any time

**Value Range:**  
0 to 200

**Description**

When flux closed loop is enabled, increasing the setpoint can reduce fluctuation of the reference flux linkage. It is a percentage relative to the rotor time constant.

**BE-55 Static output flux linkage filter time**

Address:	0xBE37	Effective mode:	-
Min.:	0	Unit:	ms
Max.:	5000	Data type:	UInt16
Default:	10	Change:	Changeable at any time

**Value Range:**  
0 ms to 5000 ms

**Description**

Increasing the setpoint can reduce fluctuation of the reference flux linkage.

**BE-56 Current loop mode**

Address:	0xBE38	Effective mode:	-
Min.:	0	Unit:	-
Max.:	3	Data type:	UInt16
Default:	1	Change:	Changeable only at stop

**Value Range:**

- 0: ImCsr2 mode
- 1: Complex vector mode
- 2: 880 mode
- 3: No field weakening

**Description**

Decreasing the value of this parameter can enhance current loop following but also increase the overshoot and harmonics of the output current.

**BE-57 PI regulator proportional gain adaptation with load**

Address:	0xBE39	Effective mode:	-
Min.:	0	Unit:	-
Max.:	1	Data type:	UInt16
Default:	0	Change:	Changeable only at stop

**Value Range:**

0: Disabled

1: Enabled

**Description**

-

**BE-58 Current loop damping**

Address:	0xBE3A	Effective mode:	-
Min.:	0.2	Unit:	-
Max.:	5.0	Data type:	UInt16
Default:	0.8	Change:	Changeable at any time

**Value Range:**

0.2 to 5.0

**Description**

Decreasing the value of this parameter can enhance current loop following but also increase the overshoot and harmonics of the output current.

**BE-59 Low-speed current loop Kp adjustment**

Address:	0xBE3B	Effective mode:	-
Min.:	0.1	Unit:	-
Max.:	10.0	Data type:	UInt16
Default:	1.0	Change:	Changeable at any time

**Value Range:**

0.1 to 10.0

**Description**

The AC drive automatically calculates the current loop gain based on motor parameters. You can decrease the value of this parameter as appropriate when low-speed current oscillation or torque fluctuation is large.

**BE-60 High-speed current loop Kp adjustment**

Address:	0xBE3C	Effective mode:	-
Min.:	0.1	Unit:	-
Max.:	10.0	Data type:	UInt16
Default:	1.0	Change:	Changeable at any time

**Value Range:**

0.1 to 10.0



**Description**

The AC drive automatically calculates the current loop gain based on motor parameters. You can decrease the value of this parameter as appropriate when low-speed current oscillation or torque fluctuation is large.

**BE-61 Low-speed current loop Ki adjustment**

Address:	0xBE3D	Effective mode:	-
Min.:	0.1	Unit:	-
Max.:	10.0	Data type:	UInt16
Default:	1.0	Change:	Changeable at any time

**Value Range:**

0.1 to 10.0

**Description**

The AC drive automatically calculates the current loop gain based on motor parameters. You can decrease the value of this parameter as appropriate when low-speed current oscillation or torque fluctuation is large.

**BE-62 High-speed current loop Ki adjustment**

Address:	0xBE3E	Effective mode:	-
Min.:	0.1	Unit:	-
Max.:	10.0	Data type:	UInt16
Default:	2.0	Change:	Changeable at any time

**Value Range:**

0.1 to 10.0

**Description**

The AC drive automatically calculates the current loop gain based on motor parameters. You can decrease the value of this parameter as appropriate when low-speed current oscillation or torque fluctuation is large.

**BE-63 D-axis current loop complex vector adjustment**

Address:	0xBE3F	Effective mode:	-
Min.:	0.1	Unit:	-
Max.:	10.0	Data type:	UInt16
Default:	1.0	Change:	Changeable at any time

**Value Range:**

0.1 to 10.0

**Description**

-

**BE-64 Q-axis current loop complex vector adjustment**

Address:	0xBE40	Effective mode:	-
Min.:	0.1	Unit:	-
Max.:	10.0	Data type:	UInt16
Default:	1.0	Change:	Changeable at any time

**Value Range:**

0.1 to 10.0

**Description**

-

**BE-65 Complex vector hysteresis frequency lower limit as a percentage of rated frequency**

Address:	0xBE41	Effective mode:	-
----------	--------	-----------------	---

Min.: 0 Unit: %  
 Max.: BE-66 Data type: UInt16  
 Default: 0 Change: Changeable at any time

**Value Range:**

0% to BE-66

**Description**

-

**BE-66 Complex vector hysteresis frequency upper limit as a percentage of rated frequency**

Address: 0xBE42 Effective mode: -  
 Min.: BE-65 Unit: %  
 Max.: 150 Data type: UInt16  
 Default: 0 Change: Changeable at any time

**Value Range:**

BE-65 to 150%

**Description**

-

**BE-67 ImCsr2 hysteresis switchover voltage upper limit as a percentage of saturation voltage**

Address: 0xBE43 Effective mode: -  
 Min.: BE-68 Unit: %  
 Max.: 95 Data type: UInt16  
 Default: 89 Change: Changeable at any time

**Value Range:**

BE-68 to 95%

**Description**

-

**BE-68 ImCsr2 hysteresis switchover voltage lower limit as a percentage of saturation voltage**

Address: 0xBE44 Effective mode: -  
 Min.: 60 Unit: %  
 Max.: BE-67 Data type: UInt16  
 Default: 79 Change: Changeable at any time

**Value Range:**

60% to BE-67

**Description**

-

**BE-69 ImCsr2 hysteresis switchover frequency hysteresis range as a percentage of rated frequency**

Address: 0xBE45 Effective mode: -  
 Min.: 1 Unit: %  
 Max.: 30 Data type: UInt16  
 Default: 10 Change: Changeable at any time

**Value Range:**

1% to 30%

**Description**

-

**BE-70 ImCsr2 hysteresis switchover frequency lower limit (below which the hysteresis condition does not take effect) as a percentage of the rated frequency**

Address: 0xBE46 Effective mode: -

Min.:	40	Unit:	%
Max.:	80	Data type:	UInt16
Default:	60	Change:	Changeable at any time
<b>Value Range:</b>			
40% to 80%			
<b>Description</b>			
-			

**BE-71 ImCsr2 current loop Kss adjustment**

Address:	0xBE47	Effective mode:	-
Min.:	0.1	Unit:	-
Max.:	10.0	Data type:	UInt16
Default:	1.0	Change:	Changeable at any time
<b>Value Range:</b>			
0.1 to 10.0			
<b>Description</b>			
-			

**BE-72 Proportional gain adjustment coefficient corresponding to the maximum torque when proportional gain is adjusted with load**

Address:	0xBE48	Effective mode:	-
Min.:	0.1	Unit:	-
Max.:	1.0	Data type:	UInt16
Default:	0.5	Change:	Changeable at any time
<b>Value Range:</b>			
0.1 to 1.0			
<b>Description</b>			
-			

**BE-73 Torque upper limit setpoint as a percentage of rated torque when proportional gain is adjusted with load**

Address:	0xBE49	Effective mode:	-
Min.:	BE-74	Unit:	%
Max.:	300	Data type:	UInt16
Default:	200	Change:	Changeable at any time
<b>Value Range:</b>			
BE-74 to 300%			
<b>Description</b>			
-			

**BE-74 Torque lower limit setpoint as a percentage of rated torque when proportional gain is adjusted with load**

Address:	0xBE4A	Effective mode:	-
Min.:	10	Unit:	%
Max.:	BE-73	Data type:	UInt16
Default:	100	Change:	Changeable at any time
<b>Value Range:</b>			
10% to BE-73			
<b>Description</b>			
-			

**BE-75 Derivative feedforward adjustment**

Address: 0xBE4B  
Min.: 0.0  
Max.: 1.0  
Default: 0.0

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Changeable at any time

**Value Range:**

0.0 to 1.0

**Description**

-

**BE-76 Decoupling control start frequency as a percentage of rated frequency**

Address: 0xBE4C  
Min.: 20  
Max.: 150  
Default: 40

Effective mode: -  
Unit: %  
Data type: UInt16  
Change: Changeable at any time

**Value Range:**

20% to 150%

**Description**

-

**BE-77 Decoupling control filter time adjustment coefficient**

Address: 0xBE4D  
Min.: 0.1  
Max.: 3.0  
Default: 1.0

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Changeable at any time

**Value Range:**

0.1 to 3.0

**Description**

-

**BE-78 Decoupling control output adjustment coefficient**

Address: 0xBE4E  
Min.: 0.0  
Max.: 1.0  
Default: 1.0

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Changeable at any time

**Value Range:**

0.0 to 1.0

**Description**

-

**BE-79 CPC feedforward enable**

Address: 0xBE4F  
Min.: 0  
Max.: 1  
Default: 0

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Changeable at any time

**Value Range:**

0: Disabled

1: Enabled

**Description**

-

**BE-80 Current loop auxiliary command word**

Address: 0xBE50  
 Min.: 0  
 Max.: 65535  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

Bit00: Complex vector angle limiting

0: Disabled

1: Enabled

Bit01: Voltage angle limiting

0: Program internal limiting

1: Parameter setting

Bit02: 0 by default

0: No lower limit on the excitation current is imposed during the dynamic process.

1: A lower limit on the excitation current is imposed during the dynamic process in ImCsr2 mode.

Bit03–Bit15: Reserved (0 by default)

**Description**

-

**BE-81 Voltage angle upper limit**

Address: 0xBE51  
 Min.: 90  
 Max.: 180  
 Default: 150

Effective mode: -  
 Unit: °  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

90° to 180°

**Description**

-

**BE-82 Voltage angle lower limit**

Address: 0xBE52  
 Min.: 0  
 Max.: 90  
 Default: 30

Effective mode: -  
 Unit: °  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0° to 90°

**Description**

-

**BE-83 Asynchronous motor D axis integral limit**

Address: 0xBE53  
 Min.: 0.500  
 Max.: 1.000  
 Default: 0.707

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0.500 to 1.000

**Description**

-

<b>BE-84</b>	<b>Current loop carrier frequency upper limit</b> Address: 0xBE54 Min.: 5.0 Max.: 16.0 Default: 8.0 <b>Value Range:</b> 5.0 to 16.0 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>BE-85</b>	<b>Droop enable</b> Address: 0xBE55 Min.: 0 Max.: 1 Default: 0 <b>Value Range:</b> 0 to 1 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable only at stop
<b>BE-86</b>	<b>Droop source</b> Address: 0xBE56 Min.: 0 Max.: 3 Default: 1 <b>Value Range:</b> 0: Line current 1: Torque reference 2: Speed adjustment output 3: Speed adjustment integral component <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable only at stop
<b>BE-87</b>	<b>Frequency reference droop coefficient</b> Address: 0xBE57 Min.: 0.0 Max.: 50.0 Default: 0.0 <b>Value Range:</b> 0.0% to 50.0% <b>Description</b> -	Effective mode: - Unit: % Data type: UInt16 Change: Changeable at any time
<b>BE-88</b>	<b>FVC-SVC switchover mode</b> Address: 0xBE58 Min.: 0 Max.: 3 Default: 0 <b>Value Range:</b>	Effective mode: - Unit: - Data type: UInt16 Change: Changeable only at stop

0: No switchover

1: Active switchover

2: Passive switchover (The AC drive switches to SVC mode upon detection of encoder wire breakage, and it switches back to FVC mode when the encoder recovers during stop and does not switch back to FVC mode when the encoder recovers during running.)

3: Passive switchover (The AC drive switches to SVC mode upon detection of encoder wire breakage, and it switches back to FVC mode when the encoder recovers during running or stop.)

**Description**

-

**BE-89 FVC-SVC switchover frequency**

Address: 0xBE59

Min.: 10

Max.: 500

Default: 50

**Value Range:**

10% to 500%

**Description**

-

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable only at stop

**BE-90 FVC-SVC switchover hysteresis**

Address: 0xBE5A

Min.: 10

Max.: 100

Default: 10

**Value Range:**

10% to 100%

**Description**

-

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable only at stop

## 4.39 BF: AC Drive Parameters

**BF-00 Minimum speed measurement interval of resolver**

Address: 0xBF00

Min.: 0.010

Max.: 10.000

Default: 0.450

**Value Range:**

0.010s to 10.000s

**Description**

-

Effective mode: -

Unit: s

Data type: UInt16

Change: Changeable only at stop

**BF-01 Dynamic parameter adaption factor**

Address: 0xBF01

Min.: 20.0

Max.: 200.0

Default: 100.0

**Value Range:**

20.0% to 200.0%

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable only at stop

**Description**

-

**BF-02 Saturation model auto-tuning voltage setting mode**

Address: 0xBF02 Effective mode: -  
Min.: 0 Unit: -  
Max.: 1 Data type: UInt16  
Default: 1 Change: Changeable at any time

**Value Range:**

0 to 1

**Description**

-

**BF-03 Reserved 2 saturation model auto-tuning carrier frequency reference**

Address: 0xBF03 Effective mode: -  
Min.: 0.0 Unit: -  
Max.: 10.0 Data type: UInt16  
Default: 6.0 Change: Changeable at any time

**Value Range:**

0.0 to 10.0

**Description**

-

**BF-04 Saturation model auto-tuning target rated current multiple**

Address: 0xBF04 Effective mode: -  
Min.: 0 Unit: %  
Max.: 250 Data type: UInt16  
Default: 200 Change: Changeable at any time

**Value Range:**

0% to 250%

**Description**

-

**BF-05 Saturation model auto-tuning manual voltage setpoint**

Address: 0xBF05 Effective mode: -  
Min.: 0 Unit: -  
Max.: 4096 Data type: UInt16  
Default: 2000 Change: Changeable at any time

**Value Range:**

0 to 4096

**Description**

-

**BF-06 Bus voltage filter time**

Address: 0xBF06 Effective mode: -  
Min.: 0 Unit: ms  
Max.: 10000 Data type: UInt16  
Default: 0 Change: Changeable at any time

**Value Range:**

0 ms to 10000 ms

**Description**

-



**BF-07**

**Inverter protection**

Address:	0xBF07	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	128	Change:	Changeable at any time

**Value Range:**

Bit00: Pulse-by-pulse current limit protection (reserved)

0: Disabled

1: Enabled

Bit01: Output phase loss (reserved)

0: Disabled

1: Enabled

Bit02: Leakage current protection (reserved)

0: Disabled

1: Enabled

Bit03: PL signal input phase loss detection (reserved)

0: Disabled

1: Enabled

Bit04: Bus input phase loss detection (reserved)

0: Disabled

1: Enabled

Bit05: Derating at low frequency

0: Disabled

1: Enabled

Bit06: Reporting overvoltage upon shutdown

0: Enabled

1: Disabled

Bit07: Zero drift detection fault

0: Disabled

1: Enabled

Bit08: Pre-charge fault detection (reserved)

0: Disabled

1: Enabled

Bit09: Bus voltage collection and analysis

0: Disabled

1: Enabled

**Description**

-

**BF-09**

**AC drive pre-overload threshold**

Address:	0xBF09	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	100.0	Data type:	UInt16
Default:	90.0	Change:	Changeable at any time

**Value Range:**

0.0% to +100.0%

**Description**

-

<b>BF-12</b>	<b>Input phase loss detection time</b>	Address: 0xBF0C Min.: 1.0 Max.: 10.0 Default: 2.0 <b>Value Range:</b> 1.0s to 10.0s <b>Description</b> -	Effective mode: - Unit: s Data type: UInt16 Change: Changeable at any time
<b>BF-13</b>	<b>Allowable bus fluctuation range</b>	Address: 0xBF0D Min.: 10.0 Max.: 500.0 Default: 65.0 <b>Value Range:</b> 10.0 V to 500.0 V <b>Description</b> -	Effective mode: - Unit: V Data type: UInt16 Change: Changeable at any time
<b>BF-14</b>	<b>Module pre-temperature to overtemperature margin</b>	Address: 0xBF0E Min.: 0.0 Max.: 60.0 Default: 5.0 <b>Value Range:</b> 0.0% to 60.0% <b>Description</b> -	Effective mode: - Unit: % Data type: UInt16 Change: Changeable at any time
<b>BF-15</b>	<b>Maximum output current</b>	Address: 0xBF0F Min.: 0.0 Max.: 1000.0 Default: 1000.0 <b>Value Range:</b> 0.0% to 1000.0% <b>Description</b> -	Effective mode: - Unit: % Data type: UInt16 Change: Changeable at any time
<b>BF-16</b>	<b>PWM setting</b>	Address: 0xBF10 Min.: 0 Max.: 65535 Default: 130 <b>Value Range:</b>	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time

Bit00: Carrier frequency adjusted with temperature  
 0: Disabled  
 1: Enabled  
 Bit01: Carrier frequency adjusted with sync frequency  
 0: Disabled  
 1: Enabled  
 Bit02–Bit03:  
 0: Asynchronous modulation  
 1: Pseudo synchronous modulation  
 2: Synchronous modulation (reserved)  
 Bit04–Bit06:  
 0: CPWM  
 1: DPWM0  
 2: DPWM1  
 3: DPWM2  
 4: DPWM3  
 5: DPWmph  
 Bit07: Deadzone compensation  
 0: Disabled  
 1: Enabled  
 Bit08: Overmodulation mode  
 0: Amplitude  
 1: Phase

**Description**

-

**BF-17 Hysteresis for adjusting carrier frequency with sync frequency**

Address:	0xBF11	Effective mode:	-
Min.:	0.0	Unit:	Hz
Max.:	100.0	Data type:	UInt16
Default:	3.0	Change:	Changeable at any time

**Value Range:**

0.0 Hz to 100.0 Hz

**Description**

-

**BF-18 Cut-off frequency for deadzone compensation**

Address:	0xBF12	Effective mode:	-
Min.:	0.0	Unit:	Hz
Max.:	600.0	Data type:	UInt16
Default:	70.0	Change:	Changeable at any time

**Value Range:**

0.0 Hz to 600.0 Hz

**Description**

-

**BF-19 Narrow pulse coefficient**

Address:	0xBF13	Effective mode:	-
Min.:	0.0	Unit:	%

Max.: 100.0  
 Default: 0.0  
**Value Range:**  
 0.0% to +100.0%

Data type: UInt16  
 Change: Changeable at any time

**Description**

-

**BF-20 Start frequency for adjusting carrier frequency with sync frequency**

Address: 0xBF14  
 Min.: 0.0  
 Max.: 600.0  
 Default: 5.0

Effective mode: -  
 Unit: Hz  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0.0 Hz to 600.0 Hz

**Description**

-

**BF-21 Modulation ratio limit**

Address: 0xBF15  
 Min.: A5-05  
 Max.: 115.5  
 Default: 105.0

Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

A5-05 to 115.5%

**Description**

-

**BF-22 Drive transistor voltage drop voltage**

Address: 0xBF16  
 Min.: 0.00  
 Max.: 5.00  
 Default: 0.80

Effective mode: -  
 Unit: V  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**

0.00 V to 5.00 V

**Description**

-

**BF-23 Current 1 of deadzone time curve**

Address: 0xBF17  
 Min.: 0.0  
 Max.: 150.0  
 Default: 1.0

Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**

0.0% to 150.0%

**Description**

-

**BF-24 Current 2 of deadzone time curve**

Address: 0xBF18  
 Min.: 0.0  
 Max.: 150.0  
 Default: 2.0

Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**

0.0% to 150.0%

**Description**

-

**BF-25**

**Current 3 of deadzone time curve**

Address: 0xBF19

Min.: 0.0

Max.: 150.0

Default: 5.0

**Value Range:**

0.0% to 150.0%

**Description**

-

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable only at stop

**BF-26**

**Current 4 of deadzone time curve**

Address: 0xBF1A

Min.: 0.0

Max.: 150.0

Default: 10.0

**Value Range:**

0.0% to 150.0%

**Description**

-

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable only at stop

**BF-27**

**Current 5 of deadzone time curve**

Address: 0xBF1B

Min.: 0.0

Max.: 150.0

Default: 20.0

**Value Range:**

0.0% to 150.0%

**Description**

-

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable only at stop

**BF-28**

**Current 6 of deadzone time curve**

Address: 0xBF1C

Min.: 0.0

Max.: 150.0

Default: 40.0

**Value Range:**

0.0% to 150.0%

**Description**

-

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable only at stop

**BF-29**

**Current 7 of deadzone time curve**

Address: 0xBF1D

Min.: 0.0

Max.: 150.0

Default: 60.0

**Value Range:**

0.0% to 150.0%

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable only at stop

**Description**

-

**BF-30 Current 8 of deadzone time curve**

Address: 0xBF1E

Min.: 0.0

Max.: 150.0

Default: 80.0

**Value Range:**

0.0% to 150.0%

**Description**

-

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable only at stop

**BF-31 Time 1 of deadzone time curve**

Address: 0xBF1F

Min.: 0.0

Max.: 300.0

Default: 10.0

**Value Range:**

0.0% to 300.0%

**Description**

-

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable only at stop

**BF-32 Time 2 of deadzone time curve**

Address: 0xBF20

Min.: 0.0

Max.: 300.0

Default: 20.0

**Value Range:**

0.0% to 300.0%

**Description**

-

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable only at stop

**BF-33 Time 3 of deadzone time curve**

Address: 0xBF21

Min.: 0.0

Max.: 300.0

Default: 50.0

**Value Range:**

0.0% to 300.0%

**Description**

-

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable only at stop

**BF-34 Time 4 of deadzone time curve**

Address: 0xBF22

Min.: 0.0

Max.: 300.0

Default: 80.0

**Value Range:**

0.0% to 300.0%

**Description**

-

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable only at stop

<b>BF-35</b>	<p><b>Time 5 of deadzone time curve</b>                  Address: 0xBF23                  Min.: 0.0                  Max.: 300.0                  Default: 90.0  <b>Value Range:</b>                  0.0% to 300.0%  <b>Description</b>                  -</p>	<p>Effective mode: -                  Unit: %                  Data type: UInt16                  Change: Changeable only at stop</p>
<b>BF-36</b>	<p><b>Time 6 of deadzone time curve</b>                  Address: 0xBF24                  Min.: 0.0                  Max.: 300.0                  Default: 90.0  <b>Value Range:</b>                  0.0% to 300.0%  <b>Description</b>                  -</p>	<p>Effective mode: -                  Unit: %                  Data type: UInt16                  Change: Changeable only at stop</p>
<b>BF-37</b>	<p><b>Time 7 of deadzone time curve</b>                  Address: 0xBF25                  Min.: 0.0                  Max.: 300.0                  Default: 90.0  <b>Value Range:</b>                  0.0% to 300.0%  <b>Description</b>                  -</p>	<p>Effective mode: -                  Unit: %                  Data type: UInt16                  Change: Changeable only at stop</p>
<b>BF-38</b>	<p><b>Time 8 of deadzone time curve</b>                  Address: 0xBF26                  Min.: 0.0                  Max.: 300.0                  Default: 90.0  <b>Value Range:</b>                  0.0% to 300.0%  <b>Description</b>                  -</p>	<p>Effective mode: -                  Unit: %                  Data type: UInt16                  Change: Changeable only at stop</p>
<b>BF-39</b>	<p><b>Detection of excessive leakage current</b>                  Address: 0xBF27                  Min.: 0                  Max.: 1                  Default: 0  <b>Value Range:</b>                  0: Disabled                  1: Enabled  <b>Description</b>                  -</p>	<p>Effective mode: -                  Unit: -                  Data type: UInt16                  Change: Changeable only at stop</p>

<b>BF-40</b>	<b>Excessive leakage current fault threshold protection gain</b> Address: 0xBF28 Min.: 50.0 Max.: 100.0 Default: 100.0 <b>Value Range:</b> 50.0% to 100.0% <b>Description</b> -	Effective mode: - Unit: % Data type: UInt16 Change: Changeable at any time
<b>BF-44</b>	<b>Start voltage for actuating braking unit</b> Address: 0xBF2C Min.: 200.0 Max.: 2000.0 Default: 760.0 <b>Value Range:</b> 200.0 V to 2000.0 V <b>Description</b> -	Effective mode: - Unit: V Data type: UInt16 Change: Changeable at any time
<b>BF-45</b>	<b>Load loss detection level</b> Address: 0xBF2D Min.: 0.0 Max.: 100.0 Default: 10.0 <b>Value Range:</b> 0.0% to +100.0% <b>Description</b> -	Effective mode: - Unit: % Data type: UInt16 Change: Changeable at any time
<b>BF-46</b>	<b>Load loss detection time</b> Address: 0xBF2E Min.: 0.0 Max.: 60.0 Default: 1.0 <b>Value Range:</b> 0.0s to 60.0s <b>Description</b> -	Effective mode: - Unit: s Data type: UInt16 Change: Changeable at any time

## 4.40 C0: Communication Adaptation Parameters

<b>C0-00</b>	<b>Communication mapping</b> Address: 0xC000 Min.: 0 Max.: 1 Default: 0 <b>Value Range:</b> 0: Disabled 1: Enabled	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
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**Description**

-

**C0-01**

**Automatic address detection**

Address: 0xC001

Effective mode: -

Min.: 0

Unit: -

Max.: 2

Data type: UInt16

Default: 0

Change: Changeable at any time

**Value Range:**

0: Disabled

1: Reset detection (overwriting the index)

2: Incremental detection (without overwriting the index)

**Description**

-

**C0-02**

**Automatic address detection time**

Address: 0xC002

Effective mode: -

Min.: 0

Unit: s

Max.: 65535

Data type: UInt16

Default: 60

Change: Changeable at any time

**Value Range:**

0s to 65535s

**Description**

-

**C0-03**

**Confirmation of automatic address detection**

Address: 0xC003

Effective mode: -

Min.: 0

Unit: -

Max.: 1

Data type: UInt16

Default: 0

Change: Changeable at any time

**Value Range:**

0: Cancel

1: Confirm

**Description**

-

**C0-04**

**Data transmission endian mode**

Address: 0xC004

Effective mode: -

Min.: 0

Unit: -

Max.: 1

Data type: UInt16

Default: 0

Change: Changeable at any time

**Value Range:**

Ones: RX data

0: Low-order bytes before high-order bytes

1: High-order bytes before low-order bytes

**Description**

-

**C0-05**

**Read data type selection 1**

Address: 0xC005

Effective mode: -

Min.: 0

Unit: -

Max.: 55555 Data type: UInt16  
 Default: 0 Change: Changeable at any time

**Value Range:**

Ones: Read index 1

0: UInt16

1: Int16

2: UInt32

3: Int32

4: Unsigned Float32

5: Signed Float32

Tens: Read index 2

0: UInt16

1: Int16

2: UInt32

3: Int32

4: Unsigned Float32

5: Signed Float32

Hundreds: Read index 3

0: UInt16

1: Int16

2: UInt32

3: Int32

4: Unsigned Float32

5: Signed Float32

Thousands: Read index 4

0: UInt16

1: Int16

2: UInt32

3: Int32

4: Unsigned Float32

5: Signed Float32

Ten thousands: Read index 5

0: UInt16

1: Int16

2: UInt32

3: Int32

4: Unsigned Float32

5: Signed Float32

**Description**

-

**C0-06 Read data type selection 2**

Address: 0xC006

Min.: 0

Max.: 55555

Default: 0

**Value Range:**

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

Ones: Read index 6

0: UInt16

1: Int16

2: UInt32

3: Int32

4: Unsigned Float32

5: Signed Float32

Tens: Read index 7

0: UInt16

1: Int16

2: UInt32

3: Int32

4: Unsigned Float32

5: Signed Float32

Hundreds: Read index 8

0: UInt16

1: Int16

2: UInt32

3: Int32

4: Unsigned Float32

5: Signed Float32

Thousands: Read index 9

0: UInt16

1: Int16

2: UInt32

3: Int32

4: Unsigned Float32

5: Signed Float32

Ten thousands: Read index 10

0: UInt16

1: Int16

2: UInt32

3: Int32

4: Unsigned Float32

5: Signed Float32

**Description**

-

**C0-07**

**Read data scale factor selection 1**

Address: 0xC007

Min.: 0

Max.: 58888

Default: 0

**Value Range:**

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

Ones: Read index 1

0: x1

1: x0.1

2: x0.01

3: x0.001

4: x10

5: x100

6: x1000

7: x0.0001

8: x10000

Tens: Read index 2

0: x1

1: x0.1

2: x0.01

3: x0.001

4: x10

5: x100

6: x1000

7: x0.0001

8: x10000

Hundreds: Read index 3

0: x1

1: x0.1

2: x0.01

3: x0.001

4: x10

5: x100

6: x1000

7: x0.0001

8: x10000

(To be continued)

(Continued)

Thousands: Read index 4

0: x1

1: x0.1

2: x0.01

3: x0.001

4: x10

5: x100

6: x1000

7: x0.0001

8: x10000

Ten thousands: Read index 5

0: x1

1: x0.1

2: x0.01

3: x0.001

4: x10

5: x100

**Description**

-

**C0-08**

**Read data scale factor selection 2**

Address: 0xC008

Min.: 0

Max.: 58888

Default: 0

**Value Range:**

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

Ones: Read index 6

0: x1

1: x0.1

2: x0.01

3: x0.001

4: x10

5: x100

6: x1000

7: x0.0001

8: x10000

Tens: Read index 7

0: x1

1: x0.1

2: x0.01

3: x0.001

4: x10

5: x100

6: x1000

7: x0.0001

8: x10000

Hundreds: Read index 8

0: x1

1: x0.1

2: x0.01

3: x0.001

4: x10

5: x100

6: x1000

7: x0.0001

8: x10000

(To be continued)

(Continued)

Thousands: Read index 9

0: x1

1: x0.1

2: x0.01

3: x0.001

4: x10

5: x100

6: x1000

7: x0.0001

8: x10000

Ten thousands: Read index 10

0: x1

1: x0.1

2: x0.01

3: x0.001

4: x10

5: x100

**Description**

-

**C0-09**

**Write data type**

Address: 0xC009

Min.: 0x0

Max.: 0xFFFF

Default: 0x0

**Value Range:**

0x0 to 0xFFFF

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C0-10**

**Address mapping status**

Address: 0xC00A

Min.: 0x0

Max.: 0xFFFF

Default: 0x0

**Value Range:**

0x0 to 0xFFFF

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C0-18**

**Number of read mapping addresses**

Address: 0xC012

Min.: 0

Max.: 10

Default: 10

**Value Range:**

0 to 10

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Description**

-

**C0-19 Number of write mapping addresses**

Address: 0xC013

Min.: 0

Max.: 10

Default: 10

**Value Range:**

0 to 10

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C0-20 Read index 1**

Address: 0xC014

Min.: 0x0

Max.: 0xFFFF

Default: 0x0

**Value Range:**

0x0 to 0xFFFF

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C0-21 Read subindex 1**

Address: 0xC015

Min.: 0x0

Max.: 0xFFFF

Default: 0x0

**Value Range:**

0x0 to 0xFFFF

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C0-22 Read mapping internal address index 1**

Address: 0xC016

Min.: 0x0

Max.: 0xFFFF

Default: 0x0

**Value Range:**

0x0 to 0xFFFF

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C0-23 Read mapping internal address subindex 1**

Address: 0xC017

Min.: 0x0

Max.: 0xFFFF

Default: 0x0

**Value Range:**

0x0 to 0xFFFF

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time



<b>C0-24</b>	<p><b>Read index 2</b>          Address: 0xC018          Min.: 0x0          Max.: 0xFFFF          Default: 0x0  <b>Value Range:</b>          0x0 to 0xFFFF  <b>Description</b>          -</p>	<p>Effective mode: -          Unit: -          Data type: UInt16          Change: Changeable at any time</p>
<b>C0-25</b>	<p><b>Read subindex 2</b>          Address: 0xC019          Min.: 0x0          Max.: 0xFFFF          Default: 0x0  <b>Value Range:</b>          0x0 to 0xFFFF  <b>Description</b>          -</p>	<p>Effective mode: -          Unit: -          Data type: UInt16          Change: Changeable at any time</p>
<b>C0-26</b>	<p><b>Read mapping internal address index 2</b>          Address: 0xC01A          Min.: 0x0          Max.: 0xFFFF          Default: 0x0  <b>Value Range:</b>          0x0 to 0xFFFF  <b>Description</b>          -</p>	<p>Effective mode: -          Unit: -          Data type: UInt16          Change: Changeable at any time</p>
<b>C0-27</b>	<p><b>Read mapping internal address subindex 2</b>          Address: 0xC01B          Min.: 0x0          Max.: 0xFFFF          Default: 0x0  <b>Value Range:</b>          0x0 to 0xFFFF  <b>Description</b>          -</p>	<p>Effective mode: -          Unit: -          Data type: UInt16          Change: Changeable at any time</p>
<b>C0-28</b>	<p><b>Read index 3</b>          Address: 0xC01C          Min.: 0x0          Max.: 0xFFFF          Default: 0x0  <b>Value Range:</b>          0x0 to 0xFFFF  <b>Description</b>          -</p>	<p>Effective mode: -          Unit: -          Data type: UInt16          Change: Changeable at any time</p>
<b>C0-29</b>	<p><b>Read subindex 3</b>          Address: 0xC01D</p>	<p>Effective mode: -</p>

Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0x0 to 0xFFFF

**Description**

-

**C0-30 Read mapping internal address index 3**

Address: 0xC01E  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0  
 Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0x0 to 0xFFFF

**Description**

-

**C0-31 Read mapping internal address subindex 3**

Address: 0xC01F  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0  
 Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0x0 to 0xFFFF

**Description**

-

**C0-32 Read index 4**

Address: 0xC020  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0  
 Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0x0 to 0xFFFF

**Description**

-

**C0-33 Read subindex 4**

Address: 0xC021  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0  
 Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0x0 to 0xFFFF

**Description**

-

**C0-34 Read mapping internal address index 4**

Address: 0xC022  
 Min.: 0x0  
 Max.: 0xFFFF  
 Effective mode: -  
 Unit: -  
 Data type: UInt16

Default: 0x0  
**Value Range:**  
 0x0 to 0xFFFF  
**Description**  
 -

Change: Changeable at any time

**C0-35 Read mapping internal address subindex 4**

Address: 0xC023  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**  
 0x0 to 0xFFFF  
**Description**  
 -

**C0-36 Read index 5**

Address: 0xC024  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**  
 0x0 to 0xFFFF  
**Description**  
 -

**C0-37 Read subindex 5**

Address: 0xC025  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**  
 0x0 to 0xFFFF  
**Description**  
 -

**C0-38 Read mapping internal address index 5**

Address: 0xC026  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**  
 0x0 to 0xFFFF  
**Description**  
 -

**C0-39 Read mapping internal address subindex 5**

Address: 0xC027  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0x0 to 0xFFFF

**Description**

-

**C0-40****Read index 6**

Address: 0xC028

Min.: 0x0

Max.: 0xFFFF

Default: 0x0

**Value Range:**

0x0 to 0xFFFF

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C0-41****Read subindex 6**

Address: 0xC029

Min.: 0x0

Max.: 0xFFFF

Default: 0x0

**Value Range:**

0x0 to 0xFFFF

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C0-42****Read mapping internal address index 6**

Address: 0xC02A

Min.: 0x0

Max.: 0xFFFF

Default: 0x0

**Value Range:**

0x0 to 0xFFFF

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C0-43****Read mapping internal address subindex 6**

Address: 0xC02B

Min.: 0x0

Max.: 0xFFFF

Default: 0x0

**Value Range:**

0x0 to 0xFFFF

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C0-44****Read index 7**

Address: 0xC02C

Min.: 0x0

Max.: 0xFFFF

Default: 0x0

**Value Range:**

0x0 to 0xFFFF

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Description**

-

**C0-45**

**Read subindex 7**

Address: 0xC02D  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0x0 to 0xFFFF

**Description**

-

**C0-46**

**Read mapping internal address index 7**

Address: 0xC02E  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0x0 to 0xFFFF

**Description**

-

**C0-47**

**Read mapping internal address subindex 7**

Address: 0xC02F  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0x0 to 0xFFFF

**Description**

-

**C0-48**

**Read index 8**

Address: 0xC030  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0x0 to 0xFFFF

**Description**

-

**C0-49**

**Read subindex 8**

Address: 0xC031  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0x0 to 0xFFFF

**Description**

-

<b>C0-50</b>	<b>Read mapping internal address index 8</b> Address: 0xC032 Min.: 0x0 Max.: 0xFFFF Default: 0x0 <b>Value Range:</b> 0x0 to 0xFFFF <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>C0-51</b>	<b>Read mapping internal address subindex 8</b> Address: 0xC033 Min.: 0x0 Max.: 0xFFFF Default: 0x0 <b>Value Range:</b> 0x0 to 0xFFFF <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>C0-52</b>	<b>Read index 9</b> Address: 0xC034 Min.: 0x0 Max.: 0xFFFF Default: 0x0 <b>Value Range:</b> 0x0 to 0xFFFF <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>C0-53</b>	<b>Read subindex 9</b> Address: 0xC035 Min.: 0x0 Max.: 0xFFFF Default: 0x0 <b>Value Range:</b> 0x0 to 0xFFFF <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>C0-54</b>	<b>Read mapping internal address index 9</b> Address: 0xC036 Min.: 0x0 Max.: 0xFFFF Default: 0x0 <b>Value Range:</b> 0x0 to 0xFFFF <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>C0-55</b>	<b>Read mapping internal address subindex 9</b> Address: 0xC037	Effective mode: -

Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0  
**Value Range:**  
 0x0 to 0xFFFF  
**Description**  
 -

Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C0-56**

**Read index 10**

Address: 0xC038  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0

**Value Range:**  
 0x0 to 0xFFFF  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C0-57**

**Read subindex 10**

Address: 0xC039  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0

**Value Range:**  
 0x0 to 0xFFFF  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C0-58**

**Read mapping internal address index 10**

Address: 0xC03A  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0

**Value Range:**  
 0x0 to 0xFFFF  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C0-59**

**Read mapping internal address subindex 10**

Address: 0xC03B  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0

**Value Range:**  
 0x0 to 0xFFFF  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C0-60**

**Write index 1**

Address: 0xC03C  
 Min.: 0x0  
 Max.: 0xFFFF

Effective mode: -  
 Unit: -  
 Data type: UInt16

Default: 0x0  
**Value Range:**  
 0x0 to 0xFFFF  
**Description**  
 -

Change: Changeable at any time

**C0-61 Write subindex 1**

Address: 0xC03D  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0

**Value Range:**  
 0x0 to 0xFFFF

**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C0-62 Write mapping internal address index 1**

Address: 0xC03E  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0

**Value Range:**  
 0x0 to 0xFFFF

**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C0-63 Write mapping internal address subindex 1**

Address: 0xC03F  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0

**Value Range:**  
 0x0 to 0xFFFF

**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C0-64 Write index 2**

Address: 0xC040  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0

**Value Range:**  
 0x0 to 0xFFFF

**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C0-65 Write subindex 2**

Address: 0xC041  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0

**Value Range:**

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time



0x0 to 0xFFFF

**Description**

-

**C0-66 Write mapping internal address index 2**

Address: 0xC042

Min.: 0x0

Max.: 0xFFFF

Default: 0x0

**Value Range:**

0x0 to 0xFFFF

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C0-67 Write mapping internal address subindex 2**

Address: 0xC043

Min.: 0x0

Max.: 0xFFFF

Default: 0x0

**Value Range:**

0x0 to 0xFFFF

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C0-68 Write index 3**

Address: 0xC044

Min.: 0x0

Max.: 0xFFFF

Default: 0x0

**Value Range:**

0x0 to 0xFFFF

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C0-69 Write subindex 3**

Address: 0xC045

Min.: 0x0

Max.: 0xFFFF

Default: 0x0

**Value Range:**

0x0 to 0xFFFF

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C0-70 Write mapping internal address index 3**

Address: 0xC046

Min.: 0x0

Max.: 0xFFFF

Default: 0x0

**Value Range:**

0x0 to 0xFFFF

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Description**

-

**C0-71 Write mapping internal address subindex 3**

Address: 0xC047

Min.: 0x0

Max.: 0xFFFF

Default: 0x0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0x0 to 0xFFFF

**Description**

-

**C0-72 Write index 4**

Address: 0xC048

Min.: 0x0

Max.: 0xFFFF

Default: 0x0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0x0 to 0xFFFF

**Description**

-

**C0-73 Write subindex 4**

Address: 0xC049

Min.: 0x0

Max.: 0xFFFF

Default: 0x0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0x0 to 0xFFFF

**Description**

-

**C0-74 Write mapping internal address index 4**

Address: 0xC04A

Min.: 0x0

Max.: 0xFFFF

Default: 0x0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0x0 to 0xFFFF

**Description**

-

**C0-75 Write mapping internal address subindex 4**

Address: 0xC04B

Min.: 0x0

Max.: 0xFFFF

Default: 0x0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0x0 to 0xFFFF

**Description**

-

<b>C0-76</b>	<p><b>Write index 5</b>          Address: 0xC04C          Min.: 0x0          Max.: 0xFFFF          Default: 0x0  <b>Value Range:</b>          0x0 to 0xFFFF  <b>Description</b>          -</p>	<p>Effective mode: -          Unit: -          Data type: UInt16          Change: Changeable at any time</p>
<b>C0-77</b>	<p><b>Write subindex 5</b>          Address: 0xC04D          Min.: 0x0          Max.: 0xFFFF          Default: 0x0  <b>Value Range:</b>          0x0 to 0xFFFF  <b>Description</b>          -</p>	<p>Effective mode: -          Unit: -          Data type: UInt16          Change: Changeable at any time</p>
<b>C0-78</b>	<p><b>Write mapping internal address index 5</b>          Address: 0xC04E          Min.: 0x0          Max.: 0xFFFF          Default: 0x0  <b>Value Range:</b>          0x0 to 0xFFFF  <b>Description</b>          -</p>	<p>Effective mode: -          Unit: -          Data type: UInt16          Change: Changeable at any time</p>
<b>C0-79</b>	<p><b>Write mapping internal address subindex 5</b>          Address: 0xC04F          Min.: 0x0          Max.: 0xFFFF          Default: 0x0  <b>Value Range:</b>          0x0 to 0xFFFF  <b>Description</b>          -</p>	<p>Effective mode: -          Unit: -          Data type: UInt16          Change: Changeable at any time</p>
<b>C0-80</b>	<p><b>Write index 6</b>          Address: 0xC050          Min.: 0x0          Max.: 0xFFFF          Default: 0x0  <b>Value Range:</b>          0x0 to 0xFFFF  <b>Description</b>          -</p>	<p>Effective mode: -          Unit: -          Data type: UInt16          Change: Changeable at any time</p>
<b>C0-81</b>	<p><b>Write subindex 6</b>          Address: 0xC051</p>	<p>Effective mode: -</p>

Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0x0 to 0xFFFF

**Description**

-

**C0-82 Write mapping internal address index 6**

Address: 0xC052  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0  
 Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0x0 to 0xFFFF

**Description**

-

**C0-83 Write mapping internal address subindex 6**

Address: 0xC053  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0  
 Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0x0 to 0xFFFF

**Description**

-

**C0-84 Write index 7**

Address: 0xC054  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0  
 Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0x0 to 0xFFFF

**Description**

-

**C0-85 Write subindex 7**

Address: 0xC055  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0  
 Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0x0 to 0xFFFF

**Description**

-

**C0-86 Write mapping internal address index 7**

Address: 0xC056  
 Min.: 0x0  
 Max.: 0xFFFF  
 Effective mode: -  
 Unit: -  
 Data type: UInt16

Default: 0x0  
**Value Range:**  
 0x0 to 0xFFFF  
**Description**  
 -

Change: Changeable at any time

**C0-87 Write mapping internal address subindex 7**

Address: 0xC057  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**  
 0x0 to 0xFFFF  
**Description**  
 -

**C0-88 Write index 8**

Address: 0xC058  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**  
 0x0 to 0xFFFF  
**Description**  
 -

**C0-89 Write subindex 8**

Address: 0xC059  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**  
 0x0 to 0xFFFF  
**Description**  
 -

**C0-90 Write mapping internal address index 8**

Address: 0xC05A  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**  
 0x0 to 0xFFFF  
**Description**  
 -

**C0-91 Write mapping internal address subindex 8**

Address: 0xC05B  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0x0 to 0xFFFF

**Description**

-

**C0-92****Write index 9**

Address: 0xC05C

Min.: 0x0

Max.: 0xFFFF

Default: 0x0

**Value Range:**

0x0 to 0xFFFF

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C0-93****Write subindex 9**

Address: 0xC05D

Min.: 0x0

Max.: 0xFFFF

Default: 0x0

**Value Range:**

0x0 to 0xFFFF

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C0-94****Write mapping internal address index 9**

Address: 0xC05E

Min.: 0x0

Max.: 0xFFFF

Default: 0x0

**Value Range:**

0x0 to 0xFFFF

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C0-95****Write mapping internal address subindex 9**

Address: 0xC05F

Min.: 0x0

Max.: 0xFFFF

Default: 0x0

**Value Range:**

0x0 to 0xFFFF

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C0-96****Write index 10**

Address: 0xC060

Min.: 0x0

Max.: 0xFFFF

Default: 0x0

**Value Range:**

0x0 to 0xFFFF

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Description**

-

**C0-97**

**Write subindex 10**

Address: 0xC061  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0x0 to 0xFFFF

**Description**

-

**C0-98**

**Write mapping internal address index 10**

Address: 0xC062  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0x0 to 0xFFFF

**Description**

-

**C0-99**

**Write mapping internal address subindex 10**

Address: 0xC063  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0x0 to 0xFFFF

**Description**

-

## 4.41 C1: Word-Bit Conversion Parameters

**C1-00**

**Input of W2B module A**

Address: 0xC100  
 Min.: 0  
 Max.: 0  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0: 0

Others: K connector

**Description**

0: Disabled. The output is 0.

Others: If the word connector is selected, the value of the word connector is converted to bit output.

If the DWord connector is selected, the high-order 16 bits of the value of the DWord connector are converted to bit output.

<b>C1-01</b>	<b>Input of W2B module B</b> Address: 0xC101 Min.: 0 Max.: 0 Default: 0 <b>Value Range:</b> Same as C1-00 <b>Description</b> Same as module A	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>C1-02</b>	<b>Input of W2B module C</b> Address: 0xC102 Min.: 0 Max.: 0 Default: 0 <b>Value Range:</b> Same as C1-00 <b>Description</b> Same as module A	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>C1-03</b>	<b>Input of W2B module D</b> Address: 0xC103 Min.: 0 Max.: 0 Default: 0 <b>Value Range:</b> Same as C1-00 <b>Description</b> Same as module A	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>C1-04</b>	<b>Input of W2B module E</b> Address: 0xC104 Min.: 0 Max.: 0 Default: 0 <b>Value Range:</b> Same as C1-00 <b>Description</b> Same as module A	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>C1-05</b>	<b>Input of W2B module F</b> Address: 0xC105 Min.: 0 Max.: 0 Default: 0 <b>Value Range:</b> Same as C1-00 <b>Description</b> Same as module A	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>C1-06</b>	<b>Input of W2B module G</b> Address: 0xC106	Effective mode: -



Min.: 0  
 Max.: 0  
 Default: 0  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

Same as C1-00

**Description**

Same as module A

**C1-07 Input of W2B module H**

Address: 0xC107  
 Min.: 0  
 Max.: 0  
 Default: 0  
 Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

Same as C1-00

**Description**

Same as module A

**C1-12 B2W module A enable**

Address: 0xC10C  
 Min.: 0  
 Max.: 1  
 Default: 0  
 Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0: Disabled

1: Enabled

**Description**

0: Disabled. The output is 0.

1: Enabled. The inputs of C1-14 to C1-29 are converted to word output as bit0 to bit15.

**C1-13 Bit inversion flag of B2W module A**

Address: 0xC10D  
 Min.: 0  
 Max.: 65535  
 Default: 0  
 Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0 to 65535

**Description**

Bit0 to Bit5 of the setpoint are used as the inversion flag to invert each input bit of C1-14 to C1-29.

**C1-14 B2W module A - Bit00**

Address: 0xC10E  
 Min.: 0  
 Max.: 18  
 Default: 0  
 Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0: 0  
 1: 1  
 2: 0  
 3: DI1  
 4: DI2  
 5: DI3  
 6: DI4  
 7: DI5  
 8: DI6  
 9: DI7  
 10: DI8  
 11: DI9  
 12: DI10  
 13: DI11  
 14: DI12  
 15: DI13  
 16: DI14  
 17: DI15  
 18: DI16

Others: B connector

**Description**

0: Input 0  
 1: Input 1  
 2: Input 0  
 3–18: Input of corresponding DI  
 Others: Input of the connector

**C1-15 B2W module A - Bit01**

Address: 0xC10F  
 Min.: 0  
 Max.: 18  
 Default: 0

**Value Range:**

Same as C1-14

**Description**

Same as C1-14

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C1-16 B2W module A - Bit02**

Address: 0xC110  
 Min.: 0  
 Max.: 18  
 Default: 0

**Value Range:**

Same as C1-14

**Description**

Same as C1-14

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C1-17 B2W module A - Bit03**

Address: 0xC111

Effective mode: -

Min.: 0  
 Max.: 18  
 Default: 0  
**Value Range:**  
 Same as C1-14  
**Description**  
 Same as C1-14

Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C1-18 B2W module A - Bit04**

Address: 0xC112  
 Min.: 0  
 Max.: 18  
 Default: 0  
**Value Range:**  
 Same as C1-14  
**Description**  
 Same as C1-14

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C1-19 B2W module A - Bit05**

Address: 0xC113  
 Min.: 0  
 Max.: 18  
 Default: 0  
**Value Range:**  
 Same as C1-14  
**Description**  
 Same as C1-14

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C1-20 B2W module A - Bit06**

Address: 0xC114  
 Min.: 0  
 Max.: 18  
 Default: 0  
**Value Range:**  
 Same as C1-14  
**Description**  
 Same as C1-14

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C1-21 B2W module A - Bit07**

Address: 0xC115  
 Min.: 0  
 Max.: 18  
 Default: 0  
**Value Range:**  
 Same as C1-14  
**Description**  
 Same as C1-14

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C1-22 B2W module A - Bit08**

Address: 0xC116  
 Min.: 0  
 Max.: 18

Effective mode: -  
 Unit: -  
 Data type: UInt16

Default: 0  
**Value Range:**  
 Same as C1-14  
**Description**  
 Same as C1-14

Change: Changeable at any time

**C1-23 B2W module A - Bit09**

Address: 0xC117  
 Min.: 0  
 Max.: 18  
 Default: 0

**Value Range:**  
 Same as C1-14  
**Description**  
 Same as C1-14

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C1-24 B2W module A - Bit10**

Address: 0xC118  
 Min.: 0  
 Max.: 18  
 Default: 0

**Value Range:**  
 Same as C1-14  
**Description**  
 Same as C1-14

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C1-25 B2W module A - Bit11**

Address: 0xC119  
 Min.: 0  
 Max.: 18  
 Default: 0

**Value Range:**  
 Same as C1-14  
**Description**  
 Same as C1-14

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C1-26 B2W module A - Bit12**

Address: 0xC11A  
 Min.: 0  
 Max.: 18  
 Default: 0

**Value Range:**  
 Same as C1-14  
**Description**  
 Same as C1-14

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C1-27 B2W module A - Bit13**

Address: 0xC11B  
 Min.: 0  
 Max.: 18  
 Default: 0

**Value Range:**

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

Same as C1-14

**Description**

Same as C1-14

**C1-28**

**B2W module A - Bit14**

Address: 0xC11C

Min.: 0

Max.: 18

Default: 0

**Value Range:**

Same as C1-14

**Description**

Same as C1-14

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C1-29**

**B2W module A - Bit15**

Address: 0xC11D

Min.: 0

Max.: 18

Default: 0

**Value Range:**

Same as C1-14

**Description**

Same as C1-14

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C1-30**

**B2W module B enable**

Address: 0xC11E

Min.: 0

Max.: 1

Default: 0

**Value Range:**

Same as C1-12

**Description**

Same as module A

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C1-31**

**Bit inversion flag of B2W module B**

Address: 0xC11F

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

Same as module A

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C1-32**

**B2W module B - Bit00**

Address: 0xC120

Min.: 0

Max.: 18

Default: 0

**Value Range:**

Same as C1-14

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Description**

Same as module A

**C1-33 B2W module B - Bit01**

Address: 0xC121

Min.: 0

Max.: 18

Default: 0

**Value Range:**

Same as C1-14

**Description**

Same as module A

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C1-34 B2W module B - Bit02**

Address: 0xC122

Min.: 0

Max.: 18

Default: 0

**Value Range:**

Same as C1-14

**Description**

Same as module A

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C1-35 B2W module B - Bit03**

Address: 0xC123

Min.: 0

Max.: 18

Default: 0

**Value Range:**

Same as C1-14

**Description**

Same as module A

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C1-36 B2W module B - Bit04**

Address: 0xC124

Min.: 0

Max.: 18

Default: 0

**Value Range:**

Same as C1-14

**Description**

Same as module A

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C1-37 B2W module B - Bit05**

Address: 0xC125

Min.: 0

Max.: 18

Default: 0

**Value Range:**

Same as C1-14

**Description**

Same as module A

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

<b>C1-38</b>	<p><b>B2W module B - Bit06</b>          Address: 0xC126          Min.: 0          Max.: 18          Default: 0  <b>Value Range:</b>          Same as C1-14  <b>Description</b>          Same as module A</p>	<p>Effective mode: -          Unit: -          Data type: UInt16          Change: Changeable at any time</p>
<b>C1-39</b>	<p><b>B2W module B - Bit07</b>          Address: 0xC127          Min.: 0          Max.: 18          Default: 0  <b>Value Range:</b>          Same as C1-14  <b>Description</b>          Same as module A</p>	<p>Effective mode: -          Unit: -          Data type: UInt16          Change: Changeable at any time</p>
<b>C1-40</b>	<p><b>B2W module B - Bit08</b>          Address: 0xC128          Min.: 0          Max.: 18          Default: 0  <b>Value Range:</b>          Same as C1-14  <b>Description</b>          Same as module A</p>	<p>Effective mode: -          Unit: -          Data type: UInt16          Change: Changeable at any time</p>
<b>C1-41</b>	<p><b>B2W module B - Bit09</b>          Address: 0xC129          Min.: 0          Max.: 18          Default: 0  <b>Value Range:</b>          Same as C1-14  <b>Description</b>          Same as module A</p>	<p>Effective mode: -          Unit: -          Data type: UInt16          Change: Changeable at any time</p>
<b>C1-42</b>	<p><b>B2W module B - Bit10</b>          Address: 0xC12A          Min.: 0          Max.: 18          Default: 0  <b>Value Range:</b>          Same as C1-14  <b>Description</b>          Same as module A</p>	<p>Effective mode: -          Unit: -          Data type: UInt16          Change: Changeable at any time</p>
<b>C1-43</b>	<p><b>B2W module B - Bit11</b>          Address: 0xC12B</p>	<p>Effective mode: -</p>

Min.: 0  
 Max.: 18  
 Default: 0

Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

Same as C1-14

**Description**

Same as module A

**C1-44 B2W module B - Bit12**

Address: 0xC12C  
 Min.: 0  
 Max.: 18  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

Same as C1-14

**Description**

Same as module A

**C1-45 B2W module B - Bit13**

Address: 0xC12D  
 Min.: 0  
 Max.: 18  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

Same as C1-14

**Description**

Same as module A

**C1-46 B2W module B - Bit14**

Address: 0xC12E  
 Min.: 0  
 Max.: 18  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

Same as C1-14

**Description**

Same as module A

**C1-47 B2W module B - Bit15**

Address: 0xC12F  
 Min.: 0  
 Max.: 18  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

Same as C1-14

**Description**

Same as module A

**C1-48 B2W module C enable**

Address: 0xC130  
 Min.: 0  
 Max.: 1

Effective mode: -  
 Unit: -  
 Data type: UInt16



Default: 0  
**Value Range:**  
 0: Disabled  
 1: Enabled  
**Description**  
 Same as module A

Change: Changeable at any time

**C1-49 Bit inversion flag of B2W module C**

Address: 0xC131  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 Same as module A

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C1-50 B2W module C - Bit00**

Address: 0xC132  
 Min.: 0  
 Max.: 18  
 Default: 0  
**Value Range:**  
 Same as C1-14  
**Description**  
 Same as module A

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C1-51 B2W module C - Bit01**

Address: 0xC133  
 Min.: 0  
 Max.: 18  
 Default: 0  
**Value Range:**  
 Same as C1-14  
**Description**  
 Same as module A

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C1-52 B2W module C - Bit02**

Address: 0xC134  
 Min.: 0  
 Max.: 18  
 Default: 0  
**Value Range:**  
 Same as C1-14  
**Description**  
 Same as module A

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C1-53 B2W module C - Bit03**

Address: 0xC135  
 Min.: 0  
 Max.: 18  
 Default: 0  
**Value Range:**  
 Same as C1-14  
**Description**  
 Same as module A

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

Same as C1-14

**Description**

Same as module A

**C1-54****B2W module C - Bit04**

Address: 0xC136

Min.: 0

Max.: 18

Default: 0

**Value Range:**

Same as C1-14

**Description**

Same as module A

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C1-55****B2W module C - Bit05**

Address: 0xC137

Min.: 0

Max.: 18

Default: 0

**Value Range:**

Same as C1-14

**Description**

Same as module A

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C1-56****B2W module C - Bit06**

Address: 0xC138

Min.: 0

Max.: 18

Default: 0

**Value Range:**

Same as C1-14

**Description**

Same as module A

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C1-57****B2W module C - Bit07**

Address: 0xC139

Min.: 0

Max.: 18

Default: 0

**Value Range:**

Same as C1-14

**Description**

Same as module A

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C1-58****B2W module C - Bit08**

Address: 0xC13A

Min.: 0

Max.: 18

Default: 0

**Value Range:**

Same as C1-14

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Description**

Same as module A

**C1-59**

**B2W module C - Bit09**

Address: 0xC13B

Min.: 0

Max.: 18

Default: 0

**Value Range:**

Same as C1-14

**Description**

Same as module A

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C1-60**

**B2W module C - Bit10**

Address: 0xC13C

Min.: 0

Max.: 18

Default: 0

**Value Range:**

Same as C1-14

**Description**

Same as module A

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C1-61**

**B2W module C - Bit11**

Address: 0xC13D

Min.: 0

Max.: 18

Default: 0

**Value Range:**

Same as C1-14

**Description**

Same as module A

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C1-62**

**B2W module C - Bit12**

Address: 0xC13E

Min.: 0

Max.: 18

Default: 0

**Value Range:**

Same as C1-14

**Description**

Same as module A

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C1-63**

**B2W module C - Bit13**

Address: 0xC13F

Min.: 0

Max.: 18

Default: 0

**Value Range:**

Same as C1-14

**Description**

Same as module A

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

<b>C1-64</b>	<b>B2W module C - Bit14</b> Address: 0xC140 Min.: 0 Max.: 18 Default: 0 <b>Value Range:</b> Same as C1-14 <b>Description</b> Same as module A	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>C1-65</b>	<b>B2W module C - Bit15</b> Address: 0xC141 Min.: 0 Max.: 18 Default: 0 <b>Value Range:</b> Same as C1-14 <b>Description</b> Same as module A	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>C1-66</b>	<b>B2W module D enable</b> Address: 0xC142 Min.: 0 Max.: 1 Default: 0 <b>Value Range:</b> Same as C1-12 <b>Description</b> Same as module A	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>C1-67</b>	<b>Bit inversion flag of B2W module D</b> Address: 0xC143 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> Same as module A	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>C1-68</b>	<b>B2W module D - Bit00</b> Address: 0xC144 Min.: 0 Max.: 18 Default: 0 <b>Value Range:</b> Same as C1-14 <b>Description</b> Same as module A	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>C1-69</b>	<b>B2W module D - Bit01</b> Address: 0xC145	Effective mode: -

Min.: 0  
 Max.: 18  
 Default: 0  
**Value Range:**  
 Same as C1-14  
**Description**  
 Same as module A

Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C1-70 B2W module D - Bit02**

Address: 0xC146  
 Min.: 0  
 Max.: 18  
 Default: 0  
**Value Range:**  
 Same as C1-14  
**Description**  
 Same as module A

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C1-71 B2W module D - Bit03**

Address: 0xC147  
 Min.: 0  
 Max.: 18  
 Default: 0  
**Value Range:**  
 Same as C1-14  
**Description**  
 Same as module A

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C1-72 B2W module D - Bit04**

Address: 0xC148  
 Min.: 0  
 Max.: 18  
 Default: 0  
**Value Range:**  
 Same as C1-14  
**Description**  
 Same as module A

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C1-73 B2W module D - Bit05**

Address: 0xC149  
 Min.: 0  
 Max.: 18  
 Default: 0  
**Value Range:**  
 Same as C1-14  
**Description**  
 Same as module A

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C1-74 B2W module D - Bit06**

Address: 0xC14A  
 Min.: 0  
 Max.: 18

Effective mode: -  
 Unit: -  
 Data type: UInt16

Default: 0  
**Value Range:**  
 Same as C1-14  
**Description**  
 Same as module A

Change: Changeable at any time

**C1-75 B2W module D - Bit07**

Address: 0xC14B  
 Min.: 0  
 Max.: 18  
 Default: 0

**Value Range:**  
 Same as C1-14

**Description**  
 Same as module A

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C1-76 B2W module D - Bit08**

Address: 0xC14C  
 Min.: 0  
 Max.: 18  
 Default: 0

**Value Range:**  
 Same as C1-14

**Description**  
 Same as module A

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C1-77 B2W module D - Bit09**

Address: 0xC14D  
 Min.: 0  
 Max.: 18  
 Default: 0

**Value Range:**  
 Same as C1-14

**Description**  
 Same as module A

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C1-78 B2W module D - Bit10**

Address: 0xC14E  
 Min.: 0  
 Max.: 18  
 Default: 0

**Value Range:**  
 Same as C1-14

**Description**  
 Same as module A

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C1-79 B2W module D - Bit11**

Address: 0xC14F  
 Min.: 0  
 Max.: 18  
 Default: 0

**Value Range:**

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

Same as C1-14

**Description**

Same as module A

**C1-80**

**B2W module D - Bit12**

Address: 0xC150

Min.: 0

Max.: 18

Default: 0

**Value Range:**

Same as C1-14

**Description**

Same as module A

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C1-81**

**B2W module D - Bit13**

Address: 0xC151

Min.: 0

Max.: 18

Default: 0

**Value Range:**

Same as C1-14

**Description**

Same as module A

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C1-82**

**B2W module D - Bit14**

Address: 0xC152

Min.: 0

Max.: 18

Default: 0

**Value Range:**

Same as C1-14

**Description**

Same as module A

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C1-83**

**B2W module D - Bit15**

Address: 0xC153

Min.: 0

Max.: 18

Default: 0

**Value Range:**

Same as C1-14

**Description**

Same as module A

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

## 4.42 C2: W-DW Conversion Parameters

**C2-00**

**LOWORD of W-DW conversion A**

Address: 0xC200

Min.: 0

Max.: 0

Effective mode: -

Unit: -

Data type: UInt16

Default: 0 Change: Changeable at any time

**Value Range:**

0: 0

Others: K connector

**Description**

0: The input is 0.

Others: When the input source is a word connector, the value of the word connector is used. When the input source is a DWord connector, the high-order 16 bits of the connector is used.

**C2-01 HIWORD of W-DW conversion A**

Address: 0xC201

Effective mode: -

Min.: 0

Unit: -

Max.: 0

Data type: UInt16

Default: 0

Change: Changeable at any time

**Value Range:**

0: Disabled

Others: K connector

**Description**

0: Disabled. The output is 0.

Others: When the input source is a word connector, the value of the word connector is used. When the input source is a DWord connector, the high-order 16 bits of the connector is used. Then the value is used as the high-order 16 bits of DWord and combines with the value of C2-00 to generate the DWord output.

**C2-02 Low-order bits of base value of W-DW conversion A**

Address: 0xC202

Effective mode: -

Min.: 0

Unit: -

Max.: 65535

Data type: UInt16

Default: 0

Change: Changeable at any time

**Value Range:**

0 to 65535

**Description**

This parameter defines the low-order 16 bits of the DWord base value. The DWord output by C2-00 and C2-01 is divided by the base value and then output to the floating-point connector.

**C2-03 High-order bits of base value of W-DW conversion A**

Address: 0xC203

Effective mode: -

Min.: 0

Unit: -

Max.: 65535

Data type: UInt16

Default: 0

Change: Changeable at any time

**Value Range:**

0 to 65535

**Description**

This parameter defines the high-order 16 bits of the DWord base value. The DWord output by C2-00 and C2-01 is divided by the base value and then output to the floating-point connector.

**C2-04 LOWORD of W-DW conversion B**

Address: 0xC204

Effective mode: -

Min.: 0

Unit: -

Max.: 0

Data type: UInt16



Default: 0  
**Value Range:**  
 0: 0  
 Others: K connector  
**Description**  
 Same as module A

Change: Changeable at any time

**C2-05 HIWORD of W-DW conversion B**

Address: 0xC205  
 Min.: 0  
 Max.: 0  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**  
 0: Disabled  
 Others: K connector  
**Description**  
 Same as module A

**C2-06 Low-order bits of base value of W-DW conversion B**

Address: 0xC206  
 Min.: 0  
 Max.: 65535  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**  
 0 to 65535  
**Description**  
 Same as module A

**C2-07 High-order bits of base value of W-DW conversion B**

Address: 0xC207  
 Min.: 0  
 Max.: 65535  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**  
 0 to 65535  
**Description**  
 Same as module A

**C2-08 LOWORD of W-DW conversion C**

Address: 0xC208  
 Min.: 0  
 Max.: 0  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**  
 0: 0  
 Others: K connector  
**Description**  
 Same as module A

**C2-09 HIWORD of W-DW conversion C**

Address: 0xC209  
 Min.: 0

Effective mode: -  
 Unit: -

Max.: 0  
 Default: 0  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0: Disabled

Others: K connector

**Description**

Same as module A

**C2-10 Low-order bits of base value of W-DW conversion C**

Address: 0xC20A  
 Min.: 0  
 Max.: 65535  
 Default: 0  
 Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0 to 65535

**Description**

Same as module A

**C2-11 High-order bits of base value of W-DW conversion C**

Address: 0xC20B  
 Min.: 0  
 Max.: 65535  
 Default: 0  
 Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0 to 65535

**Description**

Same as module A

**C2-12 LOWORD of W-DW conversion D**

Address: 0xC20C  
 Min.: 0  
 Max.: 0  
 Default: 0  
 Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0: 0

Others: K connector

**Description**

Same as module A

**C2-13 HIWORD of W-DW conversion D**

Address: 0xC20D  
 Min.: 0  
 Max.: 0  
 Default: 0  
 Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0: Disabled

Others: K connector

**Description**

Same as module A

**C2-14 Low-order bits of base value of W-DW conversion D**

Address: 0xC20E  
 Effective mode: -

Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0 to 65535

**Description**

Same as module A

**C2-15 High-order bits of base value of W-DW conversion D**

Address:	0xC20F	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0 to 65535

**Description**

Same as module A

**C2-32 DW-W conversion A**

Address:	0xC220	Effective mode:	-
Min.:	0	Unit:	-
Max.:	0	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: Disabled

Others: K connector

**Description**

0: Disabled. The output is 0.

Others: When the word connector is selected, the output HIWORD is the value of the word connector, and the output LOWORD is 0. When the DWord connector is selected, the output HIWORD is the high-order 16 bits of the DWord, and the output LOWORD is the low-order 16 bits of the DWord.

**C2-33 Low-order bits of base value of DW-W conversion A**

Address:	0xC221	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0 to 65535

**Description**

This parameter defines the low-order 16 bits of the DWord base value. The DWord input by C2-32 is divided by the base value and then output to the floating-point connector.

**C2-34 High-order bits of base value of DW-W conversion A**

Address:	0xC222	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0 to 65535

**Description**

This parameter defines the high-order 16 bits of the DWord base value. The DWord input by C2-32 is divided by the base value and then output to the floating-point connector.

**C2-35 DW-W conversion B**

Address:	0xC223	Effective mode:	-
Min.:	0	Unit:	-
Max.:	0	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: Disabled

Others: K connector

**Description**

Same as module A

**C2-36 Low-order bits of base value of DW-W conversion B**

Address:	0xC224	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0 to 65535

**Description**

Same as module A

**C2-37 High-order bits of base value of DW-W conversion B**

Address:	0xC225	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0 to 65535

**Description**

Same as module A

**C2-38 DW-W conversion C**

Address:	0xC226	Effective mode:	-
Min.:	0	Unit:	-
Max.:	0	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: Disabled

Others: K connector

**Description**

Same as module A

**C2-39 Low-order bits of base value of DW-W conversion C**

Address:	0xC227	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0 to 65535

**Description**

Same as module A

**C2-40 High-order bits of base value of DW-W conversion C**

Address: 0xC228

Effective mode: -

Min.: 0

Unit: -

Max.: 65535

Data type: UInt16

Default: 0

Change: Changeable at any time

**Value Range:**

0 to 65535

**Description**

Same as module A

**C2-41 DW-W conversion D**

Address: 0xC229

Effective mode: -

Min.: 0

Unit: -

Max.: 0

Data type: UInt16

Default: 0

Change: Changeable at any time

**Value Range:**

0: Disabled

Others: K connector

**Description**

Same as module A

**C2-42 Low-order bits of base value of DW-W conversion D**

Address: 0xC22A

Effective mode: -

Min.: 0

Unit: -

Max.: 65535

Data type: UInt16

Default: 0

Change: Changeable at any time

**Value Range:**

0 to 65535

**Description**

Same as module A

**C2-43 High-order bits of base value of DW-W conversion D**

Address: 0xC22B

Effective mode: -

Min.: 0

Unit: -

Max.: 65535

Data type: UInt16

Default: 0

Change: Changeable at any time

**Value Range:**

0 to 65535

**Description**

Same as module A

## 4.43 C3: Logical Operation Parameters

**C3-00 Function of logic AND-OR module A**

Address: 0xC300

Effective mode: -

Min.:	0	Unit:	-
Max.:	2	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: Disabled

1: AND

2: OR

**Description**

0: Disabled. The output is 0.

1: AND. The inputs 1, 2, 3, and 4 are ANDed and then output.

2: OR. The inputs 1, 2, 3, and 4 are ORed and then output.

**C3-01 Input 1 of logic AND-OR module A**

Address:	0xC301	Effective mode:	-
Min.:	0	Unit:	-
Max.:	18	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: Logic 0

1: Logic 1

2: Logic 0

3: DI1

4: DI2

5: DI3

6: DI4

7: DI5

8: DI6

9: DI7

10: DI8

11: DI9

12: DI10

13: DI11

14: DI12

15: DI13

16: DI14

17: DI15

18: DI16

Others: B connector

**Description**

0: Input 0

1: Input 1

2: Input 0

3–18: Input of corresponding DI

Others: Input of the connector

**C3-02 Input 2 of logic AND-OR module A**

Address:	0xC302	Effective mode:	-
Min.:	0	Unit:	-

Max.: 18  
 Default: 0  
**Value Range:**  
 Same as C3-01  
**Description**  
 Same as C3-01

Data type: UInt16  
 Change: Changeable at any time

**C3-03 Input 3 of logic AND-OR module A**

Address: 0xC303  
 Min.: 0  
 Max.: 18  
 Default: 0  
**Value Range:**  
 Same as C3-01  
**Description**  
 Same as C3-01

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C3-04 Input 4 of logic AND-OR module A**

Address: 0xC304  
 Min.: 0  
 Max.: 18  
 Default: 0  
**Value Range:**  
 Same as C3-01  
**Description**  
 Same as C3-01

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C3-05 Function of logic AND-OR module B**

Address: 0xC305  
 Min.: 0  
 Max.: 2  
 Default: 0  
**Value Range:**  
 0: Disabled  
 1: AND  
 2: OR  
**Description**  
 Same as module A

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C3-06 Input 1 of logic AND-OR module B**

Address: 0xC306  
 Min.: 0  
 Max.: 18  
 Default: 0  
**Value Range:**  
 Same as C3-01  
**Description**  
 Same as module A

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C3-07 Input 2 of logic AND-OR module B**

Address: 0xC307

Effective mode: -

Min.: 0  
 Max.: 18  
 Default: 0  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

Same as C3-01

**Description**

Same as module A

**C3-08 Input 3 of logic AND-OR module B**

Address: 0xC308

Min.: 0

Max.: 18

Default: 0

**Value Range:**

Same as C3-01

**Description**

Same as module A

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C3-09 Input 4 of logic AND-OR module B**

Address: 0xC309

Min.: 0

Max.: 18

Default: 0

**Value Range:**

Same as C3-01

**Description**

Same as module A

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C3-10 Function of logic AND-OR module C**

Address: 0xC30A

Min.: 0

Max.: 2

Default: 0

**Value Range:**

Same as C3-05

**Description**

Same as module A

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C3-11 Input 1 of logic AND-OR module C**

Address: 0xC30B

Min.: 0

Max.: 18

Default: 0

**Value Range:**

Same as C3-01

**Description**

Same as module A

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C3-12 Input 2 of logic AND-OR module C**

Address: 0xC30C

Min.: 0

Max.: 18

Effective mode: -

Unit: -

Data type: UInt16



Default: 0  
**Value Range:**  
 Same as C3-01  
**Description**  
 Same as module A

Change: Changeable at any time

**C3-13 Input 3 of logic AND-OR module C**

Address: 0xC30D  
 Min.: 0  
 Max.: 18  
 Default: 0  
**Value Range:**  
 Same as C3-01  
**Description**  
 Same as module A

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C3-14 Input 4 of logic AND-OR module C**

Address: 0xC30E  
 Min.: 0  
 Max.: 18  
 Default: 0  
**Value Range:**  
 Same as C3-01  
**Description**  
 Same as module A

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C3-15 Function of logic AND-OR module D**

Address: 0xC30F  
 Min.: 0  
 Max.: 2  
 Default: 0  
**Value Range:**  
 Same as C3-05  
**Description**  
 Same as module A

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C3-16 Input 1 of logic AND-OR module D**

Address: 0xC310  
 Min.: 0  
 Max.: 18  
 Default: 0  
**Value Range:**  
 Same as C3-01  
**Description**  
 Same as module A

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C3-17 Input 2 of logic AND-OR module D**

Address: 0xC311  
 Min.: 0  
 Max.: 18  
 Default: 0  
**Value Range:**

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

Same as C3-01

**Description**

Same as module A

**C3-18 Input 3 of logic AND-OR module D**

Address: 0xC312

Min.: 0

Max.: 18

Default: 0

**Value Range:**

Same as C3-01

**Description**

Same as module A

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C3-19 Input 4 of logic AND-OR module D**

Address: 0xC313

Min.: 0

Max.: 18

Default: 0

**Value Range:**

Same as C3-01

**Description**

Same as module A

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C3-20 Function of logic AND-OR module E**

Address: 0xC314

Min.: 0

Max.: 2

Default: 0

**Value Range:**

Same as C3-05

**Description**

Same as module A

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C3-21 Input 1 of logic AND-OR module E**

Address: 0xC315

Min.: 0

Max.: 18

Default: 0

**Value Range:**

Same as C3-01

**Description**

Same as module A

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C3-22 Input 2 of logic AND-OR module E**

Address: 0xC316

Min.: 0

Max.: 18

Default: 0

**Value Range:**

Same as C3-01

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Description**

Same as module A

**C3-23 Input 3 of logic AND-OR module E**

Address: 0xC317  
 Min.: 0  
 Max.: 18  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

Same as C3-01

**Description**

Same as module A

**C3-24 Function of logic AND-OR module F**

Address: 0xC318  
 Min.: 0  
 Max.: 2  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

Same as C3-05

**Description**

Same as module A

**C3-25 Input 1 of logic AND-OR module F**

Address: 0xC319  
 Min.: 0  
 Max.: 18  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

Same as C3-01

**Description**

Same as module A

**C3-26 Input 2 of logic AND-OR module F**

Address: 0xC31A  
 Min.: 0  
 Max.: 18  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

Same as C3-01

**Description**

Same as module A

**C3-27 Input 3 of logic AND-OR module F**

Address: 0xC31B  
 Min.: 0  
 Max.: 18  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

Same as C3-01

**Description**

Same as module A

<b>C3-28</b>	<b>Function of logic AND-OR module G</b> Address: 0xC31C Min.: 0 Max.: 2 Default: 0 <b>Value Range:</b> Same as C3-05 <b>Description</b> Same as module A	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>C3-29</b>	<b>Input 1 of logic AND-OR module G</b> Address: 0xC31D Min.: 0 Max.: 18 Default: 0 <b>Value Range:</b> Same as C3-01 <b>Description</b> Same as module A	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>C3-30</b>	<b>Input 2 of logic AND-OR module G</b> Address: 0xC31E Min.: 0 Max.: 18 Default: 0 <b>Value Range:</b> Same as C3-01 <b>Description</b> Same as module A	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>C3-31</b>	<b>Input 3 of logic AND-OR module G</b> Address: 0xC31F Min.: 0 Max.: 18 Default: 0 <b>Value Range:</b> Same as C3-01 <b>Description</b> Same as module A	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>C3-32</b>	<b>Function of logic AND-OR module H</b> Address: 0xC320 Min.: 0 Max.: 2 Default: 0 <b>Value Range:</b> Same as C3-05 <b>Description</b> Same as module A	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>C3-33</b>	<b>Input 1 of logic AND-OR module H</b> Address: 0xC321	Effective mode: -

Min.: 0  
 Max.: 18  
 Default: 0  
**Value Range:**  
 Same as C3-01  
**Description**  
 Same as module A

Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C3-34 Input 2 of logic AND-OR module H**

Address: 0xC322  
 Min.: 0  
 Max.: 18  
 Default: 0  
**Value Range:**  
 Same as C3-01  
**Description**  
 Same as module A

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C3-35 Input 3 of logic AND-OR module H**

Address: 0xC323  
 Min.: 0  
 Max.: 18  
 Default: 0  
**Value Range:**  
 Same as C3-01  
**Description**  
 Same as module A

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C3-36 Function of logic AND-OR module I**

Address: 0xC324  
 Min.: 0  
 Max.: 2  
 Default: 0  
**Value Range:**  
 Same as C3-05  
**Description**  
 Same as module A

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C3-37 Input 1 of logic AND-OR module I**

Address: 0xC325  
 Min.: 0  
 Max.: 18  
 Default: 0  
**Value Range:**  
 Same as C3-01  
**Description**  
 Same as module A

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C3-38 Input 2 of logic AND-OR module I**

Address: 0xC326  
 Min.: 0  
 Max.: 18

Effective mode: -  
 Unit: -  
 Data type: UInt16

Default: 0  
**Value Range:**  
 Same as C3-01  
**Description**  
 Same as module A

Change: Changeable at any time

### C3-39 Input 3 of logic AND-OR module I

Address: 0xC327  
 Min.: 0  
 Max.: 18  
 Default: 0

**Value Range:**  
 Same as C3-01

**Description**  
 Same as module A

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

### C3-40 Function of logic AND-OR module J

Address: 0xC328  
 Min.: 0  
 Max.: 2  
 Default: 0

**Value Range:**  
 Same as C3-05

**Description**  
 Same as module A

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

### C3-41 Input 1 of logic AND-OR module J

Address: 0xC329  
 Min.: 0  
 Max.: 18  
 Default: 0

**Value Range:**  
 Same as C3-01

**Description**  
 Same as module A

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

### C3-42 Input 2 of logic AND-OR module J

Address: 0xC32A  
 Min.: 0  
 Max.: 18  
 Default: 0

**Value Range:**  
 Same as C3-01

**Description**  
 Same as module A

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

### C3-43 Input 3 of logic AND-OR module J

Address: 0xC32B  
 Min.: 0  
 Max.: 18  
 Default: 0

**Value Range:**

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

Same as C3-01

**Description**

Same as module A

**C3-44 Function of logic AND-OR module K**

Address: 0xC32C

Min.: 0

Max.: 2

Default: 0

**Value Range:**

Same as C3-05

**Description**

Same as module A

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C3-45 Input 1 of logic AND-OR module K**

Address: 0xC32D

Min.: 0

Max.: 18

Default: 0

**Value Range:**

Same as C3-01

**Description**

Same as module A

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C3-46 Input 2 of logic AND-OR module K**

Address: 0xC32E

Min.: 0

Max.: 18

Default: 0

**Value Range:**

Same as C3-01

**Description**

Same as module A

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C3-47 Input 3 of logic AND-OR module K**

Address: 0xC32F

Min.: 0

Max.: 18

Default: 0

**Value Range:**

Same as C3-01

**Description**

Same as module A

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C3-48 Function of logic AND-OR module L**

Address: 0xC330

Min.: 0

Max.: 2

Default: 0

**Value Range:**

Same as C3-05

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Description**

Same as module A

**C3-49 Input 1 of logic AND-OR module L**

Address: 0xC331

Min.: 0

Max.: 18

Default: 0

**Value Range:**

Same as C3-01

**Description**

Same as module A

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C3-50 Input 2 of logic AND-OR module L**

Address: 0xC332

Min.: 0

Max.: 18

Default: 0

**Value Range:**

Same as C3-01

**Description**

Same as module A

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C3-51 Input 3 of logic AND-OR module L**

Address: 0xC333

Min.: 0

Max.: 18

Default: 0

**Value Range:**

Same as C3-01

**Description**

Same as module A

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C3-56 Input of logic NOT module A**

Address: 0xC338

Min.: 0

Max.: 18

Default: 0

**Value Range:**

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time



- 0: Disabled
- 1: Logic 1
- 2: Logic 0
- 3: DI1
- 4: DI2
- 5: DI3
- 6: DI4
- 7: DI5
- 8: DI6
- 9: DI7
- 10: DI8
- 11: DI9
- 12: DI10
- 13: DI11
- 14: DI12
- 15: DI13
- 16: DI14
- 17: DI15
- 18: DI16

Others: B connector

**Description**

The input is NOTed and then output.

0: Disabled. The output is 0.

1: Module input 1

2: Module input 0

3–18: Input of corresponding DI

Others: Input of the connector

**C3-57**

**Input of logic NOT module B**

Address: 0xC339

Min.: 0

Max.: 18

Default: 0

**Value Range:**

C3-56

**Description**

Same as module A

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C3-58**

**Input of logic NOT module C**

Address: 0xC33A

Min.: 0

Max.: 18

Default: 0

**Value Range:**

C3-56

**Description**

Same as module A

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

<b>C3-59</b>	<b>Input of logic NOT module D</b> Address: 0xC33B Min.: 0 Max.: 18 Default: 0 <b>Value Range:</b> C3-56 <b>Description</b> Same as module A	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>C3-60</b>	<b>Input of logic NOT module E</b> Address: 0xC33C Min.: 0 Max.: 18 Default: 0 <b>Value Range:</b> C3-56 <b>Description</b> Same as module A	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>C3-61</b>	<b>Input of logic NOT module F</b> Address: 0xC33D Min.: 0 Max.: 18 Default: 0 <b>Value Range:</b> C3-56 <b>Description</b> Same as module A	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>C3-62</b>	<b>Input of logic NOT module G</b> Address: 0xC33E Min.: 0 Max.: 18 Default: 0 <b>Value Range:</b> C3-56 <b>Description</b> Same as module A	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>C3-63</b>	<b>Input of logic NOT module H</b> Address: 0xC33F Min.: 0 Max.: 18 Default: 0 <b>Value Range:</b> C3-56 <b>Description</b> Same as module A	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>C3-64</b>	<b>Input of logic NOT module I</b> Address: 0xC340	Effective mode: -

Min.: 0  
 Max.: 18  
 Default: 0  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

C3-56

**Description**

Same as module A

**C3-65 Input of logic NOT module J**

Address: 0xC341  
 Min.: 0  
 Max.: 18  
 Default: 0  
 Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

C3-56

**Description**

Same as module A

**C3-66 Input of logic NOT module K**

Address: 0xC342  
 Min.: 0  
 Max.: 18  
 Default: 0  
 Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

C3-56

**Description**

Same as module A

**C3-67 Input of logic NOT module L**

Address: 0xC343  
 Min.: 0  
 Max.: 18  
 Default: 0  
 Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

C3-56

**Description**

Same as module A

**C3-68 Input of logic NOT module M**

Address: 0xC344  
 Min.: 0  
 Max.: 18  
 Default: 0  
 Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

C3-56

**Description**

Same as module A

**C3-69 Input of logic NOT module N**

Address: 0xC345  
 Min.: 0  
 Max.: 18  
 Effective mode: -  
 Unit: -  
 Data type: UInt16

Default: 0  
**Value Range:**  
 C3-56  
**Description**  
 Same as module A

Change: Changeable at any time

**C3-70 Input of logic NOT module O**

Address: 0xC346  
 Min.: 0  
 Max.: 18  
 Default: 0

**Value Range:**  
 C3-56

**Description**  
 Same as module A

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C3-71 Input of logic NOT module P**

Address: 0xC347  
 Min.: 0  
 Max.: 18  
 Default: 0

**Value Range:**  
 C3-56

**Description**  
 Same as module A

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C3-72 Function of logic XOR/XNOR module A**

Address: 0xC348  
 Min.: 0  
 Max.: 2  
 Default: 0

**Value Range:**  
 0: Disabled  
 1: XOR  
 2: XNOR

**Description**  
 0: Disabled. The output is 0.  
 1: XOR. The inputs 1 and 2 are XORed and then output.  
 2: XNOR. The inputs 1 and 2 are XNORed and then output.

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C3-73 Input 1 of logic XOR/XNOR module A**

Address: 0xC349  
 Min.: 0  
 Max.: 18  
 Default: 0

**Value Range:**  
 Same as C3-01

**Description**  
 Same as C3-01

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C3-74 Input 2 of logic XOR/XNOR module A**

Address: 0xC34A  
 Min.: 0  
 Max.: 18  
 Default: 0

**Value Range:**

Same as C3-01

**Description**

Same as C3-01

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C3-75 Function of logic XOR/XNOR module B**

Address: 0xC34B  
 Min.: 0  
 Max.: 2  
 Default: 0

**Value Range:**

0: Disabled

1: XOR

2: XNOR

**Description**

Same as module A

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C3-76 Input 1 of logic XOR/XNOR module B**

Address: 0xC34C  
 Min.: 0  
 Max.: 18  
 Default: 0

**Value Range:**

Same as C3-01

**Description**

Same as module A

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C3-77 Input 2 of logic XOR/XNOR module B**

Address: 0xC34D  
 Min.: 0  
 Max.: 18  
 Default: 0

**Value Range:**

Same as C3-01

**Description**

Same as module A

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C3-78 Function of logic XOR/XNOR module C**

Address: 0xC34E  
 Min.: 0  
 Max.: 2  
 Default: 0

**Value Range:**

0: Disabled

1: XOR

2: XNOR

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Description**

Same as module A

**C3-79 Input 1 of logic XOR/XNOR module C**

Address: 0xC34F

Min.: 0

Max.: 18

Default: 0

**Value Range:**

Same as C3-01

**Description**

Same as module A

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C3-80 Input 2 of logic XOR/XNOR module C**

Address: 0xC350

Min.: 0

Max.: 18

Default: 0

**Value Range:**

Same as C3-01

**Description**

Same as module A

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C3-81 Function of logic XOR/XNOR module D**

Address: 0xC351

Min.: 0

Max.: 2

Default: 0

**Value Range:**

0: Disabled

1: XOR

2: XNOR

**Description**

Same as module A

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C3-82 Input 1 of logic XOR/XNOR module D**

Address: 0xC352

Min.: 0

Max.: 18

Default: 0

**Value Range:**

Same as C3-01

**Description**

Same as module A

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C3-83 Input 2 of logic XOR/XNOR module D**

Address: 0xC353

Min.: 0

Max.: 18

Default: 0

**Value Range:**

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

Same as C3-01

**Description**

Same as module A

**C3-84 Function of logic XOR/XNOR module E**

Address: 0xC354

Min.: 0

Max.: 2

Default: 0

**Value Range:**

0: Disabled

1: XOR

2: XNOR

**Description**

Same as module A

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C3-85 Input 1 of logic XOR/XNOR module E**

Address: 0xC355

Min.: 0

Max.: 18

Default: 0

**Value Range:**

Same as C3-01

**Description**

Same as module A

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C3-86 Input 2 of logic XOR/XNOR module E**

Address: 0xC356

Min.: 0

Max.: 18

Default: 0

**Value Range:**

Same as C3-01

**Description**

Same as module A

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C3-87 Function of logic XOR/XNOR module F**

Address: 0xC357

Min.: 0

Max.: 2

Default: 0

**Value Range:**

0: Disabled

1: XOR

2: XNOR

**Description**

Same as module A

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C3-88 Input 1 of logic XOR/XNOR module F**

Address: 0xC358

Min.: 0

Effective mode: -

Unit: -

Max.: 18  
 Default: 0  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**  
 Same as C3-01

**Description**  
 Same as module A

**C3-89 Input 2 of logic XOR/XNOR module F**

Address: 0xC359  
 Min.: 0  
 Max.: 18  
 Default: 0  
 Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**  
 Same as C3-01

**Description**  
 Same as module A

**C3-90 Function of logic XOR/XNOR module G**

Address: 0xC35A  
 Min.: 0  
 Max.: 2  
 Default: 0  
 Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**  
 0: Disabled

1: XOR  
 2: XNOR

**Description**  
 Same as module A

**C3-91 Input 1 of logic XOR/XNOR module G**

Address: 0xC35B  
 Min.: 0  
 Max.: 18  
 Default: 0  
 Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**  
 Same as C3-01

**Description**  
 Same as module A

**C3-92 Input 2 of logic XOR/XNOR module G**

Address: 0xC35C  
 Min.: 0  
 Max.: 18  
 Default: 0  
 Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**  
 Same as C3-01

**Description**  
 Same as module A

**C3-93 Function of logic XOR/XNOR module H**

Address: 0xC35D  
 Effective mode: -



Min.:	0	Unit:	-
Max.:	2	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: Disabled  
 1: XOR  
 2: XNOR

**Description**

Same as module A

**C3-94 Input 1 of logic XOR/XNOR module H**

Address:	0xC35E	Effective mode:	-
Min.:	0	Unit:	-
Max.:	18	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

Same as C3-01

**Description**

Same as module A

**C3-95 Input 2 of logic XOR/XNOR module H**

Address:	0xC35F	Effective mode:	-
Min.:	0	Unit:	-
Max.:	18	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

Same as C3-01

**Description**

Same as module A

## 4.44 C4: Arithmetic Operation Parameters

**C4-00 Input of floating-point absolute value module A**

Address:	0xC400	Effective mode:	-
Min.:	0	Unit:	-
Max.:	8	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: Disabled  
 1: AI1  
 2: AI2  
 3: AI3  
 4: HDI  
 5: Aim  
 6: Multi-reference  
 7: Motor-driven potentiometer  
 8: PID  
 Others: F connector

**Description**

-

**C4-01 Input of floating-point absolute value module B**

Address: 0xC401                      Effective mode: -  
Min.: 0                                      Unit: -  
Max.: 8                                      Data type: UInt16  
Default: 0                                  Change: Changeable at any time

**Value Range:**

Same as C4-00

**Description**

-

**C4-02 Input of floating-point absolute value module C**

Address: 0xC402                      Effective mode: -  
Min.: 0                                      Unit: -  
Max.: 8                                      Data type: UInt16  
Default: 0                                  Change: Changeable at any time

**Value Range:**

Same as C4-00

**Description**

-

**C4-03 Input of floating-point absolute value module D**

Address: 0xC403                      Effective mode: -  
Min.: 0                                      Unit: -  
Max.: 8                                      Data type: UInt16  
Default: 0                                  Change: Changeable at any time

**Value Range:**

Same as C4-00

**Description**

-

**C4-04 Input of floating-point absolute value module E**

Address: 0xC404                      Effective mode: -  
Min.: 0                                      Unit: -  
Max.: 8                                      Data type: UInt16  
Default: 0                                  Change: Changeable at any time

**Value Range:**

Same as C4-00

**Description**

-

**C4-05 Input of fixed-point absolute value module F**

Address: 0xC405                      Effective mode: -  
Min.: 0                                      Unit: -  
Max.: 0                                      Data type: UInt16  
Default: 0                                  Change: Changeable at any time

**Value Range:**

0: Disabled

Others: K connector

**Description**

-

**C4-06 Input of fixed-point absolute value module G**

Address:	0xC406	Effective mode:	-
Min.:	0	Unit:	-
Max.:	0	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: Disabled

Others: K connector

**Description**

-

**C4-07 Input of fixed-point absolute value module H**

Address:	0xC407	Effective mode:	-
Min.:	0	Unit:	-
Max.:	0	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: Disabled

Others: K connector

**Description**

-

**C4-08 Input 1 of floating-point ADD/SUBTRACT module A**

Address:	0xC408	Effective mode:	-
Min.:	0	Unit:	-
Max.:	8	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: Disabled

1: AI1

2: AI2

3: AI3

4: HDI

5: Aim

6: Multi-reference

7: Motor-driven potentiometer

8: PID

Others: F connector

**Description**

-

**C4-09 Input 2 of ADD/SUBTRACT module A (ADD)**

Address:	0xC409	Effective mode:	-
Min.:	0	Unit:	-
Max.:	8	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: 0  
 1: AI1  
 2: AI2  
 3: AI3  
 4: HDI  
 5: Aim  
 6: Multi-reference  
 7: Motor-driven potentiometer  
 8: PID  
 Others: F connector

**Description**

-

**C4-10 Input 3 of ADD/SUBTRACT module A (ADD)**

Address:	0xC40A	Effective mode:	-
Min.:	0	Unit:	-
Max.:	8	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

Same as C4-09

**Description**

-

**C4-11 Input 4 of ADD/SUBTRACT module A (SUBTRACT)**

Address:	0xC40B	Effective mode:	-
Min.:	0	Unit:	-
Max.:	8	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

Same as C4-09

**Description**

-

**C4-12 Input 1 of floating-point ADD/SUBTRACT module B**

Address:	0xC40C	Effective mode:	-
Min.:	0	Unit:	-
Max.:	8	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

Same as C4-09

**Description**

-

**C4-13 Input 2 of ADD/SUBTRACT module B (ADD)**

Address:	0xC40D	Effective mode:	-
Min.:	0	Unit:	-
Max.:	8	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

Same as C4-09

**Description**

-

**C4-14 Input 3 of ADD/SUBTRACT module B (ADD)**

Address: 0xC40E

Effective mode: -

Min.: 0

Unit: -

Max.: 8

Data type: UInt16

Default: 0

Change: Changeable at any time

**Value Range:**

Same as C4-09

**Description**

-

**C4-15 Input 4 of ADD/SUBTRACT module B (SUBTRACT)**

Address: 0xC40F

Effective mode: -

Min.: 0

Unit: -

Max.: 8

Data type: UInt16

Default: 0

Change: Changeable at any time

**Value Range:**

Same as C4-09

**Description**

-

**C4-16 Input 1 of floating-point ADD/SUBTRACT module C**

Address: 0xC410

Effective mode: -

Min.: 0

Unit: -

Max.: 8

Data type: UInt16

Default: 0

Change: Changeable at any time

**Value Range:**

Same as C4-09

**Description**

-

**C4-17 Input 2 of ADD/SUBTRACT module C (ADD)**

Address: 0xC411

Effective mode: -

Min.: 0

Unit: -

Max.: 8

Data type: UInt16

Default: 0

Change: Changeable at any time

**Value Range:**

Same as C4-09

**Description**

-

**C4-18 Input 3 of ADD/SUBTRACT module C (ADD)**

Address: 0xC412

Effective mode: -

Min.: 0

Unit: -

Max.: 8

Data type: UInt16

Default: 0

Change: Changeable at any time

**Value Range:**

Same as C4-09

**Description**

-

<b>C4-19</b>	<b>Input 4 of ADD/SUBTRACT module C (SUBTRACT)</b> Address: 0xC413 Min.: 0 Max.: 8 Default: 0 <b>Value Range:</b> Same as C4-09 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>C4-20</b>	<b>Input 1 of floating-point ADD/SUBTRACT module D</b> Address: 0xC414 Min.: 0 Max.: 8 Default: 0 <b>Value Range:</b> Same as C4-09 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>C4-21</b>	<b>Input 2 of ADD/SUBTRACT module D (ADD)</b> Address: 0xC415 Min.: 0 Max.: 8 Default: 0 <b>Value Range:</b> Same as C4-09 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>C4-22</b>	<b>Input 3 of ADD/SUBTRACT module D (ADD)</b> Address: 0xC416 Min.: 0 Max.: 8 Default: 0 <b>Value Range:</b> Same as C4-09 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>C4-23</b>	<b>Input 4 of ADD/SUBTRACT module D (SUBTRACT)</b> Address: 0xC417 Min.: 0 Max.: 8 Default: 0 <b>Value Range:</b> Same as C4-09 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>C4-24</b>	<b>Input 1 of floating-point ADD/SUBTRACT module E</b> Address: 0xC418	Effective mode: -

Min.: 0  
 Max.: 8  
 Default: 0  
**Value Range:**  
 Same as C4-09  
**Description**  
 -

Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C4-25 Input 2 of ADD/SUBTRACT module E (ADD)**  
 Address: 0xC419  
 Min.: 0  
 Max.: 8  
 Default: 0  
**Value Range:**  
 Same as C4-09  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C4-26 Input 3 of ADD/SUBTRACT module E (ADD)**  
 Address: 0xC41A  
 Min.: 0  
 Max.: 8  
 Default: 0  
**Value Range:**  
 Same as C4-09  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C4-27 Input 4 of ADD/SUBTRACT module E (SUBTRACT)**  
 Address: 0xC41B  
 Min.: 0  
 Max.: 8  
 Default: 0  
**Value Range:**  
 Same as C4-09  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C4-28 Input 1 of fixed-point ADD/SUBTRACT module F**  
 Address: 0xC41C  
 Min.: 0  
 Max.: 0  
 Default: 0  
**Value Range:**  
 0: Disabled  
 Others: K connector  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C4-29 Input 2 of ADD/SUBTRACT module F (ADD)**  
 Address: 0xC41D  
 Min.: 0

Effective mode: -  
 Unit: -

Max.: 0  
 Default: 0  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**  
 Same as C4-28

**Description**  
 -

**C4-30 Input 3 of ADD/SUBTRACT module F (ADD)**

Address: 0xC41E  
 Min.: 0  
 Max.: 0  
 Default: 0  
 Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**  
 Same as C4-28

**Description**  
 -

**C4-31 Input 4 of ADD/SUBTRACT module F (SUBTRACT)**

Address: 0xC41F  
 Min.: 0  
 Max.: 0  
 Default: 0  
 Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**  
 Same as C4-28

**Description**  
 -

**C4-32 Input 1 of fixed-point ADD/SUBTRACT module G**

Address: 0xC420  
 Min.: 0  
 Max.: 0  
 Default: 0  
 Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**  
 Same as C4-28

**Description**  
 -

**C4-33 Input 2 of ADD/SUBTRACT module G (ADD)**

Address: 0xC421  
 Min.: 0  
 Max.: 0  
 Default: 0  
 Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**  
 Same as C4-28

**Description**  
 -

**C4-34 Input 3 of ADD/SUBTRACT module G (ADD)**

Address: 0xC422  
 Min.: 0  
 Max.: 0  
 Default: 0  
 Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time



**Value Range:**

Same as C4-28

**Description**

-

**C4-35 Input 4 of ADD/SUBTRACT module G (SUBTRACT)**

Address: 0xC423

Effective mode: -

Min.: 0

Unit: -

Max.: 0

Data type: UInt16

Default: 0

Change: Changeable at any time

**Value Range:**

Same as C4-28

**Description**

-

**C4-36 Input 1 of fixed-point ADD/SUBTRACT module H**

Address: 0xC424

Effective mode: -

Min.: 0

Unit: -

Max.: 0

Data type: UInt16

Default: 0

Change: Changeable at any time

**Value Range:**

Same as C4-28

**Description**

-

**C4-37 Input 2 of ADD/SUBTRACT module H (ADD)**

Address: 0xC425

Effective mode: -

Min.: 0

Unit: -

Max.: 0

Data type: UInt16

Default: 0

Change: Changeable at any time

**Value Range:**

Same as C4-28

**Description**

-

**C4-38 Input 3 of ADD/SUBTRACT module H (ADD)**

Address: 0xC426

Effective mode: -

Min.: 0

Unit: -

Max.: 0

Data type: UInt16

Default: 0

Change: Changeable at any time

**Value Range:**

Same as C4-28

**Description**

-

**C4-39 Input 4 of ADD/SUBTRACT module H (SUBTRACT)**

Address: 0xC427

Effective mode: -

Min.: 0

Unit: -

Max.: 0

Data type: UInt16

Default: 0

Change: Changeable at any time

**Value Range:**

Same as C4-28

**Description**

-

**C4-40 Input 1 of floating-point MULTIPLY/DIVIDE module A**

Address:	0xC428	Effective mode:	-
Min.:	0	Unit:	-
Max.:	8	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

C4-08

**Description**

-

**C4-41 Input 2 of MULTIPLY/DIVIDE module A (MULTIPLY)**

Address:	0xC429	Effective mode:	-
Min.:	0	Unit:	-
Max.:	8	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

- 0: 1
- 1: AI1
- 2: AI2
- 3: AI3
- 4: HDI
- 5: Aim
- 6: Multi-reference
- 7: Motor-driven potentiometer
- 8: PID
- Others: F connector

**Description**

-

**C4-42 Input 3 of MULTIPLY/DIVIDE module A (DIVIDE)**

Address:	0xC42A	Effective mode:	-
Min.:	0	Unit:	-
Max.:	8	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

Same as C4-41

**Description**

-

**C4-43 Input 1 of floating-point MULTIPLY/DIVIDE module B**

Address:	0xC42B	Effective mode:	-
Min.:	0	Unit:	-
Max.:	8	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: Disabled  
 1: AI1  
 2: AI2  
 3: AI3  
 4: HDI  
 5: Aim  
 6: Multi-reference  
 7: Motor-driven potentiometer  
 8: PID  
 Others: F connector

**Description**

-

**C4-44 Input 2 of MULTIPLY/DIVIDE module B (MULTIPLY)**

Address:	0xC42C	Effective mode:	-
Min.:	0	Unit:	-
Max.:	8	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

Same as C4-41

**Description**

-

**C4-45 Input 3 of MULTIPLY/DIVIDE module B (DIVIDE)**

Address:	0xC42D	Effective mode:	-
Min.:	0	Unit:	-
Max.:	8	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

Same as C4-41

**Description**

-

**C4-46 Input 1 of floating-point MULTIPLY/DIVIDE module C**

Address:	0xC42E	Effective mode:	-
Min.:	0	Unit:	-
Max.:	8	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: Disabled  
 1: AI1  
 2: AI2  
 3: AI3  
 4: HDI  
 5: Aim  
 6: Multi-reference  
 7: Motor-driven potentiometer  
 8: PID  
 Others: F connector

**Description**

-

**C4-47 Input 2 of MULTIPLY/DIVIDE module C (MULTIPLY)**

Address: 0xC42F Effective mode: -  
Min.: 0 Unit: -  
Max.: 8 Data type: UInt16  
Default: 0 Change: Changeable at any time

**Value Range:**

Same as C4-41

**Description**

-

**C4-48 Input 3 of MULTIPLY/DIVIDE module C (DIVIDE)**

Address: 0xC430 Effective mode: -  
Min.: 0 Unit: -  
Max.: 8 Data type: UInt16  
Default: 0 Change: Changeable at any time

**Value Range:**

Same as C4-41

**Description**

-

**C4-49 Input 1 of floating-point MULTIPLY/DIVIDE module D**

Address: 0xC431 Effective mode: -  
Min.: 0 Unit: -  
Max.: 8 Data type: UInt16  
Default: 0 Change: Changeable at any time

**Value Range:**

0: Disabled

1: AI1

2: AI2

3: AI3

4: HDI

5: Aim

6: Multi-reference

7: Motor-driven potentiometer

8: PID

Others: F connector

**Description**

-

**C4-50 Input 2 of MULTIPLY/DIVIDE module D (MULTIPLY)**

Address: 0xC432 Effective mode: -  
Min.: 0 Unit: -  
Max.: 8 Data type: UInt16  
Default: 0 Change: Changeable at any time

**Value Range:**

Same as C4-41

-

**Description**

-

**C4-51 Input 3 of MULTIPLY/DIVIDE module D (DIVIDE)**

Address:	0xC433	Effective mode:	-
Min.:	0	Unit:	-
Max.:	8	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

Same as C4-41

**Description**

-

**C4-52 Input 1 of floating-point MULTIPLY/DIVIDE module E**

Address:	0xC434	Effective mode:	-
Min.:	0	Unit:	-
Max.:	8	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: Disabled

1: AI1

2: AI2

3: AI3

4: HDI

5: Aim

6: Multi-reference

7: Motor-driven potentiometer

8: PID

Others: F connector

**Description**

-

**C4-53 Input 2 of MULTIPLY/DIVIDE module E (MULTIPLY)**

Address:	0xC435	Effective mode:	-
Min.:	0	Unit:	-
Max.:	8	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

Same as C4-41

**Description**

-

**C4-54 Input 3 of MULTIPLY/DIVIDE module E (DIVIDE)**

Address:	0xC436	Effective mode:	-
Min.:	0	Unit:	-
Max.:	8	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

Same as C4-41

-

**Description**

-

**C4-55 Input 1 of fixed-point MULTIPLY/DIVIDE module F**

Address:	0xC437	Effective mode:	-
Min.:	0	Unit:	-
Max.:	0	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: Disabled

Others: K connector

**Description**

-

**C4-56 Input 2 of MULTIPLY/DIVIDE module F (MULTIPLY)**

Address:	0xC438	Effective mode:	-
Min.:	0	Unit:	-
Max.:	0	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

Same as C4-55

**Description**

-

**C4-57 Input 3 of MULTIPLY/DIVIDE module F (DIVIDE)**

Address:	0xC439	Effective mode:	-
Min.:	0	Unit:	-
Max.:	0	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

Same as C4-55

**Description**

-

**C4-58 Input 1 of fixed-point MULTIPLY/DIVIDE module G**

Address:	0xC43A	Effective mode:	-
Min.:	0	Unit:	-
Max.:	0	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

Same as C4-55

**Description**

-

**C4-59 Input 2 of MULTIPLY/DIVIDE module G (MULTIPLY)**

Address:	0xC43B	Effective mode:	-
Min.:	0	Unit:	-
Max.:	0	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

Same as C4-55

-

**Description**

-

**C4-60 Input 3 of MULTIPLY/DIVIDE module G (DIVIDE)**

Address:	0xC43C	Effective mode:	-
Min.:	0	Unit:	-
Max.:	0	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

Same as C4-55

**Description**

-

**C4-61 Input 1 of fixed-point MULTIPLY/DIVIDE module H**

Address:	0xC43D	Effective mode:	-
Min.:	0	Unit:	-
Max.:	0	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

Same as C4-55

**Description**

-

**C4-62 Input 2 of MULTIPLY/DIVIDE module H (MULTIPLY)**

Address:	0xC43E	Effective mode:	-
Min.:	0	Unit:	-
Max.:	0	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

Same as C4-55

**Description**

-

**C4-63 Input 3 of MULTIPLY/DIVIDE module H (DIVIDE)**

Address:	0xC43F	Effective mode:	-
Min.:	0	Unit:	-
Max.:	0	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

Same as C4-55

**Description**

-

**C4-64 Function of floating-point comparison module A**

Address:	0xC440	Effective mode:	-
Min.:	0	Unit:	-
Max.:	3	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: Module disabled  
 1: Input 1 > Input 2  
 2: Input 1 < Input 2  
 3: Input 1 = Input 2

**Description**

-

**C4-65 Input 1 of floating-point comparison module A**

Address:	0xC441	Effective mode:	-
Min.:	0	Unit:	-
Max.:	8	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: 0  
 1: AI1  
 2: AI2  
 3: AI3  
 4: HDI  
 5: Aim  
 6: Multi-reference  
 7: Motor-driven potentiometer  
 8: PID  
 Others: F connector

**Description**

-

**C4-66 Input 2 of floating-point comparison module A**

Address:	0xC442	Effective mode:	-
Min.:	0	Unit:	-
Max.:	8	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: 0  
 1: AI1  
 2: AI2  
 3: AI3  
 4: HDI  
 5: Aim  
 6: Multi-reference  
 7: Motor-driven potentiometer  
 8: PID  
 Others: F connector

**Description**

-

**C4-67 Hysteresis input of floating-point comparison module A**

Address:	0xC443	Effective mode:	-
Min.:	0.00	Unit:	%
Max.:	655.35	Data type:	UInt16





0: 0  
 1: AI1  
 2: AI2  
 3: AI3  
 4: HDI  
 5: Aim  
 6: Multi-reference  
 7: Motor-driven potentiometer  
 8: PID  
 Others: F connector

**Description**

-

**C4-71 Hysteresis input of floating-point comparison module B**

Address:	0xC447	Effective mode:	-
Min.:	0.00	Unit:	%
Max.:	655.35	Data type:	UInt16
Default:	0.00	Change:	Changeable at any time

**Value Range:**

0.00% to 655.35%

**Description**

-

**C4-72 Function of floating-point comparison module C**

Address:	0xC448	Effective mode:	-
Min.:	0	Unit:	-
Max.:	3	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: Module disabled

1: Input 1 &gt; Input 2

2: Input 1 &lt; Input 2

3: Input 1 = Input 2

**Description**

-

**C4-73 Input 1 of floating-point comparison module C**

Address:	0xC449	Effective mode:	-
Min.:	0	Unit:	-
Max.:	8	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: 0  
 1: AI1  
 2: AI2  
 3: AI3  
 4: HDI  
 5: Aim  
 6: Multi-reference  
 7: Motor-driven potentiometer  
 8: PID  
 Others: F connector

**Description**

-

**C4-74 Input 2 of floating-point comparison module C**

Address:	0xC44A	Effective mode:	-
Min.:	0	Unit:	-
Max.:	8	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: 0  
 1: AI1  
 2: AI2  
 3: AI3  
 4: HDI  
 5: Aim  
 6: Multi-reference  
 7: Motor-driven potentiometer  
 8: PID  
 Others: F connector

**Description**

-

**C4-75 Hysteresis input of floating-point comparison module C**

Address:	0xC44B	Effective mode:	-
Min.:	0.00	Unit:	%
Max.:	655.35	Data type:	UInt16
Default:	0.00	Change:	Changeable at any time

**Value Range:**

0.00% to 655.35%

**Description**

-

**C4-76 Function of floating-point comparison module D**

Address:	0xC44C	Effective mode:	-
Min.:	0	Unit:	-
Max.:	3	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: Module disabled  
 1: Input 1 > Input 2  
 2: Input 1 < Input 2  
 3: Input 1 = Input 2

**Description**

-

**C4-77 Input 1 of floating-point comparison module D**

Address:	0xC44D	Effective mode:	-
Min.:	0	Unit:	-
Max.:	8	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: 0  
 1: AI1  
 2: AI2  
 3: AI3  
 4: HDI  
 5: Aim  
 6: Multi-reference  
 7: Motor-driven potentiometer  
 8: PID  
 Others: F connector

**Description**

-

**C4-78 Input 2 of floating-point comparison module D**

Address:	0xC44E	Effective mode:	-
Min.:	0	Unit:	-
Max.:	8	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: 0  
 1: AI1  
 2: AI2  
 3: AI3  
 4: HDI  
 5: Aim  
 6: Multi-reference  
 7: Motor-driven potentiometer  
 8: PID  
 Others: F connector

**Description**

-

**C4-79 Hysteresis input of floating-point comparison module D**

Address:	0xC44F	Effective mode:	-
Min.:	0.00	Unit:	%
Max.:	655.35	Data type:	UInt16

Default: 0.00

Change: Changeable at any time

**Value Range:**

0.00% to 655.35%

**Description**

-

**C4-80 Function of fixed-point comparison module E**

Address: 0xC450

Effective mode: -

Min.: 0

Unit: -

Max.: 3

Data type: UInt16

Default: 0

Change: Changeable at any time

**Value Range:**

0: Module disabled

1: Input 1 > Input 2

2: Input 1 < Input 2

3: Input 1 = Input 2

**Description**

-

**C4-81 Input 1 of fixed-point comparison module E**

Address: 0xC451

Effective mode: -

Min.: 0

Unit: -

Max.: 0

Data type: UInt16

Default: 0

Change: Changeable at any time

**Value Range:**

0: 0

Others: K connector

**Description**

-

**C4-82 Input 2 of fixed-point comparison module E**

Address: 0xC452

Effective mode: -

Min.: 0

Unit: -

Max.: 0

Data type: UInt16

Default: 0

Change: Changeable at any time

**Value Range:**

0: 0

Others: K connector

**Description**

-

**C4-83 Hysteresis input of fixed-point comparison module E**

Address: 0xC453

Effective mode: -

Min.: 0.00

Unit: %

Max.: 655.35

Data type: UInt16

Default: 0.00

Change: Changeable at any time

**Value Range:**

0.00% to 655.35%

**Description**

-

- C4-84 Function of fixed-point comparison module F**  
 Address: 0xC454 Effective mode: -  
 Min.: 0 Unit: -  
 Max.: 3 Data type: UInt16  
 Default: 0 Change: Changeable at any time  
**Value Range:**  
 0: Module disabled  
 1: Input 1 > Input 2  
 2: Input 1 < Input 2  
 3: Input 1 = Input 2  
**Description**  
 -
- C4-85 Input 1 of fixed-point comparison module F**  
 Address: 0xC455 Effective mode: -  
 Min.: 0 Unit: -  
 Max.: 0 Data type: UInt16  
 Default: 0 Change: Changeable at any time  
**Value Range:**  
 0: 0  
 Others: K connector  
**Description**  
 -
- C4-86 Input 2 of fixed-point comparison module F**  
 Address: 0xC456 Effective mode: -  
 Min.: 0 Unit: -  
 Max.: 0 Data type: UInt16  
 Default: 0 Change: Changeable at any time  
**Value Range:**  
 0: 0  
 Others: K connector  
**Description**  
 -
- C4-87 Hysteresis input of fixed-point comparison module F**  
 Address: 0xC457 Effective mode: -  
 Min.: 0.00 Unit: %  
 Max.: 655.35 Data type: UInt16  
 Default: 0.00 Change: Changeable at any time  
**Value Range:**  
 0.00% to 655.35%  
**Description**  
 -
- C4-88 Function of fixed-point comparison module G**  
 Address: 0xC458 Effective mode: -  
 Min.: 0 Unit: -  
 Max.: 3 Data type: UInt16  
 Default: 0 Change: Changeable at any time  
**Value Range:**

0: Module disabled  
 1: Input 1 > Input 2  
 2: Input 1 < Input 2  
 3: Input 1 = Input 2

**Description**

-

**C4-89 Input 1 of fixed-point comparison module G**

Address:	0xC459	Effective mode:	-
Min.:	0	Unit:	-
Max.:	0	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: 0

Others: K connector

**Description**

-

**C4-90 Input 2 of fixed-point comparison module G**

Address:	0xC45A	Effective mode:	-
Min.:	0	Unit:	-
Max.:	0	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: 0

Others: K connector

**Description**

-

**C4-91 Hysteresis input of fixed-point comparison module G**

Address:	0xC45B	Effective mode:	-
Min.:	0.00	Unit:	%
Max.:	655.35	Data type:	UInt16
Default:	0.00	Change:	Changeable at any time

**Value Range:**

0.00% to 655.35%

**Description**

-

**C4-92 Function of fixed-point comparison module H**

Address:	0xC45C	Effective mode:	-
Min.:	0	Unit:	-
Max.:	3	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: Module disabled

1: Input 1 > Input 2

2: Input 1 < Input 2

3: Input 1 = Input 2

**Description**

-

**C4-93 Input 1 of fixed-point comparison module H**

Address:	0xC45D	Effective mode:	-
Min.:	0	Unit:	-
Max.:	0	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: 0

Others: K connector

**Description**

-

**C4-94 Input 2 of fixed-point comparison module H**

Address:	0xC45E	Effective mode:	-
Min.:	0	Unit:	-
Max.:	0	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: 0

Others: K connector

**Description**

-

**C4-95 Hysteresis input of fixed-point comparison module H**

Address:	0xC45F	Effective mode:	-
Min.:	0.00	Unit:	%
Max.:	655.35	Data type:	UInt16
Default:	0.00	Change:	Changeable at any time

**Value Range:**

0.00% to 655.35%

**Description**

-

**4.45 C5: Switch Function Parameters****C5-00 Input source of binary selector module A**

Address:	0xC500	Effective mode:	-
Min.:	0	Unit:	-
Max.:	18	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**



## Parameter Group

---

0: Disabled

1: Logic 1

2: Logic 0

3: DI1

4: DI2

5: DI3

6: DI4

7: DI5

8: DI6

9: DI7

10: DI8

11: DI9

12: DI10

13: DI11

14: DI12

15: DI13

16: DI14

17: DI15

18: DI16

Others: B connector

### Description

-

### C5-01 Input 1 of binary selector module A

Address: 0xC501

Min.: 0

Max.: 18

Default: 0

**Value Range:**

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

0: Logic 0  
 1: Logic 1  
 2: Logic 0  
 3: DI1  
 4: DI2  
 5: DI3  
 6: DI4  
 7: DI5  
 8: DI6  
 9: DI7  
 10: DI8  
 11: DI9  
 12: DI10  
 13: DI11  
 14: DI12  
 15: DI13  
 16: DI14  
 17: DI15  
 18: DI16

Others: B connector

**Description**

-

**C5-02 Input 2 of binary selector module A**

Address: 0xC502  
 Min.: 0  
 Max.: 18  
 Default: 0

**Value Range:**

Same as C5-01

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C5-03 Input source of binary selector module B**

Address: 0xC503  
 Min.: 0  
 Max.: 18  
 Default: 0

**Value Range:**

Same as C5-01

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C5-04 Input 1 of binary selector module B**

Address: 0xC504  
 Min.: 0  
 Max.: 18  
 Default: 0

**Value Range:**

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

Same as C5-01

**Description**

-

**C5-05 Input 2 of binary selector module B**

Address: 0xC505

Min.: 0

Max.: 18

Default: 0

**Value Range:**

Same as C5-01

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C5-06 Input source of binary selector module C**

Address: 0xC506

Min.: 0

Max.: 18

Default: 0

**Value Range:**

0: Disabled

1: Logic 1

2: Logic 0

3: DI1

4: DI2

5: DI3

6: DI4

7: DI5

8: DI6

9: DI7

10: DI8

11: DI9

12: DI10

13: DI11

14: DI12

15: DI13

16: DI14

17: DI15

18: DI16

Others: B connector

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C5-07 Input 1 of binary selector module C**

Address: 0xC507

Min.: 0

Max.: 18

Default: 0

**Value Range:**

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

0: Logic 0  
 1: Logic 1  
 2: Logic 0  
 3: DI1  
 4: DI2  
 5: DI3  
 6: DI4  
 7: DI5  
 8: DI6  
 9: DI7  
 10: DI8  
 11: DI9  
 12: DI10  
 13: DI11  
 14: DI12  
 15: DI13  
 16: DI14  
 17: DI15  
 18: DI16

Others: B connector

**Description**

-

**C5-08 Input 2 of binary selector module C**

Address: 0xC508  
 Min.: 0  
 Max.: 18  
 Default: 0

**Value Range:**

Same as C5-01

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C5-09 Input source of binary selector module D**

Address: 0xC509  
 Min.: 0  
 Max.: 18  
 Default: 0

**Value Range:**

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

- 0: Disabled
- 1: Logic 1
- 2: Logic 0
- 3: DI1
- 4: DI2
- 5: DI3
- 6: DI4
- 7: DI5
- 8: DI6
- 9: DI7
- 10: DI8
- 11: DI9
- 12: DI10
- 13: DI11
- 14: DI12
- 15: DI13
- 16: DI14
- 17: DI15
- 18: DI16

Others: B connector

**Description**

-

**C5-10 Input 1 of binary selector module D**

Address: 0xC50A

Min.: 0

Max.: 18

Default: 0

**Value Range:**

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

0: Logic 0  
1: Logic 1  
2: Logic 0  
3: DI1  
4: DI2  
5: DI3  
6: DI4  
7: DI5  
8: DI6  
9: DI7  
10: DI8  
11: DI9  
12: DI10  
13: DI11  
14: DI12  
15: DI13  
16: DI14  
17: DI15  
18: DI16

Others: B connector

**Description**

-

**C5-11 Input 2 of binary selector module D**

Address: 0xC50B

Min.: 0

Max.: 18

Default: 0

**Value Range:**

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

## Parameter Group

---

0: Logic 0

1: Logic 1

2: Logic 0

3: DI1

4: DI2

5: DI3

6: DI4

7: DI5

8: DI6

9: DI7

10: DI8

11: DI9

12: DI10

13: DI11

14: DI12

15: DI13

16: DI14

17: DI15

18: DI21

Others: B connector

### Description

-

### C5-12 Input source of binary selector module E

Address: 0xC50C

Min.: 0

Max.: 18

Default: 0

### Value Range:

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

0: Disabled  
1: Logic 1  
2: Logic 0  
3: DI1  
4: DI2  
5: DI3  
6: DI4  
7: DI5  
8: DI6  
9: DI7  
10: DI8  
11: DI9  
12: DI10  
13: DI11  
14: DI12  
15: DI13  
16: DI14  
17: DI15  
18: DI16

Others: B connector

**Description**

-

**C5-13 Input 1 of binary selector module E**

Address: 0xC50D

Min.: 0

Max.: 18

Default: 0

**Value Range:**

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time



- 0: Logic 0
- 1: Logic 1
- 2: Logic 0
- 3: DI1
- 4: DI2
- 5: DI3
- 6: DI4
- 7: DI5
- 8: DI6
- 9: DI7
- 10: DI8
- 11: DI9
- 12: DI10
- 13: DI11
- 14: DI12
- 15: DI13
- 16: DI14
- 17: DI15
- 18: DI16

Others: B connector

**Description**

-

**C5-14 Input 2 of binary selector module E**

Address: 0xC50E  
 Min.: 0  
 Max.: 18  
 Default: 0

**Value Range:**

Same as C5-01

**Description**

-

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C5-15 Input source of binary selector module F**

Address: 0xC50F  
 Min.: 0  
 Max.: 18  
 Default: 0

**Value Range:**

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

0: Disabled  
 1: Logic 1  
 2: Logic 0  
 3: DI1  
 4: DI2  
 5: DI3  
 6: DI4  
 7: DI5  
 8: DI6  
 9: DI7  
 10: DI8  
 11: DI9  
 12: DI10  
 13: DI11  
 14: DI12  
 15: DI13  
 16: DI14  
 17: DI15  
 18: DI16

Others: B connector

**Description**

-

**C5-16 Input 1 of binary selector module F**

Address: 0xC510

Min.: 0

Max.: 18

Default: 0

**Value Range:**

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

## Parameter Group

---

0: Logic 0

1: Logic 1

2: Logic 0

3: DI1

4: DI2

5: DI3

6: DI4

7: DI5

8: DI6

9: DI7

10: DI8

11: DI9

12: DI10

13: DI11

14: DI12

15: DI13

16: DI14

17: DI15

18: DI16

Others: B connector

### Description

-

### C5-17 Input 2 of binary selector module F

Address: 0xC511

Min.: 0

Max.: 18

Default: 0

**Value Range:**

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

0: Logic 0  
 1: Logic 1  
 2: Logic 0  
 3: DI1  
 4: DI2  
 5: DI3  
 6: DI4  
 7: DI5  
 8: DI6  
 9: DI7  
 10: DI8  
 11: DI9  
 12: DI10  
 13: DI11  
 14: DI12  
 15: DI13  
 16: DI14  
 17: DI15  
 18: DI21

Others: B connector

**Description**

-

**C5-18 Input source of binary selector module G**

Address: 0xC512

Min.: 0

Max.: 18

Default: 0

**Value Range:**

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

## Parameter Group

---

0: Disabled

1: Logic 1

2: Logic 0

3: DI1

4: DI2

5: DI3

6: DI4

7: DI5

8: DI6

9: DI7

10: DI8

11: DI9

12: DI10

13: DI11

14: DI12

15: DI13

16: DI14

17: DI15

18: DI16

Others: B connector

### Description

-

### C5-19

#### Input 1 of binary selector module G

Address: 0xC513

Min.: 0

Max.: 18

Default: 0

#### Value Range:

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

0: Logic 0  
 1: Logic 1  
 2: Logic 0  
 3: DI1  
 4: DI2  
 5: DI3  
 6: DI4  
 7: DI5  
 8: DI6  
 9: DI7  
 10: DI8  
 11: DI9  
 12: DI10  
 13: DI11  
 14: DI12  
 15: DI13  
 16: DI14  
 17: DI15  
 18: DI16

Others: B connector

**Description**

-

**C5-20 Input 2 of binary selector module G**

Address: 0xC514

Min.: 0

Max.: 18

Default: 0

**Value Range:**

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

## Parameter Group

---

0: Logic 0  
1: Logic 1  
2: Logic 0  
3: DI1  
4: DI2  
5: DI3  
6: DI4  
7: DI5  
8: DI6  
9: DI7  
10: DI8  
11: DI9  
12: DI10  
13: DI11  
14: DI12  
15: DI13  
16: DI14  
17: DI15  
18: DI21

Others: B connector

### Description

-

### C5-21 Input source of binary selector module H

Address: 0xC515

Min.: 0

Max.: 18

Default: 0

**Value Range:**

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

0: Disabled  
 1: Logic 1  
 2: Logic 0  
 3: DI1  
 4: DI2  
 5: DI3  
 6: DI4  
 7: DI5  
 8: DI6  
 9: DI7  
 10: DI8  
 11: DI9  
 12: DI10  
 13: DI11  
 14: DI12  
 15: DI13  
 16: DI14  
 17: DI15  
 18: DI16

Others: B connector

**Description**

-

**C5-22 Input 1 of binary selector module H**

Address: 0xC516

Min.: 0

Max.: 18

Default: 0

**Value Range:**

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time



- 0: Logic 0
- 1: Logic 1
- 2: Logic 0
- 3: DI1
- 4: DI2
- 5: DI3
- 6: DI4
- 7: DI5
- 8: DI6
- 9: DI7
- 10: DI8
- 11: DI9
- 12: DI10
- 13: DI11
- 14: DI12
- 15: DI13
- 16: DI14
- 17: DI15
- 18: DI16

Others: B connector

**Description**

-

**C5-23 Input 2 of binary selector module H**

Address: 0xC517

Min.: 0

Max.: 18

Default: 0

**Value Range:**

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

0: Logic 0  
1: Logic 1  
2: Logic 0  
3: DI1  
4: DI2  
5: DI3  
6: DI4  
7: DI5  
8: DI6  
9: DI7  
10: DI8  
11: DI9  
12: DI10  
13: DI11  
14: DI12  
15: DI13  
16: DI14  
17: DI15  
18: DI21

Others: B connector

**Description**

-

**C5-24 Input source of word selector module A**

Address: 0xC518

Min.: 0

Max.: 18

Default: 0

**Value Range:**

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

- 0: Disabled
- 1: Logic 1
- 2: Logic 0
- 3: DI1
- 4: DI2
- 5: DI3
- 6: DI4
- 7: DI5
- 8: DI6
- 9: DI7
- 10: DI8
- 11: DI9
- 12: DI10
- 13: DI11
- 14: DI12
- 15: DI13
- 16: DI14
- 17: DI15
- 18: DI16

Others: B connector

**Description**

-

**C5-25 Input 1 of word selector module A**

Address: 0xC519  
 Min.: 0  
 Max.: 0  
 Default: 0

**Value Range:**

0: 0

Others: K connector

**Description**

-

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C5-26 Input 2 of word selector module A**

Address: 0xC51A  
 Min.: 0  
 Max.: 0  
 Default: 0

**Value Range:**

0: 0

Others: K connector

**Description**

-

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C5-27 Input source of word selector module B**

Address: 0xC51B  
 Min.: 0  
 Max.: 18

Effective mode: -  
 Unit: -  
 Data type: UInt16

Default: 0

Change: Changeable at any time

**Value Range:**

0: Disabled

1: Logic 1

2: Logic 0

3: DI1

4: DI2

5: DI3

6: DI4

7: DI5

8: DI6

9: DI7

10: DI8

11: DI9

12: DI10

13: DI11

14: DI12

15: DI13

16: DI14

17: DI15

18: DI16

Others: B connector

**Description**

-

**C5-28 Input 1 of word selector module B**

Address: 0xC51C

Effective mode: -

Min.: 0

Unit: -

Max.: 0

Data type: UInt16

Default: 0

Change: Changeable at any time

**Value Range:**

0: 0

Others: K connector

**Description**

-

**C5-29 Input 2 of word selector module B**

Address: 0xC51D

Effective mode: -

Min.: 0

Unit: -

Max.: 0

Data type: UInt16

Default: 0

Change: Changeable at any time

**Value Range:**

0: 0

Others: K connector

**Description**

-

**C5-30 Input source of word selector module C**

Address: 0xC51E

Effective mode: -

Min.:	0	Unit:	-
Max.:	18	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

- 0: Disabled
- 1: Logic 1
- 2: Logic 0
- 3: DI1
- 4: DI2
- 5: DI3
- 6: DI4
- 7: DI5
- 8: DI6
- 9: DI7
- 10: DI8
- 11: DI9
- 12: DI10
- 13: DI11
- 14: DI12
- 15: DI13
- 16: DI14
- 17: DI15
- 18: DI16
- Others: B connector

**Description**

-

**C5-31 Input 1 of word selector module C**

Address:	0xC51F	Effective mode:	-
Min.:	0	Unit:	-
Max.:	0	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

- 0: 0
- Others: K connector

**Description**

-

**C5-32 Input 2 of word selector module C**

Address:	0xC520	Effective mode:	-
Min.:	0	Unit:	-
Max.:	0	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

- 0: 0
- Others: K connector

**Description**

-

**C5-33 Input source of word selector module D**

Address: 0xC521  
 Min.: 0  
 Max.: 18  
 Default: 0

**Value Range:**

0: Disabled  
 1: Logic 1  
 2: Logic 0  
 3: DI1  
 4: DI2  
 5: DI3  
 6: DI4  
 7: DI5  
 8: DI6  
 9: DI7  
 10: DI8  
 11: DI9  
 12: DI10  
 13: DI11  
 14: DI12  
 15: DI13  
 16: DI14  
 17: DI15  
 18: DI16

Others: B connector

**Description**

-

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C5-34 Input 1 of word selector module D**

Address: 0xC522  
 Min.: 0  
 Max.: 0  
 Default: 0

**Value Range:**

0: 0

Others: K connector

**Description**

-

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C5-35 Input 2 of word selector module D**

Address: 0xC523  
 Min.: 0  
 Max.: 0  
 Default: 0

**Value Range:**

0: 0

Others: K connector

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Description**

-

**C5-36 Input source of DWord selector module A**

Address: 0xC524  
 Min.: 0  
 Max.: 18  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0: Disabled  
 1: Logic 1  
 2: Logic 0  
 3: DI1  
 4: DI2  
 5: DI3  
 6: DI4  
 7: DI5  
 8: DI6  
 9: DI7  
 10: DI8  
 11: DI9  
 12: DI10  
 13: DI11  
 14: DI12  
 15: DI13  
 16: DI14  
 17: DI15  
 18: DI16  
 Others: B connector

**Description**

-

**C5-37 Input 1 of DWord selector module A**

Address: 0xC525  
 Min.: 0  
 Max.: 0  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0: 0  
 Others: K connector

**Description**

-

**C5-38 Input 2 of DWord selector module A**

Address: 0xC526  
 Min.: 0  
 Max.: 0  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0: 0

Others: K connector

**Description**

-

**C5-39 Input source of DWord selector module B**

Address: 0xC527

Min.: 0

Max.: 18

Default: 0

**Value Range:**

0: Disabled

1: Logic 1

2: Logic 0

3: DI1

4: DI2

5: DI3

6: DI4

7: DI5

8: DI6

9: DI7

10: DI8

11: DI9

12: DI10

13: DI11

14: DI12

15: DI13

16: DI14

17: DI15

18: DI16

Others: B connector

**Description**

-

**C5-40 Input 1 of DWord selector module B**

Address: 0xC528

Min.: 0

Max.: 0

Default: 0

**Value Range:**

0: 0

Others: K connector

**Description**

-

**C5-41 Input 2 of DWord selector module B**

Address: 0xC529

Min.: 0

Max.: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

Effective mode: -

Unit: -

Data type: UInt16



Default: 0  
**Value Range:**  
 0: 0  
 Others: K connector  
**Description**  
 -

Change: Changeable at any time

**C5-42 Input source of DWord selector module C**

Address: 0xC52A  
 Min.: 0  
 Max.: 18  
 Default: 0

**Value Range:**

0: Disabled  
 1: Logic 1  
 2: Logic 0  
 3: DI1  
 4: DI2  
 5: DI3  
 6: DI4  
 7: DI5  
 8: DI6  
 9: DI7  
 10: DI8  
 11: DI9  
 12: DI10  
 13: DI11  
 14: DI12  
 15: DI13  
 16: DI14  
 17: DI15  
 18: DI16

Others: B connector

**Description**

-

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C5-43 Input 1 of DWord selector module C**

Address: 0xC52B  
 Min.: 0  
 Max.: 0  
 Default: 0

**Value Range:**

0: 0

Others: K connector

**Description**

-

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C5-44 Input 2 of DWord selector module C**

Address: 0xC52C

Effective mode: -

Min.: 0  
 Max.: 0  
 Default: 0

Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0: 0

Others: K connector

**Description**

-

**C5-45 Input source of DWord selector module D**

Address: 0xC52D

Min.: 0

Max.: 18

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0: Disabled

1: Logic 1

2: Logic 0

3: DI1

4: DI2

5: DI3

6: DI4

7: DI5

8: DI6

9: DI7

10: DI8

11: DI9

12: DI10

13: DI11

14: DI12

15: DI13

16: DI14

17: DI15

18: DI16

Others: B connector

**Description**

-

**C5-46 Input 1 of DWord selector module D**

Address: 0xC52E

Min.: 0

Max.: 0

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0: 0

Others: K connector

**Description**

-

**C5-47 Input 2 of DWord selector module D**

Address:	0xC52F	Effective mode:	-
Min.:	0	Unit:	-
Max.:	0	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: 0

Others: K connector

**Description**

-

**C5-48 Input source of floating-point number selector module A**

Address:	0xC530	Effective mode:	-
Min.:	0	Unit:	-
Max.:	18	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: Disabled

1: Logic 1

2: Logic 0

3: DI1

4: DI2

5: DI3

6: DI4

7: DI5

8: DI6

9: DI7

10: DI8

11: DI9

12: DI10

13: DI11

14: DI12

15: DI13

16: DI14

17: DI15

18: DI16

Others: B connector

**Description**

-

**C5-49 Input 1 of floating-point number selector module A**

Address:	0xC531	Effective mode:	-
Min.:	0	Unit:	-
Max.:	8	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: 0  
 1: AI1  
 2: AI2  
 3: AI3  
 4: HDI  
 5: Aim  
 6: Multi-reference  
 7: Motor-driven potentiometer  
 8: PID  
 Others: F connector

**Description**

-

**C5-50 Input 2 of floating-point number selector module A**

Address:	0xC532	Effective mode:	-
Min.:	0	Unit:	-
Max.:	8	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: 0  
 1: AI1  
 2: AI2  
 3: AI3  
 4: HDI  
 5: Aim  
 6: Multi-reference  
 7: Motor-driven potentiometer  
 8: PID  
 Others: F connector

**Description**

-

**C5-51 Input source of floating-point number selector module B**

Address:	0xC533	Effective mode:	-
Min.:	0	Unit:	-
Max.:	18	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

- 0: Disabled
- 1: Logic 1
- 2: Logic 0
- 3: DI1
- 4: DI2
- 5: DI3
- 6: DI4
- 7: DI5
- 8: DI6
- 9: DI7
- 10: DI8
- 11: DI9
- 12: DI10
- 13: DI11
- 14: DI12
- 15: DI13
- 16: DI14
- 17: DI15
- 18: DI16
- Others: B connector

**Description**

-

**C5-52 Input 1 of floating-point number selector module B**

Address:	0xC534	Effective mode:	-
Min.:	0	Unit:	-
Max.:	8	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

- 0: 0
- 1: AI1
- 2: AI2
- 3: AI3
- 4: HDI
- 5: Aim
- 6: Multi-reference
- 7: Motor-driven potentiometer
- 8: PID

Others: F connector

**Description**

-

**C5-53 Input 2 of floating-point number selector module B**

Address:	0xC535	Effective mode:	-
Min.:	0	Unit:	-
Max.:	8	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: 0  
 1: AI1  
 2: AI2  
 3: AI3  
 4: HDI  
 5: Aim  
 6: Multi-reference  
 7: Motor-driven potentiometer  
 8: PID  
 Others: F connector

**Description**

-

**C5-54 Input source of floating-point number selector module C**

Address:	0xC536	Effective mode:	-
Min.:	0	Unit:	-
Max.:	18	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: Disabled

1: Logic 1

2: Logic 0

3: DI1

4: DI2

5: DI3

6: DI4

7: DI5

8: DI6

9: DI7

10: DI8

11: DI9

12: DI10

13: DI11

14: DI12

15: DI13

16: DI14

17: DI15

18: DI16

Others: B connector

**Description**

-

**C5-55 Input 1 of floating-point number selector module C**

Address:	0xC537	Effective mode:	-
Min.:	0	Unit:	-
Max.:	8	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

- 0: 0
- 1: AI1
- 2: AI2
- 3: AI3
- 4: HDI
- 5: Aim
- 6: Multi-reference
- 7: Motor-driven potentiometer
- 8: PID
- Others: F connector

**Description**

-

**C5-56 Input 2 of floating-point number selector module C**

Address:	0xC538	Effective mode:	-
Min.:	0	Unit:	-
Max.:	8	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

- 0: 0
- 1: AI1
- 2: AI2
- 3: AI3
- 4: HDI
- 5: Aim
- 6: Multi-reference
- 7: Motor-driven potentiometer
- 8: PID
- Others: F connector

**Description**

-

**C5-57 Input source of floating-point number selector module D**

Address:	0xC539	Effective mode:	-
Min.:	0	Unit:	-
Max.:	18	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: Disabled  
 1: Logic 1  
 2: Logic 0  
 3: DI1  
 4: DI2  
 5: DI3  
 6: DI4  
 7: DI5  
 8: DI6  
 9: DI7  
 10: DI8  
 11: DI9  
 12: DI10  
 13: DI11  
 14: DI12  
 15: DI13  
 16: DI14  
 17: DI15  
 18: DI16

Others: B connector

**Description**

-

**C5-58 Input 1 of floating-point number selector module D**

Address:	0xC53A	Effective mode:	-
Min.:	0	Unit:	-
Max.:	8	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: 0  
 1: AI1  
 2: AI2  
 3: AI3  
 4: HDI  
 5: Aim  
 6: Multi-reference  
 7: Motor-driven potentiometer  
 8: PID

Others: F connector

**Description**

-

**C5-59 Input 2 of floating-point number selector module D**

Address:	0xC53B	Effective mode:	-
Min.:	0	Unit:	-
Max.:	8	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**



- 0: 0
- 1: AI1
- 2: AI2
- 3: AI3
- 4: HDI
- 5: Aim
- 6: Multi-reference
- 7: Motor-driven potentiometer
- 8: PID
- Others: F connector

**Description**

-

**C5-60 Input source of floating-point number selector module E**

Address:	0xC53C	Effective mode:	-
Min.:	0	Unit:	-
Max.:	18	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

- 0: Disabled
- 1: Logic 1
- 2: Logic 0
- 3: DI1
- 4: DI2
- 5: DI3
- 6: DI4
- 7: DI5
- 8: DI6
- 9: DI7
- 10: DI8
- 11: DI9
- 12: DI10
- 13: DI11
- 14: DI12
- 15: DI13
- 16: DI14
- 17: DI15
- 18: DI16

Others: B connector

**Description**

-

**C5-61 Input 1 of floating-point number selector module E**

Address:	0xC53D	Effective mode:	-
Min.:	0	Unit:	-
Max.:	8	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: 0  
 1: AI1  
 2: AI2  
 3: AI3  
 4: HDI  
 5: Aim  
 6: Multi-reference  
 7: Motor-driven potentiometer  
 8: PID  
 Others: F connector

**Description**

-

**C5-62 Input 2 of floating-point number selector module E**

Address:	0xC53E	Effective mode:	-
Min.:	0	Unit:	-
Max.:	8	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: 0  
 1: AI1  
 2: AI2  
 3: AI3  
 4: HDI  
 5: Aim  
 6: Multi-reference  
 7: Motor-driven potentiometer  
 8: PID  
 Others: F connector

**Description**

-

**C5-63 Input source of floating-point number selector module F**

Address:	0xC53F	Effective mode:	-
Min.:	0	Unit:	-
Max.:	18	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

- 0: Disabled
- 1: Logic 1
- 2: Logic 0
- 3: DI1
- 4: DI2
- 5: DI3
- 6: DI4
- 7: DI5
- 8: DI6
- 9: DI7
- 10: DI8
- 11: DI9
- 12: DI10
- 13: DI11
- 14: DI12
- 15: DI13
- 16: DI14
- 17: DI15
- 18: DI16

Others: B connector

**Description**

-

**C5-64 Input 1 of floating-point number selector module F**

Address:	0xC540	Effective mode:	-
Min.:	0	Unit:	-
Max.:	8	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

- 0: 0
- 1: AI1
- 2: AI2
- 3: AI3
- 4: HDI
- 5: Aim
- 6: Multi-reference
- 7: Motor-driven potentiometer
- 8: PID

Others: F connector

**Description**

-

**C5-65 Input 2 of floating-point number selector module F**

Address:	0xC541	Effective mode:	-
Min.:	0	Unit:	-
Max.:	8	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: 0  
 1: AI1  
 2: AI2  
 3: AI3  
 4: HDI  
 5: Aim  
 6: Multi-reference  
 7: Motor-driven potentiometer  
 8: PID  
 Others: F connector

**Description**

-

**C5-66 Input source of floating-point number selector module G**

Address:	0xC542	Effective mode:	-
Min.:	0	Unit:	-
Max.:	18	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: Disabled

1: Logic 1

2: Logic 0

3: DI1

4: DI2

5: DI3

6: DI4

7: DI5

8: DI6

9: DI7

10: DI8

11: DI9

12: DI10

13: DI11

14: DI12

15: DI13

16: DI14

17: DI15

18: DI16

Others: B connector

**Description**

-

**C5-67 Input 1 of floating-point number selector module G**

Address:	0xC543	Effective mode:	-
Min.:	0	Unit:	-
Max.:	8	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

- 0: 0
- 1: AI1
- 2: AI2
- 3: AI3
- 4: HDI
- 5: Aim
- 6: Multi-reference
- 7: Motor-driven potentiometer
- 8: PID
- Others: F connector

**Description**

-

**C5-68 Input 2 of floating-point number selector module G**

Address:	0xC544	Effective mode:	-
Min.:	0	Unit:	-
Max.:	8	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

- 0: 0
- 1: AI1
- 2: AI2
- 3: AI3
- 4: HDI
- 5: Aim
- 6: Multi-reference
- 7: Motor-driven potentiometer
- 8: PID
- Others: F connector

**Description**

-

**C5-69 Input source of floating-point number selector module H**

Address:	0xC545	Effective mode:	-
Min.:	0	Unit:	-
Max.:	18	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: Disabled  
 1: Logic 1  
 2: Logic 0  
 3: DI1  
 4: DI2  
 5: DI3  
 6: DI4  
 7: DI5  
 8: DI6  
 9: DI7  
 10: DI8  
 11: DI9  
 12: DI10  
 13: DI11  
 14: DI12  
 15: DI13  
 16: DI14  
 17: DI15  
 18: DI16

Others: B connector

**Description**

-

**C5-70**

**Input 1 of floating-point number selector module H**

Address: 0xC546

Effective mode: -

Min.: 0

Unit: -

Max.: 8

Data type: UInt16

Default: 0

Change: Changeable at any time

**Value Range:**

0: 0

1: AI1

2: AI2

3: AI3

4: HDI

5: Aim

6: Multi-reference

7: Motor-driven potentiometer

8: PID

Others: F connector

**Description**

-

**C5-71**

**Input 2 of floating-point number selector module H**

Address: 0xC547

Effective mode: -

Min.: 0

Unit: -

Max.: 8

Data type: UInt16

Default: 0

Change: Changeable at any time

**Value Range:**

- 0: 0
  - 1: AI1
  - 2: AI2
  - 3: AI3
  - 4: HDI
  - 5: Aim
  - 6: Multi-reference
  - 7: Motor-driven potentiometer
  - 8: PID
  - Others: F connector
- Description**  
-

## 4.46 C6: Control Function Parameters

### C6-00 Floating-point filter module A enable

Address:	0xC600	Effective mode:	-
Min.:	0	Unit:	-
Max.:	18	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

- 0: Module disabled
  - 1: Filter disabled
  - 2: Filter enabled
  - 3: DI1
  - 4: DI2
  - 5: DI3
  - 6: DI4
  - 7: DI5
  - 8: DI6
  - 9: DI7
  - 10: DI8
  - 11: DI9
  - 12: DI10
  - 13: DI11
  - 14: DI12
  - 15: DI13
  - 16: DI14
  - 17: DI15
  - 18: DI16
  - Others: B connector
- Description**  
-

### C6-01 Input of floating-point filter module A

Address:	0xC601	Effective mode:	-
----------	--------	-----------------	---

Min.:	0	Unit:	-
Max.:	8	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: 0  
 1: AI1  
 2: AI2  
 3: AI3  
 4: HDI  
 5: Aim  
 6: Multi-reference  
 7: Motor-driven potentiometer  
 8: PID  
 Others: F connector

**Description**

-

**C6-02 Filter time of filter module A**

Address:	0xC602	Effective mode:	-
Min.:	0.000	Unit:	s
Max.:	65.535	Data type:	UInt16
Default:	0.000	Change:	Changeable at any time

**Value Range:**

0.000s to 65.535s

**Description**

-

**C6-03 Floating-point filter module B enable**

Address:	0xC603	Effective mode:	-
Min.:	0	Unit:	-
Max.:	18	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**



- 0: Module disabled
- 1: Filter disabled
- 2: Filter enabled
- 3: DI1
- 4: DI2
- 5: DI3
- 6: DI4
- 7: DI5
- 8: DI6
- 9: DI7
- 10: DI8
- 11: DI9
- 12: DI10
- 13: DI11
- 14: DI12
- 15: DI13
- 16: DI14
- 17: DI15
- 18: DI16

Others: B connector

**Description**

-

**C6-04 Input of floating-point filter module B**

Address: 0xC604  
 Min.: 0  
 Max.: 8  
 Default: 0

**Value Range:**

- 0: 0
- 1: AI1
- 2: AI2
- 3: AI3
- 4: HDI
- 5: Aim
- 6: Multi-reference
- 7: Motor-driven potentiometer
- 8: PID

Others: F connector

**Description**

-

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C6-05 Filter time of filter module B**

Address: 0xC605  
 Min.: 0.000  
 Max.: 65.535  
 Default: 0.000

**Value Range:**

Effective mode: -  
 Unit: s  
 Data type: UInt16  
 Change: Changeable at any time

0.000s to 65.535s

**Description**

-

**C6-06 Floating-point filter module C enable**

Address: 0xC606

Min.: 0

Max.: 18

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0: Module disabled

1: Filter disabled

2: Filter enabled

3: DI1

4: DI2

5: DI3

6: DI4

7: DI5

8: DI6

9: DI7

10: DI8

11: DI9

12: DI10

13: DI11

14: DI12

15: DI13

16: DI14

17: DI15

18: DI16

Others: B connector

**Description**

-

**C6-07 Input of floating-point filter module C**

Address: 0xC607

Min.: 0

Max.: 8

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0: 0

1: AI1

2: AI2

3: AI3

4: HDI

5: Aim

6: Multi-reference

7: Motor-driven potentiometer

8: PID

Others: F connector

**Description**

-

**C6-08 Filter time of filter module C**

Address: 0xC608

Min.: 0.000

Max.: 65.535

Default: 0.000

**Value Range:**

0.000s to 65.535s

**Description**

-

Effective mode: -

Unit: s

Data type: UInt16

Change: Changeable at any time

**C6-09 Floating-point filter module D enable**

Address: 0xC609

Min.: 0

Max.: 18

Default: 0

**Value Range:**

0: Module disabled

1: Filter disabled

2: Filter enabled

3: DI1

4: DI2

5: DI3

6: DI4

7: DI5

8: DI6

9: DI7

10: DI8

11: DI9

12: DI10

13: DI11

14: DI12

15: DI13

16: DI14

17: DI15

18: DI16

Others: B connector

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C6-10 Input of floating-point filter module D**

Address: 0xC60A

Min.: 0

Max.: 8

Default: 0

**Value Range:**

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

0: 0  
 1: AI1  
 2: AI2  
 3: AI3  
 4: HDI  
 5: Aim  
 6: Multi-reference  
 7: Motor-driven potentiometer  
 8: PID  
 Others: F connector

**Description**

-

**C6-11 Filter time of filter module D**

Address: 0xC60B  
 Min.: 0.000  
 Max.: 65.535  
 Default: 0.000

Effective mode: -

Unit: s

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0.000s to 65.535s

**Description**

-

**C6-12 Fixed-point filter module E enable**

Address: 0xC60C  
 Min.: 0  
 Max.: 18  
 Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0: Module disabled

1: Filter disabled

2: Filter enabled

3: DI1

4: DI2

5: DI3

6: DI4

7: DI5

8: DI6

9: DI7

10: DI8

11: DI9

12: DI10

13: DI11

14: DI12

15: DI13

16: DI14

17: DI15

18: DI16

Others: B connector

**Description**

-

**C6-13 Input of fixed-point filter module E**

Address: 0xC60D  
 Min.: 0  
 Max.: 0  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0: 0

Others: K connector

**Description**

-

**C6-14 Filter time of fixed-point filter module E**

Address: 0xC60E  
 Min.: 0.000  
 Max.: 65.535  
 Default: 0.000

Effective mode: -  
 Unit: s  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0.000s to 65.535s

**Description**

-

**C6-15 Fixed-point filter module F enable**

Address: 0xC60F  
 Min.: 0  
 Max.: 18  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0: Module disabled

1: Filter disabled

2: Filter enabled

3: DI1

4: DI2

5: DI3

6: DI4

7: DI5

8: DI6

9: DI7

10: DI8

11: DI9

12: DI10

13: DI11

14: DI12

15: DI13

16: DI14

17: DI15

18: DI16

Others: B connector

**Description**

-

**C6-16 Input of fixed-point filter module F**

Address: 0xC610

Min.: 0

Max.: 0

Default: 0

**Value Range:**

0: 0

Others: K connector

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C6-17 Filter time of fixed-point filter module F**

Address: 0xC611

Min.: 0.000

Max.: 65.535

Default: 0.000

**Value Range:**

0.000s to 65.535s

**Description**

-

Effective mode: -

Unit: s

Data type: UInt16

Change: Changeable at any time

**C6-24 Function of level-to-pulse conversion module A**

Address: 0xC618

Min.: 0

Max.: 2

Default: 0

**Value Range:**

0: Disabled

1: Conversion from level to pulse

2: Conversion from pulse to level

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C6-25 Input of level-to-pulse conversion module A**

Address: 0xC619

Min.: 0

Max.: 18

Default: 0

**Value Range:**

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

- 0: Logic 0
- 1: Logic 1
- 2: Logic 0
- 3: DI1
- 4: DI2
- 5: DI3
- 6: DI4
- 7: DI5
- 8: DI6
- 9: DI7
- 10: DI8
- 11: DI9
- 12: DI10
- 13: DI11
- 14: DI12
- 15: DI13
- 16: DI14
- 17: DI15
- 18: DI16

Others: B connector

**Description**

-

**C6-26 Pulse width of level-to-pulse conversion module A**

Address:	0xC61A	Effective mode:	-
Min.:	0.00	Unit:	s
Max.:	655.35	Data type:	UInt16
Default:	0.00	Change:	Changeable at any time

**Value Range:**

0.00s to 655.35s

**Description**

-

**C6-27 Function of level-to-pulse conversion module B**

Address:	0xC61B	Effective mode:	-
Min.:	0	Unit:	-
Max.:	2	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: Disabled

1: Conversion from level to pulse

2: Conversion from pulse to level

**Description**

-

**C6-28 Input of level-to-pulse conversion module B**

Address:	0xC61C	Effective mode:	-
Min.:	0	Unit:	-
Max.:	18	Data type:	UInt16

Default: 0 Change: Changeable at any time

**Value Range:**

0: Logic 0

1: Logic 1

2: Logic 0

3: DI1

4: DI2

5: DI3

6: DI4

7: DI5

8: DI6

9: DI7

10: DI8

11: DI9

12: DI10

13: DI11

14: DI12

15: DI13

16: DI14

17: DI15

18: DI16

Others: B connector

**Description**

-

**C6-29 Pulse width of level-to-pulse conversion module B**

Address: 0xC61D

Effective mode: -

Min.: 0.00

Unit: s

Max.: 655.35

Data type: UInt16

Default: 0.00

Change: Changeable at any time

**Value Range:**

0.00s to 655.35s

**Description**

-

**C6-30 Function of level-to-pulse conversion module C**

Address: 0xC61E

Effective mode: -

Min.: 0

Unit: -

Max.: 2

Data type: UInt16

Default: 0

Change: Changeable at any time

**Value Range:**

0: Disabled

1: Conversion from level to pulse

2: Conversion from pulse to level

**Description**

-

**C6-31 Input of level-to-pulse conversion module C**

Address: 0xC61F

Effective mode: -



Min.:	0	Unit:	-
Max.:	18	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: Logic 0  
 1: Logic 1  
 2: Logic 0  
 3: DI1  
 4: DI2  
 5: DI3  
 6: DI4  
 7: DI5  
 8: DI6  
 9: DI7  
 10: DI8  
 11: DI9  
 12: DI10  
 13: DI11  
 14: DI12  
 15: DI13  
 16: DI14  
 17: DI15  
 18: DI16  
 Others: B connector

**Description**

-

**C6-32 Pulse width of level-to-pulse conversion module C**

Address:	0xC620	Effective mode:	-
Min.:	0.00	Unit:	s
Max.:	655.35	Data type:	UInt16
Default:	0.00	Change:	Changeable at any time

**Value Range:**

0.00s to 655.35s

**Description**

-

**C6-33 Function of level-to-pulse conversion module D**

Address:	0xC621	Effective mode:	-
Min.:	0	Unit:	-
Max.:	2	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: Disabled  
 1: Conversion from level to pulse  
 2: Conversion from pulse to level

**Description**

-

**C6-34 Input of level-to-pulse conversion module D**

Address:	0xC622	Effective mode:	-
Min.:	0	Unit:	-
Max.:	18	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: Logic 0

1: Logic 1

2: Logic 0

3: DI1

4: DI2

5: DI3

6: DI4

7: DI5

8: DI6

9: DI7

10: DI8

11: DI9

12: DI10

13: DI11

14: DI12

15: DI13

16: DI14

17: DI15

18: DI16

Others: B connector

**Description**

-

**C6-35 Pulse width of level-to-pulse conversion module D**

Address:	0xC623	Effective mode:	-
Min.:	0.00	Unit:	s
Max.:	655.35	Data type:	UInt16
Default:	0.00	Change:	Changeable at any time

**Value Range:**

0.00s to 655.35s

**Description**

-

**C6-36 Input of floating-point limiting module A**

Address:	0xC624	Effective mode:	-
Min.:	0	Unit:	-
Max.:	8	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

- 0: Disabled
- 1: AI1
- 2: AI2
- 3: AI3
- 4: HDI
- 5: Aim
- 6: Multi-reference
- 7: Motor-driven potentiometer
- 8: PID
- Others: F connector

**Description**

-

**C6-37 Upper limit of floating-point limiting module A**

Address:	0xC625	Effective mode:	-
Min.:	0	Unit:	-
Max.:	8	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

- 0: Inactive
- 1: AI1
- 2: AI2
- 3: AI3
- 4: HDI
- 5: Aim
- 6: Multi-reference
- 7: Motor-driven potentiometer
- 8: PID
- Others: F connector

**Description**

-

**C6-38 Lower limit of floating-point limiting module A**

Address:	0xC626	Effective mode:	-
Min.:	0	Unit:	-
Max.:	8	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

- 0: Inactive
- 1: AI1
- 2: AI2
- 3: AI3
- 4: HDI
- 5: Aim
- 6: Multi-reference
- 7: Motor-driven potentiometer
- 8: PID
- Others: F connector

**Description**

-

**C6-39 Input of floating-point limiting module B**

Address: 0xC627

Min.: 0

Max.: 8

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0: Disabled

1: AI1

2: AI2

3: AI3

4: HDI

5: Aim

6: Multi-reference

7: Motor-driven potentiometer

8: PID

Others: F connector

**Description**

-

**C6-40 Upper limit of floating-point limiting module B**

Address: 0xC628

Min.: 0

Max.: 8

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0: Inactive

1: AI1

2: AI2

3: AI3

4: HDI

5: Aim

6: Multi-reference

7: Motor-driven potentiometer

8: PID

Others: F connector

**Description**

-

**C6-41 Lower limit of floating-point limiting module B**

Address: 0xC629

Min.: 0

Max.: 8

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

- 0: Inactive
- 1: AI1
- 2: AI2
- 3: AI3
- 4: HDI
- 5: Aim
- 6: Multi-reference
- 7: Motor-driven potentiometer
- 8: PID
- Others: F connector

**Description**

-

**C6-42 Input of floating-point limiting module C**

Address: 0xC62A  
 Min.: 0  
 Max.: 8  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

- 0: Disabled
- 1: AI1
- 2: AI2
- 3: AI3
- 4: HDI
- 5: Aim
- 6: Multi-reference
- 7: Motor-driven potentiometer
- 8: PID
- Others: F connector

**Description**

-

**C6-43 Upper limit of floating-point limiting module C**

Address: 0xC62B  
 Min.: 0  
 Max.: 8  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

- 0: Inactive
- 1: AI1
- 2: AI2
- 3: AI3
- 4: HDI
- 5: Aim
- 6: Multi-reference
- 7: Motor-driven potentiometer
- 8: PID
- Others: F connector

**Description**

-

**C6-44 Lower limit of floating-point limiting module C**

Address:	0xC62C	Effective mode:	-
Min.:	0	Unit:	-
Max.:	8	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: Inactive  
 1: AI1  
 2: AI2  
 3: AI3  
 4: HDI  
 5: Aim  
 6: Multi-reference  
 7: Motor-driven potentiometer  
 8: PID  
 Others: F connector

**Description**

-

**C6-45 Input of floating-point limiting module D**

Address:	0xC62D	Effective mode:	-
Min.:	0	Unit:	-
Max.:	8	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: Disabled  
 1: AI1  
 2: AI2  
 3: AI3  
 4: HDI  
 5: Aim  
 6: Multi-reference  
 7: Motor-driven potentiometer  
 8: PID  
 Others: F connector

**Description**

-

**C6-46 Upper limit of floating-point limiting module D**

Address:	0xC62E	Effective mode:	-
Min.:	0	Unit:	-
Max.:	8	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: Inactive  
 1: AI1  
 2: AI2  
 3: AI3  
 4: HDI  
 5: Aim  
 6: Multi-reference  
 7: Motor-driven potentiometer  
 8: PID  
 Others: F connector

**Description**

-

**C6-47 Lower limit of floating-point limiting module D**

Address:	0xC62F	Effective mode:	-
Min.:	0	Unit:	-
Max.:	8	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: Inactive  
 1: AI1  
 2: AI2  
 3: AI3  
 4: HDI  
 5: Aim  
 6: Multi-reference  
 7: Motor-driven potentiometer  
 8: PID  
 Others: F connector

**Description**

-

**C6-48 Input of fixed-point limiting module E**

Address:	0xC630	Effective mode:	-
Min.:	0	Unit:	-
Max.:	0	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: Disabled  
 Others: K connector

**Description**

-

**C6-49 Upper limit of fixed-point limiting module E**

Address:	0xC631	Effective mode:	-
Min.:	0	Unit:	-
Max.:	0	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: Inactive

Others: K connector

**Description**

-

**C6-50 Lower limit of fixed-point limiting module E**

Address: 0xC632

Effective mode: -

Min.: 0

Unit: -

Max.: 0

Data type: UInt16

Default: 0

Change: Changeable at any time

**Value Range:**

0: Inactive

Others: K connector

**Description**

-

**C6-51 Input of fixed-point limiting module F**

Address: 0xC633

Effective mode: -

Min.: 0

Unit: -

Max.: 0

Data type: UInt16

Default: 0

Change: Changeable at any time

**Value Range:**

0: Disabled

Others: K connector

**Description**

-

**C6-52 Upper limit of fixed-point limiting module F**

Address: 0xC634

Effective mode: -

Min.: 0

Unit: -

Max.: 0

Data type: UInt16

Default: 0

Change: Changeable at any time

**Value Range:**

0: Inactive

Others: K connector

**Description**

-

**C6-53 Lower limit of fixed-point limiting module F**

Address: 0xC635

Effective mode: -

Min.: 0

Unit: -

Max.: 0

Data type: UInt16

Default: 0

Change: Changeable at any time

**Value Range:**

0: Inactive

Others: K connector

**Description**

-

**C6-54 Input of logic delay module A**

Address: 0xC636

Effective mode: -

Min.: 0

Unit: -



## Parameter Group

---

Max.: 18

Default: 0

**Value Range:**

0: Disabled

1: Logic 1

2: Logic 0

3: DI1

4: DI2

5: DI3

6: DI4

7: DI5

8: DI6

9: DI7

10: DI8

11: DI9

12: DI10

13: DI11

14: DI12

15: DI13

16: DI14

17: DI15

18: DI16

Others: B connector

**Description**

-

Data type: UInt16

Change: Changeable at any time

**C6-55 Switch-on delay of logic delay module A**

Address: 0xC637

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C6-56 Switch-off delay of logic delay module A**

Address: 0xC638

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C6-57 Delay time unit of logic delay module A**

Address: 0xC639

Min.: 0

Effective mode: -

Unit: -

Max.: 12000  
 Default: 1  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0: No delay  
 1: 10 ms  
 10: 100 ms  
 100: 1s  
 1000: 10s  
 6000: 1 min  
 12000: 2 min  
 0: Added at the background

**Description**

-

**C6-58 Input of logic delay module B**

Address: 0xC63A  
 Min.: 0  
 Max.: 18  
 Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0: Disabled

1: Logic 1

2: Logic 0

3: DI1

4: DI2

5: DI3

6: DI4

7: DI5

8: DI6

9: DI7

10: DI8

11: DI9

12: DI10

13: DI11

14: DI12

15: DI13

16: DI14

17: DI15

18: DI16

Others: B connector

**Description**

-

**C6-59 Switch-on delay of logic delay module B**

Address: 0xC63B  
 Min.: 0  
 Max.: 65535  
 Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0 to 65535

**Description**

-

**C6-60 Switch-off delay of logic delay module B**

Address: 0xC63C

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C6-61 Delay time unit of logic delay module B**

Address: 0xC63D

Min.: 0

Max.: 12000

Default: 1

**Value Range:**

0: No delay

1: 10 ms

10: 100 ms

100: 1s

1000: 10s

6000: 1 min

12000: 2 min

0: Added at the background

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C6-62 Input of logic delay module C**

Address: 0xC63E

Min.: 0

Max.: 18

Default: 0

**Value Range:**

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

0: Disabled

1: Logic 1

2: Logic 0

3: DI1

4: DI2

5: DI3

6: DI4

7: DI5

8: DI6

9: DI7

10: DI8

11: DI9

12: DI10

13: DI11

14: DI12

15: DI13

16: DI14

17: DI15

18: DI16

Others: B connector

**Description**

-

**C6-63 Switch-on delay of logic delay module C**

Address: 0xC63F

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C6-64 Switch-off delay of logic delay module C**

Address: 0xC640

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C6-65 Delay time unit of logic delay module C**

Address: 0xC641

Min.: 0

Max.: 12000

Default: 1

**Value Range:**

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

- 0: No delay
- 1: 10 ms
- 10: 100 ms
- 100: 1s
- 1000: 10s
- 6000: 1 min
- 12000: 2 min
- 0: Added at the background

**Description**

-

**C6-66 Input of logic delay module D**

Address: 0xC642  
 Min.: 0  
 Max.: 18  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

- 0: Disabled
- 1: Logic 1
- 2: Logic 0
- 3: DI1
- 4: DI2
- 5: DI3
- 6: DI4
- 7: DI5
- 8: DI6
- 9: DI7
- 10: DI8
- 11: DI9
- 12: DI10
- 13: DI11
- 14: DI12
- 15: DI13
- 16: DI14
- 17: DI15
- 18: DI16
- Others: B connector

**Description**

-

**C6-67 Switch-on delay of logic delay module D**

Address: 0xC643  
 Min.: 0  
 Max.: 65535  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0 to 65535

**Description**

-

**C6-68 Switch-off delay of logic delay module D**

Address: 0xC644

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C6-69 Delay time unit of logic delay module D**

Address: 0xC645

Min.: 0

Max.: 12000

Default: 1

**Value Range:**

0: No delay

1: 10 ms

10: 100 ms

100: 1s

1000: 10s

6000: 1 min

12000: 2 min

0: Added at the background

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C6-70 Input of logic delay module E**

Address: 0xC646

Min.: 0

Max.: 18

Default: 0

**Value Range:**

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

- 0: Disabled
- 1: Logic 1
- 2: Logic 0
- 3: DI1
- 4: DI2
- 5: DI3
- 6: DI4
- 7: DI5
- 8: DI6
- 9: DI7
- 10: DI8
- 11: DI9
- 12: DI10
- 13: DI11
- 14: DI12
- 15: DI13
- 16: DI14
- 17: DI15
- 18: DI16
- Others: B connector

**Description**

-

**C6-71 Switch-on delay of logic delay module E**

Address: 0xC647  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C6-72 Switch-off delay of logic delay module E**

Address: 0xC648  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C6-73 Delay time unit of logic delay module E**

Address: 0xC649  
 Min.: 0  
 Max.: 12000  
 Default: 1

**Value Range:**

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

0: No delay  
 1: 10 ms  
 10: 100 ms  
 100: 1s  
 1000: 10s  
 6000: 1 min  
 12000: 2 min  
 0: Added at the background

**Description**

-

**C6-74 Input of logic delay module F**

Address: 0xC64A  
 Min.: 0  
 Max.: 18  
 Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0: Disabled

1: Logic 1

2: Logic 0

3: DI1

4: DI2

5: DI3

6: DI4

7: DI5

8: DI6

9: DI7

10: DI8

11: DI9

12: DI10

13: DI11

14: DI12

15: DI13

16: DI14

17: DI15

18: DI16

Others: B connector

**Description**

-

**C6-75 Switch-on delay of logic delay module F**

Address: 0xC64B  
 Min.: 0  
 Max.: 65535  
 Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0 to 65535



**Description**

-

**C6-76 Switch-off delay of logic delay module F**

Address: 0xC64C

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C6-77 Delay time unit of logic delay module F**

Address: 0xC64D

Min.: 0

Max.: 12000

Default: 1

**Value Range:**

0: No delay

1: 10 ms

10: 100 ms

100: 1s

1000: 10s

6000: 1 min

12000: 2 min

0: Added at the background

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C6-78 Input of logic delay module G**

Address: 0xC64E

Min.: 0

Max.: 18

Default: 0

**Value Range:**

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

0: Disabled

1: Logic 1

2: Logic 0

3: DI1

4: DI2

5: DI3

6: DI4

7: DI5

8: DI6

9: DI7

10: DI8

11: DI9

12: DI10

13: DI11

14: DI12

15: DI13

16: DI14

17: DI15

18: DI16

Others: B connector

**Description**

-

**C6-79 Switch-on delay of logic delay module G**

Address: 0xC64F

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C6-80 Switch-off delay of logic delay module G**

Address: 0xC650

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C6-81 Delay time unit of logic delay module G**

Address: 0xC651

Min.: 0

Max.: 12000

Default: 1

**Value Range:**

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

0: No delay  
 1: 10 ms  
 10: 100 ms  
 100: 1s  
 1000: 10s  
 6000: 1 min  
 12000: 2 min  
 0: Added at the background

**Description**

-

**C6-82 Input of logic delay module H**

Address: 0xC652  
 Min.: 0  
 Max.: 18  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0: Disabled  
 1: Logic 1  
 2: Logic 0  
 3: DI1  
 4: DI2  
 5: DI3  
 6: DI4  
 7: DI5  
 8: DI6  
 9: DI7  
 10: DI8  
 11: DI9  
 12: DI10  
 13: DI11  
 14: DI12  
 15: DI13  
 16: DI14  
 17: DI15  
 18: DI16

Others: B connector

**Description**

-

**C6-83 Switch-on delay of logic delay module H**

Address: 0xC653  
 Min.: 0  
 Max.: 65535  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0 to 65535

**Description**

-

**C6-84 Switch-off delay of logic delay module H**

Address: 0xC654

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C6-85 Delay time unit of logic delay module H**

Address: 0xC655

Min.: 0

Max.: 12000

Default: 1

**Value Range:**

0: No delay

1: 10 ms

10: 100 ms

100: 1s

1000: 10s

6000: 1 min

12000: 2 min

0: Added at the background

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

## 4.47 C7: Multi-point Curve Parameters

**C7-00 Input of multi-point curve module A**

Address: 0xC700

Min.: 0

Max.: 0

Default: 0

**Value Range:**

0: Disabled

Others: F connector

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C7-01 Setpoint X1 of multi-point curve module A**

Address: 0xC701

Min.: -600

Max.: 600.0

Default: 0.0

**Value Range:**

Effective mode: -

Unit: %

Data type: Int16

Change: Changeable at any time

-600% to +600.0%

**Description**

-

**C7-02 Setpoint X2 of multi-point curve module A**

Address: 0xC702

Min.: -600

Max.: 600.0

Default: 0.0

**Value Range:**

-600% to +600.0%

**Description**

-

Effective mode: -

Unit: %

Data type: Int16

Change: Changeable at any time

**C7-03 Setpoint X3 of multi-point curve module A**

Address: 0xC703

Min.: -600

Max.: 600.0

Default: 0.0

**Value Range:**

-600% to +600.0%

**Description**

-

Effective mode: -

Unit: %

Data type: Int16

Change: Changeable at any time

**C7-04 Setpoint X4 of multi-point curve module A**

Address: 0xC704

Min.: -600

Max.: 600.0

Default: 0.0

**Value Range:**

-600% to +600.0%

**Description**

-

Effective mode: -

Unit: %

Data type: Int16

Change: Changeable at any time

**C7-05 Setpoint X5 of multi-point curve module A**

Address: 0xC705

Min.: -600

Max.: 600.0

Default: 0.0

**Value Range:**

-600% to +600.0%

**Description**

-

Effective mode: -

Unit: %

Data type: Int16

Change: Changeable at any time

**C7-06 Setpoint X6 of multi-point curve module A**

Address: 0xC706

Min.: -600

Max.: 600.0

Default: 0.0

**Value Range:**

-600% to +600.0%

Effective mode: -

Unit: %

Data type: Int16

Change: Changeable at any time

**Description**

-

**C7-07 Setpoint X7 of multi-point curve module A**

Address: 0xC707

Min.: -600

Max.: 600.0

Default: 0.0

**Value Range:**

-600% to +600.0%

**Description**

-

Effective mode: -

Unit: %

Data type: Int16

Change: Changeable at any time

**C7-08 Setpoint X8 of multi-point curve module A**

Address: 0xC708

Min.: -600

Max.: 600.0

Default: 0.0

**Value Range:**

-600% to +600.0%

**Description**

-

Effective mode: -

Unit: %

Data type: Int16

Change: Changeable at any time

**C7-09 Setpoint X9 of multi-point curve module A**

Address: 0xC709

Min.: -600

Max.: 600.0

Default: 0.0

**Value Range:**

-600% to +600.0%

**Description**

-

Effective mode: -

Unit: %

Data type: Int16

Change: Changeable at any time

**C7-10 Setpoint X10 of multi-point curve module A**

Address: 0xC70A

Min.: -600

Max.: 600.0

Default: 0.0

**Value Range:**

-600% to +600.0%

**Description**

-

Effective mode: -

Unit: %

Data type: Int16

Change: Changeable at any time

**C7-11 Setpoint Y1 of multi-point curve module A**

Address: 0xC70B

Min.: -600

Max.: 600.0

Default: 0.0

**Value Range:**

-600% to +600.0%

**Description**

-

Effective mode: -

Unit: %

Data type: Int16

Change: Changeable at any time

<b>C7-12</b>	<p><b>Setpoint Y2 of multi-point curve module A</b>                  Address: 0xC70C                  Min.: -600                  Max.: 600.0                  Default: 0.0  <b>Value Range:</b>                  -600% to +600.0%  <b>Description</b>                  -</p>	<p>Effective mode: -                  Unit: %                  Data type: Int16                  Change: Changeable at any time</p>
<b>C7-13</b>	<p><b>Setpoint Y3 of multi-point curve module A</b>                  Address: 0xC70D                  Min.: -600                  Max.: 600.0                  Default: 0.0  <b>Value Range:</b>                  -600% to +600.0%  <b>Description</b>                  -</p>	<p>Effective mode: -                  Unit: %                  Data type: Int16                  Change: Changeable at any time</p>
<b>C7-14</b>	<p><b>Setpoint Y4 of multi-point curve module A</b>                  Address: 0xC70E                  Min.: -600                  Max.: 600.0                  Default: 0.0  <b>Value Range:</b>                  -600% to +600.0%  <b>Description</b>                  -</p>	<p>Effective mode: -                  Unit: %                  Data type: Int16                  Change: Changeable at any time</p>
<b>C7-15</b>	<p><b>Setpoint Y5 of multi-point curve module A</b>                  Address: 0xC70F                  Min.: -600                  Max.: 600.0                  Default: 0.0  <b>Value Range:</b>                  -600% to +600.0%  <b>Description</b>                  -</p>	<p>Effective mode: -                  Unit: %                  Data type: Int16                  Change: Changeable at any time</p>
<b>C7-16</b>	<p><b>Setpoint Y6 of multi-point curve module A</b>                  Address: 0xC710                  Min.: -600                  Max.: 600.0                  Default: 0.0  <b>Value Range:</b>                  -600% to +600.0%  <b>Description</b>                  -</p>	<p>Effective mode: -                  Unit: %                  Data type: Int16                  Change: Changeable at any time</p>
<b>C7-17</b>	<p><b>Setpoint Y7 of multi-point curve module A</b>                  Address: 0xC711</p>	<p>Effective mode: -</p>

Min.: -600  
 Max.: 600.0  
 Default: 0.0  
 Unit: %  
 Data type: Int16  
 Change: Changeable at any time

**Value Range:**  
 -600% to +600.0%

**Description**

-

**C7-18 Setpoint Y8 of multi-point curve module A**

Address: 0xC712  
 Min.: -600  
 Max.: 600.0  
 Default: 0.0  
 Effective mode: -  
 Unit: %  
 Data type: Int16  
 Change: Changeable at any time

**Value Range:**  
 -600% to +600.0%

**Description**

-

**C7-19 Setpoint Y9 of multi-point curve module A**

Address: 0xC713  
 Min.: -600  
 Max.: 600.0  
 Default: 0.0  
 Effective mode: -  
 Unit: %  
 Data type: Int16  
 Change: Changeable at any time

**Value Range:**  
 -600% to +600.0%

**Description**

-

**C7-20 Setpoint Y10 of multi-point curve module A**

Address: 0xC714  
 Min.: -600  
 Max.: 600.0  
 Default: 0.0  
 Effective mode: -  
 Unit: %  
 Data type: Int16  
 Change: Changeable at any time

**Value Range:**  
 -600% to +600.0%

**Description**

-

**C7-21 Input of multi-point curve module B**

Address: 0xC715  
 Min.: 0  
 Max.: 0  
 Default: 0  
 Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0: Disabled

Others: F connector

**Description**

-

**C7-22 Setpoint X1 of multi-point curve module B**

Address: 0xC716  
 Min.: -600  
 Effective mode: -  
 Unit: %





**Value Range:**

-600% to +600.0%

**Description**

-

**C7-28 Setpoint X7 of multi-point curve module B**

Address: 0xC71C

Min.: -600

Max.: 600.0

Default: 0.0

Effective mode: -

Unit: %

Data type: Int16

Change: Changeable at any time

**Value Range:**

-600% to +600.0%

**Description**

-

**C7-29 Setpoint X8 of multi-point curve module B**

Address: 0xC71D

Min.: -600

Max.: 600.0

Default: 0.0

Effective mode: -

Unit: %

Data type: Int16

Change: Changeable at any time

**Value Range:**

-600% to +600.0%

**Description**

-

**C7-30 Setpoint X9 of multi-point curve module B**

Address: 0xC71E

Min.: -600

Max.: 600.0

Default: 0.0

Effective mode: -

Unit: %

Data type: Int16

Change: Changeable at any time

**Value Range:**

-600% to +600.0%

**Description**

-

**C7-31 Setpoint X10 of multi-point curve module B**

Address: 0xC71F

Min.: -600

Max.: 600.0

Default: 0.0

Effective mode: -

Unit: %

Data type: Int16

Change: Changeable at any time

**Value Range:**

-600% to +600.0%

**Description**

-

**C7-32 Setpoint Y1 of multi-point curve module B**

Address: 0xC720

Min.: -600

Max.: 600.0

Default: 0.0

Effective mode: -

Unit: %

Data type: Int16

Change: Changeable at any time

**Value Range:**

-600% to +600.0%

**Description**

-

**C7-33 Setpoint Y2 of multi-point curve module B**  
 Address: 0xC721 Effective mode: -  
 Min.: -600 Unit: %  
 Max.: 600.0 Data type: Int16  
 Default: 0.0 Change: Changeable at any time  
**Value Range:**  
 -600% to +600.0%

**Description**

-

**C7-34 Setpoint Y3 of multi-point curve module B**  
 Address: 0xC722 Effective mode: -  
 Min.: -600 Unit: %  
 Max.: 600.0 Data type: Int16  
 Default: 0.0 Change: Changeable at any time  
**Value Range:**  
 -600% to +600.0%

**Description**

-

**C7-35 Setpoint Y4 of multi-point curve module B**  
 Address: 0xC723 Effective mode: -  
 Min.: -600 Unit: %  
 Max.: 600.0 Data type: Int16  
 Default: 0.0 Change: Changeable at any time  
**Value Range:**  
 -600% to +600.0%

**Description**

-

**C7-36 Setpoint Y5 of multi-point curve module B**  
 Address: 0xC724 Effective mode: -  
 Min.: -600 Unit: %  
 Max.: 600.0 Data type: Int16  
 Default: 0.0 Change: Changeable at any time  
**Value Range:**  
 -600% to +600.0%

**Description**

-

**C7-37 Setpoint Y6 of multi-point curve module B**  
 Address: 0xC725 Effective mode: -  
 Min.: -600 Unit: %  
 Max.: 600.0 Data type: Int16  
 Default: 0.0 Change: Changeable at any time  
**Value Range:**  
 -600% to +600.0%

**Description**

-

**C7-38 Setpoint Y7 of multi-point curve module B**  
 Address: 0xC726 Effective mode: -  
 Min.: -600 Unit: %  
 Max.: 600.0 Data type: Int16  
 Default: 0.0 Change: Changeable at any time  
**Value Range:**  
 -600% to +600.0%  
**Description**  
 -

**C7-39 Setpoint Y8 of multi-point curve module B**  
 Address: 0xC727 Effective mode: -  
 Min.: -600 Unit: %  
 Max.: 600.0 Data type: Int16  
 Default: 0.0 Change: Changeable at any time  
**Value Range:**  
 -600% to +600.0%  
**Description**  
 -

**C7-40 Setpoint Y9 of multi-point curve module B**  
 Address: 0xC728 Effective mode: -  
 Min.: -600 Unit: %  
 Max.: 600.0 Data type: Int16  
 Default: 0.0 Change: Changeable at any time  
**Value Range:**  
 -600% to +600.0%  
**Description**  
 -

**C7-41 Setpoint Y10 of multi-point curve module B**  
 Address: 0xC729 Effective mode: -  
 Min.: -600 Unit: %  
 Max.: 600.0 Data type: Int16  
 Default: 0.0 Change: Changeable at any time  
**Value Range:**  
 -600% to +600.0%  
**Description**  
 -

## 4.48 C8: Constant Parameters

**C8-00 Constant setpoint 1**  
 Address: 0xC800 Effective mode: -  
 Min.: -300 Unit: %  
 Max.: 300.00 Data type: Int16  
 Default: 0.00 Change: Changeable at any time  
**Value Range:**  
 -300% to +300.00%

**Description**

-

**C8-01**

**Constant setpoint 2**

Address: 0xC801  
 Min.: -300  
 Max.: 300.00  
 Default: 100.00

Effective mode: -  
 Unit: %  
 Data type: Int16  
 Change: Changeable at any time

**Value Range:**

-300% to +300.00%

**Description**

-

**C8-02**

**Constant setpoint 3**

Address: 0xC802  
 Min.: -300  
 Max.: 300.00  
 Default: -100

Effective mode: -  
 Unit: %  
 Data type: Int16  
 Change: Changeable at any time

**Value Range:**

-300% to +300.00%

**Description**

-

**C8-03**

**Constant setpoint 4**

Address: 0xC803  
 Min.: -300  
 Max.: 300.00  
 Default: 200.00

Effective mode: -  
 Unit: %  
 Data type: Int16  
 Change: Changeable at any time

**Value Range:**

-300% to +300.00%

**Description**

-

**C8-04**

**Constant setpoint 5**

Address: 0xC804  
 Min.: -300  
 Max.: 300.00  
 Default: -200

Effective mode: -  
 Unit: %  
 Data type: Int16  
 Change: Changeable at any time

**Value Range:**

-300% to +300.00%

**Description**

-

**C8-05**

**Constant setpoint 6**

Address: 0xC805  
 Min.: -3000  
 Max.: 3000.0  
 Default: 0.0

Effective mode: -  
 Unit: %  
 Data type: Int16  
 Change: Changeable at any time

**Value Range:**

-3000% to +3000.0%

**Description**

-

<b>C8-06</b>	<b>Constant setpoint 7</b> Address: 0xC806 Min.: -3000 Max.: 3000.0 Default: 0.0 <b>Value Range:</b> -3000% to +3000.0% <b>Description</b> -	Effective mode: - Unit: % Data type: Int16 Change: Changeable at any time
<b>C8-07</b>	<b>Constant setpoint 8</b> Address: 0xC807 Min.: -3000 Max.: 3000.0 Default: 0.0 <b>Value Range:</b> -3000% to +3000.0% <b>Description</b> -	Effective mode: - Unit: % Data type: Int16 Change: Changeable at any time
<b>C8-08</b>	<b>Constant setpoint 9</b> Address: 0xC808 Min.: -3000 Max.: 3000.0 Default: 0.0 <b>Value Range:</b> -3000% to +3000.0% <b>Description</b> -	Effective mode: - Unit: % Data type: Int16 Change: Changeable at any time
<b>C8-09</b>	<b>Constant setpoint 10</b> Address: 0xC809 Min.: -3000 Max.: 3000.0 Default: 0.0 <b>Value Range:</b> -3000% to +3000.0% <b>Description</b> -	Effective mode: - Unit: % Data type: Int16 Change: Changeable at any time
<b>C8-10</b>	<b>Constant setpoint 11</b> Address: 0xC80A Min.: -3000 Max.: 3000.0 Default: 0.0 <b>Value Range:</b> -3000% to +3000.0% <b>Description</b> -	Effective mode: - Unit: % Data type: Int16 Change: Changeable at any time
<b>C8-11</b>	<b>Constant setpoint 12</b> Address: 0xC80B	Effective mode: -

Min.: -3000  
 Max.: 3000.0  
 Default: 0.0  
**Value Range:**  
 -3000% to +3000.0%  
**Description**  
 -

Unit: %  
 Data type: Int16  
 Change: Changeable at any time

**C8-12 Constant setpoint 13**

Address: 0xC80C  
 Min.: -3000  
 Max.: 3000.0  
 Default: 0.0  
**Value Range:**  
 -3000% to +3000.0%  
**Description**  
 -

Effective mode: -  
 Unit: %  
 Data type: Int16  
 Change: Changeable at any time

**C8-13 Constant setpoint 14**

Address: 0xC80D  
 Min.: -3000  
 Max.: 3000.0  
 Default: 0.0  
**Value Range:**  
 -3000% to +3000.0%  
**Description**  
 -

Effective mode: -  
 Unit: %  
 Data type: Int16  
 Change: Changeable at any time

**C8-14 Constant setpoint 15**

Address: 0xC80E  
 Min.: -3000  
 Max.: 3000.0  
 Default: 0.0  
**Value Range:**  
 -3000% to +3000.0%  
**Description**  
 -

Effective mode: -  
 Unit: %  
 Data type: Int16  
 Change: Changeable at any time

**C8-15 Constant setpoint 16**

Address: 0xC80F  
 Min.: -3000  
 Max.: 3000.0  
 Default: 0.0  
**Value Range:**  
 -3000% to +3000.0%  
**Description**  
 -

Effective mode: -  
 Unit: %  
 Data type: Int16  
 Change: Changeable at any time

**C8-16 Constant setpoint 17**

Address: 0xC810  
 Min.: -3000  
 Max.: 3000.0

Effective mode: -  
 Unit: %  
 Data type: Int16

Default: 0.0  
**Value Range:**  
 -3000% to +3000.0%  
**Description**  
 -

Change: Changeable at any time

**C8-17 Constant setpoint 18**

Address: 0xC811  
 Min.: -3000  
 Max.: 3000.0  
 Default: 0.0

**Value Range:**  
 -3000% to +3000.0%

**Description**  
 -

Effective mode: -  
 Unit: %  
 Data type: Int16  
 Change: Changeable at any time

**C8-18 Constant setpoint 19**

Address: 0xC812  
 Min.: -3000  
 Max.: 3000.0  
 Default: 0.0

**Value Range:**  
 -3000% to +3000.0%

**Description**  
 -

Effective mode: -  
 Unit: %  
 Data type: Int16  
 Change: Changeable at any time

**C8-19 Constant setpoint 20**

Address: 0xC813  
 Min.: -3000  
 Max.: 3000.0  
 Default: 0.0

**Value Range:**  
 -3000% to +3000.0%

**Description**  
 -

Effective mode: -  
 Unit: %  
 Data type: Int16  
 Change: Changeable at any time

**C8-20 Constant setpoint 21**

Address: 0xC814  
 Min.: -3000  
 Max.: 3000.0  
 Default: 0.0

**Value Range:**  
 -3000% to +3000.0%

**Description**  
 -

Effective mode: -  
 Unit: %  
 Data type: Int16  
 Change: Changeable at any time

**C8-21 Constant setpoint 22**

Address: 0xC815  
 Min.: -300  
 Max.: 300.00  
 Default: 0.00

**Value Range:**

Effective mode: -  
 Unit: %  
 Data type: Int16  
 Change: Changeable at any time



-300% to +300.00%

**Description**

-

**C8-22**

**Constant setpoint 23**

Address: 0xC816

Min.: -300

Max.: 300.00

Default: 100.00

**Value Range:**

-300% to +300.00%

**Description**

-

Effective mode: -

Unit: %

Data type: Int16

Change: Changeable at any time

**C8-23**

**Constant setpoint 24**

Address: 0xC817

Min.: -300

Max.: 300.00

Default: -100

**Value Range:**

-300% to +300.00%

**Description**

-

Effective mode: -

Unit: %

Data type: Int16

Change: Changeable at any time

**C8-24**

**Constant setpoint 25**

Address: 0xC818

Min.: -300

Max.: 300.00

Default: 200.00

**Value Range:**

-300% to +300.00%

**Description**

-

Effective mode: -

Unit: %

Data type: Int16

Change: Changeable at any time

**C8-25**

**Constant setpoint 26**

Address: 0xC819

Min.: -300

Max.: 300.00

Default: -200

**Value Range:**

-300% to +300.00%

**Description**

-

Effective mode: -

Unit: %

Data type: Int16

Change: Changeable at any time

**C8-26**

**Constant setpoint 27**

Address: 0xC81A

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Description**

-

**C8-27 Constant setpoint 28**

Address: 0xC81B

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C8-28 Constant setpoint 29**

Address: 0xC81C

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C8-29 Constant setpoint 30**

Address: 0xC81D

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C8-30 Constant setpoint 31**

Address: 0xC81E

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C8-31 Constant setpoint 32**

Address: 0xC81F

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

<b>C8-32</b>	<p><b>Constant setpoint 33</b>          Address: 0xC820          Min.: 0          Max.: 65535          Default: 0  <b>Value Range:</b>          0 to 65535  <b>Description</b>          -</p>	<p>Effective mode: -          Unit: -          Data type: UInt16          Change: Changeable at any time</p>
<b>C8-33</b>	<p><b>Constant setpoint 34</b>          Address: 0xC821          Min.: 0          Max.: 65535          Default: 0  <b>Value Range:</b>          0 to 65535  <b>Description</b>          -</p>	<p>Effective mode: -          Unit: -          Data type: UInt16          Change: Changeable at any time</p>
<b>C8-34</b>	<p><b>Constant setpoint 35</b>          Address: 0xC822          Min.: 0          Max.: 65535          Default: 0  <b>Value Range:</b>          0 to 65535  <b>Description</b>          -</p>	<p>Effective mode: -          Unit: -          Data type: UInt16          Change: Changeable at any time</p>
<b>C8-35</b>	<p><b>Constant setpoint 36</b>          Address: 0xC823          Min.: 0          Max.: 65535          Default: 0  <b>Value Range:</b>          0 to 65535  <b>Description</b>          -</p>	<p>Effective mode: -          Unit: -          Data type: UInt16          Change: Changeable at any time</p>
<b>C8-36</b>	<p><b>Constant setpoint 37</b>          Address: 0xC824          Min.: 0          Max.: 65535          Default: 0  <b>Value Range:</b>          0 to 65535  <b>Description</b>          -</p>	<p>Effective mode: -          Unit: -          Data type: UInt16          Change: Changeable at any time</p>
<b>C8-37</b>	<p><b>Constant setpoint 38</b>          Address: 0xC825</p>	<p>Effective mode: -</p>

Min.: 0  
Max.: 65535  
Default: 0  
**Value Range:**  
0 to 65535  
**Description**  
-

Unit: -  
Data type: UInt16  
Change: Changeable at any time

**C8-38 Constant setpoint 39**

Address: 0xC826  
Min.: 0  
Max.: 65535  
Default: 0  
**Value Range:**  
0 to 65535  
**Description**  
-

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Changeable at any time

**C8-39 Constant setpoint 40**

Address: 0xC827  
Min.: 0  
Max.: 65535  
Default: 0  
**Value Range:**  
0 to 65535  
**Description**  
-

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Changeable at any time

**C8-40 Constant setpoint 41**

Address: 0xC828  
Min.: 0  
Max.: 65535  
Default: 0  
**Value Range:**  
0 to 65535  
**Description**  
-

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Changeable at any time

**C8-41 Constant setpoint 42**

Address: 0xC829  
Min.: 0  
Max.: 65535  
Default: 0  
**Value Range:**  
0 to 65535  
**Description**  
-

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Changeable at any time

## 4.49 C9: Any Monitoring Parameters, Monitoring Parameters, and Commissioning Parameters

### C9-00 LOWORD of 16-bit data RAM address 1

Address:	0xC900	Effective mode:	-
Min.:	0x0	Unit:	-
Max.:	0xFFFF	Data type:	UInt16
Default:	0x0	Change:	Changeable at any time

**Value Range:**

0x0 to 0xFFFF

**Description**

This parameter defines the low-order 16 bits of the 32-bit address. You can find the corresponding u16 data output by using this address.

### C9-01 HIWORD of 16-bit data RAM address 1

Address:	0xC901	Effective mode:	-
Min.:	0x0	Unit:	-
Max.:	0xFFFF	Data type:	UInt16
Default:	0x0	Change:	Changeable at any time

**Value Range:**

0x0 to 0xFFFF

**Description**

This parameter defines the high-order 16 bits of the 32-bit address. You can find the corresponding u16 data output by using this address.

### C9-02 LOWORD of 16-bit data RAM address 2

Address:	0xC902	Effective mode:	-
Min.:	0x0	Unit:	-
Max.:	0xFFFF	Data type:	UInt16
Default:	0x0	Change:	Changeable at any time

**Value Range:**

0x0 to 0xFFFF

**Description**

Same as C9-00

### C9-03 HIWORD of 16-bit data RAM address 2

Address:	0xC903	Effective mode:	-
Min.:	0x0	Unit:	-
Max.:	0xFFFF	Data type:	UInt16
Default:	0x0	Change:	Changeable at any time

**Value Range:**

0x0 to 0xFFFF

**Description**

Same as C9-01

### C9-04 LOWORD of 16-bit data RAM address 3

Address:	0xC904	Effective mode:	-
Min.:	0x0	Unit:	-
Max.:	0xFFFF	Data type:	UInt16
Default:	0x0	Change:	Changeable at any time

**Value Range:**

0x0 to 0xFFFF

**Description**

Same as C9-00

**C9-05****HIWORD of 16-bit data RAM address 3**

Address: 0xC905

Min.: 0x0

Max.: 0xFFFF

Default: 0x0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0x0 to 0xFFFF

**Description**

Same as C9-01

**C9-06****LOWORD of 16-bit data RAM address 4**

Address: 0xC906

Min.: 0x0

Max.: 0xFFFF

Default: 0x0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0x0 to 0xFFFF

**Description**

Same as C9-00

**C9-07****HIWORD of 16-bit data RAM address 4**

Address: 0xC907

Min.: 0x0

Max.: 0xFFFF

Default: 0x0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0x0 to 0xFFFF

**Description**

Same as C9-01

**C9-08****LOWORD of 16-bit data RAM address 5**

Address: 0xC908

Min.: 0x0

Max.: 0xFFFF

Default: 0x0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0x0 to 0xFFFF

**Description**

Same as C9-00

**C9-09****HIWORD of 16-bit data RAM address 5**

Address: 0xC909

Min.: 0x0

Max.: 0xFFFF

Default: 0x0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0x0 to 0xFFFF

**Description**

Same as C9-01

**C9-10 32-bit data type selection 1**

Address:	0xC90A	Effective mode:	-
Min.:	0	Unit:	-
Max.:	1	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0 to 1

**Description**

This parameter defines the type of data to which the 32-bit address is pointed. 0 indicates u32 data, and 1 indicates f32 data.

**C9-11 32-bit data amplification coefficient 1**

Address:	0xC90B	Effective mode:	-
Min.:	0	Unit:	-
Max.:	10000	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0 to 10000

**Description**

This parameter defines the data amplification coefficient when the data type is f32. The data is amplified and then output.

**C9-12 LOWORD of 32-bit data RAM address 1**

Address:	0xC90C	Effective mode:	-
Min.:	0x0	Unit:	-
Max.:	0xFFFF	Data type:	UInt16
Default:	0x0	Change:	Changeable at any time

**Value Range:**

0x0 to 0xFFFF

**Description**

This parameter defines the low-order 16 bits of the 32-bit address. You can find the corresponding u32 data output by using this address.

**C9-13 HIWORD of 32-bit data RAM address 1**

Address:	0xC90D	Effective mode:	-
Min.:	0x0	Unit:	-
Max.:	0xFFFF	Data type:	UInt16
Default:	0x0	Change:	Changeable at any time

**Value Range:**

0x0 to 0xFFFF

**Description**

This parameter defines the high-order 16 bits of the 32-bit address. You can find the corresponding u32 data output by using this address.

**C9-14 32-bit data type selection 2**

Address:	0xC90E	Effective mode:	-
Min.:	0	Unit:	-
Max.:	1	Data type:	UInt16

Default: 0  
**Value Range:**  
 0 to 1  
**Description**  
 Same as C9-10

Change: Changeable at any time

#### C9-15 32-bit data amplification coefficient 2

Address: 0xC90F  
 Min.: 0  
 Max.: 10000  
 Default: 0

**Value Range:**  
 0 to 10000

**Description**  
 Same as C9-11

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

#### C9-16 LOWORD of 32-bit data RAM address 2

Address: 0xC910  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0

**Value Range:**  
 0x0 to 0xFFFF

**Description**  
 Same as C9-12

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

#### C9-17 HIWORD of 32-bit data RAM address 2

Address: 0xC911  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0

**Value Range:**  
 0x0 to 0xFFFF

**Description**  
 Same as C9-13

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

#### C9-18 32-bit data type selection 3

Address: 0xC912  
 Min.: 0  
 Max.: 1  
 Default: 0

**Value Range:**  
 0 to 1

**Description**  
 Same as C9-10

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

#### C9-19 32-bit data amplification coefficient 3

Address: 0xC913  
 Min.: 0  
 Max.: 10000  
 Default: 0

**Value Range:**

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time



0 to 10000

**Description**

Same as C9-11

**C9-20      LOWORD of 32-bit data RAM address 3**

Address: 0xC914

Min.: 0x0

Max.: 0xFFFF

Default: 0x0

**Value Range:**

0x0 to 0xFFFF

**Description**

Same as C9-12

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C9-21      HIWORD of 32-bit data RAM address 3**

Address: 0xC915

Min.: 0x0

Max.: 0xFFFF

Default: 0x0

**Value Range:**

0x0 to 0xFFFF

**Description**

Same as C9-13

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C9-22      32-bit data type selection 4**

Address: 0xC916

Min.: 0

Max.: 1

Default: 0

**Value Range:**

0 to 1

**Description**

Same as C9-10

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C9-23      32-bit data amplification coefficient 4**

Address: 0xC917

Min.: 0

Max.: 10000

Default: 0

**Value Range:**

0 to 10000

**Description**

Same as C9-11

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C9-24      LOWORD of 32-bit data RAM address 4**

Address: 0xC918

Min.: 0x0

Max.: 0xFFFF

Default: 0x0

**Value Range:**

0x0 to 0xFFFF

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Description**

Same as C9-12

**C9-25 HIWORD of 32-bit data RAM address 4**

Address: 0xC919

Min.: 0x0

Max.: 0xFFFF

Default: 0x0

**Value Range:**

0x0 to 0xFFFF

**Description**

Same as C9-13

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C9-26 32-bit data type selection 5**

Address: 0xC91A

Min.: 0

Max.: 1

Default: 0

**Value Range:**

0 to 1

**Description**

Same as C9-10

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C9-27 32-bit data amplification coefficient 5**

Address: 0xC91B

Min.: 0

Max.: 10000

Default: 0

**Value Range:**

0 to 10000

**Description**

Same as C9-11

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C9-28 LOWORD of 32-bit data RAM address 5**

Address: 0xC91C

Min.: 0x0

Max.: 0xFFFF

Default: 0x0

**Value Range:**

0x0 to 0xFFFF

**Description**

Same as C9-12

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C9-29 HIWORD of 32-bit data RAM address 5**

Address: 0xC91D

Min.: 0x0

Max.: 0xFFFF

Default: 0x0

**Value Range:**

0x0 to 0xFFFF

**Description**

Same as C9-13

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C9-30 Internal parameter monitoring input 1**

Address: 0xC91E

Min.: 0  
Max.: 97

Default: 0

**Value Range:**

0 to 97

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C9-31 Internal parameter monitoring input 2**

Address: 0xC91F

Min.: 0  
Max.: 97

Default: 0

**Value Range:**

0 to 97

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C9-32 Internal parameter monitoring input 3**

Address: 0xC920

Min.: 0  
Max.: 97

Default: 0

**Value Range:**

0 to 97

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C9-33 Internal parameter monitoring input 4**

Address: 0xC921

Min.: 0  
Max.: 97

Default: 0

**Value Range:**

0 to 97

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C9-34 Internal parameter monitoring input 5**

Address: 0xC922

Min.: 0  
Max.: 97

Default: 0

**Value Range:**

0 to 97

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**C9-35 Internal parameter monitoring input 6**

Address: 0xC923

Effective mode: -

Min.: 0  
 Max.: 97  
 Default: 0  
**Value Range:**  
 0 to 97  
**Description**  
 -

Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C9-36 Internal parameter monitoring input 7**

Address: 0xC924  
 Min.: 0  
 Max.: 97  
 Default: 0  
**Value Range:**  
 0 to 97  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C9-37 Internal parameter monitoring input 8**

Address: 0xC925  
 Min.: 0  
 Max.: 97  
 Default: 0  
**Value Range:**  
 0 to 97  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C9-40 Variable connector value viewing input 1**

Address: 0xC928  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C9-41 Variable connector value viewing input 2**

Address: 0xC929  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**C9-42 Variable connector value viewing input 3**

Address: 0xC92A  
 Min.: 0  
 Max.: 65535

Effective mode: -  
 Unit: -  
 Data type: UInt16

Default: 0

Change: Changeable at any time

**Value Range:**

0 to 65535

**Description**

-

**C9-43 Variable connector value viewing input 4**

Address: 0xC92B

Effective mode: -

Min.: 0

Unit: -

Max.: 65535

Data type: UInt16

Default: 0

Change: Changeable at any time

**Value Range:**

0 to 65535

**Description**

-

**C9-44 Variable connector value viewing input 5**

Address: 0xC92C

Effective mode: -

Min.: 0

Unit: -

Max.: 65535

Data type: UInt16

Default: 0

Change: Changeable at any time

**Value Range:**

0 to 65535

**Description**

-

**C9-45 Variable connector value viewing input 6**

Address: 0xC92D

Effective mode: -

Min.: 0

Unit: -

Max.: 65535

Data type: UInt16

Default: 0

Change: Changeable at any time

**Value Range:**

0 to 65535

**Description**

-

**C9-46 Variable connector value viewing input 7**

Address: 0xC92E

Effective mode: -

Min.: 0

Unit: -

Max.: 65535

Data type: UInt16

Default: 0

Change: Changeable at any time

**Value Range:**

0 to 65535

**Description**

-

**C9-47 Variable connector value viewing input 8**

Address: 0xC92F

Effective mode: -

Min.: 0

Unit: -

Max.: 65535

Data type: UInt16

Default: 0

Change: Changeable at any time

**Value Range:**

0 to 65535

**Description**

-

**C9-50 Monitoring variable 0**

Address: 0xC932

Min.: -32768

Max.: 32767

Default: 0

**Value Range:**

-32768 to +32767

**Description**

-

Effective mode: -

Unit: -

Data type: Int16

Change: Unchangeable

**C9-51 Monitoring variable 1**

Address: 0xC933

Min.: -32768

Max.: 32767

Default: 0

**Value Range:**

-32768 to +32767

**Description**

-

Effective mode: -

Unit: -

Data type: Int16

Change: Unchangeable

**C9-52 Monitoring variable 2**

Address: 0xC934

Min.: -32768

Max.: 32767

Default: 0

**Value Range:**

-32768 to +32767

**Description**

-

Effective mode: -

Unit: -

Data type: Int16

Change: Unchangeable

**C9-53 Monitoring variable 3**

Address: 0xC935

Min.: -32768

Max.: 32767

Default: 0

**Value Range:**

-32768 to +32767

**Description**

-

Effective mode: -

Unit: -

Data type: Int16

Change: Unchangeable

**C9-54 Monitoring variable 4**

Address: 0xC936

Min.: -32768

Max.: 32767

Default: 0

**Value Range:**

-32768 to +32767

Effective mode: -

Unit: -

Data type: Int16

Change: Unchangeable

**Description**

-

**C9-55 Monitoring variable 5**

Address: 0xC937

Min.: -32768

Max.: 32767

Default: 0

**Value Range:**

-32768 to +32767

**Description**

-

Effective mode: -

Unit: -

Data type: Int16

Change: Unchangeable

**C9-56 Monitoring variable 6**

Address: 0xC938

Min.: -32768

Max.: 32767

Default: 0

**Value Range:**

-32768 to +32767

**Description**

-

Effective mode: -

Unit: -

Data type: Int16

Change: Unchangeable

**C9-57 Monitoring variable 7**

Address: 0xC939

Min.: -32768

Max.: 32767

Default: 0

**Value Range:**

-32768 to +32767

**Description**

-

Effective mode: -

Unit: -

Data type: Int16

Change: Unchangeable

**C9-58 Monitoring variable 8**

Address: 0xC93A

Min.: -32768

Max.: 32767

Default: 0

**Value Range:**

-32768 to +32767

**Description**

-

Effective mode: -

Unit: -

Data type: Int16

Change: Unchangeable

**C9-59 Monitoring variable 9**

Address: 0xC93B

Min.: -32768

Max.: 32767

Default: 0

**Value Range:**

-32768 to +32767

**Description**

-

Effective mode: -

Unit: -

Data type: Int16

Change: Unchangeable

<b>C9-70</b>	<b>Commissioning variable 0</b> Address: 0xC946 Min.: -32768 Max.: 32767 Default: 0 <b>Value Range:</b> -32768 to +32767 <b>Description</b> -	Effective mode: - Unit: - Data type: Int16 Change: Changeable at any time
<b>C9-71</b>	<b>Commissioning variable 1</b> Address: 0xC947 Min.: -32768 Max.: 32767 Default: 0 <b>Value Range:</b> -32768 to +32767 <b>Description</b> -	Effective mode: - Unit: - Data type: Int16 Change: Changeable at any time
<b>C9-72</b>	<b>Commissioning variable 2</b> Address: 0xC948 Min.: -32768 Max.: 32767 Default: 0 <b>Value Range:</b> -32768 to +32767 <b>Description</b> -	Effective mode: - Unit: - Data type: Int16 Change: Changeable at any time
<b>C9-73</b>	<b>Commissioning variable 3</b> Address: 0xC949 Min.: -32768 Max.: 32767 Default: 0 <b>Value Range:</b> -32768 to +32767 <b>Description</b> -	Effective mode: - Unit: - Data type: Int16 Change: Changeable at any time
<b>C9-74</b>	<b>Commissioning variable 4</b> Address: 0xC94A Min.: -32768 Max.: 32767 Default: 0 <b>Value Range:</b> -32768 to +32767 <b>Description</b> -	Effective mode: - Unit: - Data type: Int16 Change: Changeable at any time
<b>C9-75</b>	<b>Commissioning variable 5</b> Address: 0xC94B	Effective mode: -



Min.: -32768  
 Max.: 32767  
 Default: 0  
**Value Range:**  
 -32768 to +32767  
**Description**  
 -

Unit: -  
 Data type: Int16  
 Change: Changeable at any time

**C9-76 Commissioning variable 6**

Address: 0xC94C  
 Min.: -32768  
 Max.: 32767  
 Default: 0  
**Value Range:**  
 -32768 to +32767  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: Int16  
 Change: Changeable at any time

**C9-77 Commissioning variable 7**

Address: 0xC94D  
 Min.: -32768  
 Max.: 32767  
 Default: 0  
**Value Range:**  
 -32768 to +32767  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: Int16  
 Change: Changeable at any time

**C9-78 Commissioning variable 8**

Address: 0xC94E  
 Min.: -32768  
 Max.: 32767  
 Default: 0  
**Value Range:**  
 -32768 to +32767  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: Int16  
 Change: Changeable at any time

**C9-79 Commissioning variable 9**

Address: 0xC94F  
 Min.: -32768  
 Max.: 32767  
 Default: 0  
**Value Range:**  
 -32768 to +32767  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: Int16  
 Change: Changeable at any time

## 4.50 CA: Motor 4 Nameplate and Learning Parameters

### CA-00 Motor type

Address: 0xCA00

Min.: 0

Max.: 2

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**Value Range:**

0: Common asynchronous motor

1: Variable frequency asynchronous motor

2: Permanent magnet synchronous motor

**Description**

-

### CA-01 Rated motor power

Address: 0xCA01

Min.: 0.1

Max.: 1000.0

Default: 3.7

Effective mode: -

Unit: kW

Data type: UInt16

Change: Changeable only at stop

**Value Range:**

0.1 kW to 1000.0 kW

**Description**

-

### CA-02 Rated motor voltage

Address: 0xCA02

Min.: 1

Max.: 2000

Default: 380

Effective mode: -

Unit: V

Data type: UInt16

Change: Changeable only at stop

**Value Range:**

1 V to 2000 V

**Description**

-

### CA-03 Rated motor current

Address: 0xCA03

Min.: 0.01

Max.: 655.35

Default: 9.00

Effective mode: -

Unit: A

Data type: UInt16

Change: Changeable only at stop

**Value Range:**

0.01 A to 655.35 A

**Description**

-

### CA-04 Rated motor frequency

Address: 0xCA04

Min.: 0.01

Max.: F0-10

Default: 50.00

Effective mode: -

Unit: Hz

Data type: UInt16

Change: Changeable only at stop

**Value Range:**

0.01 Hz to F0-10

**Description**

-

**CA-05**

**Rated motor speed**

Address: 0xCA05

Min.: 1

Max.: 65535

Default: 1460

**Value Range:**

1 RPM to 65535 RPM

**Description**

-

Effective mode: -

Unit: RPM

Data type: UInt16

Change: Changeable only at stop

**CA-06**

**Number of parallel motors**

Address: 0xCA06

Min.: 1

Max.: 200

Default: 1

**Value Range:**

1 to 200

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**CA-07**

**Motor information command word**

Address: 0xCA07

Min.: 0x0

Max.: 0xFFFF

Default: 0x3

**Value Range:**

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

Bit00: Mutual inductance curve

0: Disabled

1: Enabled

Bit01: D- and Q-axis inductance curve

0: Disabled

1: Enabled

Bit02: Rotor resistance online auto-tuning

0: Disabled

1: Enabled

Bit03: Rotor resistance online auto-tuning method

0: Amplitude

1: Phase

Bit04: Motor thermal model

0: Disabled

1: Enabled

Bit05: Temperature source of motor thermal model

0: Estimated temperature

1: Temperature detected by sensor

Bit06: Torque coefficient calculation of asynchronous motor

0: Torque formula

1: Current distribution

Bit07: Torque coefficient calculation of synchronous motor

0: Torque formula

1: Torque matching the rated torque

Bit08: Zero speed friction torque calculation

0: Torque linearly decreasing to zero

1: Torque to maintain minimum speed

Bit09: Calculation of model parameters based on nameplate parameters

0: Disabled

1: Enabled

Bit10: Confirmation of calculating model parameters based on nameplate parameters

0: Default

1: Confirm

**Description**

-

**CA-08**

**Number of motor pole pairs**

Address: 0xCA08

Min.: 0

Max.: 64

Default: 0

**Value Range:**

0 to 64

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

<b>CA-09</b>	<p><b>Motor power factor</b>          Address: 0xCA09          Min.: 0.600          Max.: 1.000          Default: 0.860  <b>Value Range:</b>          0.600 to 1.000  <b>Description</b>          -</p>	<p>Effective mode: -          Unit: -          Data type: UInt16          Change: Changeable only at stop</p>
<b>CA-10</b>	<p><b>Encoder PPR</b>          Address: 0xCA0A          Min.: 1          Max.: 65535          Default: 1024  <b>Value Range:</b>          1 to 65535  <b>Description</b>          -</p>	<p>Effective mode: -          Unit: -          Data type: UInt16          Change: Changeable only at stop</p>
<b>CA-11</b>	<p><b>Encoder type</b>          Address: 0xCA0B          Min.: 0          Max.: 3          Default: 0  <b>Value Range:</b>          0: ABZ incremental encoder          1: 23-bit encoder          2: Resolver          3: External input  <b>Description</b>          -</p>	<p>Effective mode: -          Unit: -          Data type: UInt16          Change: Changeable only at stop</p>
<b>CA-12</b>	<p><b>Speed feedback PG card</b>          Address: 0xCA0C          Min.: 0          Max.: 1          Default: 0  <b>Value Range:</b>          0: Local PG card          1: Extension PG card  <b>Description</b>          -</p>	<p>Effective mode: -          Unit: -          Data type: UInt16          Change: Changeable only at stop</p>
<b>CA-13</b>	<p><b>Number of resolver pole pairs</b>          Address: 0xCA0D          Min.: 1          Max.: 65535          Default: 1  <b>Value Range:</b>          1 to 65535</p>	<p>Effective mode: -          Unit: -          Data type: UInt16          Change: Changeable only at stop</p>

**Description**

-

**CA-15 Speed feedback PG wire breakage detection time**

Address: 0xCA0F Effective mode: -  
 Min.: 0.0 Unit: s  
 Max.: 10.0 Data type: UInt16  
 Default: 0.0 Change: Changeable only at stop

**Value Range:**

0.0s to 10.0s

**Description**

-

**CA-16 A/B phase sequence of encoder**

Address: 0xCA10 Effective mode: -  
 Min.: 0 Unit: -  
 Max.: 1 Data type: UInt16  
 Default: 0 Change: Changeable only at stop

**Value Range:**

0: Forward

1: Reverse

**Description**

-

**CA-17 Encoder installation angle**

Address: 0xCA11 Effective mode: -  
 Min.: 0.0 Unit: °  
 Max.: 359.9 Data type: UInt16  
 Default: 0.0 Change: Changeable only at stop

**Value Range:**

0.0° to 359.9°

**Description**

-

**CA-18 Expansion card**

Address: 0xCA12 Effective mode: -  
 Min.: 1 Unit: -  
 Max.: 2 Data type: UInt16  
 Default: 1 Change: Changeable only at stop

**Value Range:**

1: Expansion card 1

2: Expansion card 2

**Description**

-

**CA-19 ABZ encoder speed measurement mode at low speed**

Address: 0xCA13 Effective mode: -  
 Min.: 0 Unit: -  
 Max.: 2 Data type: UInt16  
 Default: 2 Change: Changeable only at stop

**Value Range:**

- 0: Maintain
- 1: Attenuate
- 2: Optimized solution

**Description**

-

**CA-20 Encoder speed measurement filter time constant**

Address:	0xCA14	Effective mode:	-
Min.:	0.000	Unit:	s
Max.:	10.000	Data type:	UInt16
Default:	0.004	Change:	Changeable at any time

**Value Range:**

0.000s to 10.000s

**Description**

-

**CA-21 Encoder wire breakage software detection coefficient**

Address:	0xCA15	Effective mode:	-
Min.:	0.000	Unit:	-
Max.:	8.000	Data type:	UInt16
Default:	1.000	Change:	Changeable at any time

**Value Range:**

0.000 to 8.000

**Description**

-

**CA-22 Encoder control word**

Address:	0xCA16	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Changeable only at stop

**Value Range:**

Bit00: Speed measurement

0: Disabled

1: Enabled

Bit01: Software detection of wire breakage

0: Disabled

1: Enabled

Bit02: Glitch removal

0: Disabled

1: Enabled

Bit03: ABZ encoder speed measurement mode

0: Quadruplicated frequency

1: Single pulse

**Description**

-

**CA-23 Speed measurement exception count threshold**

Address:	0xCA17	Effective mode:	-
Min.:	1	Unit:	-

Max.: 100  
 Default: 10

Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**

1 to 100

**Description**

-

**CA-24 Motor gear ratio (numerator)**

Address: 0xCA18

Min.: 1

Max.: 65535

Default: 1

**Value Range:**

1 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**CA-25 Motor gear ratio (denominator)**

Address: 0xCA19

Min.: 1

Max.: 65535

Default: 1

**Value Range:**

1 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**CA-26 External input source of encoder**

Address: 0xCA1A

Min.: 0

Max.: 8

Default: 0

**Value Range:**

0: 0

1: AI1

2: AI2

3: AI3

4: Pulse reference

5: Communication

6: Multi-reference

7: Motor-driven potentiometer

8: PID

Others: F connector

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**CA-29 Auto-tuning**

Address: 0xCA1D

Min.: 0

Max.: 13

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop



**Value Range:**

- 0: No operation
- 1: Static auto-tuning on partial parameters of asynchronous motor
- 2: Dynamic auto-tuning on asynchronous motor
- 3: Static auto-tuning on all parameters of asynchronous motor
- 4: Inertia auto-tuning
- 5: Deadzone auto-tuning
- 11: With-load auto-tuning on synchronous motor (excluding back EMF)
- 12: No-load dynamic auto-tuning on synchronous motor
- 13: Static auto-tuning on all parameters of synchronous motor (excluding zero point angle)

**Description**

-

**CA-30 Asynchronous motor stator resistance**

Address:	0xCA1E	Effective mode:	-
Min.:	0.001	Unit:	$\Omega$
Max.:	65.535	Data type:	UInt16
Default:	1.204	Change:	Changeable only at stop

**Value Range:**

0.001  $\Omega$  to 65.535  $\Omega$

**Description**

-

**CA-31 Asynchronous motor rotor resistance**

Address:	0xCA1F	Effective mode:	-
Min.:	0.001	Unit:	$\Omega$
Max.:	65.535	Data type:	UInt16
Default:	0.908	Change:	Changeable only at stop

**Value Range:**

0.001  $\Omega$  to 65.535  $\Omega$

**Description**

-

**CA-32 Asynchronous motor leakage inductance**

Address:	0xCA20	Effective mode:	-
Min.:	0.01	Unit:	mH
Max.:	655.35	Data type:	UInt16
Default:	5.28	Change:	Changeable only at stop

**Value Range:**

0.01 mH to 655.35 mH

**Description**

-

**CA-33 Asynchronous motor mutual inductance**

Address:	0xCA21	Effective mode:	-
Min.:	0.1	Unit:	mH
Max.:	6553.5	Data type:	UInt16
Default:	156.8	Change:	Changeable only at stop

**Value Range:**

0.1 mH to 6553.5 mH

**Description**

-

**CA-34 Asynchronous motor no-load current**

Address: 0xCA22

Min.: 0.01

Max.: CA-03

Default: 4.20

**Value Range:**

0.01 A to CA-03

**Description**

-

Effective mode: -

Unit: A

Data type: UInt16

Change: Changeable only at stop

**CA-35 Synchronous motor stator resistance**

Address: 0xCA23

Min.: 0.001

Max.: 65.535

Default: 1.204

**Value Range:**0.001  $\Omega$  to 65.535  $\Omega$ **Description**

-

Effective mode: -

Unit:  $\Omega$ 

Data type: UInt16

Change: Changeable only at stop

**CA-36 Synchronous motor D axis inductance**

Address: 0xCA24

Min.: 0.01

Max.: 655.35

Default: 5.28

**Value Range:**

0.01 mH to 655.35 mH

**Description**

-

Effective mode: -

Unit: mH

Data type: UInt16

Change: Changeable only at stop

**CA-37 Synchronous motor Q axis inductance**

Address: 0xCA25

Min.: 0.01

Max.: 655.35

Default: 5.28

**Value Range:**

0.01 mH to 655.35 mH

**Description**

-

Effective mode: -

Unit: mH

Data type: UInt16

Change: Changeable only at stop

**CA-39 Synchronous motor back EMF coefficient**

Address: 0xCA27

Min.: 0.0

Max.: 6553.5

Default: 300.0

**Value Range:**

0.0 V to 6553.5 V

**Description**

-

Effective mode: -

Unit: V

Data type: UInt16

Change: Changeable only at stop

<b>CA-40</b>	<b>Stator leakage inductance</b> Address: 0xCA28 Min.: 0.000 Max.: 65.535 Default: 6.540 <b>Value Range:</b> 0.000 mH to 65.535 mH <b>Description</b> -	Effective mode: - Unit: mH Data type: UInt16 Change: Changeable only at stop
<b>CA-41</b>	<b>Electromechanical time constant</b> Address: 0xCA29 Min.: 1 Max.: 65535 Default: 100 <b>Value Range:</b> 1 ms to 65535 ms <b>Description</b> -	Effective mode: - Unit: ms Data type: UInt16 Change: Unchangeable
<b>CA-42</b>	<b>Inertia ratio</b> Address: 0xCA2A Min.: 0.0 Max.: 6553.5 Default: 120.0 <b>Value Range:</b> 0.0% to 6553.5% <b>Description</b> -	Effective mode: - Unit: % Data type: UInt16 Change: Changeable only at stop
<b>CA-43</b>	<b>Friction torque</b> Address: 0xCA2B Min.: 0.0 Max.: 6553.5 Default: 2.0 <b>Value Range:</b> 0.0% to 6553.5% <b>Description</b> -	Effective mode: - Unit: % Data type: UInt16 Change: Changeable only at stop
<b>CA-44</b>	<b>Excitation current coefficient 1 of mutual inductance curve (rated)</b> Address: 0xCA2C Min.: 5.0 Max.: 100.0 Default: 50.0 <b>Value Range:</b> 5.0% to 100.0% <b>Description</b> -	Effective mode: - Unit: % Data type: UInt16 Change: Changeable only at stop
<b>CA-45</b>	<b>Excitation current coefficient 2 of mutual inductance curve (rated)</b> Address: 0xCA2D	Effective mode: -

Min.:	5.0	Unit:	%
Max.:	100.0	Data type:	UInt16
Default:	75.0	Change:	Changeable only at stop

**Value Range:**

5.0% to 100.0%

**Description**

-

**CA-46 Excitation current coefficient 3 of mutual inductance curve**

Address:	0xCA2E	Effective mode:	-
Min.:	100.0	Unit:	%
Max.:	800.0	Data type:	UInt16
Default:	150.0	Change:	Changeable only at stop

**Value Range:**

100.0% to 800.0%

**Description**

-

**CA-47 Excitation current coefficient 4 of mutual inductance curve**

Address:	0xCA2F	Effective mode:	-
Min.:	100.0	Unit:	%
Max.:	800.0	Data type:	UInt16
Default:	210.0	Change:	Changeable only at stop

**Value Range:**

100.0% to 800.0%

**Description**

-

**CA-48 Flux coefficient 1 of mutual inductance curve (rated)**

Address:	0xCA30	Effective mode:	-
Min.:	10.0	Unit:	%
Max.:	100.0	Data type:	UInt16
Default:	50.0	Change:	Changeable only at stop

**Value Range:**

10.0% to 100.0%

**Description**

-

**CA-49 Flux coefficient 2 of mutual inductance curve (rated)**

Address:	0xCA31	Effective mode:	-
Min.:	10.0	Unit:	%
Max.:	100.0	Data type:	UInt16
Default:	85.0	Change:	Changeable only at stop

**Value Range:**

10.0% to 100.0%

**Description**

-

**CA-50 Flux coefficient 3 of mutual inductance curve**

Address:	0xCA32	Effective mode:	-
Min.:	100.0	Unit:	%
Max.:	300.0	Data type:	UInt16

## Parameter Group

---

Default: 115.0  
**Value Range:**  
100.0% to 300.0%  
**Description**  
-

Change: Changeable only at stop

### CA-51 Flux coefficient 4 of mutual inductance curve

Address: 0xCA33  
Min.: 100.0  
Max.: 300.0  
Default: 125.0

**Value Range:**  
100.0% to 300.0%

**Description**  
-

Effective mode: -  
Unit: %  
Data type: UInt16  
Change: Changeable only at stop

### CA-52 Speed point 1 of friction curve

Address: 0xCA34  
Min.: 0  
Max.: 30000  
Default: 15

**Value Range:**  
0 RPM to 30000 RPM

**Description**  
-

Effective mode: -  
Unit: RPM  
Data type: UInt16  
Change: Changeable only at stop

### CA-53 Speed point 2 of friction curve

Address: 0xCA35  
Min.: 0  
Max.: 30000  
Default: 30

**Value Range:**  
0 RPM to 30000 RPM

**Description**  
-

Effective mode: -  
Unit: RPM  
Data type: UInt16  
Change: Changeable only at stop

### CA-54 Speed point 3 of friction curve

Address: 0xCA36  
Min.: 0  
Max.: 30000  
Default: 60

**Value Range:**  
0 RPM to 30000 RPM

**Description**  
-

Effective mode: -  
Unit: RPM  
Data type: UInt16  
Change: Changeable only at stop

### CA-55 Speed point 4 of friction curve

Address: 0xCA37  
Min.: 0  
Max.: 30000  
Default: 120

**Value Range:**

Effective mode: -  
Unit: RPM  
Data type: UInt16  
Change: Changeable only at stop

0 RPM to 30000 RPM

**Description**

-

**CA-56 Speed point 5 of friction curve**

Address: 0xCA38

Min.: 0

Max.: 30000

Default: 150

**Value Range:**

0 RPM to 30000 RPM

**Description**

-

Effective mode: -

Unit: RPM

Data type: UInt16

Change: Changeable only at stop

**CA-57 Speed point 6 of friction curve**

Address: 0xCA39

Min.: 0

Max.: 30000

Default: 300

**Value Range:**

0 RPM to 30000 RPM

**Description**

-

Effective mode: -

Unit: RPM

Data type: UInt16

Change: Changeable only at stop

**CA-58 Speed point 7 of friction curve**

Address: 0xCA3A

Min.: 0

Max.: 30000

Default: 600

**Value Range:**

0 RPM to 30000 RPM

**Description**

-

Effective mode: -

Unit: RPM

Data type: UInt16

Change: Changeable only at stop

**CA-59 Speed point 8 of friction curve**

Address: 0xCA3B

Min.: 0

Max.: 30000

Default: 1200

**Value Range:**

0 RPM to 30000 RPM

**Description**

-

Effective mode: -

Unit: RPM

Data type: UInt16

Change: Changeable only at stop

**CA-60 Speed point 9 of friction curve**

Address: 0xCA3C

Min.: 0

Max.: 30000

Default: 1500

**Value Range:**

0 RPM to 30000 RPM

Effective mode: -

Unit: RPM

Data type: UInt16

Change: Changeable only at stop

**Description**

-

**CA-61 Speed point 10 of friction curve**

Address: 0xCA3D

Min.: 0

Max.: 30000

Default: 3000

**Value Range:**

0 RPM to 30000 RPM

**Description**

-

Effective mode: -

Unit: RPM

Data type: UInt16

Change: Changeable only at stop

**CA-62 Torque point 1 of friction curve**

Address: 0xCA3E

Min.: -320

Max.: 320.00

Default: 0.00

**Value Range:**

-320 N·m to +320 N·m

**Description**

-

Effective mode: -

Unit: N·m

Data type: Int16

Change: Changeable only at stop

**CA-63 Torque point 2 of friction curve**

Address: 0xCA3F

Min.: -320

Max.: 320.00

Default: 0.00

**Value Range:**

-320 N·m to +320 N·m

**Description**

-

Effective mode: -

Unit: N·m

Data type: Int16

Change: Changeable only at stop

**CA-64 Torque point 3 of friction curve**

Address: 0xCA40

Min.: -320

Max.: 320.00

Default: 0.00

**Value Range:**

-320 N·m to +320 N·m

**Description**

-

Effective mode: -

Unit: N·m

Data type: Int16

Change: Changeable only at stop

**CA-65 Torque point 4 of friction curve**

Address: 0xCA41

Min.: -320

Max.: 320.00

Default: 0.00

**Value Range:**

-320 N·m to +320 N·m

**Description**

-

Effective mode: -

Unit: N·m

Data type: Int16

Change: Changeable only at stop

<b>CA-66</b>	<b>Torque point 5 of friction curve</b> Address: 0xCA42 Min.: -320 Max.: 320.00 Default: 0.00 <b>Value Range:</b> -320 N·m to +320 N·m <b>Description</b> -	Effective mode: - Unit: N·m Data type: Int16 Change: Changeable only at stop
<b>CA-67</b>	<b>Torque point 6 of friction curve</b> Address: 0xCA43 Min.: -320 Max.: 320.00 Default: 0.00 <b>Value Range:</b> -320 N·m to +320 N·m <b>Description</b> -	Effective mode: - Unit: N·m Data type: Int16 Change: Changeable only at stop
<b>CA-68</b>	<b>Torque point 7 of friction curve</b> Address: 0xCA44 Min.: -320 Max.: 320.00 Default: 0.00 <b>Value Range:</b> -320 N·m to +320 N·m <b>Description</b> -	Effective mode: - Unit: N·m Data type: Int16 Change: Changeable only at stop
<b>CA-69</b>	<b>Torque point 8 of friction curve</b> Address: 0xCA45 Min.: -320 Max.: 320.00 Default: 0.00 <b>Value Range:</b> -320 N·m to +320 N·m <b>Description</b> -	Effective mode: - Unit: N·m Data type: Int16 Change: Changeable only at stop
<b>CA-70</b>	<b>Torque point 9 of friction curve</b> Address: 0xCA46 Min.: -320 Max.: 320.00 Default: 0.00 <b>Value Range:</b> -320 N·m to +320 N·m <b>Description</b> -	Effective mode: - Unit: N·m Data type: Int16 Change: Changeable only at stop
<b>CA-71</b>	<b>Torque point 10 of friction curve</b> Address: 0xCA47	Effective mode: -



Min.:	-320	Unit:	N·m
Max.:	320.00	Data type:	Int16
Default:	0.00	Change:	Changeable only at stop

**Value Range:**

-320 N·m to +320 N·m

**Description**

-

**CA-72 Current coefficient starting point of D- and Q-axis inductance curve**

Address:	0xCA48	Effective mode:	-
Min.:	-800	Unit:	%
Max.:	800.0	Data type:	Int16
Default:	-200	Change:	Changeable only at stop

**Value Range:**

-800% to +800.0%

**Description**

-

**CA-73 Current coefficient end point of D- and Q-axis inductance curve**

Address:	0xCA49	Effective mode:	-
Min.:	-800	Unit:	%
Max.:	800.0	Data type:	Int16
Default:	200.0	Change:	Changeable only at stop

**Value Range:**

-800% to +800.0%

**Description**

-

**CA-74 D axis inductance 1 of D- and Q-axis inductance curve**

Address:	0xCA4A	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	6553.5	Data type:	UInt16
Default:	100.0	Change:	Changeable only at stop

**Value Range:**

0.0% to 6553.5%

**Description**

-

**CA-75 D axis inductance 2 of D- and Q-axis inductance curve**

Address:	0xCA4B	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	6553.5	Data type:	UInt16
Default:	100.0	Change:	Changeable only at stop

**Value Range:**

0.0% to 6553.5%

**Description**

-

**CA-76 D axis inductance 3 of D- and Q-axis inductance curve**

Address:	0xCA4C	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	6553.5	Data type:	UInt16

Default: 100.0 Change: Changeable only at stop  
**Value Range:**  
0.0% to 6553.5%  
**Description**  
-

**CA-77 D axis inductance 4 of D- and Q-axis inductance curve**

Address: 0xCA4D Effective mode: -  
Min.: 0.0 Unit: %  
Max.: 6553.5 Data type: UInt16  
Default: 100.0 Change: Changeable only at stop

**Value Range:**  
0.0% to 6553.5%

**Description**  
-

**CA-78 D axis inductance 5 of D- and Q-axis inductance curve**

Address: 0xCA4E Effective mode: -  
Min.: 0.0 Unit: %  
Max.: 6553.5 Data type: UInt16  
Default: 100.0 Change: Changeable only at stop

**Value Range:**  
0.0% to 6553.5%

**Description**  
-

**CA-79 D axis inductance 6 of D- and Q-axis inductance curve**

Address: 0xCA4F Effective mode: -  
Min.: 0.0 Unit: %  
Max.: 6553.5 Data type: UInt16  
Default: 100.0 Change: Changeable only at stop

**Value Range:**  
0.0% to 6553.5%

**Description**  
-

**CA-80 D axis inductance 7 of D- and Q-axis inductance curve**

Address: 0xCA50 Effective mode: -  
Min.: 0.0 Unit: %  
Max.: 6553.5 Data type: UInt16  
Default: 100.0 Change: Changeable only at stop

**Value Range:**  
0.0% to 6553.5%

**Description**  
-

**CA-81 D axis inductance 8 of D- and Q-axis inductance curve**

Address: 0xCA51 Effective mode: -  
Min.: 0.0 Unit: %  
Max.: 6553.5 Data type: UInt16  
Default: 100.0 Change: Changeable only at stop

**Value Range:**

0.0% to 6553.5%

**Description**

-

**CA-82 D axis inductance 9 of D- and Q-axis inductance curve**

Address:	0xCA52	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	6553.5	Data type:	UInt16
Default:	100.0	Change:	Changeable only at stop

**Value Range:**

0.0% to 6553.5%

**Description**

-

**CA-83 D axis inductance 10 of D- and Q-axis inductance curve**

Address:	0xCA53	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	6553.5	Data type:	UInt16
Default:	100.0	Change:	Changeable only at stop

**Value Range:**

0.0% to 6553.5%

**Description**

-

**CA-84 D axis inductance 11 of D- and Q-axis inductance curve**

Address:	0xCA54	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	6553.5	Data type:	UInt16
Default:	100.0	Change:	Changeable only at stop

**Value Range:**

0.0% to 6553.5%

**Description**

-

**CA-85 D axis inductance 12 of D- and Q-axis inductance curve**

Address:	0xCA55	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	6553.5	Data type:	UInt16
Default:	100.0	Change:	Changeable only at stop

**Value Range:**

0.0% to 6553.5%

**Description**

-

**CA-86 Q axis inductance 1 of D- and Q-axis inductance curve**

Address:	0xCA56	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	6553.5	Data type:	UInt16
Default:	100.0	Change:	Changeable only at stop

**Value Range:**

0.0% to 6553.5%

**Description**

-

**CA-87 Q axis inductance 2 of D- and Q-axis inductance curve**

Address:	0xCA57	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	6553.5	Data type:	UInt16
Default:	100.0	Change:	Changeable only at stop

**Value Range:**

0.0% to 6553.5%

**Description**

-

**CA-88 Q axis inductance 3 of D- and Q-axis inductance curve**

Address:	0xCA58	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	6553.5	Data type:	UInt16
Default:	100.0	Change:	Changeable only at stop

**Value Range:**

0.0% to 6553.5%

**Description**

-

**CA-89 Q axis inductance 4 of D- and Q-axis inductance curve**

Address:	0xCA59	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	6553.5	Data type:	UInt16
Default:	100.0	Change:	Changeable only at stop

**Value Range:**

0.0% to 6553.5%

**Description**

-

**CA-90 Q axis inductance 5 of D- and Q-axis inductance curve**

Address:	0xCA5A	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	6553.5	Data type:	UInt16
Default:	100.0	Change:	Changeable only at stop

**Value Range:**

0.0% to 6553.5%

**Description**

-

**CA-91 Q axis inductance 6 of D- and Q-axis inductance curve**

Address:	0xCA5B	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	6553.5	Data type:	UInt16
Default:	100.0	Change:	Changeable only at stop

**Value Range:**

0.0% to 6553.5%

**Description**

-

- CA-92 Q axis inductance 7 of D- and Q-axis inductance curve**  
 Address: 0xCA5C Effective mode: -  
 Min.: 0.0 Unit: %  
 Max.: 6553.5 Data type: UInt16  
 Default: 100.0 Change: Changeable only at stop  
**Value Range:**  
 0.0% to 6553.5%  
**Description**  
 -
- CA-93 Q axis inductance 8 of D- and Q-axis inductance curve**  
 Address: 0xCA5D Effective mode: -  
 Min.: 0.0 Unit: %  
 Max.: 6553.5 Data type: UInt16  
 Default: 100.0 Change: Changeable only at stop  
**Value Range:**  
 0.0% to 6553.5%  
**Description**  
 -
- CA-94 Q axis inductance 9 of D- and Q-axis inductance curve**  
 Address: 0xCA5E Effective mode: -  
 Min.: 0.0 Unit: %  
 Max.: 6553.5 Data type: UInt16  
 Default: 100.0 Change: Changeable only at stop  
**Value Range:**  
 0.0% to 6553.5%  
**Description**  
 -
- CA-95 Q axis inductance 10 of D- and Q-axis inductance curve**  
 Address: 0xCA5F Effective mode: -  
 Min.: 0.0 Unit: %  
 Max.: 6553.5 Data type: UInt16  
 Default: 100.0 Change: Changeable only at stop  
**Value Range:**  
 0.0% to 6553.5%  
**Description**  
 -
- CA-96 Q axis inductance 11 of D- and Q-axis inductance curve**  
 Address: 0xCA60 Effective mode: -  
 Min.: 0.0 Unit: %  
 Max.: 6553.5 Data type: UInt16  
 Default: 100.0 Change: Changeable only at stop  
**Value Range:**  
 0.0% to 6553.5%  
**Description**  
 -
- CA-97 Q axis inductance 12 of D- and Q-axis inductance curve**  
 Address: 0xCA61 Effective mode: -

Min.:	0.0	Unit:	%
Max.:	6553.5	Data type:	UInt16
Default:	100.0	Change:	Changeable only at stop

**Value Range:**

0.0% to 6553.5%

**Description**

-

## 4.51 CB: Motor 4 V/f Control Parameters

**CB-00****V/f curve**

Address:	0xCB00	Effective mode:	-
Min.:	0	Unit:	-
Max.:	11	Data type:	UInt16
Default:	0	Change:	Changeable only at stop

**Value Range:**

0: Straight-line V/f curve

1: Multi-point V/f curve

2: Reserved

3: Reserved

4: Reserved

5: Reserved

6: Reserved

7: Reserved

8: Reserved

9: Reserved

10: V/f complete separation mode

11: V/f half separation mode

**Description**

-

**CB-01****Torque boost**

Address:	0xCB01	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	30.0	Data type:	UInt16
Default:	3.0	Change:	Changeable at any time

**Value Range:**

0.0% to 30.0%

**Description**

-

**CB-02****Cut-off frequency of torque boost**

Address:	0xCB02	Effective mode:	-
Min.:	0.00	Unit:	Hz
Max.:	F0-10	Data type:	UInt16
Default:	50.00	Change:	Changeable only at stop

**Value Range:**

0.00 Hz to F0-10

**Description**

-

**CB-03 Multi-point V/f frequency 1**

Address: 0xCB03  
 Min.: 0.00  
 Max.: CB-05  
 Default: 0.00

Effective mode: -  
 Unit: Hz  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**

0.00 Hz to CB-05

**Description**

-

**CB-04 Multi-point V/f voltage 1**

Address: 0xCB04  
 Min.: 0.0  
 Max.: 100.0  
 Default: 0.0

Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**

0.0% to +100.0%

**Description**

-

**CB-05 Multi-point V/f frequency 2**

Address: 0xCB05  
 Min.: CB-03  
 Max.: CB-07  
 Default: 0.00

Effective mode: -  
 Unit: Hz  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**

CB-03 to CB-07

**Description**

-

**CB-06 Multi-point V/f voltage 2**

Address: 0xCB06  
 Min.: 0.0  
 Max.: 100.0  
 Default: 0.0

Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**

0.0% to +100.0%

**Description**

-

**CB-07 Multi-point V/f frequency 3**

Address: 0xCB07  
 Min.: CB-05  
 Max.: CA-04  
 Default: 0.00

Effective mode: -  
 Unit: Hz  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**

CB-05 to CA-04

**Description**

-

<b>CB-08</b>	<b>Multi-point V/f voltage 3</b>	Address: 0xCB08 Min.: 0.0 Max.: 100.0 Default: 0.0 <b>Value Range:</b> 0.0% to +100.0% <b>Description</b> -	Effective mode: - Unit: % Data type: UInt16 Change: Changeable only at stop
<b>CB-09</b>	<b>V/f slip compensation gain</b>	Address: 0xCB09 Min.: 0.0 Max.: 200.0 Default: 0.0 <b>Value Range:</b> 0.0 to 200.0 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>CB-10</b>	<b>V/f overexcitation gain</b>	Address: 0xCB0A Min.: 0 Max.: 200 Default: 64 <b>Value Range:</b> 0 to 200 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>CB-11</b>	<b>V/f oscillation suppression gain</b>	Address: 0xCB0B Min.: 0 Max.: 100 Default: 40 <b>Value Range:</b> 0 to 100 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>CB-12</b>	<b>V/f oscillation suppression</b>	Address: 0xCB0C Min.: 0 Max.: 1 Default: 1 <b>Value Range:</b> 0: Disabled 1: Enabled <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time



**CB-13 Voltage source for V/f separation**

Address: 0xCB0D

Effective mode: -

Min.: 0

Unit: -

Max.: 8

Data type: UInt16

Default: 0

Change: Changeable at any time

**Value Range:**

0: Digital setting (CB-14)

1: AI1

2: AI2

3: AI3

4: Pulse reference (DI5)

5: Multi-reference

6: Simple PLC

7: PID

8: Communication

Others: F connector

**Description**

This parameter defines the source of the target voltage in V/f separation mode.

0: Digital setting (F3-14)

The V/f separation voltage is set by F3-14 (V/f separation voltage).

1: AI1

The V/f separation voltage is input with current or voltage signals through the AI1 terminal. The frequency is calculated according to the preset AI curve.

2: AI2

The V/f separation voltage is input with current or voltage signals through the AI2 terminal. The frequency is calculated according to the preset AI curve.

3: AI3

The V/f separation voltage is input with current or voltage signals through the AI3 terminal. The frequency is calculated according to the preset AI curve. The AC drive has two AI terminals by default, and the AI3 terminal needs to be provided through the I/O expansion card.

4: Pulse reference (DI5)

The V/f separation voltage is set through DI5. The frequency is calculated based on the curve reflecting the relationship between the pulse frequency and running frequency.

5: Multi-reference

When multi-reference is used as the source of the V/f separation voltage, different combinations of DI terminal states correspond to different reference values. The four multi-reference terminals can provide 16 state combinations, corresponding to 16 reference values (percentage x maximum frequency) of parameters in group FC.

6: Simple PLC

The V/f separation voltage is set by simple PLC. For details, see the function description of simple PLC.

7: PID

The V/f separation voltage is set by PID. For details, see the PID function description.

8: Communication

The main frequency is set through communication. The running frequency is input through remote communication. The AC drive must be equipped with a communication card to implement communication with the host controller. This mode applies to remote control or centralized control of multiple equipment.

Others: F connector

A function code is set for a floating-point connector, and the value of the connector is read as the motoring torque upper limit in speed control mode. This mode is used for expansion besides the common sources.

#### CB-14 V/f separation voltage

Address:	0xCB0E	Effective mode:	-
Min.:	0	Unit:	V
Max.:	CA-02	Data type:	UInt16
Default:	0	Change:	Changeable at any time

##### Value Range:

0 V to CA-02

##### Description

This parameter defines the V/f separation voltage.

#### CB-15 Voltage rise time of V/f separation

Address:	0xCB0F	Effective mode:	-
Min.:	0.0	Unit:	s
Max.:	1000.0	Data type:	UInt16
Default:	0.0	Change:	Changeable at any time

##### Value Range:

0.0s to 1000.0s

##### Description

This parameter defines the time required for the output voltage to rise from 0 to the rated motor voltage.

#### CB-16 Voltage fall time of V/f separation

Address:	0xCB10	Effective mode:	-
Min.:	0.0	Unit:	s
Max.:	1000.0	Data type:	UInt16
Default:	0.0	Change:	Changeable at any time

##### Value Range:

0.0s to 1000.0s

##### Description

This parameter defines the time required for the output voltage to fall from the rated motor voltage to 0.

#### CB-17 Stop mode for V/f separation

Address:	0xCB11	Effective mode:	-
Min.:	0	Unit:	-
Max.:	2	Data type:	UInt16
Default:	0	Change:	Changeable at any time

##### Value Range:

0: Frequency and voltage decline to 0 independently

1: Frequency declines to 0 after voltage declines to 0

2: Coast to stop (new)

##### Description

0: The frequency and voltage decrease to 0 independently.

1: The frequency decreases to 0 according to the deceleration time after the voltage decreases to 0 according to the deceleration time.

2: The AC drive coasts to stop without following the stop deceleration curve.

<b>CB-18</b>	<b>Overcurrent stall suppression action current</b>	Address: 0xCB12 Min.: 50 Max.: 200 Default: 150 <b>Value Range:</b> 50% to 200% <b>Description</b> -	Effective mode: - Unit: % Data type: UInt16 Change: Changeable only at stop
<b>CB-19</b>	<b>Overcurrent stall suppression</b>	Address: 0xCB13 Min.: 0 Max.: 1 Default: 1 <b>Value Range:</b> 0: Disabled 1: Enabled <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable only at stop
<b>CB-20</b>	<b>Overcurrent stall suppression gain</b>	Address: 0xCB14 Min.: 1 Max.: 100 Default: 20 <b>Value Range:</b> 1 to 100 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>CB-21</b>	<b>Compensation coefficient of speed multiplying overcurrent stall suppression action current</b>	Address: 0xCB15 Min.: 50 Max.: 200 Default: 100 <b>Value Range:</b> 50% to 200% <b>Description</b> -	Effective mode: - Unit: % Data type: UInt16 Change: Changeable only at stop
<b>CB-22</b>	<b>Overvoltage stall suppression action voltage</b>	Address: 0xCB16 Min.: 330.0 Max.: 800.0 Default: 770.0 <b>Value Range:</b> 330.0 V to 800.0 V <b>Description</b> -	Effective mode: - Unit: V Data type: UInt16 Change: Changeable at any time

<b>CB-23</b>	<b>Overvoltage stall suppression</b>	Address: 0xCB17 Min.: 0 Max.: 1 Default: 1	Effective mode: - Unit: - Data type: UInt16 Change: Changeable only at stop
	<b>Value Range:</b>	0: Disabled 1: Enabled	
	<b>Description</b>	-	
<b>CB-24</b>	<b>Overvoltage stall suppression frequency gain</b>	Address: 0xCB18 Min.: 1 Max.: 100 Default: 30	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
	<b>Value Range:</b>	1 to 100	
	<b>Description</b>	-	
<b>CB-25</b>	<b>Overvoltage stall suppression voltage gain</b>	Address: 0xCB19 Min.: 1 Max.: 100 Default: 30	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
	<b>Value Range:</b>	1 to 100	
	<b>Description</b>	-	
<b>CB-26</b>	<b>Frequency rise threshold for overvoltage stall suppression</b>	Address: 0xCB1A Min.: 0 Max.: 50 Default: 5	Effective mode: - Unit: Hz Data type: UInt16 Change: Changeable only at stop
	<b>Value Range:</b>	0 Hz to 50 Hz	
	<b>Description</b>	-	
<b>CB-27</b>	<b>Slip compensation filter time</b>	Address: 0xCB1B Min.: 0.1 Max.: 10.0 Default: 0.5	Effective mode: - Unit: s Data type: UInt16 Change: Changeable only at stop
	<b>Value Range:</b>	0.1s to 10.0s	
	<b>Description</b>	-	

**CB-28 Multi-point curve source**

Address:	0xCB1C	Effective mode:	-
Min.:	0	Unit:	-
Max.:	2	Data type:	UInt16
Default:	0	Change:	Changeable only at stop

**Value Range:**

0: 3-point curve  
 1: Multi-point curve module A  
 2: Multi-point curve module B

**Description**

0: 3-point curve  
 The 3-point curve is used by default, which is set in F3-03 to F3-08.  
 1: Multi-point curve module A  
 The output of free module A is used as the voltage reference of the multi-point curve.  
 2: Multi-point curve module B  
 The output of free module B is used as the voltage reference of the multi-point curve.

**CB-33 Online torque compensation gain**

Address:	0xCB21	Effective mode:	-
Min.:	80	Unit:	-
Max.:	150	Data type:	UInt16
Default:	100	Change:	Changeable only at stop

**Value Range:**

80 to 150

**Description**

-

**CB-34 I<sub>max</sub>K<sub>i</sub> coefficient**

Address:	0xCB22	Effective mode:	-
Min.:	10	Unit:	%
Max.:	1000	Data type:	UInt16
Default:	100	Change:	Changeable only at stop

**Value Range:**

10% to 1000%

**Description**

-

**CB-35 Overcurrent suppression threshold (relative to rated motor current)**

Address:	0xCB23	Effective mode:	-
Min.:	80	Unit:	%
Max.:	300	Data type:	UInt16
Default:	200	Change:	Changeable only at stop

**Value Range:**

80% to 300%

**Description**

-

**CB-36 Frequency threshold for overcurrent suppression field weakening**

Address:	0xCB24	Effective mode:	-
Min.:	100	Unit:	%
Max.:	500	Data type:	UInt16

Default: 100  
**Value Range:**  
 100% to 500%  
**Description**  
 -

Change: Changeable only at stop

**CB-37****IT filter time**

Address: 0xCB25  
 Min.: 10  
 Max.: 1000  
 Default: 100

**Value Range:**  
 10 ms to 1000 ms

**Description**

-

Effective mode: -  
 Unit: ms  
 Data type: UInt16  
 Change: Changeable only at stop

**CB-38****Slip compensation mode**

Address: 0xCB26  
 Min.: 0  
 Max.: 2  
 Default: 1

**Value Range:**  
 0: Disabled  
 1: Slip compensation without PG  
 2: Slip compensation with PG

**Description**

-

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable only at stop

**CB-39****VdcMaxCtrl allowed runtime**

Address: 0xCB27  
 Min.: 0.0  
 Max.: 100.0  
 Default: 0.0

**Value Range:**  
 0.0s to 100.0s

**Description**

-

Effective mode: -  
 Unit: s  
 Data type: UInt16  
 Change: Changeable only at stop

**CB-40****Upper limit of V/f separation voltage**

Address: 0xCB28  
 Min.: 50.0  
 Max.: 200.0  
 Default: 100.0

**Value Range:**  
 50.0% to 200.0%

**Description**

This parameter defines the upper limit of the V/f separation voltage, which is a percentage relative to the rated motor voltage.

Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Changeable only at stop

**CB-41****RFG time of V/f separation frequency**

Address: 0xCB29

Effective mode: -

Min.:	0	Unit:	-
Max.:	1	Data type:	UInt16
Default:	0	Change:	Changeable only at stop

**Value Range:**

0: RFG time forced to 0  
 1: Preset RFG time

**Description**

This parameter defines the RFG time of the V/f separation frequency. When it is set to 0, the frequency reference acceleration/deceleration time is forced to 0; when it is set to 1, the acceleration/deceleration time is set as normal.

**CB-42 Cut-off frequency of V/f oscillation suppression filter**

Address:	0xCB2A	Effective mode:	-
Min.:	1.0	Unit:	Hz
Max.:	50.0	Data type:	UInt16
Default:	8.0	Change:	Changeable at any time

**Value Range:**

1.0 Hz to 50.0 Hz

**Description**

-

**CB-43 Cut-off frequency threshold for V/f oscillation suppression**

Address:	0xCB2B	Effective mode:	-
Min.:	10	Unit:	Hz
Max.:	3000	Data type:	UInt16
Default:	200	Change:	Changeable at any time

**Value Range:**

10 Hz to 3000 Hz

**Description**

-

**CB-44 VdcMaxCtrl feedforward coefficient**

Address:	0xCB2C	Effective mode:	-
Min.:	0	Unit:	%
Max.:	500	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0% to 500%

**Description**

-

**CB-50 PMVC low-speed IF**

Address:	0xCB32	Effective mode:	-
Min.:	0	Unit:	-
Max.:	1	Data type:	UInt16
Default:	1	Change:	Changeable only at stop

**Value Range:**

0: Disabled  
 1: Enabled

**Description**

-

<b>CB-51</b>	<b>PMVC low-speed IF current</b> Address: 0xCB33 Min.: 30 Max.: 250 Default: 100 <b>Value Range:</b> 30 to 250 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable only at stop
<b>CB-52</b>	<b>PMVC low-speed IF speed switching threshold</b> Address: 0xCB34 Min.: 2.0 Max.: 100.0 Default: 10.0 <b>Value Range:</b> 2.0% to 100.0% <b>Description</b> -	Effective mode: - Unit: % Data type: UInt16 Change: Changeable only at stop
<b>CB-53</b>	<b>PMVC oscillation suppression gain coefficient</b> Address: 0xCB35 Min.: 0 Max.: 500 Default: 100 <b>Value Range:</b> 0 to 500 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>CB-54</b>	<b>PMVC filter time coefficient</b> Address: 0xCB36 Min.: 0 Max.: 500 Default: 100 <b>Value Range:</b> 0 to 500 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>CB-55</b>	<b>PMVC energy conservation control mode</b> Address: 0xCB37 Min.: 0 Max.: 2 Default: 2 <b>Value Range:</b> 0: Fixed straight-line V/f curve 1: Fixed 30% reactive current 2: MTPA control <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable only at stop



## 4.52 CC: Motor 4 Control and Protection Parameters

### CC-00

#### Startup mode

Address: 0xCC00

Min.: 0

Max.: 3

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

#### Value Range:

0: Direct start

1: Flying start

2: Pre-excitation start (AC asynchronous motor)

3: SVC quick start

#### Description

Flying start is recommended if you need to start a motor that is rotating at a high speed.

Pre-excitation start and SVC quick start apply only to AC asynchronous motors.

### CC-01

#### Speed tracking mode

Address: 0xCC01

Min.: 0

Max.: 4

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

#### Value Range:

0: From the stop frequency

1: From the power frequency

2: From the maximum frequency

3: Reserved

4: Magnetic field directional speed tracking (MD290)

#### Description

-

### CC-02

#### Speed of speed tracking

Address: 0xCC02

Min.: 1

Max.: 100

Default: 20

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

#### Value Range:

1 to 100

#### Description

-

### CC-03

#### Startup frequency

Address: 0xCC03

Min.: 0.00

Max.: 10.00

Default: 0.00

Effective mode: -

Unit: Hz

Data type: UInt16

Change: Changeable at any time

#### Value Range:

0.00 Hz to 10.00 Hz

#### Description

This parameter defines the startup frequency for direct start of the AC drive. When the frequency reference is lower than the startup frequency, the AC drive will not start but stay standby.

<b>CC-04</b>	<p><b>Startup frequency hold time</b></p> <p>Address: 0xCC04  Min.: 0.0  Max.: 100.0  Default: 0.0</p> <p><b>Value Range:</b>  0.0s to 100.0s</p> <p><b>Description</b>  This parameter defines the hold time during which the output frequency remains at the startup frequency. After this hold time elapses, the AC drive will accelerate/decelerate to the reference frequency.</p>	<p>Effective mode: -  Unit: s  Data type: UInt16  Change: Changeable only at stop</p>
<b>CC-05</b>	<p><b>DC braking current at startup</b></p> <p>Address: 0xCC05  Min.: 0  Max.: 100  Default: 50</p> <p><b>Value Range:</b>  0% to 100%</p> <p><b>Description</b>  A larger DC braking current indicates stronger braking force. 100% corresponds to the rated motor current (the current upper limit is 80% of the rated current of the AC drive).</p>	<p>Effective mode: -  Unit: %  Data type: UInt16  Change: Changeable only at stop</p>
<b>CC-06</b>	<p><b>DC braking time at startup</b></p> <p>Address: 0xCC06  Min.: 0.0  Max.: 100.0  Default: 0.0</p> <p><b>Value Range:</b>  0.0s to 100.0s</p> <p><b>Description</b>  This parameter defines the time for DC braking at startup, which is valid only when the startup mode is direct start.</p>	<p>Effective mode: -  Unit: s  Data type: UInt16  Change: Changeable only at stop</p>
<b>CC-07</b>	<p><b>Stop mode</b></p> <p>Address: 0xCC07  Min.: 0  Max.: 2  Default: 0</p> <p><b>Value Range:</b>  0: Decelerate to stop  1: Coast to stop  2: Stop at maximum capability</p> <p><b>Description</b>  -</p>	<p>Effective mode: -  Unit: -  Data type: UInt16  Change: Changeable at any time</p>
<b>CC-08</b>	<p><b>Start frequency of DC braking at stop</b></p> <p>Address: 0xCC08  Min.: 0.00  Max.: F0-10  Default: 0.00</p>	<p>Effective mode: -  Unit: Hz  Data type: UInt16  Change: Changeable at any time</p>

**Value Range:**

0.00 Hz to F0-10

**Description**

The AC drive starts DC braking when the running frequency decreases to the value of this parameter during deceleration to stop.

**CC-09 DC braking delay at stop**

Address: 0xCC09

Effective mode: -

Min.: 0.0

Unit: s

Max.: 100.0

Data type: UInt16

Default: 0.0

Change: Changeable at any time

**Value Range:**

0.0s to 100.0s

**Description**

When the running frequency decreases to the start frequency of DC braking at stop, the AC drive stops output and starts DC braking after this waiting time.

**CC-10 DC braking current at stop**

Address: 0xCC0A

Effective mode: -

Min.: 0

Unit: %

Max.: 100

Data type: UInt16

Default: 50

Change: Changeable at any time

**Value Range:**

0% to 100%

**Description**

A larger DC braking current indicates stronger braking force. 100% corresponds to the rated motor current (the current upper limit is 80% of the rated current of the AC drive).

**CC-11 DC braking time at stop**

Address: 0xCC0B

Effective mode: -

Min.: 0.0

Unit: s

Max.: 100.0

Data type: UInt16

Default: 0.0

Change: Changeable at any time

**Value Range:**

0.0s to 100.0s

**Description**

If this parameter is set to 0, DC braking is disabled.

**CC-12 Speed tracking sweep current limit closed loop Kp**

Address: 0xCC0C

Effective mode: -

Min.: 0

Unit: -

Max.: 1000

Data type: UInt16

Default: 500

Change: Changeable at any time

**Value Range:**

0 to 1000

**Description**

-

**CC-13 Speed tracking sweep current limit closed loop Ki**

Address: 0xCC0D

Effective mode: -

Min.: 0

Unit: -

Max.: 1000  
 Default: 800  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0 to 1000

**Description**

-

**CC-14 Speed tracking current**

Address: 0xCC0E  
 Min.: 30  
 Max.: 200  
 Default: 80  
 Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**

30% to 200%

**Description**

-

**CC-15 Current loop multiple**

Address: 0xCC0F  
 Min.: 10  
 Max.: 600  
 Default: 100  
 Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

10% to 600%

**Description**

-

**CC-16 Demagnetization time (valid for asynchronous motors)**

Address: 0xCC10  
 Min.: 0.00  
 Max.: 5.00  
 Default: 0.50  
 Effective mode: -  
 Unit: s  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0.00s to 5.00s

**Description**

This parameter defines the minimum waiting time for restart after shutdown.

**CC-17 Overexcitation enable**

Address: 0xCC11  
 Min.: 0  
 Max.: 2  
 Default: 0  
 Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0: Disabled

2: Enabled during deceleration

3: Enabled always

**Description**

This parameter defines the active mode of overexcitation in vector control mode for asynchronous motors. When it is set to 2, overexcitation takes effect during acceleration, operation at constant speed, and deceleration.

**CC-18 Overexcitation suppression current**

Address:	0xCC12	Effective mode:	-
Min.:	0	Unit:	%
Max.:	150	Data type:	UInt16
Default:	100	Change:	Changeable at any time

**Value Range:**

0% to 150%

**Description**

This parameter defines the target current after overexcitation takes effect and is a percentage relative to the rated motor current.

**CC-19 Overexcitation gain**

Address:	0xCC13	Effective mode:	-
Min.:	0.01	Unit:	-
Max.:	2.50	Data type:	UInt16
Default:	1.25	Change:	Changeable at any time

**Value Range:**

0.01 to 2.50

**Description**

-

**CC-20 Parameter auto-tuning upon startup**

Address:	0xCC14	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	1	Change:	Changeable only at stop

**Value Range:**

Bit00: Synchronous motor pole position auto-tuning upon startup

0: Disabled

1: Enabled

Bit01: Quick stator resistance auto-tuning upon startup

0: Disabled

1: Enabled

Bit02–Bit03: HFI pole position auto-tuning

0: Disabled

1: Enabled

2: Adaptive

Bit04: IGBT shoot-through self-check upon startup

0: Disabled

1: Enabled

Bit05: Short-to-ground self-check upon startup (reserved)

0: Disabled

1: Enabled

Bit06: Phase loss self-check upon startup (reserved)

0: Disabled

1: Enabled

**Description**

-

<b>CC-21</b>	<b>Auto-tuning direction</b> Address: 0xCC15 Min.: 0 Max.: 1 Default: 1 <b>Value Range:</b> 0 to 1 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable only at stop
<b>CC-22</b>	<b>Oscillation suppression gain of synchronous motor back EMF auto-tuning</b> Address: 0xCC16 Min.: 0.0 Max.: 30.0 Default: 3.2 <b>Value Range:</b> 0.0 to 30.0 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable only at stop
<b>CC-23</b>	<b>Target speed of rotation auto-tuning</b> Address: 0xCC17 Min.: 30.0 Max.: 100.0 Default: 70.0 <b>Value Range:</b> 30.0% to 100.0% <b>Description</b> -	Effective mode: - Unit: % Data type: UInt16 Change: Changeable only at stop
<b>CC-24</b>	<b>Target speed 1 of inertia auto-tuning</b> Address: 0xCC18 Min.: 10.0 Max.: CC-25 Default: 40.0 <b>Value Range:</b> 10.0% to CC-25 <b>Description</b> -	Effective mode: - Unit: % Data type: UInt16 Change: Changeable only at stop
<b>CC-25</b>	<b>Target speed 2 of inertia auto-tuning</b> Address: 0xCC19 Min.: CC-24 Max.: 100.0 Default: 60.0 <b>Value Range:</b> CC-24 to 100.0% <b>Description</b> -	Effective mode: - Unit: % Data type: UInt16 Change: Changeable only at stop
<b>CC-26</b>	<b>Overcurrent prevention of mutual inductance saturation curve</b> Address: 0xCC1A	Effective mode: -

Min.: 0  
 Max.: 1  
 Default: 1  
**Value Range:**  
 0 to 1  
**Description**  
 -

Unit: -  
 Data type: UInt16  
 Change: Changeable only at stop

**CC-27**

**Auto-tuning items**

Address: 0xCC1B  
 Min.: 0  
 Max.: 65535  
 Default: 117  
**Value Range:**  
 Bit00: Speed loop parameter adaptation  
 0: Disabled  
 1: Enabled  
 Bit01: Current loop parameter adaptation  
 0: Disabled  
 1: Enabled  
 Bit02: Drive nonlinear auto-tuning  
 0: Disabled  
 1: Enabled  
 Bit03: Inter-phase deviation coefficient auto-tuning  
 0: Disabled  
 1: Enabled  
 Bit04: Auto-tuning of initial pole position of synchronous motor  
 0: Disabled  
 1: Enabled  
 Bit05: Auto-tuning of D- and Q-axis inductance model of synchronous motor  
 0: Disabled  
 1: Enabled  
 Bit06: System inertia auto-tuning  
 0: Disabled  
 1: Enabled  
 Bit07: HFI pole position auto-tuning  
 0: Disabled  
 1: Enabled  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable only at stop

**CC-28**

**OFF3 stop mode**

Address: 0xCC1C  
 Min.: 0  
 Max.: 1  
 Default: 0  
**Value Range:**  
 0: Quick stop  
 1: Stop at maximum capability

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable only at stop

**Description**

-

**CC-29 Stop mode during running**

Address: 0xCC1D

Min.: 0

Max.: 2

Default: 1

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**Value Range:**

0: OFF1 stop mode

1: OFF2 stop mode

2: OFF3 stop mode

**Description**

-

**CC-30 Stop mode for torque control**

Address: 0xCC1E

Min.: 0

Max.: 2

Default: 1

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**Value Range:**

0: Coast to stop forcibly

1: Switch to speed control mode and then stop

2: Maintain torque control mode until zero speed and then block

**Description**

-

**CC-32 Proportional gain adjustment coefficient**

Address: 0xCC20

Min.: 0.1

Max.: 2.0

Default: 1.0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0.1 to 2.0

**Description**

-

**CC-33 Integral gain adjustment coefficient**

Address: 0xCC21

Min.: 0.1

Max.: 2.0

Default: 1.0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0.1 to 2.0

**Description**

-

**CC-34 Zero-speed threshold**

Address: 0xCC22

Min.: 0.1

Max.: 200.0

Effective mode: -

Unit: %

Data type: UInt16



Default: 2.0  
**Value Range:**  
 0.1% to 200.0%  
**Description**  
 -

Change: Changeable at any time

**CC-35 Zero-speed stop delay**

Address: 0xCC23  
 Min.: 0.00  
 Max.: 10.00  
 Default: 0.10  
**Value Range:**  
 0.00s to 10.00s  
**Description**  
 -

Effective mode: -  
 Unit: s  
 Data type: UInt16  
 Change: Changeable only at stop

**CC-36 Reference source execution interval**

Address: 0xCC24  
 Min.: 0  
 Max.: 20  
 Default: 4  
**Value Range:**  
 0 to 20  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable only at stop

**CC-37 Trial current for speed tracking of synchronous motor**

Address: 0xCC25  
 Min.: 5.0  
 Max.: 50.0  
 Default: 10.0  
**Value Range:**  
 5.0% to 50.0%  
**Description**  
 -

Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Changeable only at stop

**CC-38 Minimum frequency for speed tracking of synchronous motor**

Address: 0xCC26  
 Min.: 0.0  
 Max.: 100.0  
 Default: 0.0  
**Value Range:**  
 0.0 Hz to 100.0 Hz  
**Description**  
 -

Effective mode: -  
 Unit: Hz  
 Data type: UInt16  
 Change: Changeable only at stop

**CC-39 Angle compensation for speed tracking of synchronous motor**

Address: 0xCC27  
 Min.: 0  
 Max.: 360  
 Default: 0  
**Value Range:**

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable only at stop

0 to 360

**Description**

-

**CC-40 Parameter auto-tuning of synchronous motor upon startup**

Address: 0xCC28

Effective mode: -

Min.: 0

Unit: -

Max.: 1

Data type: UInt16

Default: 0

Change: Changeable at any time

**Value Range:**

0 to 1

**Description**

-

**CC-41 Current motor angle**

Address: 0xCC29

Effective mode: -

Min.: 0

Unit: -

Max.: 65535

Data type: UInt16

Default: 0

Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**CC-42 Forward torque limit 1**

Address: 0xCC2A

Effective mode: -

Min.: 0.0

Unit: -

Max.: 400.0

Data type: UInt16

Default: 150.0

Change: Changeable at any time

**Value Range:**

0.0 to 400.0

**Description**

-

**CC-43 Reverse torque limit 1**

Address: 0xCC2B

Effective mode: -

Min.: 0.0

Unit: -

Max.: 400.0

Data type: UInt16

Default: 150.0

Change: Changeable at any time

**Value Range:**

0.0 to 400.0

**Description**

-

**CC-44 Source of forward torque limit 2**

Address: 0xCC2C

Effective mode: -

Min.: 0

Unit: -

Max.: 0

Data type: UInt16

Default: 0

Change: Changeable at any time

**Value Range:**

0: 400%

Others: F connector

**Description**

-

**CC-45 Source of reverse torque limit 2**

Address: 0xCC2D

Min.: 0

Max.: 0

Default: 0

**Value Range:**

0: -400%

Others: F connector

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**CC-46 Ramp (FRG) selection bit0**

Address: 0xCC2E

Min.: 0

Max.: 18

Default: 0

**Value Range:**

0: 0

1: 1

2: Terminal function input

3: DI1

4: DI2

5: DI3

6: DI4

7: DI5

8: DI6

9: DI7

10: DI8

11: DI9

12: DI10

13: DI11

14: DI12

15: DI13

16: DI14

17: DI15

18: DI16

Others: B connector

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**CC-47 Ramp (FRG) selection bit1**

Address: 0xCC2F

Min.: 0

Max.: 18

Default: 0

**Value Range:**

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

Same as CC-46

**Description**

-

**CC-50 Motor overload protection**

Address: 0xCC32

Min.: 0

Max.: 1

Default: 1

**Value Range:**

0: Disabled

1: Enabled

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**CC-51 Motor overload protection gain**

Address: 0xCC33

Min.: 0.20

Max.: 10.00

Default: 1.00

**Value Range:**

0.20 to 10.00

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**CC-52 Motor overload pre-warning coefficient**

Address: 0xCC34

Min.: 50

Max.: 100

Default: 80

**Value Range:**

50% to 100%

**Description**

-

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable at any time

**CC-53 Overvoltage stall suppression gain**

Address: 0xCC35

Min.: 1

Max.: 100

Default: 30

**Value Range:**

1 to 100

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**CC-54 Overvoltage stall protection voltage**

Address: 0xCC36

Min.: 330.0

Max.: 800.0

Default: 770.0

**Value Range:**

330.0 V to 800.0 V

Effective mode: -

Unit: V

Data type: UInt16

Change: Changeable at any time

**Description**

-

**CC-55 Input phase loss/Contactor pickup protection**

Address:	0xCC37	Effective mode:	-
Min.:	0	Unit:	-
Max.:	13	Data type:	UInt16
Default:	11	Change:	Changeable at any time

**Value Range:**

Ones: Input phase loss protection

0: Disabled

1: Protection enabled when both software and hardware input phase loss conditions are met

2: Protection enabled when software input phase loss conditions are met

3: Protection enabled when hardware input phase loss conditions are met

Tens: Contactor pickup protection

0: Disabled

1: Enabled

**Description**

-

**CC-56 Output phase loss protection**

Address:	0xCC38	Effective mode:	-
Min.:	0	Unit:	-
Max.:	11	Data type:	UInt16
Default:	1	Change:	Changeable at any time

**Value Range:**

Ones: Output phase loss protection upon power-on

0: Disabled

1: Enabled

Tens: Output phase loss protection before running

0: Disabled

1: Enabled

**Description**

-

**CC-57 Power dip ride-through**

Address:	0xCC39	Effective mode:	-
Min.:	0	Unit:	-
Max.:	3	Data type:	UInt16
Default:	0	Change:	Changeable only at stop

**Value Range:**

0: Disabled

1: Decelerate

2: Decelerate to stop

3: Suppress voltage dip

**Description**

-

**CC-58 Voltage threshold for disabling power dip ride-through**

Address:	0xCC3A	Effective mode:	-
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Min.: 80  
 Max.: 100  
 Default: 85

Unit: %  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**

80% to 100%

**Description**

-

**CC-59 Delay of voltage recovery from power dip**

Address: 0xCC3B

Min.: 0.0

Max.: 100.0

Default: 0.5

Effective mode: -

Unit: s

Data type: UInt16

Change: Changeable only at stop

**Value Range:**

0.0s to 100.0s

**Description**

-

**CC-60 Voltage threshold for enabling power dip ride-through**

Address: 0xCC3C

Min.: 60

Max.: 100

Default: 80

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable only at stop

**Value Range:**

60% to 100%

**Description**

-

**CC-61 Protection upon load loss**

Address: 0xCC3D

Min.: 0

Max.: 1

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0: Disabled

1: Enabled

**Description**

-

**CC-62 Load loss detection level**

Address: 0xCC3E

Min.: 0.0

Max.: 100.0

Default: 10.0

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0.0% to +100.0%

**Description**

-

**CC-63 Load loss detection time**

Address: 0xCC3F

Min.: 0.0

Effective mode: -

Unit: s

Max.: 60.0  
 Default: 1.0  
**Value Range:**  
 0.0s to 60.0s  
**Description**  
 -

Data type: UInt16  
 Change: Changeable at any time

**CC-64 Overspeed detection level**

Address: 0xCC40  
 Min.: 0.0  
 Max.: 50.0  
 Default: 20.0

**Value Range:**  
 0.0% to 50.0%  
**Description**  
 -

Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Changeable at any time

**CC-65 Overspeed detection time**

Address: 0xCC41  
 Min.: 0.0  
 Max.: 60.0  
 Default: 1.0

**Value Range:**  
 0.0s to 60.0s  
**Description**  
 -

Effective mode: -  
 Unit: s  
 Data type: UInt16  
 Change: Changeable at any time

**CC-66 Detection level of excessive speed deviation**

Address: 0xCC42  
 Min.: 0.0  
 Max.: 50.0  
 Default: 20.0

**Value Range:**  
 0.0% to 50.0%  
**Description**  
 -

Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Changeable at any time

**CC-67 Detection time of excessive speed deviation**

Address: 0xCC43  
 Min.: 0.0  
 Max.: 60.0  
 Default: 5.0

**Value Range:**  
 0.0s to 60.0s  
**Description**  
 -

Effective mode: -  
 Unit: s  
 Data type: UInt16  
 Change: Changeable at any time

**CC-68 Power dip ride-through gain Kp**

Address: 0xCC44  
 Min.: 1  
 Max.: 100  
 Default: 40

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

1 to 100

**Description**

-

**CC-69 Power dip ride-through integral coefficient Ki**

Address: 0xCC45

Effective mode: -

Min.: 1

Unit: -

Max.: 100

Data type: UInt16

Default: 30

Change: Changeable at any time

**Value Range:**

1 to 100

**Description**

-

**CC-70 Deceleration time of power dip ride-through**

Address: 0xCC46

Effective mode: -

Min.: 0.0

Unit: s

Max.: 300.0

Data type: UInt16

Default: 20.0

Change: Changeable at any time

**Value Range:**

0.0s to 300.0s

**Description**

-

**CC-71 Voltage dip suppression time**

Address: 0xCC47

Effective mode: -

Min.: 0.1

Unit: s

Max.: 600.0

Data type: UInt16

Default: 0.5

Change: Changeable at any time

**Value Range:**

0.1s to 600.0s

**Description**

-

**CC-72 Motor protection**

Address: 0xCC48

Effective mode: -

Min.: 0

Unit: -

Max.: 65535

Data type: UInt16

Default: 537

Change: Changeable at any time

**Value Range:**

Bit00: Motor overload determination (reserved)

Bit01: Motor overheat detection (reserved)

Bit02: PG fault detection (reserved)

Bit03: Current control error detection

Bit04: Motor stall error detection

Bit05: Locked-rotor detection

Bit06: Synchronous motor demagnetization protection

Bit07: Protection against locked-rotor in SVC speed open-loop control

Bit08: Reserved

Bit09: Parameter setting error



**Description**

-

**CC-73**

**Locked-rotor time**

Address: 0xCC49  
 Min.: 0.0  
 Max.: 65.0  
 Default: 2.0

Effective mode: -  
 Unit: s  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0.0s to 65.0s

**Description**

-

**CC-74**

**Locked-rotor frequency**

Address: 0xCC4A  
 Min.: 0.0  
 Max.: 600.0  
 Default: 6.0

Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0.0% to 600.0%

**Description**

-

**CC-75**

**Motor stall detection time**

Address: 0xCC4B  
 Min.: 0.0  
 Max.: 10.0  
 Default: 0.5

Effective mode: -  
 Unit: s  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0.0s to 10.0s

**Description**

-

**CC-76**

**Stall detection threshold**

Address: 0xCC4C  
 Min.: 0.0  
 Max.: 100.0  
 Default: 30.0

Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0.0% to +100.0%

**Description**

-

**CC-77**

**Current control exception detection time**

Address: 0xCC4D  
 Min.: 0.00  
 Max.: 1.00  
 Default: 0.05

Effective mode: -  
 Unit: s  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0.00s to 1.00s

**Description**

-

<b>CC-78</b>	<b>Current control exception detection threshold</b>	Address: 0xCC4E Min.: 0.0 Max.: 200.0 Default: 25.0 <b>Value Range:</b> 0.0% to 200.0% <b>Description</b> -	Effective mode: - Unit: % Data type: UInt16 Change: Changeable at any time
<b>CC-79</b>	<b>Synchronous motor overcurrent threshold</b>	Address: 0xCC4F Min.: 0.0 Max.: 500.0 Default: 300.0 <b>Value Range:</b> 0.0% to 500.0% <b>Description</b> -	Effective mode: - Unit: % Data type: UInt16 Change: Changeable at any time
<b>CC-81</b>	<b>Speed deviation detection</b>	Address: 0xCC51 Min.: 0 Max.: 1 Default: 1 <b>Value Range:</b> 0 to 1 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>CC-82</b>	<b>Skip frequency 1</b>	Address: 0xCC52 Min.: 0.00 Max.: F0-10 Default: 0.00 <b>Value Range:</b> 0.00 Hz to F0-10 <b>Description</b> -	Effective mode: - Unit: Hz Data type: UInt16 Change: Changeable at any time
<b>CC-83</b>	<b>Skip frequency 2</b>	Address: 0xCC53 Min.: 0.00 Max.: F0-10 Default: 0.00 <b>Value Range:</b> 0.00 Hz to F0-10 <b>Description</b> -	Effective mode: - Unit: Hz Data type: UInt16 Change: Changeable at any time
<b>CC-84</b>	<b>Skip frequency 3</b>	Address: 0xCC54 <b>Description</b> -	Effective mode: -

Min.: 0.00  
 Max.: F0-10  
 Default: 0.00  
**Value Range:**  
 0.00 Hz to F0-10  
**Description**  
 -

Unit: Hz  
 Data type: UInt16  
 Change: Changeable at any time

**CC-85 Skip frequency 4**  
 Address: 0xCC55  
 Min.: 0.00  
 Max.: F0-10  
 Default: 0.00  
**Value Range:**  
 0.00 Hz to F0-10  
**Description**  
 -

Effective mode: -  
 Unit: Hz  
 Data type: UInt16  
 Change: Changeable at any time

**CC-86 Skip frequency band**  
 Address: 0xCC56  
 Min.: 0.00  
 Max.: F0-10  
 Default: 0.00  
**Value Range:**  
 0.00 Hz to F0-10  
**Description**  
 -

Effective mode: -  
 Unit: Hz  
 Data type: UInt16  
 Change: Changeable at any time

**CC-87 Source of frequency upper limit**  
 Address: 0xCC57  
 Min.: 0  
 Max.: 5  
 Default: 0  
**Value Range:**  
 0: F0-12  
 1: AI1  
 2: AI2  
 3: AI3  
 4: Pulse reference  
 5: Communication  
 Others: F connector  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable only at stop

**CC-88 Frequency upper limit**  
 Address: 0xCC58  
 Min.: CC-90  
 Max.: F0-10  
 Default: 50.00  
**Value Range:**  
 CC-90 to F0-10

Effective mode: -  
 Unit: Hz  
 Data type: UInt16  
 Change: Changeable at any time

**Description**

-

**CC-89 Frequency upper limit offset**

Address: 0xCC59

Min.: 0.00

Max.: F0-10

Default: 0.00

Effective mode: -

Unit: Hz

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0.00 Hz to F0-10 (maximum frequency)

**Description**

-

**CC-90 Frequency lower limit**

Address: 0xCC5A

Min.: 0.00

Max.: CC-88

Default: 0.00

Effective mode: -

Unit: Hz

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0.00 Hz to CC-88

**Description**

-

**CC-91 Speed/Torque control mode**

Address: 0xCC5B

Min.: 0

Max.: 1

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0: Speed control

1: Torque control

**Description**

-

## 4.53 CD: Motor 4 Observation and Vector Parameters

**CD-00 Asynchronous motor FVC model switchover frequency**

Address: 0xCD00

Min.: 0

Max.: 1000

Default: 20

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable only at stop

**Value Range:**

0% to 1000%

**Description**

-

**CD-01 Asynchronous motor FVC model switchover hysteresis frequency**

Address: 0xCD01

Min.: 10

Max.: 50

Effective mode: -

Unit: %

Data type: UInt16



5 ms to 50 ms

**Description**

-

**CD-07 Asynchronous motor SVC observer gain 1**

Address: 0xCD07

Min.: 10

Max.: 500

Default: 100

**Value Range:**

10% to 500%

**Description**

-

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable at any time

**CD-08 Asynchronous motor SVC observer gain 2**

Address: 0xCD08

Min.: 10

Max.: 100

Default: 20

**Value Range:**

10% to 100%

**Description**

-

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable at any time

**CD-09 Asynchronous motor SVC observer mode**

Address: 0xCD09

Min.: 0

Max.: 3

Default: 0

**Value Range:**

0 to 3

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**CD-10 Asynchronous motor SVC pre-excitation mode**

Address: 0xCD0A

Min.: 0

Max.: 1

Default: 0

**Value Range:**

0 to 1

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**CD-11 Asynchronous motor SVC speed tracking mode**

Address: 0xCD0B

Min.: 0

Max.: 1

Default: 0

**Value Range:**

0 to 1

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**Description**

-

**CD-14 Synchronous motor 1 model control**

Address: 0xCD0E

Min.: 0

Max.: 65535

Default: 5

**Value Range:**

Bit00: Low speed processing

Bit01: Low speed processing 1

Bit02: Online auto-tuning of resistance

Bit03: Online auto-tuning of back EMF

Bit04: KS

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**CD-15 Synchronous motor model K1**

Address: 0xCD0F

Min.: 10

Max.: 3000

Default: 200

**Value Range:**

10 to 3000

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**CD-16 Synchronous motor model K1Max**

Address: 0xCD10

Min.: 100

Max.: 6000

Default: 3000

**Value Range:**

100 to 6000

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**CD-17 Synchronous motor model KsMin**

Address: 0xCD11

Min.: 0.0

Max.: 4.0

Default: 0.3

**Value Range:**

0.0 to 4.0

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**CD-18 Synchronous motor model Kspeed**

Address: 0xCD12

Min.: 50

Max.: 2000

Effective mode: -

Unit: -

Data type: UInt16

Default: 400  
**Value Range:**  
 50 to 2000  
**Description**  
 -

Change: Changeable at any time

**CD-19 Synchronous motor frequency filter time constant**

Address: 0xCD13  
 Min.: 2  
 Max.: 100  
 Default: 10

Effective mode: -  
 Unit: ms  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**  
 2 ms to 100 ms  
**Description**  
 -

**CD-20 Frequency upper limit of synchronous motor Rs online auto-tuning**

Address: 0xCD14  
 Min.: 1.0  
 Max.: 20.0  
 Default: 3.5

Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**  
 1.0% to 20.0%  
**Description**  
 -

**CD-21 Synchronous motor model Kr**

Address: 0xCD15  
 Min.: 0  
 Max.: 50  
 Default: 10

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**  
 0 to 50  
**Description**  
 -

**CD-22 Synchronous motor model Kr1**

Address: 0xCD16  
 Min.: 0  
 Max.: 50  
 Default: 5

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**  
 0 to 50  
**Description**  
 -

**CD-23 Synchronous motor low-speed D axis injection current**

Address: 0xCD17  
 Min.: 0  
 Max.: 100  
 Default: 20

Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**



0% to 100%

**Description**

-

**CD-24 Synchronous motor model LowFreqTime1**

Address: 0xCD18

Min.: 0

Max.: 500

Default: 50

**Value Range:**

0 to 500

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**CD-27 Frequency lower limit of back EMF online auto-tuning**

Address: 0xCD1B

Min.: 10

Max.: 100

Default: 25

**Value Range:**

10% to 100%

**Description**

-

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable at any time

**CD-28 Synchronous motor model LowFreq**

Address: 0xCD1C

Min.: 0.0

Max.: 2.0

Default: 0.3

**Value Range:**

0.0% to 2.0%

**Description**

-

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable at any time

**CD-29 Synchronous motor model LowFreqTime**

Address: 0xCD1D

Min.: 0

Max.: 100

Default: 10

**Value Range:**

0 to 100

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**CD-30 Percentage of pole auto-tuning current**

Address: 0xCD1E

Min.: 50

Max.: 200

Default: 100

**Value Range:**

50% to 200%

-

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable at any time

**Description**

-

**CD-31 Percentage of high frequency response current**

Address: 0xCD1F Effective mode: -  
 Min.: 0 Unit: %  
 Max.: 100 Data type: UInt16  
 Default: 25 Change: Changeable at any time

**Value Range:**

0% to 100%

**Description**

-

**CD-32 Percentage of HFI and SVC switching frequency**

Address: 0xCD20 Effective mode: -  
 Min.: 0 Unit: %  
 Max.: 30 Data type: UInt16  
 Default: 10 Change: Changeable at any time

**Value Range:**

0% to 30%

**Description**

-

**CD-33 Observer parameter**

Address: 0xCD21 Effective mode: -  
 Min.: 10 Unit: -  
 Max.: 200 Data type: UInt16  
 Default: 100 Change: Changeable at any time

**Value Range:**

10 to 200

**Description**

-

**CD-34 Speed filter cut-off frequency**

Address: 0xCD22 Effective mode: -  
 Min.: 1 Unit: Hz  
 Max.: 200 Data type: UInt16  
 Default: 10 Change: Changeable at any time

**Value Range:**

1 Hz to 200 Hz

**Description**

-

**CD-35 Carrier frequency during NS auto-tuning**

Address: 0xCD23 Effective mode: -  
 Min.: 2.00 Unit: Hz  
 Max.: 16.00 Data type: UInt16  
 Default: 8.00 Change: Changeable at any time

**Value Range:**

2.00 Hz to 16.00 Hz

**Description**

-

**CD-36 Automatic calculation of NS auto-tuning voltage**

Address:	0xCD24	Effective mode:	-
Min.:	0	Unit:	-
Max.:	1	Data type:	UInt16
Default:	1	Change:	Changeable at any time

**Value Range:**

0: Disabled

1: Enabled

**Description**

-

**CD-37 Percentage of NS auto-tuning voltage set manually**

Address:	0xCD25	Effective mode:	-
Min.:	0	Unit:	%
Max.:	100	Data type:	UInt16
Default:	10	Change:	Changeable at any time

**Value Range:**

0% to 100%

**Description**

-

**CD-38 Duration of HFI stage 1**

Address:	0xCD26	Effective mode:	-
Min.:	50	Unit:	ms
Max.:	500	Data type:	UInt16
Default:	150	Change:	Changeable at any time

**Value Range:**

50 ms to 500 ms

**Description**

-

**CD-40 Speed loop proportional gain 1**

Address:	0xCD28	Effective mode:	-
Min.:	1	Unit:	-
Max.:	100	Data type:	UInt16
Default:	30	Change:	Changeable at any time

**Value Range:**

1 to 100

**Description**

-

**CD-41 Speed loop integral time 1**

Address:	0xCD29	Effective mode:	-
Min.:	0.01	Unit:	s
Max.:	10.00	Data type:	UInt16
Default:	0.50	Change:	Changeable at any time

**Value Range:**

0.01s to 10.00s

**Description**

-

<b>CD-42</b>	<b>Switchover frequency 1</b> Address: 0xCD2A Min.: 0.00 Max.: CD-45 Default: 5.00 <b>Value Range:</b> 0.00 Hz to CD-45 <b>Description</b> -	Effective mode: - Unit: Hz Data type: UInt16 Change: Changeable at any time
<b>CD-43</b>	<b>Speed loop proportional gain 2</b> Address: 0xCD2B Min.: 1 Max.: 100 Default: 20 <b>Value Range:</b> 1 to 100 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>CD-44</b>	<b>Speed loop integral time 2</b> Address: 0xCD2C Min.: 0.01 Max.: 10.00 Default: 1.00 <b>Value Range:</b> 0.01s to 10.00s <b>Description</b> -	Effective mode: - Unit: s Data type: UInt16 Change: Changeable at any time
<b>CD-45</b>	<b>Switchover frequency 2</b> Address: 0xCD2D Min.: CD-42 Max.: F0-10 Default: 10.00 <b>Value Range:</b> CD-42 to F0-10 <b>Description</b> -	Effective mode: - Unit: Hz Data type: UInt16 Change: Changeable at any time
<b>CD-46</b>	<b>Vector control slip gain</b> Address: 0xCD2E Min.: 50 Max.: 200 Default: 100 <b>Value Range:</b> 50% to 200% <b>Description</b> -	Effective mode: - Unit: % Data type: UInt16 Change: Changeable at any time
<b>CD-47</b>	<b>Speed feedback filter time in SVC mode</b> Address: 0xCD2F	Effective mode: -

Min.:	0.000	Unit:	s
Max.:	0.100	Data type:	UInt16
Default:	0.015	Change:	Changeable at any time

**Value Range:**  
0.000s to 0.100s

**Description**  
-

**CD-49 Torque upper limit source in speed control mode (motoring)**

Address:	0xCD31	Effective mode:	-
Min.:	0	Unit:	-
Max.:	7	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**  
0: Digital setting (F2-10)  
1: AI1  
2: AI2  
3: AI3  
4: Pulse reference  
5: Communication  
6: MIN (AI1, AI2)  
7: MAX (AI1, AI2)  
Others: F connector

**Description**  
-

**CD-50 Torque upper limit in speed control mode**

Address:	0xCD32	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	200.0	Data type:	UInt16
Default:	150.0	Change:	Changeable at any time

**Value Range:**  
0.0% to 200.0%

**Description**  
-

**CD-51 Torque upper limit source in speed control mode (generating)**

Address:	0xCD33	Effective mode:	-
Min.:	0	Unit:	-
Max.:	8	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: Digital setting (F2-10)  
 1: AI1  
 2: AI2  
 3: AI3  
 4: Pulse reference (DI5)  
 5: Communication  
 6: MIN (AI1, AI2)  
 7: MAX (AI1, AI2)  
 8: Digital setting (F2-12)  
 Others: F connector

**Description**

-

**CD-52 Torque upper limit in speed control mode (generating)**

Address:	0xCD34	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	200.0	Data type:	UInt16
Default:	150.0	Change:	Changeable at any time

**Value Range:**

0.0% to 200.0%

**Description**

-

**CD-53 Field weakening mode**

Address:	0xCD35	Effective mode:	-
Min.:	0	Unit:	-
Max.:	2	Data type:	UInt16
Default:	1	Change:	Changeable only at stop

**Value Range:**

0: No field weakening

1: Auto adjustment

2: Calculation+Auto adjustment

**Description**

0: No field weakening

Without field weakening control, the maximum motor speed is related to the bus voltage of the AC drive. The output current is smaller under the same load, but the running frequency cannot reach the frequency reference. Do not select this function if a higher speed is required.

1: Auto adjustment

This field weakening mode is simple and reliable. In scenarios requiring quick field weakening, the field weakening coefficient (F2-19) can be increased as appropriate. However, if the coefficient is too large,

the current may be unstable.

2: Calculation+Auto adjustment

In this mode, the field weakening current is adjusted quickly. This mode can be selected in scenarios where the auto adjustment mode cannot meet requirements.

**CD-54 Field weakening gain**

Address:	0xCD36	Effective mode:	-
----------	--------	-----------------	---

Min.:	1	Unit:	-
Max.:	50	Data type:	UInt16
Default:	5	Change:	Changeable at any time

**Value Range:**

1 to 50

**Description**

Increasing the setpoint can improve dynamic response. However, an excessively large setpoint may also cause current oscillation.

**CD-57 Generating power limiting**

Address:	0xCD39	Effective mode:	-
Min.:	0	Unit:	-
Max.:	3	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: Disabled

1: Enabled in the whole process

2: Enabled at constant speed

3: Enabled during deceleration

**Description**

-

**CD-58 Generating power upper limit**

Address:	0xCD3A	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	200.0	Data type:	UInt16
Default:	20.0	Change:	Changeable at any time

**Value Range:**

0.0% to 200.0%

**Description**

-

**CD-59 Motor 4 control mode**

Address:	0xCD3B	Effective mode:	-
Min.:	0	Unit:	-
Max.:	2	Data type:	UInt16
Default:	2	Change:	Changeable only at stop

**Value Range:**

0: SVC

1: FVC

2: V/f

**Description**

-

**CD-60 Initial position angle detection current of synchronous motor**

Address:	0xCD3C	Effective mode:	-
Min.:	50	Unit:	-
Max.:	180	Data type:	UInt16
Default:	80	Change:	Changeable only at stop

**Value Range:**

50 to 180

**Description**

A smaller current indicates lower noise during detection. However, an excessively small current may lead to position detection inaccuracy. You are advised not to modify this parameter in FVC mode.

**CD-61 Initial position angle detection of synchronous motor**

Address:	0xCD3D	Effective mode:	-
Min.:	0	Unit:	-
Max.:	2	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: Detected upon running

1: Not detected

2: Detected upon initial running after power-on

**Description**

The initial position angle detection can prevent reverse rotation at startup, but it causes certain noise. For scenarios where reverse rotation is not allowed at startup and the rotor position of the motor will change after stop, F2-25 must be set to 0.

It can be set to 1 or 2 in other scenarios.

**CD-63 Salient pole rate adjustment gain of synchronous motor**

Address:	0xCD3F	Effective mode:	-
Min.:	0.20	Unit:	-
Max.:	3.00	Data type:	UInt16
Default:	1.00	Change:	Changeable at any time

**Value Range:**

0.20 to 3.00

**Description**

If F2-28 is set to 1, you can adjust F2-27 when the output current does not decrease or even increase under the same load. When the load remains unchanged, adjust F2-27 until the output current is the smallest.

**CD-64 Maximum torque-to-current ratio control of synchronous motor**

Address:	0xCD40	Effective mode:	-
Min.:	0	Unit:	-
Max.:	1	Data type:	UInt16
Default:	1	Change:	Changeable at any time

**Value Range:**

0: Disabled

1: Enabled

**Description**

When this function is enabled for the salient pole motor, the current will become smaller under the same load.

**CD-65 Z signal correction**

Address:	0xCD41	Effective mode:	-
Min.:	0	Unit:	-
Max.:	1	Data type:	UInt16
Default:	1	Change:	Changeable at any time

**Value Range:**

0: Disabled

1: Enabled



**Description**

-

**CD-67 Low speed carrier frequency**

Address: 0xCD43

Min.: 0.8

Max.: F0-15

Default: 2.0

**Value Range:**

0.8 kHz to F0-15

**Description**

-

Effective mode: -

Unit: kHz

Data type: UInt16

Change: Changeable at any time

**CD-68 Position lock**

Address: 0xCD44

Min.: 0

Max.: 1

Default: 0

**Value Range:**

0 to 1

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**CD-69 Switchover frequency**

Address: 0xCD45

Min.: 0.00

Max.: CD-42

Default: 0.30

**Value Range:**

0.00 Hz to CD-42

**Description**

-

Effective mode: -

Unit: Hz

Data type: UInt16

Change: Changeable at any time

**CD-70 Position lock speed loop proportional gain**

Address: 0xCD46

Min.: 1

Max.: 100

Default: 10

**Value Range:**

1 to 100

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**CD-71 Position lock speed loop integral time**

Address: 0xCD47

Min.: 0.01

Max.: 10.00

Default: 0.50

**Value Range:**

0.01s to 10.00s

**Description**

-

Effective mode: -

Unit: s

Data type: UInt16

Change: Changeable at any time

**CD-74 Auto-tuning free mode**

Address: 0xCD4A

Min.: 0

Max.: 2

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0: Disabled

1: Auto-tuning upon initial running after power-on

2: Auto-tuning upon running

**Description**

-

**CD-76 Initial position compensation angle**

Address: 0xCD4C

Min.: 0.0

Max.: 359.9

Default: 0.0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0.0 to 359.9

**Description**

-

**CD-80 Speed loop command word**

Address: 0xCD50

Min.: 0

Max.: 65535

Default: 11

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

Bit00: Speed loop

0: Disabled

1: Enabled

Bit01: Integration mode

0: Conventional integration

1: Position integration

Bit02: Acceleration torque

0: Disabled

1: Enabled

Bit03–Bit04: Acceleration source

0: Function transfer torque

1: Automatic calculation

2: Function transfer acceleration

Bit05: Anti-load disturbance

0: Disabled

1: Enabled

**Description**

-

**CD-81 Locked-rotor fast integral cancel coefficient**

Address: 0xCD51

Effective mode: -

Min.: 0.0  
 Max.: 100.0  
 Default: 0.0  
**Value Range:**  
 0.0% to +100.0%  
**Description**  
 -

Unit: %  
 Data type: UInt16  
 Change: Changeable at any time

**CD-82 Integral torque**  
 Address: 0xCD52  
 Min.: -100  
 Max.: 100.0  
 Default: 0.0  
**Value Range:**  
 -100% to +100.0%  
**Description**  
 -

Effective mode: -  
 Unit: %  
 Data type: Int16  
 Change: Changeable at any time

**CD-83 Speed controller frequency window size**  
 Address: 0xCD53  
 Min.: 0.00  
 Max.: 10.00  
 Default: 0.00  
**Value Range:**  
 0.00 Hz to 10.00 Hz  
**Description**  
 -

Effective mode: -  
 Unit: Hz  
 Data type: UInt16  
 Change: Changeable only at stop

**CD-84 Current filter time for torque reference**  
 Address: 0xCD54  
 Min.: 0.0  
 Max.: 100.0  
 Default: 0.0  
**Value Range:**  
 0.0 ms to 100.0 ms  
**Description**  
 -

Effective mode: -  
 Unit: ms  
 Data type: UInt16  
 Change: Changeable only at stop

**CD-85 Acceleration torque**  
 Address: 0xCD55  
 Min.: 0  
 Max.: 8  
 Default: 0  
**Value Range:**

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

0: Inactive  
 1: AI1  
 2: AI2  
 3: AI3  
 4: Pulse reference  
 5: Communication  
 6: Multi-reference  
 7: Motor-driven potentiometer  
 8: PID  
 Others: F connector

**Description**

-

**CD-87 Reference model bandwidth**

Address: 0xCD57  
 Min.: 0.00  
 Max.: 300.00  
 Default: 0.00

Effective mode: -  
 Unit: Hz  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0.00 Hz to 300.00 Hz

**Description**

-

**CD-88 Torque feedforward coefficient**

Address: 0xCD58  
 Min.: 0.0  
 Max.: 1000.0  
 Default: 100.0

Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0.0% to 1000.0%

**Description**

-

**CD-89 Vector control reference frequency filter time**

Address: 0xCD59  
 Min.: 0.0  
 Max.: 100.0  
 Default: 0.0

Effective mode: -  
 Unit: ms  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**

0.0 ms to 100.0 ms

**Description**

-

**CD-90 Vector control feedback frequency filter time**

Address: 0xCD5A  
 Min.: 0.0  
 Max.: 100.0  
 Default: 0.0

Effective mode: -  
 Unit: ms  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**

0.0 ms to 100.0 ms

**Description**

-

**CD-91 Load observation bandwidth**

Address: 0xCD5B  
 Min.: 0.00  
 Max.: 300.00  
 Default: 0.00

Effective mode: -  
 Unit: Hz  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0.00 Hz to 300.00 Hz

**Description**

-

**CD-92 Load observation coefficient**

Address: 0xCD5C  
 Min.: 0.0  
 Max.: 1000.0  
 Default: 100.0

Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0.0% to 1000.0%

**Description**

-

**CD-93 Pseudo integral coefficient**

Address: 0xCD5D  
 Min.: 0.000  
 Max.: 10.000  
 Default: 1.000

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0.000 to 10.000

**Description**

-

**CD-94 Torque coefficient enable**

Address: 0xCD5E  
 Min.: 0  
 Max.: 1  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0: Disabled

1: Enabled

**Description**

-

**CD-96 Center frequency of notch filter 1**

Address: 0xCD60  
 Min.: 0.0  
 Max.: 4000.0  
 Default: 4000.0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0.0 to 4000.0

**Description**

-

**CD-97 Center frequency of notch filter 2**

Address: 0xCD61

Min.: 0.0

Max.: 4000.0

Default: 4000.0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0.0 to 4000.0

**Description**

-

**CD-98 Integral setting control word**

Address: 0xCD62

Min.: 0

Max.: 1

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0: Disabled

1: Enabled

Others: B connector

**Description**

-

**CD-99 Integral reference source**

Address: 0xCD63

Min.: 0

Max.: 8

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0: Digital setting

1: AI1

2: AI2

3: AI3

4: Pulse reference

5: Communication

6: Multi-reference

7: Motor-driven potentiometer

8: PID

Others: F connector

**Description**

-

## 4.54 CE: Motor 4 Vector Parameters

**CE-00 Externally transferred acceleration**

Address: 0xCE00

Min.: 0

Effective mode: -

Unit: -

Max.:	8	Data type:	UInt16
Default:	0	Change:	Changeable at any time
<b>Value Range:</b>			
0: Inactive			
1: AI1			
2: AI2			
3: AI3			
4: Pulse reference			
5: Communication			
6: Multi-reference			
7: Motor-driven potentiometer			
8: PID			
Others: F connector			
<b>Description</b>			
-			

**CE-03      Overturning torque limiting coefficient**

Address:	0xCE03	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	400.0	Data type:	UInt16
Default:	100.0	Change:	Changeable at any time
<b>Value Range:</b>			
0.0% to 400.0%			
<b>Description</b>			
-			

**CE-04      Motoring power limiting coefficient**

Address:	0xCE04	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	400.0	Data type:	UInt16
Default:	400.0	Change:	Changeable at any time
<b>Value Range:</b>			
0.0% to 400.0%			
<b>Description</b>			
-			

**CE-05      Generating power limiting coefficient**

Address:	0xCE05	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	400.0	Data type:	UInt16
Default:	400.0	Change:	Changeable at any time
<b>Value Range:</b>			
0.0% to 400.0%			
<b>Description</b>			
-			

**CE-06      Overspeed limiting enable**

Address:	0xCE06	Effective mode:	-
Min.:	0	Unit:	-
Max.:	1	Data type:	UInt16
Default:	1	Change:	Changeable at any time

**Value Range:**

0 to 1

**Description**

-

**CE-07 Sine wave frequency of bandwidth test**

Address: 0xCE07

Min.: 0

Max.: 1000

Default: 0

Effective mode: -

Unit: Hz

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0 Hz to 1000 Hz

**Description**

-

**CE-08 Sine wave amplitude of bandwidth test**

Address: 0xCE08

Min.: 0

Max.: 100

Default: 0

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0% to 100%

**Description**

-

**CE-09 Bandwidth test enable**

Address: 0xCE09

Min.: 0

Max.: 4

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0 to 4

**Description**

-

**CE-11 Speed loop parameter calculation mode**

Address: 0xCE0B

Min.: 0

Max.: 1

Default: 1

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**Value Range:**

0: New solution

1: Compatible solution

**Description**

-

**CE-12 Speed loop proportional gain in FVC mode**

Address: 0xCE0C

Min.: 0.00

Max.: 100.00

Default: 8.00

Effective mode: -

Unit: Hz

Data type: UInt16

Change: Changeable at any time



**Value Range:**

0.00 Hz to 100.00 Hz

**Description**

-

**CE-13 Speed loop integral time in FVC mode**

Address: 0xCE0D

Min.: 0.000

Max.: 20.000

Default: 0.080

Effective mode: -

Unit: s

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0.000s to 20.000s

**Description**

-

**CE-14 Speed loop proportional gain in SVC mode**

Address: 0xCE0E

Min.: 0.00

Max.: 100.00

Default: 5.00

Effective mode: -

Unit: Hz

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0.00 Hz to 100.00 Hz

**Description**

-

**CE-15 Speed loop integral time in SVC mode**

Address: 0xCE0F

Min.: 0.000

Max.: 20.000

Default: 0.127

Effective mode: -

Unit: s

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0.000s to 20.000s

**Description**

-

**CE-16 Low frequency proportional correction coefficient**

Address: 0xCE10

Min.: 0.0

Max.: 1000.0

Default: 100.0

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0.0% to 1000.0%

**Description**

-

**CE-17 Low frequency integral correction coefficient**

Address: 0xCE11

Min.: 0.0

Max.: 1000.0

Default: 100.0

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0.0% to 1000.0%

**Description**

-

**CE-18 Speed loop adaption factor**

Address: 0xCE12

Min.: 0.000

Max.: 10.000

Default: 0.200

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0.000 to 10.000

**Description**

-

**CE-19 Speed loop adaption switchover lower limit**

Address: 0xCE13

Min.: 0.000

Max.: 10.000

Default: 0.400

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0.000 to 10.000

**Description**

-

**CE-20 Speed loop adaption switchover upper limit**

Address: 0xCE14

Min.: 0.000

Max.: 10.000

Default: 1.000

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0.000 to 10.000

**Description**

-

**CE-21 Speed loop adaption correction upper limit**

Address: 0xCE15

Min.: 0.0

Max.: 1000.0

Default: 100.0

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0.0% to 1000.0%

**Description**

-

**CE-22 Speed loop adaption correction lower limit**

Address: 0xCE16

Min.: 0.0

Max.: 1000.0

Default: 100.0

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable at any time

**Value Range:**

0.0% to 1000.0%

**Description**

-

**CE-23 Flux adaptation enable**

Address: 0xCE17  
 Min.: 0  
 Max.: 1  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**  
 0 to 1

**Description**  
 -

**CE-24 Overspeed controller correction coefficient**

Address: 0xCE18  
 Min.: 0.0  
 Max.: 1000.0  
 Default: 100.0

Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**  
 0.0% to 1000.0%

**Description**  
 -

**CE-25 VDC control command word**

Address: 0xCE19  
 Min.: 0  
 Max.: 65535  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**  
 Bit00: VdcMin  
 0: Disabled  
 1: Enabled  
 Bit01: VdcMax  
 0: Disabled  
 1: Enabled  
 Bit02: Automatic calculation of VDC trigger voltage  
 0: Disabled  
 1: Enabled  
 Bit03: VDC control integral action  
 0: Disabled  
 1: Enabled

**Description**  
 -

**CE-26 Bus capacitance ratio**

Address: 0xCE1A  
 Min.: 50.0  
 Max.: 1000.0  
 Default: 100.0

Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**  
 50.0% to 1000.0%

**Description**  
 -

<b>CE-27</b>	<b>Undervoltage suppression exit hysteresis frequency</b> Address: 0xCE1B Min.: 0.00 Max.: 10.00 Default: 3.00 <b>Value Range:</b> 0.00 Hz to 10.00 Hz <b>Description</b> -	Effective mode: - Unit: Hz Data type: UInt16 Change: Changeable at any time
<b>CE-28</b>	<b>Minimum VDC failure speed threshold</b> Address: 0xCE1C Min.: 0.00 Max.: 20.00 Default: 2.00 <b>Value Range:</b> 0.00 Hz to 20.00 Hz <b>Description</b> -	Effective mode: - Unit: Hz Data type: UInt16 Change: Changeable at any time
<b>CE-29</b>	<b>Dynamic adjustment coefficient</b> Address: 0xCE1D Min.: 0.0 Max.: 1000.0 Default: 100.0 <b>Value Range:</b> 0.0% to 1000.0% <b>Description</b> -	Effective mode: - Unit: % Data type: UInt16 Change: Changeable at any time
<b>CE-30</b>	<b>Minimum VDC activation voltage</b> Address: 0xCE1E Min.: 320.0 Max.: 540.0 Default: 430.0 <b>Value Range:</b> 320.0 V to 540.0 V <b>Description</b> -	Effective mode: - Unit: V Data type: UInt16 Change: Changeable at any time
<b>CE-31</b>	<b>Maximum VDC activation voltage</b> Address: 0xCE1F Min.: 650.0 Max.: 800.0 Default: 770.0 <b>Value Range:</b> 650.0 V to 800.0 V <b>Description</b> -	Effective mode: - Unit: V Data type: UInt16 Change: Changeable at any time
<b>CE-32</b>	<b>Flux linkage control command word</b> Address: 0xCE20	Effective mode: -

Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	2357	Change:	Changeable at any time

**Value Range:**

Bit00: Output voltage limit calculation filtering mode

0: Symmetric filtering

1: Asymmetric filtering

Bit01: Asynchronous motor inverse proportion curve calculation

0: The inverse proportional synchronization frequency decreases.

1: The inverse proportional speed decreases.

Bit02: Flux linkage feedforward calculation by using inverse proportional speed

0: Disabled

1: Enabled

Bit03: Reserved

Bit04: Reserved

Bit05: Field weakening adjustment

0: Disabled

1: Enabled

Bit06: Flux linkage derivative feedforward

0: Disabled

1: Enabled

Bit07: Energy conservation control

0: Disabled

1: Enabled

Bit08: Asynchronous motor flux closed loop

0: Disabled

1: Enabled

Bit09: Reserved

Bit10: Reserved

Bit11: Asynchronous motor pre-excitation mode

0: Pre-excitation based on time

1: Pre-excitation based on current

Bit12: Asynchronous motor pre-excitation current

0: Reference current

1: Maximum current allowed by the drive

**Description**

Bit00: Output voltage limit calculation filtering mode

0 indicates the usual first-order filtering, and 1 indicates filtering when the bus voltage rises and no filtering when it falls, so as to avoid overmodulation.

Bit01: Asynchronous motor inverse proportion curve calculation

You can select 1 to deliberately lower the break frequency to avoid saturation in the field-weakening range. The setting is valid only when Bit02 is set to 1.

Bit02: Flux linkage feedforward calculation by using inverse proportional speed

If it is set to 1, the inverse proportional speed of flux linkage reference decreases when the output frequency exceeds the break frequency, which can improve dynamic response during acceleration.

Bit05: Field weakening adjustment

When it is set to 1, voltage outer loop adjustment is valid.

Bit07: Energy conservation control

This function is valid for asynchronous motors. It can reduce copper loss at light load in vector control mode.

Bit11: Asynchronous motor pre-excitation mode

0: Pre-excitation is implemented according to the set time. The time will be shorter than the set time if remanence exists.

1: Fixed current is output during the pre-excitation process, and the motor exits the pre-excitation mode when it detects that the flux linkage reaches the setpoint.

Bit12: Asynchronous motor pre-excitation current

0: Pre-excitation is implemented based on the current defined by AB-51.

1: Pre-excitation is implemented based on the maximum current allowed by the drive, which can shorten the pre-excitation time.

### CE-33 Output voltage upper limit margin for field weakening adjustment

Address:	0xCE21	Effective mode:	-
Min.:	1	Unit:	%
Max.:	50	Data type:	UInt16
Default:	5	Change:	Changeable at any time

#### Value Range:

1% to 50%

#### Description

Decreasing the setpoint can improve voltage utilization. The current is smaller under the same load in the field weakening region. However, an excessively small setpoint will affect dynamic performance.

### CE-34 Output voltage upper limit margin for auto adjustment of field weakening

Address:	0xCE22	Effective mode:	-
Min.:	1	Unit:	%
Max.:	20	Data type:	UInt16
Default:	3	Change:	Changeable at any time

#### Value Range:

1% to 20%

#### Description

When F2-18 is set to 2 (calculation+auto adjustment), the value of this parameter affects the voltage margin, and the effect is similar to that of AB-33.

### CE-35 Filter time for calculating maximum output voltage

Address:	0xCE23	Effective mode:	-
Min.:	0	Unit:	ms
Max.:	3000	Data type:	UInt16
Default:	30	Change:	Changeable at any time

#### Value Range:

0 ms to 3000 ms

#### Description

Increasing the filter time allows the maximum output voltage to change slowly but affects voltage utilization.

### CE-36 Rated flux adjustment coefficient for calculation

Address:	0xCE24	Effective mode:	-
Min.:	0.5	Unit:	-
Max.:	2.0	Data type:	UInt16

Default: 1.0 Change: Changeable at any time

**Value Range:**

0.5 to 2.0

**Description**

You can decrease the value of this parameter if underexcitation is required, or increase it if overexcitation is required.

**CE-37 Field weakening frequency adjustment coefficient for calculation**

Address: 0xCE25 Effective mode: -  
 Min.: 0.8 Unit: -  
 Max.: 1.2 Data type: UInt16  
 Default: 1.0 Change: Changeable at any time

**Value Range:**

0.8 to 1.2

**Description**

This parameter is used to adjust the break frequency calculated automatically by the AC drive. After flux linkage feedforward calculation by using inverse proportional speed is enabled, decreasing the value of this parameter enables the motor to enter the field weakening state in advance, which is applicable to occasions with short acceleration time and high dynamic response requirements.

**CE-38 Slip filter time for calculating field weakening frequency**

Address: 0xCE26 Effective mode: -  
 Min.: 0 Unit: ms  
 Max.: 3000 Data type: UInt16  
 Default: 62 Change: Changeable at any time

**Value Range:**

0 ms to 3000 ms

**Description**

When flux linkage feedforward calculation by using inverse proportional speed is enabled, increasing the value of this parameter can reduce the fluctuation range of the calculated reference flux linkage.

**CE-39 Feedback speed filtering**

Address: 0xCE27 Effective mode: -  
 Min.: 0 Unit: ms  
 Max.: 8000 Data type: UInt16  
 Default: 50 Change: Changeable at any time

**Value Range:**

0 ms to 8000 ms

**Description**

When flux linkage feedforward calculation by using inverse proportional speed is enabled, increasing the value of this parameter can reduce the disturbance to the calculated flux linkage feedforward introduced by speed test.

**CE-40 Flux linkage rising filter time**

Address: 0xCE28 Effective mode: -  
 Min.: 0 Unit: ms  
 Max.: 8000 Data type: UInt16  
 Default: 20 Change: Changeable at any time

**Value Range:**

0 ms to 8000 ms

**Description**

When flux linkage feedforward calculation by using inverse proportional speed is enabled, this parameter defines the filter time of the asymmetric filter that takes effect only when the reference flux linkage increases.

**CE-42 Feedback voltage filter time**

Address:	0xCE2A	Effective mode:	-
Min.:	0	Unit:	ms
Max.:	3000	Data type:	UInt16
Default:	5	Change:	Changeable at any time

**Value Range:**

0 ms to 3000 ms

**Description**

When field weakening adjustment is enabled, increasing this filter time can reduce the fluctuation of the reference excitation current. To increase the field weakening gain, you need to decrease the filter time to avoid system oscillation.

**CE-43 Maximum demagnetization current of synchronous motor**

Address:	0xCE2B	Effective mode:	-
Min.:	0	Unit:	%
Max.:	500	Data type:	UInt16
Default:	300	Change:	Changeable at any time

**Value Range:**

0% to 500%

**Description**

This parameter is used to limit the demagnetization current of synchronous motors to prevent faults such as overload. It is a percentage relative to the rated current.

**CE-44 Voltage outer loop lower limit coefficient**

Address:	0xCE2C	Effective mode:	-
Min.:	0	Unit:	-
Max.:	500	Data type:	UInt16
Default:	50	Change:	Changeable at any time

**Value Range:**

0 to 500

**Description**

This parameter is used to limit the lower limit of flux linkage during field weakening for asynchronous motors to avoid limiting torque reduction.

**CE-45 Flux linkage derivative feedforward coefficient**

Address:	0xCE2D	Effective mode:	-
Min.:	0.0	Unit:	-
Max.:	1.5	Data type:	UInt16
Default:	1.0	Change:	Changeable at any time

**Value Range:**

0.0 to 1.5

**Description**

When flux linkage derivative feedforward of an asynchronous motor is enabled, this parameter can adjust the ratio of effective feedforward. A smaller value indicates smaller feedforward effect.



**CE-46 Flux linkage derivative feedforward filter time**

Address:	0xCE2E	Effective mode:	-
Min.:	0	Unit:	ms
Max.:	3000	Data type:	UInt16
Default:	6	Change:	Changeable at any time

**Value Range:**

0 ms to 3000 ms

**Description**

Increasing the filter time can reduce the fluctuation of the calculated feedforward value.

**CE-47 Torque current rising filter time under energy conservation control**

Address:	0xCE2F	Effective mode:	-
Min.:	0	Unit:	ms
Max.:	3000	Data type:	UInt16
Default:	50	Change:	Changeable at any time

**Value Range:**

0 ms to 3000 ms

**Description**

When energy conservation control of an asynchronous motor is enabled, decreasing the value of this parameter can improve dynamic response and avoid a large drop in speed when a sudden load is applied. You need to increase this value when the output current fluctuates greatly.

**CE-48 Torque current falling filter time under energy conservation control**

Address:	0xCE30	Effective mode:	-
Min.:	0	Unit:	ms
Max.:	3000	Data type:	UInt16
Default:	100	Change:	Changeable at any time

**Value Range:**

0 ms to 3000 ms

**Description**

When energy conservation control of an asynchronous motor is enabled, decreasing the value of this parameter can make the output current decrease rapidly after the load is reduced. You need to increase this value when the output current fluctuates greatly.

**CE-49 Flux linkage lower limit coefficient under energy conservation control**

Address:	0xCE31	Effective mode:	-
Min.:	0.00	Unit:	-
Max.:	0.50	Data type:	UInt16
Default:	0.10	Change:	Changeable at any time

**Value Range:**

0.00 to 0.50

**Description**

This parameter defines the minimum flux linkage allowed under energy conservation control. A smaller value indicates more significant energy conservation effect when no load is applied, but it will affect dynamic response after the load is added.

**CE-51 Pre-excitation current**

Address:	0xCE33	Effective mode:	-
Min.:	1	Unit:	%
Max.:	200	Data type:	UInt16
Default:	100	Change:	Changeable at any time

**Value Range:**

1% to 200%

**Description**

When pre-excitation of an asynchronous motor is implemented based on current, this parameter defines the reference excitation current as a percentage of the rated current.

**CE-52****Pre-excitation time**

Address: 0xCE34

Effective mode: -

Min.: 1

Unit: ms

Max.: 30000

Data type: UInt16

Default: 1000

Change: Changeable at any time

**Value Range:**

1 ms to 30000 ms

**Description**

When pre-excitation of an asynchronous motor is implemented based on time, this parameter defines the total excitation time. The actual excitation time will be shorter than the set time if remanence exists.

**CE-53****Flux linkage closed-loop bandwidth frequency**

Address: 0xCE35

Effective mode: -

Min.: 0.0

Unit: Hz

Max.: 100.0

Data type: UInt16

Default: 2.0

Change: Changeable at any time

**Value Range:**

0.0 Hz to 100.0 Hz

**Description**

When flux closed loop is enabled, increasing the setpoint can reduce the deviation of the flux linkage from the rated value during dynamic processes such as sudden load or acceleration and deceleration of the asynchronous motor.

**CE-54****Feedback flux linkage filter time coefficient**

Address: 0xCE36

Effective mode: -

Min.: 0

Unit: -

Max.: 200

Data type: UInt16

Default: 4

Change: Changeable at any time

**Value Range:**

0 to 200

**Description**

When flux closed loop is enabled, increasing the setpoint can reduce fluctuation of the reference flux linkage. It is a percentage relative to the rotor time constant.

**CE-55****Static output flux linkage filter time**

Address: 0xCE37

Effective mode: -

Min.: 0

Unit: ms

Max.: 5000

Data type: UInt16

Default: 10

Change: Changeable at any time

**Value Range:**

0 ms to 5000 ms

**Description**

Increasing the setpoint can reduce fluctuation of the reference flux linkage.

**CE-56 Current loop mode**

Address:	0xCE38	Effective mode:	-
Min.:	0	Unit:	-
Max.:	3	Data type:	UInt16
Default:	1	Change:	Changeable only at stop

**Value Range:**

0: ImCsr2 mode  
 1: Complex vector mode  
 2: 880 mode  
 3: No field weakening

**Description**

Decreasing the value of this parameter can enhance current loop following but also increase the overshoot and harmonics of the output current.

**CE-57 PI regulator proportional gain adaptation with load**

Address:	0xCE39	Effective mode:	-
Min.:	0	Unit:	-
Max.:	1	Data type:	UInt16
Default:	0	Change:	Changeable only at stop

**Value Range:**

0: Disabled  
 1: Enabled

**Description**

-

**CE-58 Current loop damping**

Address:	0xCE3A	Effective mode:	-
Min.:	0.2	Unit:	-
Max.:	5.0	Data type:	UInt16
Default:	0.8	Change:	Changeable at any time

**Value Range:**

0.2 to 5.0

**Description**

Decreasing the value of this parameter can enhance current loop following but also increase the overshoot and harmonics of the output current.

**CE-59 Low-speed current loop Kp adjustment**

Address:	0xCE3B	Effective mode:	-
Min.:	0.1	Unit:	-
Max.:	10.0	Data type:	UInt16
Default:	1.0	Change:	Changeable at any time

**Value Range:**

0.1 to 10.0

**Description**

The AC drive automatically calculates the current loop gain based on motor parameters. You can decrease the value of this parameter as appropriate when low-speed current oscillation or torque fluctuation is large.

**CE-60 High-speed current loop Kp adjustment**

Address:	0xCE3C	Effective mode:	-
Min.:	0.1	Unit:	-



**Description**

-

**CE-65 Complex vector hysteresis frequency lower limit as a percentage of rated frequency**

Address: 0xCE41 Effective mode: -  
 Min.: 0 Unit: %  
 Max.: CE-66 Data type: UInt16  
 Default: 0 Change: Changeable at any time

**Value Range:**

0% to CE-66

**Description**

-

**CE-66 Complex vector hysteresis frequency upper limit as a percentage of rated frequency**

Address: 0xCE42 Effective mode: -  
 Min.: CE-65 Unit: %  
 Max.: 150 Data type: UInt16  
 Default: 0 Change: Changeable at any time

**Value Range:**

CE-65 to 150%

**Description**

-

**CE-67 ImCsr2 hysteresis switchover voltage upper limit as a percentage of saturation voltage**

Address: 0xCE43 Effective mode: -  
 Min.: CE-68 Unit: %  
 Max.: 95 Data type: UInt16  
 Default: 89 Change: Changeable at any time

**Value Range:**

CE-68 to 95%

**Description**

-

**CE-68 ImCsr2 hysteresis switchover voltage lower limit as a percentage of saturation voltage**

Address: 0xCE44 Effective mode: -  
 Min.: 60 Unit: %  
 Max.: CE-67 Data type: UInt16  
 Default: 79 Change: Changeable at any time

**Value Range:**

60% to CE-67

**Description**

-

**CE-69 ImCsr2 hysteresis switchover frequency hysteresis range as a percentage of rated frequency**

Address: 0xCE45 Effective mode: -  
 Min.: 1 Unit: %  
 Max.: 30 Data type: UInt16  
 Default: 10 Change: Changeable at any time

**Value Range:**

1% to 30%

**Description**

-

**CE-70 ImCsr2 hysteresis switchover frequency lower limit (below which the hysteresis condition does not take effect) as a percentage of the rated frequency**

Address: 0xCE46 Effective mode: -  
 Min.: 40 Unit: %  
 Max.: 80 Data type: UInt16  
 Default: 60 Change: Changeable at any time

**Value Range:**

40% to 80%

**Description**

-

**CE-71 ImCsr2 current loop Kss adjustment**

Address: 0xCE47 Effective mode: -  
 Min.: 0.1 Unit: -  
 Max.: 10.0 Data type: UInt16  
 Default: 1.0 Change: Changeable at any time

**Value Range:**

0.1 to 10.0

**Description**

-

**CE-72 Proportional gain adjustment coefficient corresponding to the maximum torque when proportional gain is adjusted with load**

Address: 0xCE48 Effective mode: -  
 Min.: 0.1 Unit: -  
 Max.: 1.0 Data type: UInt16  
 Default: 0.5 Change: Changeable at any time

**Value Range:**

0.1 to 1.0

**Description**

-

**CE-73 Torque upper limit setpoint as a percentage of rated torque when proportional gain is adjusted with load**

Address: 0xCE49 Effective mode: -  
 Min.: CE-74 Unit: %  
 Max.: 300 Data type: UInt16  
 Default: 200 Change: Changeable at any time

**Value Range:**

CE-74 to 300%

**Description**

-

**CE-74 Torque lower limit setpoint as a percentage of rated torque when proportional gain is adjusted with load**

Address: 0xCE4A Effective mode: -  
 Min.: 10 Unit: %  
 Max.: CE-73 Data type: UInt16  
 Default: 100 Change: Changeable at any time

**Value Range:**

10% to CE-73

**Description**

-

**CE-75 Derivative feedforward adjustment**

Address:	0xCE4B	Effective mode:	-
Min.:	0.0	Unit:	-
Max.:	1.0	Data type:	UInt16
Default:	0.0	Change:	Changeable at any time

**Value Range:**

0.0 to 1.0

**Description**

-

**CE-76 Decoupling control start frequency as a percentage of rated frequency**

Address:	0xCE4C	Effective mode:	-
Min.:	20	Unit:	%
Max.:	150	Data type:	UInt16
Default:	40	Change:	Changeable at any time

**Value Range:**

20% to 150%

**Description**

-

**CE-77 Decoupling control filter time adjustment coefficient**

Address:	0xCE4D	Effective mode:	-
Min.:	0.1	Unit:	-
Max.:	3.0	Data type:	UInt16
Default:	1.0	Change:	Changeable at any time

**Value Range:**

0.1 to 3.0

**Description**

-

**CE-78 Decoupling control output adjustment coefficient**

Address:	0xCE4E	Effective mode:	-
Min.:	0.0	Unit:	-
Max.:	1.0	Data type:	UInt16
Default:	1.0	Change:	Changeable at any time

**Value Range:**

0.0 to 1.0

**Description**

-

**CE-79 CPC feedforward enable**

Address:	0xCE4F	Effective mode:	-
Min.:	0	Unit:	-
Max.:	1	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

0: Disabled

1: Enabled

**Description**

-

**CE-80 Current loop auxiliary command word**

Address:	0xCE50	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Changeable at any time

**Value Range:**

Bit00: Complex vector angle limiting

0: Disabled

1: Enabled

Bit01: Voltage angle limiting

0: Program internal limiting

1: Parameter setting

Bit02: 0 by default

0: No lower limit on the excitation current is imposed during the dynamic process.

1: A lower limit on the excitation current is imposed during the dynamic process in ImCsr2 mode.

Bit03–Bit15: Reserved (0 by default)

**Description**

-

**CE-81 Voltage angle upper limit**

Address:	0xCE51	Effective mode:	-
Min.:	90	Unit:	°
Max.:	180	Data type:	UInt16
Default:	150	Change:	Changeable at any time

**Value Range:**

90° to 180°

**Description**

-

**CE-82 Voltage angle lower limit**

Address:	0xCE52	Effective mode:	-
Min.:	0	Unit:	°
Max.:	90	Data type:	UInt16
Default:	30	Change:	Changeable at any time

**Value Range:**

0° to 90°

**Description**

-

**CE-83 Asynchronous motor D axis integral limit**

Address:	0xCE53	Effective mode:	-
Min.:	0.500	Unit:	-
Max.:	1.000	Data type:	UInt16
Default:	0.707	Change:	Changeable at any time

**Value Range:**

0.500 to 1.000



**Description**

-

**CE-84 Current loop carrier frequency upper limit**

Address: 0xCE54

Min.: 5.0

Max.: 16.0

Default: 8.0

**Value Range:**

5.0 to 16.0

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**CE-85 Droop enable**

Address: 0xCE55

Min.: 0

Max.: 1

Default: 0

**Value Range:**

0 to 1

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**CE-86 Droop source**

Address: 0xCE56

Min.: 0

Max.: 3

Default: 1

**Value Range:**

0: Line current

1: Torque reference

2: Speed adjustment output

3: Speed adjustment integral component

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**CE-87 Frequency reference droop coefficient**

Address: 0xCE57

Min.: 0.0

Max.: 50.0

Default: 0.0

**Value Range:**

0.0% to 50.0%

**Description**

-

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable at any time

**CE-88 FVC-SVC switchover mode**

Address: 0xCE58

Min.: 0

Max.: 3

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**Value Range:**

0: No switchover

1: Active switchover

2: Passive switchover (The AC drive switches to SVC mode upon detection of encoder wire breakage, and it switches back to FVC mode when the encoder recovers during stop and does not switch back to FVC mode when the encoder recovers during running.)

3: Passive switchover (The AC drive switches to SVC mode upon detection of encoder wire breakage, and it switches back to FVC mode when the encoder recovers during running or stop.)

**Description**

-

**CE-89 FVC-SVC switchover frequency**

Address: 0xCE59

Min.: 10

Max.: 500

Default: 50

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable only at stop

**Value Range:**

10% to 500%

**Description**

-

**CE-90 FVC-SVC switchover hysteresis**

Address: 0xCE5A

Min.: 10

Max.: 100

Default: 10

Effective mode: -

Unit: %

Data type: UInt16

Change: Changeable only at stop

**Value Range:**

10% to 100%

**Description**

-

## 4.55 H0: Fault Information Parameters

**H0-00 Code of active fault 1**

Address: 0x8000

Min.: 0

Max.: 65535

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**H0-01 Subcode of active fault 1**

Address: 0x8001

Min.: 0

Max.: 65535

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**H0-02**

**Information of active fault 1**

Address: 0x8002

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H0-03**

**Code of active fault 2**

Address: 0x8003

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H0-04**

**Subcode of active fault 2**

Address: 0x8004

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H0-05**

**Information of active fault 2**

Address: 0x8005

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H0-06**

**Code of active fault 3**

Address: 0x8006

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**Description**

-

**H0-07 Subcode of active fault 3**

Address: 0x8007

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H0-08 Information of active fault 3**

Address: 0x8008

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H0-09 Code of active fault 4**

Address: 0x8009

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H0-10 Subcode of active fault 4**

Address: 0x800A

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H0-11 Information of active fault 4**

Address: 0x800B

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

<b>H0-12</b>	<p><b>Code of active fault 5</b>          Address: 0x800C          Min.: 0          Max.: 65535          Default: 0  <b>Value Range:</b>          0 to 65535  <b>Description</b>          -</p>	<p>Effective mode: -          Unit: -          Data type: UInt16          Change: Unchangeable</p>
<b>H0-13</b>	<p><b>Subcode of active fault 5</b>          Address: 0x800D          Min.: 0          Max.: 65535          Default: 0  <b>Value Range:</b>          0 to 65535  <b>Description</b>          -</p>	<p>Effective mode: -          Unit: -          Data type: UInt16          Change: Unchangeable</p>
<b>H0-14</b>	<p><b>Information of active fault 5</b>          Address: 0x800E          Min.: 0          Max.: 65535          Default: 0  <b>Value Range:</b>          0 to 65535  <b>Description</b>          -</p>	<p>Effective mode: -          Unit: -          Data type: UInt16          Change: Unchangeable</p>
<b>H0-15</b>	<p><b>Code of active fault 6</b>          Address: 0x800F          Min.: 0          Max.: 65535          Default: 0  <b>Value Range:</b>          0 to 65535  <b>Description</b>          -</p>	<p>Effective mode: -          Unit: -          Data type: UInt16          Change: Unchangeable</p>
<b>H0-16</b>	<p><b>Subcode of active fault 6</b>          Address: 0x8010          Min.: 0          Max.: 65535          Default: 0  <b>Value Range:</b>          0 to 65535  <b>Description</b>          -</p>	<p>Effective mode: -          Unit: -          Data type: UInt16          Change: Unchangeable</p>
<b>H0-17</b>	<p><b>Information of active fault 6</b>          Address: 0x8011</p>	<p>Effective mode: -</p>

Min.: 0  
 Max.: 65535  
 Default: 0

Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**H0-18 Code of active limit 1**

Address: 0x8012  
 Min.: 0  
 Max.: 65535  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**H0-19 Subcode of active limit 1**

Address: 0x8013  
 Min.: 0  
 Max.: 65535  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**H0-20 Information of active limit 1**

Address: 0x8014  
 Min.: 0  
 Max.: 65535  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**H0-21 Code of active limit 2**

Address: 0x8015  
 Min.: 0  
 Max.: 65535  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**H0-22 Subcode of active limit 2**

Address: 0x8016  
 Min.: 0  
 Max.: 65535

Effective mode: -  
 Unit: -  
 Data type: UInt16

Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Change: Unchangeable

**H0-23 Information of active limit 2**

Address: 0x8017  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**H0-24 Code of active limit 3**

Address: 0x8018  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**H0-25 Subcode of active limit 3**

Address: 0x8019  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**H0-26 Information of active limit 3**

Address: 0x801A  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**H0-27 Code of active limit 4**

Address: 0x801B  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

0 to 65535

**Description**

-

**H0-28****Subcode of active limit 4**

Address: 0x801C

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H0-29****Information of active limit 4**

Address: 0x801D

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H0-30****Code of active limit 5**

Address: 0x801E

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H0-31****Subcode of active limit 5**

Address: 0x801F

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H0-32****Information of active limit 5**

Address: 0x8020

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable



**Description**

-

**H0-33**

**Code of active limit 6**

Address: 0x8021

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H0-34**

**Subcode of active limit 6**

Address: 0x8022

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H0-35**

**Information of active limit 6**

Address: 0x8023

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H0-36**

**Code of active alarm 1**

Address: 0x8024

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H0-37**

**Subcode of active alarm 1**

Address: 0x8025

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

<b>H0-38</b>	<b>Information of active alarm 1</b> Address: 0x8026 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>H0-39</b>	<b>Code of active alarm 2</b> Address: 0x8027 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>H0-40</b>	<b>Subcode of active alarm 2</b> Address: 0x8028 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>H0-41</b>	<b>Information of active alarm 2</b> Address: 0x8029 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>H0-42</b>	<b>Code of active alarm 3</b> Address: 0x802A Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>H0-43</b>	<b>Subcode of active alarm 3</b> Address: 0x802B	Effective mode: -

Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable
<b>Value Range:</b>			
0 to 65535			
<b>Description</b>			
-			

**H0-44 Information of active alarm 3**

Address:	0x802C	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable
<b>Value Range:</b>			
0 to 65535			
<b>Description</b>			
-			

**H0-45 Code of active alarm 4**

Address:	0x802D	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable
<b>Value Range:</b>			
0 to 65535			
<b>Description</b>			
-			

**H0-46 Subcode of active alarm 4**

Address:	0x802E	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable
<b>Value Range:</b>			
0 to 65535			
<b>Description</b>			
-			

**H0-47 Information of active alarm 4**

Address:	0x802F	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable
<b>Value Range:</b>			
0 to 65535			
<b>Description</b>			
-			

**H0-48 Code of active alarm 5**

Address:	0x8030	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16

Default: 0  
**Value Range:**  
0 to 65535  
**Description**  
-

Change: Unchangeable

**H0-49 Subcode of active alarm 5**

Address: 0x8031  
Min.: 0  
Max.: 65535  
Default: 0

**Value Range:**  
0 to 65535

**Description**  
-

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Unchangeable

**H0-50 Information of active alarm 5**

Address: 0x8032  
Min.: 0  
Max.: 65535  
Default: 0

**Value Range:**  
0 to 65535

**Description**  
-

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Unchangeable

**H0-51 Code of active alarm 6**

Address: 0x8033  
Min.: 0  
Max.: 65535  
Default: 0

**Value Range:**  
0 to 65535

**Description**  
-

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Unchangeable

**H0-52 Subcode of active alarm 6**

Address: 0x8034  
Min.: 0  
Max.: 65535  
Default: 0

**Value Range:**  
0 to 65535

**Description**  
-

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Unchangeable

**H0-53 Information of active alarm 6**

Address: 0x8035  
Min.: 0  
Max.: 65535  
Default: 0

**Value Range:**

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Unchangeable

0 to 65535

**Description**

-

## 4.56 H1: Fault Setting Parameters

### H1-00 Fault code of exceptions in group 1

Address: 0x8100

Min.: 0.0

Max.: 199.9

Default: 0.0

**Value Range:**

0.0 to 199.9

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

### H1-01 Handling of exceptions in group 1

Address: 0x8101

Min.: 0

Max.: 6

Default: 6

**Value Range:**

0: Coast to stop

1: Stop according to the stop mode

2: Continue to run

3: Run with power limit

4: Run with current limit

5: Ignore

6: No action

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

### H1-02 Fault code of exceptions in group 2

Address: 0x8102

Min.: 0.0

Max.: 199.9

Default: 0.0

**Value Range:**

0.0 to 199.9

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

### H1-03 Handling of exceptions in group 2

Address: 0x8103

Min.: 0

Max.: 6

Default: 6

**Value Range:**

Same as H1-01

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**Description**

-

**H1-04 Fault code of exceptions in group 3**

Address: 0x8104

Min.: 0.0

Max.: 199.9

Default: 0.0

**Value Range:**

0.0 to 199.9

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**H1-05 Handling of exceptions in group 3**

Address: 0x8105

Min.: 0

Max.: 6

Default: 6

**Value Range:**

Same as H1-01

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**H1-06 Fault code of exceptions in group 4**

Address: 0x8106

Min.: 0.0

Max.: 199.9

Default: 0.0

**Value Range:**

0.0 to 199.9

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**H1-07 Handling of exceptions in group 4**

Address: 0x8107

Min.: 0

Max.: 6

Default: 6

**Value Range:**

Same as H1-01

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**H1-08 Fault code of exceptions in group 5**

Address: 0x8108

Min.: 0.0

Max.: 199.9

Default: 0.0

**Value Range:**

0.0 to 199.9

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**H1-09 Handling of exceptions in group 5**

Address: 0x8109  
 Min.: 0  
 Max.: 6  
 Default: 6

**Value Range:**

Same as H1-01

**Description**

-

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable only at stop

**H1-10 Fault code of exceptions in group 6**

Address: 0x810A  
 Min.: 0.0  
 Max.: 199.9  
 Default: 0.0

**Value Range:**

0.0 to 199.9

**Description**

-

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable only at stop

**H1-11 Handling of exceptions in group 6**

Address: 0x810B  
 Min.: 0  
 Max.: 6  
 Default: 6

**Value Range:**

Same as H1-01

**Description**

-

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable only at stop

**H1-12 Fault code of exceptions in group 7**

Address: 0x810C  
 Min.: 0.0  
 Max.: 199.9  
 Default: 0.0

**Value Range:**

0.0 to 199.9

**Description**

-

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable only at stop

**H1-13 Handling of exceptions in group 7**

Address: 0x810D  
 Min.: 0  
 Max.: 6  
 Default: 6

**Value Range:**

Same as H1-01

**Description**

-

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable only at stop

**H1-14 Fault code of exceptions in group 8**

Address: 0x810E

Effective mode: -

Min.: 0.0  
 Max.: 199.9  
 Default: 0.0

Unit: -  
 Data type: UInt16  
 Change: Changeable only at stop

**Value Range:**

0.0 to 199.9

**Description**

-

**H1-15 Handling of exceptions in group 8**

Address: 0x810F

Min.: 0

Max.: 6

Default: 6

**Value Range:**

Same as H1-01

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**H1-16 Fault code of exceptions in group 9**

Address: 0x8110

Min.: 0.0

Max.: 199.9

Default: 0.0

**Value Range:**

0.0 to 199.9

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**H1-17 Handling of exceptions in group 9**

Address: 0x8111

Min.: 0

Max.: 6

Default: 6

**Value Range:**

Same as H1-01

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**H1-18 Fault code of exceptions in group 10**

Address: 0x8112

Min.: 0.0

Max.: 199.9

Default: 0.0

**Value Range:**

0.0 to 199.9

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable only at stop

**H1-19 Handling of exceptions in group 10**

Address: 0x8113

Min.: 0

Max.: 6

Effective mode: -

Unit: -

Data type: UInt16



Default: 6  
**Value Range:**  
 Same as H1-01  
**Description**  
 -

Change: Changeable only at stop

## 4.57 H2: Fault Setting Parameters

### H2-00 Source of external fault 1 (NO)

Address: 0x8200  
 Min.: 0  
 Max.: 1  
 Default: 0  
**Value Range:**  
 0: Inactive  
 1: Active  
 Others: B connector  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

### H2-01 Source of external fault 2 (NC)

Address: 0x8201  
 Min.: 0  
 Max.: 1  
 Default: 1  
**Value Range:**  
 Same as H2-00  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

### H2-02 Source of external alarm 1

Address: 0x8202  
 Min.: 0  
 Max.: 0  
 Default: 0  
**Value Range:**  
 0: Reserved  
 Others: B connector  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

### H2-03 Source of external alarm 2

Address: 0x8203  
 Min.: 0  
 Max.: 0  
 Default: 0  
**Value Range:**  
 Same as H2-02  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

<b>H2-04</b>	<b>Source of custom fault 1</b> Address: 0x8204 Min.: 0 Max.: 1 Default: 0 <b>Value Range:</b> 0: Inactive 1: Active Others: B connector <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>H2-05</b>	<b>Source of custom fault 2</b> Address: 0x8205 Min.: 0 Max.: 1 Default: 0 <b>Value Range:</b> Same as H2-04 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>H2-06</b>	<b>Source of custom fault 3</b> Address: 0x8206 Min.: 0 Max.: 0 Default: 0 <b>Value Range:</b> 0: Reserved Others: B connector <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>H2-07</b>	<b>Source of custom fault 4</b> Address: 0x8207 Min.: 0 Max.: 0 Default: 0 <b>Value Range:</b> 0: Reserved Others: B connector <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>H2-08</b>	<b>Source of custom alarm 1</b> Address: 0x8208 Min.: 0 Max.: 0 Default: 0 <b>Value Range:</b> Same as H2-07	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time

**Description**

-

**H2-09 Source of custom alarm 2**

Address: 0x8209  
 Min.: 0  
 Max.: 0  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

Same as H2-07

**Description**

-

**H2-10 Source of custom alarm 3**

Address: 0x820A  
 Min.: 0  
 Max.: 0  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

Same as H2-07

**Description**

-

**H2-11 Source of custom alarm 4**

Address: 0x820B  
 Min.: 0  
 Max.: 0  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

Same as H2-07

**Description**

-

**H2-12 Auto reset enable**

Address: 0x820C  
 Min.: 0  
 Max.: 1  
 Default: 1

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0 to 1

**Description**

-

**H2-15 Auto reset disabled upon manual reset**

Address: 0x820F  
 Min.: 0  
 Max.: 1  
 Default: 1

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**Value Range:**

0: Yes

1: No

**Description**

-

**H2-16 Interval for clearing auto reset count**

Address: 0x8210

Min.: 0

Max.: 6000

Default: 10

**Value Range:**

0 min to 6000 min

**Description**

-

Effective mode: -

Unit: min

Data type: UInt16

Change: Changeable at any time

**H2-17 Active fault reset attempt count**

Address: 0x8211

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H2-18 Clearing upon fault reset count reach**

Address: 0x8212

Min.: 0

Max.: 1

Default: 0

**Value Range:**

0: Cleared

1: Not cleared

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**H2-20 Code of non-resettable exception 1**

Address: 0x8214

Min.: 0

Max.: 200

Default: 0

**Value Range:**

0 to 200

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**H2-21 Subcode of non-resettable exception 1**

Address: 0x8215

Min.: 0

Max.: 9

Default: 0

**Value Range:**

0 to 9

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Description**

-

**H2-22**

**Code of non-resettable exception 2**

Address: 0x8216

Min.: 0

Max.: 200

Default: 0

**Value Range:**

0 to 200

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**H2-23**

**Subcode of non-resettable exception 2**

Address: 0x8217

Min.: 0

Max.: 9

Default: 0

**Value Range:**

0 to 9

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**H2-24**

**Code of non-resettable exception 3**

Address: 0x8218

Min.: 0

Max.: 200

Default: 0

**Value Range:**

0 to 200

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**H2-25**

**Subcode of non-resettable exception 3**

Address: 0x8219

Min.: 0

Max.: 9

Default: 0

**Value Range:**

0 to 9

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**H2-26**

**Code of non-resettable exception 4**

Address: 0x821A

Min.: 0

Max.: 200

Default: 0

**Value Range:**

0 to 200

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

<b>H2-27</b>	<b>Subcode of non-resettable exception 4</b> Address: 0x821B Min.: 0 Max.: 9 Default: 0 <b>Value Range:</b> 0 to 9 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>H2-28</b>	<b>Code of non-resettable exception 5</b> Address: 0x821C Min.: 0 Max.: 200 Default: 0 <b>Value Range:</b> 0 to 200 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>H2-29</b>	<b>Subcode of non-resettable exception 5</b> Address: 0x821D Min.: 0 Max.: 9 Default: 0 <b>Value Range:</b> 0 to 9 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>H2-30</b>	<b>Code of non-resettable exception 6</b> Address: 0x821E Min.: 0 Max.: 200 Default: 0 <b>Value Range:</b> 0 to 200 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>H2-31</b>	<b>Subcode of non-resettable exception 6</b> Address: 0x821F Min.: 0 Max.: 9 Default: 0 <b>Value Range:</b> 0 to 9 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Changeable at any time
<b>H2-32</b>	<b>Code of non-resettable exception 7</b> Address: 0x8220	Effective mode: -

Min.:	0	Unit:	-
Max.:	200	Data type:	UInt16
Default:	0	Change:	Changeable at any time
<b>Value Range:</b>			
0 to 200			
<b>Description</b>			
-			

**H2-33 Subcode of non-resettable exception 7**

Address:	0x8221	Effective mode:	-
Min.:	0	Unit:	-
Max.:	9	Data type:	UInt16
Default:	0	Change:	Changeable at any time
<b>Value Range:</b>			
0 to 9			
<b>Description</b>			
-			

**H2-34 Code of non-resettable exception 8**

Address:	0x8222	Effective mode:	-
Min.:	0	Unit:	-
Max.:	200	Data type:	UInt16
Default:	0	Change:	Changeable at any time
<b>Value Range:</b>			
0 to 200			
<b>Description</b>			
-			

**H2-35 Subcode of non-resettable exception 8**

Address:	0x8223	Effective mode:	-
Min.:	0	Unit:	-
Max.:	9	Data type:	UInt16
Default:	0	Change:	Changeable at any time
<b>Value Range:</b>			
0 to 9			
<b>Description</b>			
-			

**H2-36 Code of non-resettable exception 9**

Address:	0x8224	Effective mode:	-
Min.:	0	Unit:	-
Max.:	200	Data type:	UInt16
Default:	0	Change:	Changeable at any time
<b>Value Range:</b>			
0 to 200			
<b>Description</b>			
-			

**H2-37 Subcode of non-resettable exception 9**

Address:	0x8225	Effective mode:	-
Min.:	0	Unit:	-
Max.:	9	Data type:	UInt16

Default: 0  
**Value Range:**  
 0 to 9  
**Description**  
 -

Change: Changeable at any time

#### H2-38 Code of non-resettable exception 10

Address: 0x8226  
 Min.: 0  
 Max.: 200  
 Default: 0

**Value Range:**  
 0 to 200

**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

#### H2-39 Subcode of non-resettable exception 10

Address: 0x8227  
 Min.: 0  
 Max.: 9  
 Default: 0

**Value Range:**  
 0 to 9

**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

#### H2-42 Restart after auto reset

Address: 0x822A  
 Min.: 0  
 Max.: 1  
 Default: 0

**Value Range:**  
 0 to 1

**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

#### H2-43 Waiting time of restart after auto reset

Address: 0x822B  
 Min.: 0.0  
 Max.: 600.0  
 Default: 0.5

**Value Range:**  
 0.0s to 600.0s

**Description**  
 -

Effective mode: -  
 Unit: s  
 Data type: UInt16  
 Change: Changeable at any time

#### H2-44 Forced flying start during auto restart

Address: 0x822C  
 Min.: 0  
 Max.: 1  
 Default: 0

**Value Range:**

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time



0 to 1

**Description**

-

**H2-45 Source of exceptions that allow restart**

Address: 0x822D

Min.: 0

Max.: 1

Default: 1

**Value Range:**

0: Whitelist

1: Blacklist

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**H2-46 Code of specified exception 1**

Address: 0x822E

Min.: 0

Max.: 200

Default: 0

**Value Range:**

0 to 200

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**H2-47 Subcode of specified exception 1**

Address: 0x822F

Min.: 0

Max.: 9

Default: 0

**Value Range:**

0 to 9

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**H2-48 Code of specified exception 2**

Address: 0x8230

Min.: 0

Max.: 200

Default: 0

**Value Range:**

0 to 200

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**H2-49 Subcode of specified exception 2**

Address: 0x8231

Min.: 0

Max.: 9

Default: 0

**Value Range:**

0 to 9

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**Description**

-

**H2-50****Code of specified exception 3**

Address: 0x8232

Min.: 0

Max.: 200

Default: 0

**Value Range:**

0 to 200

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**H2-51****Subcode of specified exception 3**

Address: 0x8233

Min.: 0

Max.: 9

Default: 0

**Value Range:**

0 to 9

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**H2-52****Code of specified exception 4**

Address: 0x8234

Min.: 0

Max.: 200

Default: 0

**Value Range:**

0 to 200

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**H2-53****Subcode of specified exception 4**

Address: 0x8235

Min.: 0

Max.: 9

Default: 0

**Value Range:**

0 to 9

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**H2-54****Code of specified exception 5**

Address: 0x8236

Min.: 0

Max.: 200

Default: 0

**Value Range:**

0 to 200

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Changeable at any time

**H2-55 Subcode of specified exception 5**

Address: 0x8237  
 Min.: 0  
 Max.: 9  
 Default: 0

**Value Range:**  
 0 to 9

**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**H2-56 Code of specified exception 6**

Address: 0x8238  
 Min.: 0  
 Max.: 200  
 Default: 0

**Value Range:**  
 0 to 200

**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**H2-57 Subcode of specified exception 6**

Address: 0x8239  
 Min.: 0  
 Max.: 9  
 Default: 0

**Value Range:**  
 0 to 9

**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

## 4.58 H3: Fault Display Parameters

**H3-00 Code of active fault 1**

Address: 0x8300  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**  
 0 to 65535

**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**H3-01 Subcode of active fault 1**

Address: 0x8301  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**  
 0 to 65535

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Description**

-

**H3-02 Information of active fault 1**

Address: 0x8302

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H3-03 Self diagnosis information 1**

Address: 0x8303

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H3-04 Self diagnosis information 2**

Address: 0x8304

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H3-05 Self diagnosis information 3**

Address: 0x8305

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H3-06 Self diagnosis information 4**

Address: 0x8306

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

<b>H3-07</b>	<b>Code of active fault 2</b> Address: 0x8307 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>H3-08</b>	<b>Subcode of active fault 2</b> Address: 0x8308 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>H3-09</b>	<b>Information of active fault 2</b> Address: 0x8309 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>H3-10</b>	<b>Self diagnosis information 1</b> Address: 0x830A Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>H3-11</b>	<b>Self diagnosis information 2</b> Address: 0x830B Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>H3-12</b>	<b>Self diagnosis information 3</b> Address: 0x830C	Effective mode: -

Min.: 0  
 Max.: 65535  
 Default: 0

Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**H3-13 Self diagnosis information 4**

Address: 0x830D  
 Min.: 0  
 Max.: 65535  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**H3-14 Code of active fault 3**

Address: 0x830E  
 Min.: 0  
 Max.: 65535  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**H3-15 Subcode of active fault 3**

Address: 0x830F  
 Min.: 0  
 Max.: 65535  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**H3-16 Information of active fault 3**

Address: 0x8310  
 Min.: 0  
 Max.: 65535  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**H3-17 Self diagnosis information 1**

Address: 0x8311  
 Min.: 0  
 Max.: 65535

Effective mode: -  
 Unit: -  
 Data type: UInt16

Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Change: Unchangeable

**H3-18 Self diagnosis information 2**

Address: 0x8312  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**H3-19 Self diagnosis information 3**

Address: 0x8313  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**H3-20 Self diagnosis information 4**

Address: 0x8314  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**H3-21 Code of active fault 4**

Address: 0x8315  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**H3-22 Subcode of active fault 4**

Address: 0x8316  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

0 to 65535

**Description**

-

**H3-23****Information of active fault 4**

Address: 0x8317

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H3-24****Self diagnosis information 1**

Address: 0x8318

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H3-25****Self diagnosis information 2**

Address: 0x8319

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H3-26****Self diagnosis information 3**

Address: 0x831A

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H3-27****Self diagnosis information 4**

Address: 0x831B

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable



**Description**

-

**H3-28**

**Code of active fault 5**

Address: 0x831C  
 Min.: 0  
 Max.: 65535  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**H3-29**

**Subcode of active fault 5**

Address: 0x831D  
 Min.: 0  
 Max.: 65535  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**H3-30**

**Information of active fault 5**

Address: 0x831E  
 Min.: 0  
 Max.: 65535  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**H3-31**

**Self diagnosis information 1**

Address: 0x831F  
 Min.: 0  
 Max.: 65535  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**H3-32**

**Self diagnosis information 2**

Address: 0x8320  
 Min.: 0  
 Max.: 65535  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

<b>H3-33</b>	<b>Self diagnosis information 3</b> Address: 0x8321 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>H3-34</b>	<b>Self diagnosis information 4</b> Address: 0x8322 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>H3-35</b>	<b>Code of active fault 6</b> Address: 0x8323 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>H3-36</b>	<b>Subcode of active fault 6</b> Address: 0x8324 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>H3-37</b>	<b>Information of active fault 6</b> Address: 0x8325 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>H3-38</b>	<b>Self diagnosis information 1</b> Address: 0x8326	Effective mode: -

Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**H3-39 Self diagnosis information 2**

Address: 0x8327  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**H3-40 Self diagnosis information 3**

Address: 0x8328  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**H3-41 Self diagnosis information 4**

Address: 0x8329  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**H3-42 Frequency upon the active fault**

Address: 0x832A  
 Min.: 0.00  
 Max.: 655.35  
 Default: 0.00  
**Value Range:**  
 0.00 Hz to 655.35 Hz  
**Description**  
 -

Effective mode: -  
 Unit: Hz  
 Data type: Int16  
 Change: Unchangeable

**H3-43 Current upon the active fault**

Address: 0x832B  
 Min.: 0.00  
 Max.: 655.35

Effective mode: -  
 Unit: A  
 Data type: Int16

Default: 0.00  
**Value Range:**  
 0.00 A to 655.35 A  
**Description**  
 -

Change: Unchangeable

### H3-44 Bus voltage upon the active fault

Address: 0x832C  
 Min.: 0.0  
 Max.: 6553.5  
 Default: 0.0

**Value Range:**  
 0.0 V to 6553.5 V

**Description**  
 -

Effective mode: -  
 Unit: V  
 Data type: UInt16  
 Change: Unchangeable

### H3-45 Input terminal state upon the active fault

Address: 0x832D  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0

**Value Range:**  
 0x0 to 0xFFFF

**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

### H3-46 Output terminal state upon the active fault

Address: 0x832E  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0

**Value Range:**  
 0x0 to 0xFFFF

**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

### H3-47 AC drive state upon the active fault

Address: 0x832F  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**  
 0 to 65535

**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

### H3-48 Power-on duration upon the active fault

Address: 0x8330  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**

Effective mode: -  
 Unit: min  
 Data type: UInt16  
 Change: Unchangeable

0 min to 65535 min

**Description**

-

**H3-49 Running duration upon the active fault**

Address: 0x8331

Min.: 0.0

Max.: 6553.5

Default: 0.0

**Value Range:**

0.0 min to 6553.5 min

**Description**

-

Effective mode: -

Unit: min

Data type: UInt16

Change: Unchangeable

**H3-50 Status word A upon the active fault**

Address: 0x8332

Min.: 0x0

Max.: 0xFFFF

Default: 0x0

**Value Range:**

0x0 to 0xFFFF

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H3-51 Status word B upon the active fault**

Address: 0x8333

Min.: 0x0

Max.: 0xFFFF

Default: 0x0

**Value Range:**

0x0 to 0xFFFF

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H3-52 Command word upon the active fault**

Address: 0x8334

Min.: 0x0

Max.: 0xFFFF

Default: 0x0

**Value Range:**

0x0 to 0xFFFF

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

## 4.59 H4: Fault Display Parameters

**H4-00 Code of the latest fault 1**

Address: 0x8400

Min.: 0

Max.: 65535

Effective mode: -

Unit: -

Data type: UInt16

Default: 0  
**Value Range:**  
0 to 65535  
**Description**  
-

Change: Unchangeable

#### H4-01 Subcode of the latest fault 1

Address: 0x8401  
Min.: 0  
Max.: 65535  
Default: 0

**Value Range:**  
0 to 65535

**Description**  
-

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Unchangeable

#### H4-02 Information of the latest fault 1

Address: 0x8402  
Min.: 0  
Max.: 65535  
Default: 0

**Value Range:**  
0 to 65535

**Description**  
-

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Unchangeable

#### H4-03 Self diagnosis information 1

Address: 0x8403  
Min.: 0  
Max.: 65535  
Default: 0

**Value Range:**  
0 to 65535

**Description**  
-

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Unchangeable

#### H4-04 Self diagnosis information 2

Address: 0x8404  
Min.: 0  
Max.: 65535  
Default: 0

**Value Range:**  
0 to 65535

**Description**  
-

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Unchangeable

#### H4-05 Self diagnosis information 3

Address: 0x8405  
Min.: 0  
Max.: 65535  
Default: 0

**Value Range:**

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Unchangeable

0 to 65535

**Description**

-

**H4-06**

**Self diagnosis information 4**

Address: 0x8406

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H4-07**

**Code of the latest fault 2**

Address: 0x8407

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H4-08**

**Subcode of the latest fault 2**

Address: 0x8408

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H4-09**

**Information of the latest fault 2**

Address: 0x8409

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H4-10**

**Self diagnosis information 1**

Address: 0x840A

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**Description**

-

**H4-11 Self diagnosis information 2**

Address: 0x840B

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H4-12 Self diagnosis information 3**

Address: 0x840C

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H4-13 Self diagnosis information 4**

Address: 0x840D

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H4-14 Code of the latest fault 3**

Address: 0x840E

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H4-15 Subcode of the latest fault 3**

Address: 0x840F

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable



**H4-16 Information of the latest fault 3**

Address: 0x8410

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H4-17 Self diagnosis information 1**

Address: 0x8411

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H4-18 Self diagnosis information 2**

Address: 0x8412

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H4-19 Self diagnosis information 3**

Address: 0x8413

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H4-20 Self diagnosis information 4**

Address: 0x8414

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H4-21 Code of the latest fault 4**

Address: 0x8415

Effective mode: -

Min.: 0  
Max.: 65535  
Default: 0

Unit: -  
Data type: UInt16  
Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**H4-22 Subcode of the latest fault 4**

Address: 0x8416  
Min.: 0  
Max.: 65535  
Default: 0

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**H4-23 Information of the latest fault 4**

Address: 0x8417  
Min.: 0  
Max.: 65535  
Default: 0

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**H4-24 Self diagnosis information 1**

Address: 0x8418  
Min.: 0  
Max.: 65535  
Default: 0

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**H4-25 Self diagnosis information 2**

Address: 0x8419  
Min.: 0  
Max.: 65535  
Default: 0

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**H4-26 Self diagnosis information 3**

Address: 0x841A  
Min.: 0  
Max.: 65535

Effective mode: -  
Unit: -  
Data type: UInt16

Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Change: Unchangeable

**H4-27 Self diagnosis information 4**

Address: 0x841B  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**H4-28 Code of the latest fault 5**

Address: 0x841C  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**H4-29 Subcode of the latest fault 5**

Address: 0x841D  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**H4-30 Information of the latest fault 5**

Address: 0x841E  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**H4-31 Self diagnosis information 1**

Address: 0x841F  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

0 to 65535

**Description**

-

**H4-32 Self diagnosis information 2**

Address: 0x8420

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H4-33 Self diagnosis information 3**

Address: 0x8421

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H4-34 Self diagnosis information 4**

Address: 0x8422

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H4-35 Code of the latest fault 6**

Address: 0x8423

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H4-36 Subcode of the latest fault 6**

Address: 0x8424

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**Description**

-

**H4-37 Information of the latest fault 6**

Address: 0x8425

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H4-38 Self diagnosis information 1**

Address: 0x8426

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H4-39 Self diagnosis information 2**

Address: 0x8427

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H4-40 Self diagnosis information 3**

Address: 0x8428

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H4-41 Self diagnosis information 4**

Address: 0x8429

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

<b>H4-42</b>	<b>Frequency upon the latest fault</b> Address: 0x842A Min.: 0.00 Max.: 655.35 Default: 0.00 <b>Value Range:</b> 0.00 Hz to 655.35 Hz <b>Description</b> -	Effective mode: - Unit: Hz Data type: Int16 Change: Unchangeable
<b>H4-43</b>	<b>Current upon the latest fault</b> Address: 0x842B Min.: 0.00 Max.: 655.35 Default: 0.00 <b>Value Range:</b> 0.00 A to 655.35 A <b>Description</b> -	Effective mode: - Unit: A Data type: Int16 Change: Unchangeable
<b>H4-44</b>	<b>Bus voltage upon the latest fault</b> Address: 0x842C Min.: 0.0 Max.: 6553.5 Default: 0.0 <b>Value Range:</b> 0.0 V to 6553.5 V <b>Description</b> -	Effective mode: - Unit: V Data type: UInt16 Change: Unchangeable
<b>H4-45</b>	<b>Input terminal state upon the latest fault</b> Address: 0x842D Min.: 0x0 Max.: 0xFFFF Default: 0x0 <b>Value Range:</b> 0x0 to 0xFFFF <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>H4-46</b>	<b>Output terminal state upon the latest fault</b> Address: 0x842E Min.: 0x0 Max.: 0xFFFF Default: 0x0 <b>Value Range:</b> 0x0 to 0xFFFF <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>H4-47</b>	<b>AC drive state upon the latest fault</b> Address: 0x842F	Effective mode: -

Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable
<b>Value Range:</b>			
0 to 65535			
<b>Description</b>			
-			

**H4-48 Power-on duration upon the latest fault**

Address:	0x8430	Effective mode:	-
Min.:	0	Unit:	min
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable
<b>Value Range:</b>			
0 min to 65535 min			
<b>Description</b>			
-			

**H4-49 Running duration upon the latest fault**

Address:	0x8431	Effective mode:	-
Min.:	0.0	Unit:	min
Max.:	6553.5	Data type:	UInt16
Default:	0.0	Change:	Unchangeable
<b>Value Range:</b>			
0.0 min to 6553.5 min			
<b>Description</b>			
-			

**H4-50 Status word A upon the latest fault**

Address:	0x8432	Effective mode:	-
Min.:	0x0	Unit:	-
Max.:	0xFFFF	Data type:	UInt16
Default:	0x0	Change:	Unchangeable
<b>Value Range:</b>			
0x0 to 0xFFFF			
<b>Description</b>			
-			

**H4-51 Status word B upon the latest fault**

Address:	0x8433	Effective mode:	-
Min.:	0x0	Unit:	-
Max.:	0xFFFF	Data type:	UInt16
Default:	0x0	Change:	Unchangeable
<b>Value Range:</b>			
0x0 to 0xFFFF			
<b>Description</b>			
-			

**H4-52 Command word upon the latest fault**

Address:	0x8434	Effective mode:	-
Min.:	0x0	Unit:	-
Max.:	0xFFFF	Data type:	UInt16





Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable
<b>Value Range:</b>			
0 to 65535			
<b>Description</b>			
-			

**H5-05 Self diagnosis information 3**

Address:	0x8505	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable
<b>Value Range:</b>			
0 to 65535			
<b>Description</b>			
-			

**H5-06 Self diagnosis information 4**

Address:	0x8506	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable
<b>Value Range:</b>			
0 to 65535			
<b>Description</b>			
-			

**H5-07 Code of the second latest fault 2**

Address:	0x8507	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable
<b>Value Range:</b>			
0 to 65535			
<b>Description</b>			
-			

**H5-08 Subcode of the second latest fault 2**

Address:	0x8508	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable
<b>Value Range:</b>			
0 to 65535			
<b>Description</b>			
-			

**H5-09 Information of the second latest fault 2**

Address:	0x8509	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16

Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Change: Unchangeable

#### H5-10 Self diagnosis information 1

Address: 0x850A  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**  
 0 to 65535

**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

#### H5-11 Self diagnosis information 2

Address: 0x850B  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**  
 0 to 65535

**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

#### H5-12 Self diagnosis information 3

Address: 0x850C  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**  
 0 to 65535

**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

#### H5-13 Self diagnosis information 4

Address: 0x850D  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**  
 0 to 65535

**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

#### H5-14 Code of the second latest fault 3

Address: 0x850E  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

0 to 65535

**Description**

-

**H5-15**

**Subcode of the second latest fault 3**

Address: 0x850F

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H5-16**

**Information of the second latest fault 3**

Address: 0x8510

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H5-17**

**Self diagnosis information 1**

Address: 0x8511

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H5-18**

**Self diagnosis information 2**

Address: 0x8512

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H5-19**

**Self diagnosis information 3**

Address: 0x8513

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**Description**

-

<b>H5-20</b>	<b>Self diagnosis information 4</b>	Address: 0x8514 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>H5-21</b>	<b>Code of the second latest fault 4</b>	Address: 0x8515 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>H5-22</b>	<b>Subcode of the second latest fault 4</b>	Address: 0x8516 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>H5-23</b>	<b>Information of the second latest fault 4</b>	Address: 0x8517 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>H5-24</b>	<b>Self diagnosis information 1</b>	Address: 0x8518 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable

<b>H5-25</b>	<p><b>Self diagnosis information 2</b></p> <p>Address: 0x8519          Min.: 0          Max.: 65535          Default: 0</p> <p><b>Value Range:</b>          0 to 65535</p> <p><b>Description</b>          -</p>	<p>Effective mode: -          Unit: -          Data type: UInt16          Change: Unchangeable</p>
<b>H5-26</b>	<p><b>Self diagnosis information 3</b></p> <p>Address: 0x851A          Min.: 0          Max.: 65535          Default: 0</p> <p><b>Value Range:</b>          0 to 65535</p> <p><b>Description</b>          -</p>	<p>Effective mode: -          Unit: -          Data type: UInt16          Change: Unchangeable</p>
<b>H5-27</b>	<p><b>Self diagnosis information 4</b></p> <p>Address: 0x851B          Min.: 0          Max.: 65535          Default: 0</p> <p><b>Value Range:</b>          0 to 65535</p> <p><b>Description</b>          -</p>	<p>Effective mode: -          Unit: -          Data type: UInt16          Change: Unchangeable</p>
<b>H5-28</b>	<p><b>Code of the second latest fault 5</b></p> <p>Address: 0x851C          Min.: 0          Max.: 65535          Default: 0</p> <p><b>Value Range:</b>          0 to 65535</p> <p><b>Description</b>          -</p>	<p>Effective mode: -          Unit: -          Data type: UInt16          Change: Unchangeable</p>
<b>H5-29</b>	<p><b>Subcode of the second latest fault 5</b></p> <p>Address: 0x851D          Min.: 0          Max.: 65535          Default: 0</p> <p><b>Value Range:</b>          0 to 65535</p> <p><b>Description</b>          -</p>	<p>Effective mode: -          Unit: -          Data type: UInt16          Change: Unchangeable</p>
<b>H5-30</b>	<p><b>Information of the second latest fault 5</b></p> <p>Address: 0x851E</p>	<p>Effective mode: -</p>

Min.: 0  
Max.: 65535  
Default: 0

Unit: -  
Data type: UInt16  
Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**H5-31 Self diagnosis information 1**

Address: 0x851F  
Min.: 0  
Max.: 65535  
Default: 0

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**H5-32 Self diagnosis information 2**

Address: 0x8520  
Min.: 0  
Max.: 65535  
Default: 0

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**H5-33 Self diagnosis information 3**

Address: 0x8521  
Min.: 0  
Max.: 65535  
Default: 0

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**H5-34 Self diagnosis information 4**

Address: 0x8522  
Min.: 0  
Max.: 65535  
Default: 0

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**H5-35 Code of the second latest fault 6**

Address: 0x8523  
Min.: 0  
Max.: 65535

Effective mode: -  
Unit: -  
Data type: UInt16

Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Change: Unchangeable

**H5-36 Subcode of the second latest fault 6**

Address: 0x8524  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**H5-37 Information of the second latest fault 6**

Address: 0x8525  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**H5-38 Self diagnosis information 1**

Address: 0x8526  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**H5-39 Self diagnosis information 2**

Address: 0x8527  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**H5-40 Self diagnosis information 3**

Address: 0x8528  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

0 to 65535

**Description**

-

**H5-41 Self diagnosis information 4**

Address: 0x8529

Min.: 0

Max.: 65535

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**H5-42 Frequency upon the second latest fault**

Address: 0x852A

Min.: 0.00

Max.: 655.35

Default: 0.00

Effective mode: -

Unit: Hz

Data type: Int16

Change: Unchangeable

**Value Range:**

0.00 Hz to 655.35 Hz

**Description**

-

**H5-43 Current upon the second latest fault**

Address: 0x852B

Min.: 0.00

Max.: 655.35

Default: 0.00

Effective mode: -

Unit: A

Data type: Int16

Change: Unchangeable

**Value Range:**

0.00 A to 655.35 A

**Description**

-

**H5-44 Bus voltage upon the second latest fault**

Address: 0x852C

Min.: 0.0

Max.: 6553.5

Default: 0.0

Effective mode: -

Unit: V

Data type: UInt16

Change: Unchangeable

**Value Range:**

0.0 V to 6553.5 V

**Description**

-

**H5-45 Input terminal state upon the second latest fault**

Address: 0x852D

Min.: 0x0

Max.: 0xFFFF

Default: 0x0

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**Value Range:**

0x0 to 0xFFFF

-



**Description**

-

**H5-46**

**Output terminal state upon the second latest fault**

Address:	0x852E	Effective mode:	-
Min.:	0x0	Unit:	-
Max.:	0xFFFF	Data type:	UInt16
Default:	0x0	Change:	Unchangeable

**Value Range:**

0x0 to 0xFFFF

**Description**

-

**H5-47**

**AC drive state upon the second latest fault**

Address:	0x852F	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**H5-48**

**Power-on duration upon the second latest fault**

Address:	0x8530	Effective mode:	-
Min.:	0	Unit:	min
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable

**Value Range:**

0 min to 65535 min

**Description**

-

**H5-49**

**Running duration upon the second latest fault**

Address:	0x8531	Effective mode:	-
Min.:	0.0	Unit:	min
Max.:	6553.5	Data type:	UInt16
Default:	0.0	Change:	Unchangeable

**Value Range:**

0.0 min to 6553.5 min

**Description**

-

**H5-50**

**Status word A upon the second latest fault**

Address:	0x8532	Effective mode:	-
Min.:	0x0	Unit:	-
Max.:	0xFFFF	Data type:	UInt16
Default:	0x0	Change:	Unchangeable

**Value Range:**

0x0 to 0xFFFF

**Description**

-

**H5-51 Status word B upon the second latest fault**  
 Address: 0x8533 Effective mode: -  
 Min.: 0x0 Unit: -  
 Max.: 0xFFFF Data type: UInt16  
 Default: 0x0 Change: Unchangeable  
**Value Range:**  
 0x0 to 0xFFFF  
**Description**  
 -

**H5-52 Command word upon the second latest fault**  
 Address: 0x8534 Effective mode: -  
 Min.: 0x0 Unit: -  
 Max.: 0xFFFF Data type: UInt16  
 Default: 0x0 Change: Unchangeable  
**Value Range:**  
 0x0 to 0xFFFF  
**Description**  
 -

## 4.61 H6: Fault Display Parameters

**H6-00 Code of the third latest fault 1**  
 Address: 0x8600 Effective mode: -  
 Min.: 0 Unit: -  
 Max.: 65535 Data type: UInt16  
 Default: 0 Change: Unchangeable  
**Value Range:**  
 0 to 65535  
**Description**  
 -

**H6-01 Subcode of the third latest fault 1**  
 Address: 0x8601 Effective mode: -  
 Min.: 0 Unit: -  
 Max.: 65535 Data type: UInt16  
 Default: 0 Change: Unchangeable  
**Value Range:**  
 0 to 65535  
**Description**  
 -

**H6-02 Information of the third latest fault 1**  
 Address: 0x8602 Effective mode: -  
 Min.: 0 Unit: -  
 Max.: 65535 Data type: UInt16  
 Default: 0 Change: Unchangeable  
**Value Range:**  
 0 to 65535

**Description**

-

**H6-03**

**Self diagnosis information 1**

Address: 0x8603

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H6-04**

**Self diagnosis information 2**

Address: 0x8604

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H6-05**

**Self diagnosis information 3**

Address: 0x8605

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H6-06**

**Self diagnosis information 4**

Address: 0x8606

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H6-07**

**Code of the third latest fault 2**

Address: 0x8607

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

<b>H6-08</b>	<b>Subcode of the third latest fault 2</b>	Address: 0x8608 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>H6-09</b>	<b>Information of the third latest fault 2</b>	Address: 0x8609 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>H6-10</b>	<b>Self diagnosis information 1</b>	Address: 0x860A Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>H6-11</b>	<b>Self diagnosis information 2</b>	Address: 0x860B Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>H6-12</b>	<b>Self diagnosis information 3</b>	Address: 0x860C Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>H6-13</b>	<b>Self diagnosis information 4</b>	Address: 0x860D	Effective mode: -

Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable
<b>Value Range:</b>			
0 to 65535			
<b>Description</b>			
-			

**H6-14 Code of the third latest fault 3**

Address:	0x860E	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable
<b>Value Range:</b>			
0 to 65535			
<b>Description</b>			
-			

**H6-15 Subcode of the third latest fault 3**

Address:	0x860F	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable
<b>Value Range:</b>			
0 to 65535			
<b>Description</b>			
-			

**H6-16 Information of the third latest fault 3**

Address:	0x8610	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable
<b>Value Range:</b>			
0 to 65535			
<b>Description</b>			
-			

**H6-17 Self diagnosis information 1**

Address:	0x8611	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable
<b>Value Range:</b>			
0 to 65535			
<b>Description</b>			
-			

**H6-18 Self diagnosis information 2**

Address:	0x8612	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16

Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Change: Unchangeable

#### H6-19 Self diagnosis information 3

Address: 0x8613  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

#### H6-20 Self diagnosis information 4

Address: 0x8614  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

#### H6-21 Code of the third latest fault 4

Address: 0x8615  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

#### H6-22 Subcode of the third latest fault 4

Address: 0x8616  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

#### H6-23 Information of the third latest fault 4

Address: 0x8617  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

0 to 65535

**Description**

-

**H6-24**

**Self diagnosis information 1**

Address: 0x8618

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H6-25**

**Self diagnosis information 2**

Address: 0x8619

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H6-26**

**Self diagnosis information 3**

Address: 0x861A

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H6-27**

**Self diagnosis information 4**

Address: 0x861B

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H6-28**

**Code of the third latest fault 5**

Address: 0x861C

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**Description**

-

**H6-29 Subcode of the third latest fault 5**

Address: 0x861D

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H6-30 Information of the third latest fault 5**

Address: 0x861E

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H6-31 Self diagnosis information 1**

Address: 0x861F

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H6-32 Self diagnosis information 2**

Address: 0x8620

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H6-33 Self diagnosis information 3**

Address: 0x8621

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable



<b>H6-34</b>	<p><b>Self diagnosis information 4</b>          Address: 0x8622          Min.: 0          Max.: 65535          Default: 0  <b>Value Range:</b>          0 to 65535  <b>Description</b>          -</p>	<p>Effective mode: -          Unit: -          Data type: UInt16          Change: Unchangeable</p>
<b>H6-35</b>	<p><b>Code of the third latest fault 6</b>          Address: 0x8623          Min.: 0          Max.: 65535          Default: 0  <b>Value Range:</b>          0 to 65535  <b>Description</b>          -</p>	<p>Effective mode: -          Unit: -          Data type: UInt16          Change: Unchangeable</p>
<b>H6-36</b>	<p><b>Subcode of the third latest fault 6</b>          Address: 0x8624          Min.: 0          Max.: 65535          Default: 0  <b>Value Range:</b>          0 to 65535  <b>Description</b>          -</p>	<p>Effective mode: -          Unit: -          Data type: UInt16          Change: Unchangeable</p>
<b>H6-37</b>	<p><b>Information of the third latest fault 6</b>          Address: 0x8625          Min.: 0          Max.: 65535          Default: 0  <b>Value Range:</b>          0 to 65535  <b>Description</b>          -</p>	<p>Effective mode: -          Unit: -          Data type: UInt16          Change: Unchangeable</p>
<b>H6-38</b>	<p><b>Self diagnosis information 1</b>          Address: 0x8626          Min.: 0          Max.: 65535          Default: 0  <b>Value Range:</b>          0 to 65535  <b>Description</b>          -</p>	<p>Effective mode: -          Unit: -          Data type: UInt16          Change: Unchangeable</p>
<b>H6-39</b>	<p><b>Self diagnosis information 2</b>          Address: 0x8627</p>	<p>Effective mode: -</p>

Min.: 0  
 Max.: 65535  
 Default: 0

Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**H6-40 Self diagnosis information 3**

Address: 0x8628  
 Min.: 0  
 Max.: 65535  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**H6-41 Self diagnosis information 4**

Address: 0x8629  
 Min.: 0  
 Max.: 65535  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**H6-42 Frequency upon the third latest fault**

Address: 0x862A  
 Min.: 0.00  
 Max.: 655.35  
 Default: 0.00

Effective mode: -  
 Unit: Hz  
 Data type: Int16  
 Change: Unchangeable

**Value Range:**

0.00 Hz to 655.35 Hz

**Description**

-

**H6-43 Current upon the third latest fault**

Address: 0x862B  
 Min.: 0.00  
 Max.: 655.35  
 Default: 0.00

Effective mode: -  
 Unit: A  
 Data type: Int16  
 Change: Unchangeable

**Value Range:**

0.00 A to 655.35 A

**Description**

-

**H6-44 Bus voltage upon the third latest fault**

Address: 0x862C  
 Min.: 0.0  
 Max.: 6553.5

Effective mode: -  
 Unit: V  
 Data type: UInt16

Default: 0.0 Change: Unchangeable  
**Value Range:**  
 0.0 V to 6553.5 V  
**Description**  
 -

**H6-45 Input terminal state upon the third latest fault**

Address: 0x862D Effective mode: -  
 Min.: 0x0 Unit: -  
 Max.: 0xFFFF Data type: UInt16  
 Default: 0x0 Change: Unchangeable  
**Value Range:**  
 0x0 to 0xFFFF  
**Description**  
 -

**H6-46 Output terminal state upon the third latest fault**

Address: 0x862E Effective mode: -  
 Min.: 0x0 Unit: -  
 Max.: 0xFFFF Data type: UInt16  
 Default: 0x0 Change: Unchangeable  
**Value Range:**  
 0x0 to 0xFFFF  
**Description**  
 -

**H6-47 AC drive state upon the third latest fault**

Address: 0x862F Effective mode: -  
 Min.: 0 Unit: -  
 Max.: 65535 Data type: UInt16  
 Default: 0 Change: Unchangeable  
**Value Range:**  
 0 to 65535  
**Description**  
 -

**H6-48 Power-on duration upon the third latest fault**

Address: 0x8630 Effective mode: -  
 Min.: 0 Unit: min  
 Max.: 65535 Data type: UInt16  
 Default: 0 Change: Unchangeable  
**Value Range:**  
 0 min to 65535 min  
**Description**  
 -

**H6-49 Running duration upon the third latest fault**

Address: 0x8631 Effective mode: -  
 Min.: 0.0 Unit: min  
 Max.: 6553.5 Data type: UInt16  
 Default: 0.0 Change: Unchangeable  
**Value Range:**

0.0 min to 6553.5 min

**Description**

-

**H6-50 Status word A upon the third latest fault**

Address: 0x8632

Min.: 0x0

Max.: 0xFFFF

Default: 0x0

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**Value Range:**

0x0 to 0xFFFF

**Description**

-

**H6-51 Status word B upon the third latest fault**

Address: 0x8633

Min.: 0x0

Max.: 0xFFFF

Default: 0x0

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**Value Range:**

0x0 to 0xFFFF

**Description**

-

**H6-52 Command word upon the third latest fault**

Address: 0x8634

Min.: 0x0

Max.: 0xFFFF

Default: 0x0

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**Value Range:**

0x0 to 0xFFFF

**Description**

-

## 4.62 H7: Fault Display Parameters

**H7-00 Code of the fourth latest fault 1**

Address: 0x8700

Min.: 0

Max.: 65535

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**H7-01 Subcode of the fourth latest fault 1**

Address: 0x8701

Min.: 0

Max.: 65535

Effective mode: -

Unit: -

Data type: UInt16

Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Change: Unchangeable

**H7-02 Information of the fourth latest fault 1**

Address: 0x8702  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**H7-03 Self diagnosis information 1**

Address: 0x8703  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**H7-04 Self diagnosis information 2**

Address: 0x8704  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**H7-05 Self diagnosis information 3**

Address: 0x8705  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**H7-06 Self diagnosis information 4**

Address: 0x8706  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

0 to 65535

**Description**

-

**H7-07****Code of the fourth latest fault 2**

Address: 0x8707

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H7-08****Subcode of the fourth latest fault 2**

Address: 0x8708

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H7-09****Information of the fourth latest fault 2**

Address: 0x8709

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H7-10****Self diagnosis information 1**

Address: 0x870A

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H7-11****Self diagnosis information 2**

Address: 0x870B

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**Description**

-

**H7-12**

**Self diagnosis information 3**

Address: 0x870C

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H7-13**

**Self diagnosis information 4**

Address: 0x870D

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H7-14**

**Code of the third latest fault 3**

Address: 0x870E

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H7-15**

**Subcode of the third latest fault 3**

Address: 0x870F

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H7-16**

**Information of the third latest fault 3**

Address: 0x8710

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

<b>H7-17</b>	<b>Self diagnosis information 1</b>	Address: 0x8711 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>H7-18</b>	<b>Self diagnosis information 2</b>	Address: 0x8712 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>H7-19</b>	<b>Self diagnosis information 3</b>	Address: 0x8713 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>H7-20</b>	<b>Self diagnosis information 4</b>	Address: 0x8714 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>H7-21</b>	<b>Code of the fourth latest fault 4</b>	Address: 0x8715 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>H7-22</b>	<b>Subcode of the fourth latest fault 4</b>	Address: 0x8716	Effective mode: -



Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable
<b>Value Range:</b>			
0 to 65535			
<b>Description</b>			
-			

**H7-23 Information of the fourth latest fault 4**

Address:	0x8717	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable
<b>Value Range:</b>			
0 to 65535			
<b>Description</b>			
-			

**H7-24 Self diagnosis information 1**

Address:	0x8718	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable
<b>Value Range:</b>			
0 to 65535			
<b>Description</b>			
-			

**H7-25 Self diagnosis information 2**

Address:	0x8719	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable
<b>Value Range:</b>			
0 to 65535			
<b>Description</b>			
-			

**H7-26 Self diagnosis information 3**

Address:	0x871A	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable
<b>Value Range:</b>			
0 to 65535			
<b>Description</b>			
-			

**H7-27 Self diagnosis information 4**

Address:	0x871B	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16

Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Change: Unchangeable

#### H7-28 Code of the fourth latest fault 5

Address: 0x871C  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**  
 0 to 65535

**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

#### H7-29 Subcode of the fourth latest fault 5

Address: 0x871D  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**  
 0 to 65535

**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

#### H7-30 Information of the fourth latest fault 5

Address: 0x871E  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**  
 0 to 65535

**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

#### H7-31 Self diagnosis information 1

Address: 0x871F  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**  
 0 to 65535

**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

#### H7-32 Self diagnosis information 2

Address: 0x8720  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

0 to 65535

**Description**

-

**H7-33**

**Self diagnosis information 3**

Address: 0x8721

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H7-34**

**Self diagnosis information 4**

Address: 0x8722

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H7-35**

**Code of the fourth latest fault 6**

Address: 0x8723

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H7-36**

**Subcode of the fourth latest fault 6**

Address: 0x8724

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H7-37**

**Information of the fourth latest fault 6**

Address: 0x8725

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**Description**

-

**H7-38****Self diagnosis information 1**

Address: 0x8726

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H7-39****Self diagnosis information 2**

Address: 0x8727

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H7-40****Self diagnosis information 3**

Address: 0x8728

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H7-41****Self diagnosis information 4**

Address: 0x8729

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H7-42****Frequency upon the fourth latest fault**

Address: 0x872A

Min.: 0.00

Max.: 655.35

Default: 0.00

**Value Range:**

0.00 Hz to 655.35 Hz

**Description**

-

Effective mode: -

Unit: Hz

Data type: Int16

Change: Unchangeable

**H7-43 Current upon the fourth latest fault**

Address:	0x872B	Effective mode:	-
Min.:	0.00	Unit:	A
Max.:	655.35	Data type:	Int16
Default:	0.00	Change:	Unchangeable

**Value Range:**  
0.00 A to 655.35 A

**Description**

-

**H7-44 Bus voltage upon the fourth latest fault**

Address:	0x872C	Effective mode:	-
Min.:	0.0	Unit:	V
Max.:	6553.5	Data type:	UInt16
Default:	0.0	Change:	Unchangeable

**Value Range:**  
0.0 V to 6553.5 V

**Description**

-

**H7-45 Input terminal state upon the fourth latest fault**

Address:	0x872D	Effective mode:	-
Min.:	0x0	Unit:	-
Max.:	0xFFFF	Data type:	UInt16
Default:	0x0	Change:	Unchangeable

**Value Range:**  
0x0 to 0xFFFF

**Description**

-

**H7-46 Output terminal state upon the fourth latest fault**

Address:	0x872E	Effective mode:	-
Min.:	0x0	Unit:	-
Max.:	0xFFFF	Data type:	UInt16
Default:	0x0	Change:	Unchangeable

**Value Range:**  
0x0 to 0xFFFF

**Description**

-

**H7-47 AC drive state upon the fourth latest fault**

Address:	0x872F	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable

**Value Range:**  
0 to 65535

**Description**

-

**H7-48 Power-on duration upon the fourth latest fault**

Address:	0x8730	Effective mode:	-
----------	--------	-----------------	---

Min.: 0 Unit: min  
Max.: 65535 Data type: UInt16  
Default: 0 Change: Unchangeable

**Value Range:**

0 min to 65535 min

**Description**

-

**H7-49 Running duration upon the fourth latest fault**

Address: 0x8731 Effective mode: -  
Min.: 0.0 Unit: min  
Max.: 6553.5 Data type: UInt16  
Default: 0.0 Change: Unchangeable

**Value Range:**

0.0 min to 6553.5 min

**Description**

-

**H7-50 Status word A upon the fourth latest fault**

Address: 0x8732 Effective mode: -  
Min.: 0x0 Unit: -  
Max.: 0xFFFF Data type: UInt16  
Default: 0x0 Change: Unchangeable

**Value Range:**

0x0 to 0xFFFF

**Description**

-

**H7-51 Status word B upon the fourth latest fault**

Address: 0x8733 Effective mode: -  
Min.: 0x0 Unit: -  
Max.: 0xFFFF Data type: UInt16  
Default: 0x0 Change: Unchangeable

**Value Range:**

0x0 to 0xFFFF

**Description**

-

**H7-52 Command word upon the fourth latest fault**

Address: 0x8734 Effective mode: -  
Min.: 0x0 Unit: -  
Max.: 0xFFFF Data type: UInt16  
Default: 0x0 Change: Unchangeable

**Value Range:**

0x0 to 0xFFFF

**Description**

-

## 4.63 H8: Fault Display Parameters

### H8-00 Code of the fifth latest fault 1

Address: 0x8800  
Min.: 0  
Max.: 65535  
Default: 0

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

### H8-01 Subcode of the fifth latest fault 1

Address: 0x8801  
Min.: 0  
Max.: 65535  
Default: 0

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

### H8-02 Information of the fifth latest fault 1

Address: 0x8802  
Min.: 0  
Max.: 65535  
Default: 0

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

### H8-03 Self diagnosis information 1

Address: 0x8803  
Min.: 0  
Max.: 65535  
Default: 0

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

### H8-04 Self diagnosis information 2

Address: 0x8804  
Min.: 0  
Max.: 65535  
Default: 0

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

<b>H8-05</b>	<b>Self diagnosis information 3</b> Address: 0x8805 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>H8-06</b>	<b>Self diagnosis information 4</b> Address: 0x8806 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>H8-07</b>	<b>Code of the fifth latest fault 2</b> Address: 0x8807 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>H8-08</b>	<b>Subcode of the fifth latest fault 2</b> Address: 0x8808 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>H8-09</b>	<b>Information of the fifth latest fault 2</b> Address: 0x8809 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>H8-10</b>	<b>Self diagnosis information 1</b> Address: 0x880A	Effective mode: -



Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**H8-11 Self diagnosis information 2**  
 Address: 0x880B  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**H8-12 Self diagnosis information 3**  
 Address: 0x880C  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**H8-13 Self diagnosis information 4**  
 Address: 0x880D  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**H8-14 Code of the fifth latest fault 3**  
 Address: 0x880E  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**H8-15 Subcode of the fifth latest fault 3**  
 Address: 0x880F  
 Min.: 0  
 Max.: 65535

Effective mode: -  
 Unit: -  
 Data type: UInt16

Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Change: Unchangeable

#### H8-16 Information of the fifth latest fault 3

Address: 0x8810  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**  
 0 to 65535

**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

#### H8-17 Self diagnosis information 1

Address: 0x8811  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**  
 0 to 65535

**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

#### H8-18 Self diagnosis information 2

Address: 0x8812  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**  
 0 to 65535

**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

#### H8-19 Self diagnosis information 3

Address: 0x8813  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**  
 0 to 65535

**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

#### H8-20 Self diagnosis information 4

Address: 0x8814  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

0 to 65535

**Description**

-

**H8-21 Code of the fifth latest fault 4**

Address: 0x8815

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H8-22 Subcode of the fifth latest fault 4**

Address: 0x8816

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H8-23 Information of the fifth latest fault 4**

Address: 0x8817

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H8-24 Self diagnosis information 1**

Address: 0x8818

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H8-25 Self diagnosis information 2**

Address: 0x8819

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**Description**

-

**H8-26****Self diagnosis information 3**

Address: 0x881A

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H8-27****Self diagnosis information 4**

Address: 0x881B

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H8-28****Code of the fifth latest fault 5**

Address: 0x881C

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H8-29****Subcode of the fifth latest fault 5**

Address: 0x881D

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**H8-30****Information of the fifth latest fault 5**

Address: 0x881E

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

<b>H8-31</b>	<b>Self diagnosis information 1</b> Address: 0x881F Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>H8-32</b>	<b>Self diagnosis information 2</b> Address: 0x8820 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>H8-33</b>	<b>Self diagnosis information 3</b> Address: 0x8821 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>H8-34</b>	<b>Self diagnosis information 4</b> Address: 0x8822 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>H8-35</b>	<b>Code of the fifth latest fault 6</b> Address: 0x8823 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>H8-36</b>	<b>Subcode of the fifth latest fault 6</b> Address: 0x8824	Effective mode: -

Min.: 0  
Max.: 65535  
Default: 0

Unit: -  
Data type: UInt16  
Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**H8-37 Information of the fifth latest fault 6**

Address: 0x8825  
Min.: 0  
Max.: 65535  
Default: 0

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**H8-38 Self diagnosis information 1**

Address: 0x8826  
Min.: 0  
Max.: 65535  
Default: 0

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**H8-39 Self diagnosis information 2**

Address: 0x8827  
Min.: 0  
Max.: 65535  
Default: 0

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**H8-40 Self diagnosis information 3**

Address: 0x8828  
Min.: 0  
Max.: 65535  
Default: 0

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**H8-41 Self diagnosis information 4**

Address: 0x8829  
Min.: 0  
Max.: 65535

Effective mode: -  
Unit: -  
Data type: UInt16

Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Change: Unchangeable

**H8-42 Frequency upon the fifth latest fault**

Address: 0x882A  
 Min.: 0.00  
 Max.: 655.35  
 Default: 0.00

**Value Range:**  
 0.00 Hz to 655.35 Hz  
**Description**  
 -

Effective mode: -  
 Unit: Hz  
 Data type: Int16  
 Change: Unchangeable

**H8-43 Current upon the fifth latest fault**

Address: 0x882B  
 Min.: 0.00  
 Max.: 655.35  
 Default: 0.00

**Value Range:**  
 0.00 A to 655.35 A  
**Description**  
 -

Effective mode: -  
 Unit: A  
 Data type: Int16  
 Change: Unchangeable

**H8-44 Bus voltage upon the fifth latest fault**

Address: 0x882C  
 Min.: 0.0  
 Max.: 6553.5  
 Default: 0.0

**Value Range:**  
 0.0 V to 6553.5 V  
**Description**  
 -

Effective mode: -  
 Unit: V  
 Data type: UInt16  
 Change: Unchangeable

**H8-45 Input terminal state upon the fifth latest fault**

Address: 0x882D  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0

**Value Range:**  
 0x0 to 0xFFFF  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**H8-46 Output terminal state upon the fifth latest fault**

Address: 0x882E  
 Min.: 0x0  
 Max.: 0xFFFF  
 Default: 0x0

**Value Range:**

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

0x0 to 0xFFFF

**Description**

-

**H8-47 AC drive state upon the fifth latest fault**

Address: 0x882F

Min.: 0

Max.: 65535

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**H8-48 Power-on duration upon the fifth latest fault**

Address: 0x8830

Min.: 0

Max.: 65535

Default: 0

Effective mode: -

Unit: min

Data type: UInt16

Change: Unchangeable

**Value Range:**

0 min to 65535 min

**Description**

-

**H8-49 Running duration upon the fifth latest fault**

Address: 0x8831

Min.: 0.0

Max.: 6553.5

Default: 0.0

Effective mode: -

Unit: min

Data type: UInt16

Change: Unchangeable

**Value Range:**

0.0 min to 6553.5 min

**Description**

-

**H8-50 Status word A upon the fifth latest fault**

Address: 0x8832

Min.: 0x0

Max.: 0xFFFF

Default: 0x0

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**Value Range:**

0x0 to 0xFFFF

**Description**

-

**H8-51 Status word B upon the fifth latest fault**

Address: 0x8833

Min.: 0x0

Max.: 0xFFFF

Default: 0x0

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**Value Range:**

0x0 to 0xFFFF



**Description**

-

**H8-52 Command word upon the fifth latest fault**

Address: 0x8834

Min.: 0x0

Max.: 0xFFFF

Default: 0x0

**Value Range:**

0x0 to 0xFFFF

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

## 4.64 U0: Monitoring Parameters

**U0-00 Running frequency**

Address: 0x7000

Min.: 0.00

Max.: 500.00

Default: 0.00

**Value Range:**

0.00 Hz to 500.00 Hz

**Description**

-

Effective mode: -

Unit: Hz

Data type: UInt16

Change: Unchangeable

**U0-01 Frequency reference**

Address: 0x7001

Min.: 0.00

Max.: 500.00

Default: 0.00

**Value Range:**

0.00 Hz to 500.00 Hz

**Description**

-

Effective mode: -

Unit: Hz

Data type: UInt16

Change: Unchangeable

**U0-02 Bus voltage**

Address: 0x7002

Min.: 0.0

Max.: 6553.5

Default: 0.0

**Value Range:**

0.0 V to 6553.5 V

**Description**

-

Effective mode: -

Unit: V

Data type: UInt16

Change: Unchangeable

**U0-03 Output voltage**

Address: 0x7003

Min.: 0

Max.: 65535

Default: 0

Effective mode: -

Unit: V

Data type: UInt16

Change: Unchangeable

**Value Range:**

0 V to 65535 V

**Description**

-

**U0-04****Output current**

Address: 0x7004

Min.: 0.00

Max.: 655.35

Default: 0.00

Effective mode: -

Unit: A

Data type: UInt16

Change: Unchangeable

**Value Range:**

0.00 A to 655.35 A

**Description**

-

**U0-05****Output power**

Address: 0x7005

Min.: -3276.8

Max.: 3276.7

Default: 0.0

Effective mode: -

Unit: kW

Data type: Int16

Change: Unchangeable

**Value Range:**

-3276.8 kW to +3276.7 kW

**Description**

-

**U0-06****Output torque**

Address: 0x7006

Min.: -3276.8

Max.: 3276.7

Default: 0.0

Effective mode: -

Unit: %

Data type: Int16

Change: Unchangeable

**Value Range:**

-3276.8% to +3276.7%

**Description**

-

**U0-07****DI state**

Address: 0x7007

Min.: 0x0

Max.: 0x7FFF

Default: 0x0

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**Value Range:**

0x0 to 0x7FFF

**Description**

-

**U0-08****DO state**

Address: 0x7008

Min.: 0x0

Max.: 0x7FFF

Default: 0x0

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**Value Range:**

0x0 to 0x7FFF

**Description**

-

**U0-09**

**AI1 voltage**

Address: 0x7009  
 Min.: -10.57  
 Max.: 10.57  
 Default: 0.00

Effective mode: -  
 Unit: V  
 Data type: Int16  
 Change: Unchangeable

**Value Range:**

-10.57 V to +10.57 V

**Description**

-

**U0-10**

**AI2 voltage**

Address: 0x700A  
 Min.: -10.57  
 Max.: 10.57  
 Default: 0.00

Effective mode: -  
 Unit: V  
 Data type: Int16  
 Change: Unchangeable

**Value Range:**

-10.57 V to +10.57 V

**Description**

-

**U0-11**

**AI3 voltage**

Address: 0x700B  
 Min.: -10.57  
 Max.: 10.57  
 Default: 0.00

Effective mode: -  
 Unit: V  
 Data type: Int16  
 Change: Unchangeable

**Value Range:**

-10.57 V to +10.57 V

**Description**

-

**U0-12**

**Count value**

Address: 0x700C  
 Min.: 0  
 Max.: 65535  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**U0-13**

**Length value**

Address: 0x700D  
 Min.: 0  
 Max.: 65535  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

<b>U0-14</b>	<b>Load speed</b> Address: 0x700E Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 RPM to 65535 RPM <b>Description</b> -	Effective mode: - Unit: RPM Data type: UInt16 Change: Unchangeable
<b>U0-15</b>	<b>PID reference</b> Address: 0x700F Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>U0-16</b>	<b>PID feedback</b> Address: 0x7010 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>U0-17</b>	<b>PLC stage</b> Address: 0x7011 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>U0-18</b>	<b>Pulse input frequency</b> Address: 0x7012 Min.: 0.00 Max.: 100.00 Default: 0.00 <b>Value Range:</b> 0.00 kHz to 100.00 kHz <b>Description</b> -	Effective mode: - Unit: kHz Data type: UInt16 Change: Unchangeable
<b>U0-19</b>	<b>Feedback speed</b> Address: 0x7013	Effective mode: -

Min.: -500  
 Max.: 500.00  
 Default: 0.00  
 Unit: Hz  
 Data type: Int16  
 Change: Unchangeable

**Value Range:**  
 -500 Hz to +500.00 Hz

**Description**

-

**U0-20 Remaining running duration**

Address: 0x7014  
 Min.: 0.0  
 Max.: 65535.0  
 Default: 0.0  
 Effective mode: -  
 Unit: min  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**  
 0.0 min to 65535.0 min

**Description**

-

**U0-21 AI1 voltage before correction**

Address: 0x7015  
 Min.: -10.57  
 Max.: 10.570  
 Default: 0.000  
 Effective mode: -  
 Unit: V  
 Data type: Int16  
 Change: Unchangeable

**Value Range:**  
 -10.57 V to +10.570 V

**Description**

-

**U0-22 AI2 voltage before correction**

Address: 0x7016  
 Min.: -10.57  
 Max.: 10.570  
 Default: 0.000  
 Effective mode: -  
 Unit: V  
 Data type: Int16  
 Change: Unchangeable

**Value Range:**  
 -10.57 V to +10.570 V

**Description**

-

**U0-23 AI3 voltage before correction**

Address: 0x7017  
 Min.: -10.57  
 Max.: 10.570  
 Default: 0.000  
 Effective mode: -  
 Unit: V  
 Data type: Int16  
 Change: Unchangeable

**Value Range:**  
 -10.57 V to +10.570 V

**Description**

-

**U0-24 Motor speed**

Address: 0x7018  
 Min.: 0  
 Max.: 65535  
 Effective mode: -  
 Unit: RPM  
 Data type: UInt16

Default: 0  
**Value Range:**  
 0 RPM to 65535 RPM  
**Description**  
 -

Change: Unchangeable

#### U0-25 Current power-on duration

Address: 0x7019  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**  
 0 min to 65535 min

**Description**  
 -

Effective mode: -  
 Unit: min  
 Data type: UInt16  
 Change: Unchangeable

#### U0-26 Current running duration

Address: 0x701A  
 Min.: 0.0  
 Max.: 6553.5  
 Default: 0.0

**Value Range:**  
 0.0 min to 6553.5 min

**Description**  
 -

Effective mode: -  
 Unit: min  
 Data type: UInt16  
 Change: Unchangeable

#### U0-27 Pulse input frequency

Address: 0x701B  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**  
 0 Hz to 65535 Hz

**Description**  
 -

Effective mode: -  
 Unit: Hz  
 Data type: UInt16  
 Change: Unchangeable

#### U0-28 Communication reference

Address: 0x701C  
 Min.: -100  
 Max.: 100.00  
 Default: 0.00

**Value Range:**  
 -100% to +100.00%

**Description**  
 -

Effective mode: -  
 Unit: %  
 Data type: Int16  
 Change: Unchangeable

#### U0-29 Encoder feedback speed

Address: 0x701D  
 Min.: -500  
 Max.: 500.00  
 Default: 0.00

**Value Range:**

Effective mode: -  
 Unit: Hz  
 Data type: Int16  
 Change: Unchangeable

-500 Hz to +500.00 Hz

**Description**

-

**U0-30**

**Main frequency X**

Address: 0x701E

Min.: -500

Max.: 500.00

Default: 0.00

**Value Range:**

-500 Hz to +500.00 Hz

**Description**

-

Effective mode: -

Unit: Hz

Data type: Int16

Change: Unchangeable

**U0-31**

**Auxiliary frequency Y**

Address: 0x701F

Min.: -500

Max.: 500.00

Default: 0.00

**Value Range:**

-500 Hz to +500.00 Hz

**Description**

-

Effective mode: -

Unit: Hz

Data type: Int16

Change: Unchangeable

**U0-32**

**Any memory address**

Address: 0x7020

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**U0-33**

**Synchronous motor rotor position**

Address: 0x7021

Min.: 0.0

Max.: 6553.5

Default: 0.0

**Value Range:**

0.0° to 6553.5°

**Description**

-

Effective mode: -

Unit: °

Data type: UInt16

Change: Unchangeable

**U0-34**

**A13 temperature mode - motor temperature**

Address: 0x7022

Min.: 0

Max.: 200

Default: 0

**Value Range:**

0°C to 200°C

Effective mode: -

Unit: °C

Data type: UInt16

Change: Unchangeable

**Description**

-

**U0-35****Target torque**

Address: 0x7023

Min.: -200

Max.: 200.0

Default: 0.0

**Value Range:**

-200% to +200.0%

**Description**

-

Effective mode: -

Unit: %

Data type: Int16

Change: Unchangeable

**U0-36****Resolver position**

Address: 0x7024

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**U0-37****Power factor angle**

Address: 0x7025

Min.: 0.0

Max.: 6553.5

Default: 0.0

**Value Range:**

0.0° to 6553.5°

**Description**

-

Effective mode: -

Unit: °

Data type: UInt16

Change: Unchangeable

**U0-38****ABZ position**

Address: 0x7026

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**U0-39****Target voltage upon V/f separation**

Address: 0x7027

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 V to 65535 V

**Description**

-

Effective mode: -

Unit: V

Data type: UInt16

Change: Unchangeable



**U0-40 Output voltage upon V/f separation**

Address: 0x7028

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 V to 65535 V

**Description**

-

Effective mode: -

Unit: V

Data type: UInt16

Change: Unchangeable

**U0-45 Fault subcode**

Address: 0x702D

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**U0-46 Limit code**

Address: 0x702E

Min.: 0.0

Max.: 6553.5

Default: 0.0

**Value Range:**

0.0 to 6553.5

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**U0-50 0.5 ms A hold-up time**

Address: 0x7032

Min.: 0.0

Max.: 6553.5

Default: 0.0

**Value Range:**

0.0 ms to 6553.5 ms

**Description**

-

Effective mode: -

Unit: ms

Data type: UInt16

Change: Unchangeable

**U0-51 0.5 ms B hold-up time**

Address: 0x7033

Min.: 0.0

Max.: 6553.5

Default: 0.0

**Value Range:**

0.0 ms to 6553.5 ms

**Description**

-

Effective mode: -

Unit: ms

Data type: UInt16

Change: Unchangeable

**U0-52 0.5 ms C hold-up time**

Address: 0x7034

Effective mode: -

Min.: 0.0  
Max.: 6553.5  
Default: 0.0

Unit: ms  
Data type: UInt16  
Change: Unchangeable

**Value Range:**  
0.0 ms to 6553.5 ms

**Description**

-

**U0-53 0.5 ms D hold-up time**

Address: 0x7035  
Min.: 0.0  
Max.: 6553.5  
Default: 0.0

Effective mode: -  
Unit: ms  
Data type: UInt16  
Change: Unchangeable

**Value Range:**  
0.0 ms to 6553.5 ms

**Description**

-

**U0-54 0.5 ms A execution time**

Address: 0x7036  
Min.: 0.0  
Max.: 6553.5  
Default: 0.0

Effective mode: -  
Unit: ms  
Data type: UInt16  
Change: Unchangeable

**Value Range:**  
0.0 ms to 6553.5 ms

**Description**

-

**U0-55 0.5 ms B execution time**

Address: 0x7037  
Min.: 0.0  
Max.: 6553.5  
Default: 0.0

Effective mode: -  
Unit: ms  
Data type: UInt16  
Change: Unchangeable

**Value Range:**  
0.0 ms to 6553.5 ms

**Description**

-

**U0-56 0.5 ms C execution time**

Address: 0x7038  
Min.: 0.0  
Max.: 6553.5  
Default: 0.0

Effective mode: -  
Unit: ms  
Data type: UInt16  
Change: Unchangeable

**Value Range:**  
0.0 ms to 6553.5 ms

**Description**

-

**U0-57 0.5 ms D execution time**

Address: 0x7039  
Min.: 0.0  
Max.: 6553.5

Effective mode: -  
Unit: ms  
Data type: UInt16

Default: 0.0  
**Value Range:**  
 0.0 ms to 6553.5 ms  
**Description**  
 -

Change: Unchangeable

**U0-58 Motor running revolution count**

Address: 0x703A  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**U0-59 Frequency reference**

Address: 0x703B  
 Min.: -100  
 Max.: 100.00  
 Default: 0.00  
**Value Range:**  
 -100% to +100.00%  
**Description**  
 -

Effective mode: -  
 Unit: %  
 Data type: Int16  
 Change: Unchangeable

**U0-60 Running frequency**

Address: 0x703C  
 Min.: -100  
 Max.: 100.00  
 Default: 0.00  
**Value Range:**  
 -100% to +100.00%  
**Description**  
 -

Effective mode: -  
 Unit: %  
 Data type: Int16  
 Change: Unchangeable

**U0-61 AC drive state**

Address: 0x703D  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**U0-62 Code of active fault**

Address: 0x703E  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

0 to 65535

**Description**

-

**U0-63 Torque sent in point-to-point communication**

Address: 0x703F

Effective mode: -

Min.: 0.00

Unit: %

Max.: 6553.50

Data type: UInt16

Default: 0.00

Change: Unchangeable

**Value Range:**

0.00% to 6553.50%

**Description**

-

**U0-64 Number of slaves in master-slave control**

Address: 0x7040

Effective mode: -

Min.: 0

Unit: -

Max.: 65535

Data type: UInt16

Default: 0

Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**U0-65 Torque upper limit**

Address: 0x7041

Effective mode: -

Min.: -2000

Unit: %

Max.: 2000.0

Data type: Int16

Default: 0.0

Change: Unchangeable

**Value Range:**

-2000% to +2000.0%

**Description**

-

**U0-66 Model of communication expansion card**

Address: 0x7042

Effective mode: -

Min.: 0

Unit: -

Max.: 65535

Data type: UInt16

Default: 0

Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**U0-67 Software version of communication expansion card**

Address: 0x7043

Effective mode: -

Min.: 0

Unit: -

Max.: 65535

Data type: UInt16

Default: 0

Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**U0-68 AC drive state on PROFIBUS DP card**

Address: 0x7044

Effective mode: -

Min.: 0

Unit: -

Max.: 65535

Data type: UInt16

Default: 0

Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**U0-69 Frequency sent to PROFIBUS DP card/0.01 Hz**

Address: 0x7045

Effective mode: -

Min.: 0.00

Unit: Hz

Max.: 655.35

Data type: UInt16

Default: 0.00

Change: Unchangeable

**Value Range:**

0.00 Hz to 655.35 Hz

**Description**

-

**U0-70 Motor speed sent to PROFIBUS DP card/RPM**

Address: 0x7046

Effective mode: -

Min.: 0

Unit: RPM

Max.: 65535

Data type: UInt16

Default: 0

Change: Unchangeable

**Value Range:**

0 RPM to 65535 RPM

**Description**

-

**U0-71 Communication card-specific current**

Address: 0x7047

Effective mode: -

Min.: 0.0

Unit: A

Max.: 6553.5

Data type: UInt16

Default: 0.0

Change: Unchangeable

**Value Range:**

0.0 A to 6553.5 A

**Description**

-

**U0-72 Communication card error state**

Address: 0x7048

Effective mode: -

Min.: 0

Unit: -

Max.: 65535

Data type: UInt16

Default: 0

Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

<b>U0-73</b>	<b>Motor SN</b>	Address: 0x7049 Min.: 0 Max.: 65535 Default: 0	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
	<b>Value Range:</b>	0 to 65535	
	<b>Description</b>	-	
<b>U0-74</b>	<b>AC drive output torque</b>	Address: 0x704A Min.: -200 Max.: 200.0 Default: 0.0	Effective mode: - Unit: % Data type: Int16 Change: Unchangeable
	<b>Value Range:</b>	-200% to +200.0%	
	<b>Description</b>	-	
<b>U0-76</b>	<b>Low-order bits of accumulative power consumption</b>	Address: 0x704C Min.: 0.0 Max.: 6553.5 Default: 0.0	Effective mode: - Unit: kW·h Data type: UInt16 Change: Unchangeable
	<b>Value Range:</b>	0.0 kW·h to 6553.5 kW·h	
	<b>Description</b>	-	
<b>U0-77</b>	<b>High-order bits of accumulative power consumption</b>	Address: 0x704D Min.: 0 Max.: 65535 Default: 0	Effective mode: - Unit: kW·h Data type: UInt16 Change: Unchangeable
	<b>Value Range:</b>	0 kW·h to 65535 kW·h	
	<b>Description</b>	-	
<b>U0-78</b>	<b>Linear speed</b>	Address: 0x704E Min.: 0 Max.: 65535 Default: 0	Effective mode: - Unit: m/min Data type: UInt16 Change: Unchangeable
	<b>Value Range:</b>	0 m/min to 65535 m/min	
	<b>Description</b>	-	
<b>U0-80</b>	<b>EtherCAT slave name</b>	Address: 0x7050	Effective mode: -

Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**U0-81 EtherCAT slave alias**

Address: 0x7051  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**U0-82 EtherCAT ESM transmission error code**

Address: 0x7052  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**U0-83 EtherCAT XML file version**

Address: 0x7053  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**U0-84 EtherCAT synchronization loss count**

Address: 0x7054  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**U0-85 Maximum errors and invalid frames of EtherCAT port 0 per unit time**

Address: 0x7055  
 Min.: 0  
 Max.: 65535

Effective mode: -  
 Unit: -  
 Data type: UInt16

Default: 0 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**U0-86 Maximum errors and invalid frames of EtherCAT port 1 per unit time**

Address: 0x7056 Effective mode: -  
 Min.: 0 Unit: -  
 Max.: 65535 Data type: UInt16  
 Default: 0 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**U0-87 Maximum forwarding errors of EtherCAT port per unit time**

Address: 0x7057 Effective mode: -  
 Min.: 0 Unit: -  
 Max.: 65535 Data type: UInt16  
 Default: 0 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**U0-88 Maximum error count of EtherCAT data frame processing unit per unit time**

Address: 0x7058 Effective mode: -  
 Min.: 0 Unit: -  
 Max.: 65535 Data type: UInt16  
 Default: 0 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**U0-89 Maximum link loss of EtherCAT port per unit time**

Address: 0x7059 Effective mode: -  
 Min.: 0 Unit: -  
 Max.: 65535 Data type: UInt16  
 Default: 0 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**U0-90 DI function selection display 1**

Address: 0x705A Effective mode: -  
 Min.: 0 Unit: -  
 Max.: 65535 Data type: UInt16  
 Default: 0 Change: Unchangeable

**Value Range:**



0 to 65535

**Description**

-

**U0-91**

**DI function selection display 2**

Address: 0x705B

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**U0-92**

**DI function selection display 3**

Address: 0x705C

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**U0-93**

**DI function selection display 4**

Address: 0x705D

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**U0-94**

**DI function selection display 5**

Address: 0x705E

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**U0-95**

**STO initialization flag**

Address: 0x705F

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**Description**

-

**U0-96****STO status word monitoring**

Address: 0x7060

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**U0-97****STO model**

Address: 0x7061

Min.: 0x0

Max.: 0xFFFF

Default: 0x0

**Value Range:**

0x0 to 0xFFFF

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**U0-98****STO 1.2 V AD sampling value**

Address: 0x7062

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**U0-99****STO 5 V AD sampling value**

Address: 0x7063

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

## 4.65 U2: System Parameters

**U2-00****Current motor parameter group**

Address: 0x7200

Min.: 0

Max.: 65535

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**U2-01**

**Current control channel**

Address: 0x7201

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**U2-02**

**Current reference channel**

Address: 0x7202

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**U2-03**

**Skip frequency flag**

Address: 0x7203

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**U2-04**

**Local or remote**

Address: 0x7204

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**U2-05**

**Current multi-speed reference**

Address: 0x7205

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**Description**

-

**U2-06 Current multi-speed reference effective value**

Address: 0x7206

Effective mode: -

Min.: 0

Unit: -

Max.: 65535

Data type: UInt16

Default: 0

Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**U2-07 Key value**

Address: 0x7207

Effective mode: -

Min.: 0

Unit: -

Max.: 65535

Data type: UInt16

Default: 0

Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**U2-08 Power-off time**

Address: 0x7208

Effective mode: -

Min.: 0

Unit: -

Max.: 65535

Data type: UInt16

Default: 0

Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**U2-09 16-bit parameter error index menu address**

Address: 0x7209

Effective mode: -

Min.: 0x0

Unit: -

Max.: 0xFFFF

Data type: UInt16

Default: 0x0

Change: Unchangeable

**Value Range:**

0x0 to 0xFFFF

**Description**

-

**U2-10 16-bit parameter error type**

Address: 0x720A

Effective mode: -

Min.: 0

Unit: -

Max.: 65535

Data type: UInt16

Default: 0

Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

<b>U2-11</b>	<b>32-bit parameter error internal index address</b> Address: 0x720B Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>U2-12</b>	<b>32-bit parameter error internal index address</b> Address: 0x720C Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>U2-13</b>	<b>Fault and limit severity</b> Address: 0x720D Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>U2-14</b>	<b>Fault auto reset and restart steps</b> Address: 0x720E Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>U2-23</b>	<b>Parameter backup exception</b> Address: 0x7217 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>U2-24</b>	<b>Macro parameter backup and restoration exception</b> Address: 0x7218	Effective mode: -

Min.: 0 Unit: -  
 Max.: 65535 Data type: UInt16  
 Default: 0 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**U2-25 Remaining running duration during timed running**

Address: 0x7219 Effective mode: -  
 Min.: 0.0 Unit: min  
 Max.: 6553.5 Data type: UInt16  
 Default: 0.0 Change: Unchangeable

**Value Range:**

0.0 min to 6553.5 min

**Description**

-

**U2-26 Parameter record information 0**

Address: 0x721A Effective mode: -  
 Min.: 0 Unit: -  
 Max.: 65535 Data type: UInt16  
 Default: 0 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**U2-27 Parameter record information 1**

Address: 0x721B Effective mode: -  
 Min.: 0 Unit: -  
 Max.: 65535 Data type: UInt16  
 Default: 0 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**U2-28 Parameter record information 2**

Address: 0x721C Effective mode: -  
 Min.: 0 Unit: -  
 Max.: 65535 Data type: UInt16  
 Default: 0 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**U2-29 Parameter record information 3**

Address: 0x721D Effective mode: -  
 Min.: 0 Unit: -  
 Max.: 65535 Data type: UInt16

Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Change: Unchangeable

**U2-30 Parameter record information 4**

Address: 0x721E  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**U2-31 Parameter record information 5**

Address: 0x721F  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**U2-32 Parameter record information 6**

Address: 0x7220  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**U2-33 Parameter record information 7**

Address: 0x7221  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**U2-34 Parameter record information 8**

Address: 0x7222  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

0 to 65535

**Description**

-

**U2-35****Parameter record information 9**

Address: 0x7223

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**U2-36****Parameter record information 10**

Address: 0x7224

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**U2-37****Parameter record information 11**

Address: 0x7225

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**U2-38****Parameter record information 12**

Address: 0x7226

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**U2-39****Parameter record information 13**

Address: 0x7227

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable



**Description**

-

**U2-40**

**Parameter record information 14**

Address: 0x7228  
 Min.: 0  
 Max.: 65535  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**U2-41**

**Parameter record information 15**

Address: 0x7229  
 Min.: 0  
 Max.: 65535  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**U2-42**

**Parameter record information 16**

Address: 0x722A  
 Min.: 0  
 Max.: 65535  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**U2-43**

**Parameter record information 17**

Address: 0x722B  
 Min.: 0  
 Max.: 65535  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**U2-44**

**Parameter record information 18**

Address: 0x722C  
 Min.: 0  
 Max.: 65535  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

<b>U2-45</b>	<b>Parameter record information 19</b> Address: 0x722D Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>U2-46</b>	<b>Parameter record information 20</b> Address: 0x722E Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>U2-47</b>	<b>Parameter record information 21</b> Address: 0x722F Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>U2-48</b>	<b>Parameter record information 22</b> Address: 0x7230 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>U2-49</b>	<b>Parameter record information 23</b> Address: 0x7231 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>U2-50</b>	<b>Parameter record information 24</b> Address: 0x7232	Effective mode: -

Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**U2-51 Parameter record information 25**

Address: 0x7233  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**U2-52 Parameter record information 26**

Address: 0x7234  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**U2-60 Address mapping enable state**

Address: 0x723C  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**U2-61 Expansion card communication fault state**

Address: 0x723D  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**U2-62 Communication fault reset command**

Address: 0x723E  
 Min.: 0  
 Max.: 65535

Effective mode: -  
 Unit: -  
 Data type: UInt16

Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Change: Unchangeable

#### U2-63 **Communication warning flag**

Address: 0x723F  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

#### U2-64 **16-bit parameter error internal index address**

Address: 0x7240  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

#### U2-65 **Power-on initialization completion flag**

Address: 0x7241  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

#### U2-66 **Model-related parameter update flag**

Address: 0x7242  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

## 4.66 **U3: System Parameters**

#### U3-12 **Master state**

Address: 0x730C

Effective mode: -

Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**U3-13 Master frequency**  
 Address: 0x730D  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**U3-14 Master torque**  
 Address: 0x730E  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**U3-15 Master phase sequence**  
 Address: 0x730F  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**U3-16 Communication frequency reference**  
 Address: 0x7310  
 Min.: 0.00  
 Max.: 655.35  
 Default: 0.00  
**Value Range:**  
 0.00 Hz to 655.35 Hz  
**Description**  
 -

Effective mode: -  
 Unit: Hz  
 Data type: UInt16  
 Change: Unchangeable

**U3-17 Communication reference control word**  
 Address: 0x7311  
 Min.: 0  
 Max.: 65535

Effective mode: -  
 Unit: -  
 Data type: UInt16

Default: 0 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**U3-18 DO state (terminal function defined by parameters in group F5: communication control)**

Address: 0x7312

Effective mode: -

Min.: 0

Unit: -

Max.: 65535

Data type: UInt16

Default: 0

Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**U3-19 AO1 output reference (terminal function defined by parameters in group F5: communication control)**

Address: 0x7313

Effective mode: -

Min.: 0

Unit: %

Max.: 65535

Data type: UInt16

Default: 0

Change: Unchangeable

**Value Range:**

0% to 65535%

**Description**

-

**U3-20 AO2 output reference (terminal function defined by parameters in group F5: communication control)**

Address: 0x7314

Effective mode: -

Min.: 0

Unit: %

Max.: 65535

Data type: UInt16

Default: 0

Change: Unchangeable

**Value Range:**

0% to 65535%

**Description**

-

**U3-21 HDO output reference (terminal function defined by parameters in group F5: communication control)**

Address: 0x7315

Effective mode: -

Min.: 0

Unit: %

Max.: 65535

Data type: UInt16

Default: 0

Change: Unchangeable

**Value Range:**

0% to 65535%

**Description**

-

**U3-22 Command input through communication**

Address: 0x7316

Effective mode: -

Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**U3-23 Speed reference input through communication**

Address: 0x7317  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 RPM to 65535 RPM  
**Description**  
 -

Effective mode: -  
 Unit: RPM  
 Data type: UInt16  
 Change: Unchangeable

**U3-24 Communication card type**

Address: 0x7318  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**U3-25 Communication card version**

Address: 0x7319  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**U3-28 EtherCAT station alias**

Address: 0x731C  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Changeable at any time

**U3-35 EtherCAT card information 1**

Address: 0x7323  
 Min.: 0  
 Max.: 65535

Effective mode: -  
 Unit: -  
 Data type: UInt16

Default: 0  
**Value Range:**  
0 to 65535  
**Description**  
-

Change: Unchangeable

**U3-36 EtherCAT card information 2**

Address: 0x7324  
Min.: 0  
Max.: 65535  
Default: 0

**Value Range:**  
0 to 65535

**Description**  
-

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Unchangeable

**U3-37 EtherCAT card information 3**

Address: 0x7325  
Min.: 0  
Max.: 65535  
Default: 0

**Value Range:**  
0 to 65535

**Description**  
-

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Unchangeable

**U3-38 EtherCAT card information 4**

Address: 0x7326  
Min.: 0  
Max.: 65535  
Default: 0

**Value Range:**  
0 to 65535

**Description**  
-

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Unchangeable

**U3-39 EtherCAT card information 5**

Address: 0x7327  
Min.: 0  
Max.: 65535  
Default: 0

**Value Range:**  
0 to 65535

**Description**  
-

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Unchangeable

**U3-40 EtherCAT card information 6**

Address: 0x7328  
Min.: 0  
Max.: 65535  
Default: 0

**Value Range:**

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Unchangeable



0 to 65535

**Description**

-

**U3-41**

**EtherCAT card information 7**

Address: 0x7329

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**U3-42**

**EtherCAT card information 8**

Address: 0x732A

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**U3-43**

**EtherCAT card information 9**

Address: 0x732B

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**U3-44**

**EtherNet/IP error**

Address: 0x732C

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**U3-50**

**LED control word**

Address: 0x7332

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**Description**

-

**U3-51 Background control word**

Address: 0x7333

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**U3-52 SOP control word**

Address: 0x7334

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**U3-53 Remote call**

Address: 0x7335

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**U3-54 Control word set through communication**

Address: 0x7336

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**U3-55 Target speed set through communication**

Address: 0x7337

Min.: 0.0

Max.: 6553.5

Default: 0.0

**Value Range:**

0.0% to 6553.5%

**Description**

-

Effective mode: -

Unit: %

Data type: UInt16

Change: Unchangeable

**U3-56 MD500 compatible status word**

Address: 0x7338

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**U3-57 MD500 compatible LCD command word**

Address: 0x7339

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**U3-58 MD500 compatible IDS command word**

Address: 0x733A

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**U3-59 MD500 compatible 1000H speed reference**

Address: 0x733B

Min.: 0.00

Max.: 655.35

Default: 0.00

**Value Range:**

0.00% to 655.35%

**Description**

-

Effective mode: -

Unit: %

Data type: UInt16

Change: Unchangeable

## 4.67 L0: Bit Connector 1 Parameters

**L0-00 D11 drive sampling state**

Address: 0x9000

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

	<b>Description</b>		
	-		
<b>L0-01</b>	<b>DI2 drive sampling state</b>		
	Address: 0x9001	Effective mode:	-
	Min.: 0	Unit:	-
	Max.: 65535	Data type:	UInt16
	Default: 0	Change:	Unchangeable
	<b>Value Range:</b>		
	0 to 65535		
	<b>Description</b>		
	-		
<b>L0-02</b>	<b>DI3 drive sampling state</b>		
	Address: 0x9002	Effective mode:	-
	Min.: 0	Unit:	-
	Max.: 65535	Data type:	UInt16
	Default: 0	Change:	Unchangeable
	<b>Value Range:</b>		
	0 to 65535		
	<b>Description</b>		
	-		
<b>L0-03</b>	<b>DI4 drive sampling state</b>		
	Address: 0x9003	Effective mode:	-
	Min.: 0	Unit:	-
	Max.: 65535	Data type:	UInt16
	Default: 0	Change:	Unchangeable
	<b>Value Range:</b>		
	0 to 65535		
	<b>Description</b>		
	-		
<b>L0-04</b>	<b>DI5 drive sampling state</b>		
	Address: 0x9004	Effective mode:	-
	Min.: 0	Unit:	-
	Max.: 65535	Data type:	UInt16
	Default: 0	Change:	Unchangeable
	<b>Value Range:</b>		
	0 to 65535		
	<b>Description</b>		
	-		
<b>L0-05</b>	<b>DI6 drive sampling state</b>		
	Address: 0x9005	Effective mode:	-
	Min.: 0	Unit:	-
	Max.: 65535	Data type:	UInt16
	Default: 0	Change:	Unchangeable
	<b>Value Range:</b>		
	0 to 65535		
	<b>Description</b>		
	-		

<b>L0-06</b>	<b>DI7 drive sampling state</b> Address: 0x9006 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>L0-07</b>	<b>DI8 drive sampling state</b> Address: 0x9007 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>L0-08</b>	<b>DI9 drive sampling state</b> Address: 0x9008 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>L0-09</b>	<b>DI10 drive sampling state</b> Address: 0x9009 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>L0-10</b>	<b>AI1AsDI final output state</b> Address: 0x900A Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>L0-11</b>	<b>AI2AsDI final output state</b> Address: 0x900B	Effective mode: -

Min.: 0  
 Max.: 65535  
 Default: 0

Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L0-12 AI3AsDI final output state**

Address: 0x900C  
 Min.: 0  
 Max.: 65535  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L0-13 AI1AsDI inversion state**

Address: 0x900D  
 Min.: 0  
 Max.: 65535  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L0-14 AI2AsDI inversion state**

Address: 0x900E  
 Min.: 0  
 Max.: 65535  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L0-15 AI3AsDI inversion state**

Address: 0x900F  
 Min.: 0  
 Max.: 65535  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L0-16 DI1 drive output state**

Address: 0x9010  
 Min.: 0  
 Max.: 65535

Effective mode: -  
 Unit: -  
 Data type: UInt16

Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Change: Unchangeable

**L0-17 DI2 drive output state**

Address: 0x9011  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**L0-18 DI3 drive output state**

Address: 0x9012  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**L0-19 DI4 drive output state**

Address: 0x9013  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**L0-20 DI5 drive output state**

Address: 0x9014  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**L0-21 DI6 drive output state**

Address: 0x9015  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

0 to 65535

**Description**

-

**L0-22 DI7 drive output state**

Address: 0x9016

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L0-23 DI8 drive output state**

Address: 0x9017

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L0-24 DI9 drive output state**

Address: 0x9018

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L0-25 DI10 drive output state**

Address: 0x9019

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L0-26 VDI1 drive output state**

Address: 0x901A

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable



**Description**

-

**L0-27**

**VDI2 drive output state**

Address: 0x901B

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L0-28**

**VDI3 drive output state**

Address: 0x901C

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L0-29**

**VDI4 drive output state**

Address: 0x901D

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L0-30**

**VDI5 drive output state**

Address: 0x901E

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L0-31**

**VDI6 drive output state**

Address: 0x901F

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

<b>L0-32</b>	<b>D11 final output state</b> Address: 0x9020 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>L0-33</b>	<b>D12 final output state</b> Address: 0x9021 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>L0-34</b>	<b>D13 final output state</b> Address: 0x9022 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>L0-35</b>	<b>D14 final output state</b> Address: 0x9023 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>L0-36</b>	<b>D15 final output state</b> Address: 0x9024 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>L0-37</b>	<b>D16 final output state</b> Address: 0x9025	Effective mode: -

## Parameter Group

---

Min.: 0  
Max.: 65535  
Default: 0  
**Value Range:**  
0 to 65535  
**Description**  
-

Unit: -  
Data type: UInt16  
Change: Unchangeable

### L0-38 DI7 final output state

Address: 0x9026  
Min.: 0  
Max.: 65535  
Default: 0  
**Value Range:**  
0 to 65535  
**Description**  
-

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Unchangeable

### L0-39 DI8 final output state

Address: 0x9027  
Min.: 0  
Max.: 65535  
Default: 0  
**Value Range:**  
0 to 65535  
**Description**  
-

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Unchangeable

### L0-40 DI9 final output state

Address: 0x9028  
Min.: 0  
Max.: 65535  
Default: 0  
**Value Range:**  
0 to 65535  
**Description**  
-

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Unchangeable

### L0-41 DI10 final output state

Address: 0x9029  
Min.: 0  
Max.: 65535  
Default: 0  
**Value Range:**  
0 to 65535  
**Description**  
-

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Unchangeable

### L0-42 VDI1 final output state

Address: 0x902A  
Min.: 0  
Max.: 65535

Effective mode: -  
Unit: -  
Data type: UInt16

Default: 0  
**Value Range:**  
0 to 65535  
**Description**  
-

Change: Unchangeable

**L0-43 VDI2 final output state**

Address: 0x902B  
Min.: 0  
Max.: 65535  
Default: 0

**Value Range:**  
0 to 65535

**Description**  
-

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Unchangeable

**L0-44 VDI3 final output state**

Address: 0x902C  
Min.: 0  
Max.: 65535  
Default: 0

**Value Range:**  
0 to 65535

**Description**  
-

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Unchangeable

**L0-45 VDI4 final output state**

Address: 0x902D  
Min.: 0  
Max.: 65535  
Default: 0

**Value Range:**  
0 to 65535

**Description**  
-

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Unchangeable

**L0-46 VDI5 final output state**

Address: 0x902E  
Min.: 0  
Max.: 65535  
Default: 0

**Value Range:**  
0 to 65535

**Description**  
-

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Unchangeable

**L0-47 VDI6 final output state**

Address: 0x902F  
Min.: 0  
Max.: 65535  
Default: 0

**Value Range:**

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Unchangeable

0 to 65535

**Description**

-

**L0-48**

**DI1 inversion state**

Address: 0x9030

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L0-49**

**DI2 inversion state**

Address: 0x9031

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L0-50**

**DI3 inversion state**

Address: 0x9032

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L0-51**

**DI4 inversion state**

Address: 0x9033

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L0-52**

**DI5 inversion state**

Address: 0x9034

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

	<b>Description</b>	
	-	
<b>L0-53</b>	<b>D16 inversion state</b>	
	Address: 0x9035	Effective mode: -
	Min.: 0	Unit: -
	Max.: 65535	Data type: UInt16
	Default: 0	Change: Unchangeable
	<b>Value Range:</b>	
	0 to 65535	
	<b>Description</b>	
	-	
<b>L0-54</b>	<b>D17 inversion state</b>	
	Address: 0x9036	Effective mode: -
	Min.: 0	Unit: -
	Max.: 65535	Data type: UInt16
	Default: 0	Change: Unchangeable
	<b>Value Range:</b>	
	0 to 65535	
	<b>Description</b>	
	-	
<b>L0-55</b>	<b>D18 inversion state</b>	
	Address: 0x9037	Effective mode: -
	Min.: 0	Unit: -
	Max.: 65535	Data type: UInt16
	Default: 0	Change: Unchangeable
	<b>Value Range:</b>	
	0 to 65535	
	<b>Description</b>	
	-	
<b>L0-56</b>	<b>D19 inversion state</b>	
	Address: 0x9038	Effective mode: -
	Min.: 0	Unit: -
	Max.: 65535	Data type: UInt16
	Default: 0	Change: Unchangeable
	<b>Value Range:</b>	
	0 to 65535	
	<b>Description</b>	
	-	
<b>L0-57</b>	<b>D110 inversion state</b>	
	Address: 0x9039	Effective mode: -
	Min.: 0	Unit: -
	Max.: 65535	Data type: UInt16
	Default: 0	Change: Unchangeable
	<b>Value Range:</b>	
	0 to 65535	
	<b>Description</b>	
	-	

<b>L0-58</b>	<b>VDI1 inversion state</b> Address: 0x903A Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>L0-59</b>	<b>VDI2 inversion state</b> Address: 0x903B Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>L0-60</b>	<b>VDI3 inversion state</b> Address: 0x903C Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>L0-61</b>	<b>VDI4 inversion state</b> Address: 0x903D Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>L0-62</b>	<b>VDI5 inversion state</b> Address: 0x903E Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>L0-63</b>	<b>VDI6 inversion state</b> Address: 0x903F	Effective mode: -

Min.: 0  
Max.: 65535  
Default: 0

Unit: -  
Data type: UInt16  
Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L0-64 Relay 1 (DO3) state before filtering**

Address: 0x9040  
Min.: 0  
Max.: 65535  
Default: 0

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L0-65 FMR state before filtering**

Address: 0x9041  
Min.: 0  
Max.: 65535  
Default: 0

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L0-66 DO1 state before filtering**

Address: 0x9042  
Min.: 0  
Max.: 65535  
Default: 0

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L0-67 Relay 2 (DO4) state before filtering**

Address: 0x9043  
Min.: 0  
Max.: 65535  
Default: 0

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L0-68 DO2 state before filtering**

Address: 0x9044  
Min.: 0  
Max.: 65535

Effective mode: -  
Unit: -  
Data type: UInt16



Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Change: Unchangeable

**L0-69 VDO1 state before filtering**

Address: 0x9045  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**L0-70 VDO2 state before filtering**

Address: 0x9046  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**L0-71 VDO3 state before filtering**

Address: 0x9047  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**L0-72 VDO4 state before filtering**

Address: 0x9048  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**L0-73 VDO5 state before filtering**

Address: 0x9049  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

0 to 65535

**Description**

-

**L0-74 VDO6 state before filtering**

Address: 0x904A

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L0-75 VDO7 state before filtering**

Address: 0x904B

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L0-76 VDO8 state before filtering**

Address: 0x904C

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L0-77 VDO9 state before filtering**

Address: 0x904D

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L0-78 VDO10 state before filtering**

Address: 0x904E

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**Description**

-

**L0-79**

**VDO11 state before filtering**

Address: 0x904F

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L0-80**

**Relay 1 (DO3) final output state**

Address: 0x9050

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L0-81**

**FMR final output state**

Address: 0x9051

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L0-82**

**DO1 final output state**

Address: 0x9052

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L0-83**

**Relay 2 (DO4) final output state**

Address: 0x9053

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

<b>L0-84</b>	<b>DO2 final output state</b> Address: 0x9054 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>L0-85</b>	<b>VDO1 final output state</b> Address: 0x9055 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>L0-86</b>	<b>VDO2 final output state</b> Address: 0x9056 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>L0-87</b>	<b>VDO3 final output state</b> Address: 0x9057 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>L0-88</b>	<b>VDO4 final output state</b> Address: 0x9058 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>L0-89</b>	<b>VDO5 final output state</b> Address: 0x9059	Effective mode: -

Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**L0-90 VDO6 final output state**

Address: 0x905A  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**L0-91 VDO7 final output state**

Address: 0x905B  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**L0-92 VDO8 final output state**

Address: 0x905C  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**L0-93 VDO9 final output state**

Address: 0x905D  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**L0-94 VDO10 final output state**

Address: 0x905E  
 Min.: 0  
 Max.: 65535

Effective mode: -  
 Unit: -  
 Data type: UInt16

Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Change: Unchangeable

**L0-95 VDO11 final output state**

Address: 0x905F  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**L0-96 AI1 input overlimit**

Address: 0x9060  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**L0-97 AI2 input overlimit**

Address: 0x9061  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**L0-98 AI3 input overlimit**

Address: 0x9062  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**L0-99 HDI input wire breakage**

Address: 0x9063  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

0 to 65535  
**Description**  
 -

## 4.68 L1: Bit Connector 2 Parameters

### L1-00 Reference count value reach

Address:	0x9100	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable

**Value Range:**  
0 to 65535  
**Description**  
 -

### L1-01 Designated count value reach

Address:	0x9101	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable

**Value Range:**  
0 to 65535  
**Description**  
 -

### L1-02 Length comparison value reach

Address:	0x9102	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable

**Value Range:**  
0 to 65535  
**Description**  
 -

### L1-03 Comparison result of DIO edge counting module 1

Address:	0x9103	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable

**Value Range:**  
0 to 65535  
**Description**  
 -

### L1-04 Comparison result of DIO edge counting module 2

Address:	0x9104	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16





0 to 65535

**Description**

-

**L1-10 AI3 temperature mode - motor overtemperature**

Address: 0x910A

Effective mode: -

Min.: 0

Unit: -

Max.: 65535

Data type: UInt16

Default: 0

Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L1-11 IGBT temperature reach (flag)**

Address: 0x910B

Effective mode: -

Min.: 0

Unit: -

Max.: 65535

Data type: UInt16

Default: 0

Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L1-12 Ready to switch on**

Address: 0x910C

Effective mode: -

Min.: 0

Unit: -

Max.: 65535

Data type: UInt16

Default: 0

Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L1-13 Ready to run**

Address: 0x910D

Effective mode: -

Min.: 0

Unit: -

Max.: 65535

Data type: UInt16

Default: 0

Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L1-14 Running**

Address: 0x910E

Effective mode: -

Min.: 0

Unit: -

Max.: 65535

Data type: UInt16

Default: 0

Change: Unchangeable

**Value Range:**

0 to 65535

	<b>Description</b>		
	-		
<b>L1-15</b>	<b>Faulty</b>		
	Address: 0x910F	Effective mode:	-
	Min.: 0	Unit:	-
	Max.: 65535	Data type:	UInt16
	Default: 0	Change:	Unchangeable
	<b>Value Range:</b>		
	0: Not faulty		
	1: Faulty		
	<b>Description</b>		
	-		
<b>L1-16</b>	<b>OFF2 inactive</b>		
	Address: 0x9110	Effective mode:	-
	Min.: 0	Unit:	-
	Max.: 65535	Data type:	UInt16
	Default: 0	Change:	Unchangeable
	<b>Value Range:</b>		
	0: Active (OFF2 = 0)		
	1: Inactive (OFF2 = 1)		
	<b>Description</b>		
	-		
<b>L1-17</b>	<b>OFF3 inactive</b>		
	Address: 0x9111	Effective mode:	-
	Min.: 0	Unit:	-
	Max.: 65535	Data type:	UInt16
	Default: 0	Change:	Unchangeable
	<b>Value Range:</b>		
	0: Active (OFF3 = 0)		
	1: Inactive (OFF3 = 1)		
	<b>Description</b>		
	-		
<b>L1-18</b>	<b>Switch-on blocking</b>		
	Address: 0x9112	Effective mode:	-
	Min.: 0	Unit:	-
	Max.: 65535	Data type:	UInt16
	Default: 0	Change:	Unchangeable
	<b>Value Range:</b>		
	0 to 65535		
	<b>Description</b>		
	-		
<b>L1-19</b>	<b>Alarm/Limit activation</b>		
	Address: 0x9113	Effective mode:	-
	Min.: 0	Unit:	-
	Max.: 65535	Data type:	UInt16
	Default: 0	Change:	Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L1-20 Actual speed following speed reference**

Address: 0x9114

Min.: 0

Max.: 65535

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L1-21 Local or remote**

Address: 0x9115

Min.: 0

Max.: 65535

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**Value Range:**

0: Local

1: Remote

**Description**

-

**L1-22 Target speed reach**

Address: 0x9116

Min.: 0

Max.: 65535

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L1-23 Torque limit reach**

Address: 0x9117

Min.: 0

Max.: 65535

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L1-24 Forward speed**

Address: 0x9118

Min.: 0

Max.: 65535

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L1-25****Reverse speed**

Address: 0x9119

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L1-26****Motor running flag**

Address: 0x911A

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0: Stopped

1: Running (pulse output)

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L1-27****User setting 0**

Address: 0x911B

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L1-28****Self-check**

Address: 0x911C

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L1-29****Auto-tuning**

Address: 0x911D

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

0 to 65535

**Description**

-

**L1-30 Limit (running with limits) activation**

Address: 0x911E

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L1-31 Alarm activation**

Address: 0x911F

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L1-32 Speed mode**

Address: 0x9120

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L1-33 Torque mode**

Address: 0x9121

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L1-34 Position mode**

Address: 0x9122

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**Description**

-

**L1-35****RFG enable**

Address: 0x9123

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L1-36****RFG running**

Address: 0x9124

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L1-37****Stop upon fault**

Address: 0x9125

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L1-38****Normal running**

Address: 0x9126

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L1-39****Jogging**

Address: 0x9127

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L1-42 Terminal control flag**

Address: 0x912A  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**  
 0 to 65535

**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**L1-43 User setting 1**

Address: 0x912B  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**  
 0 to 65535

**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**L1-44 Control channel**

Address: 0x912C  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**  
 0: Control channel 1  
 1: Control channel 2

**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**L1-45 Reference channel**

Address: 0x912D  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**  
 0: Reference channel 1  
 1: Reference channel 2

**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**L1-60 Excessive speed deviation**

Address: 0x913C  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**  
 0 to 65535

**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

<b>L1-61</b>	<b>Overspeed</b> Address: 0x913D Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>L1-62</b>	<b>Target speed reach</b> Address: 0x913E Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>L1-63</b>	<b>Speed comparison reach 0</b> Address: 0x913F Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>L1-64</b>	<b>Speed comparison reach 1</b> Address: 0x9140 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>L1-65</b>	<b>Motor speed positive</b> Address: 0x9141 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>L1-66</b>	<b>Motor speed negative</b> Address: 0x9142	Effective mode: -



Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**L1-76 Bit0 of W2B module A**

Address: 0x914C  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**L1-77 Bit1 of W2B module A**

Address: 0x914D  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**L1-78 Bit2 of W2B module A**

Address: 0x914E  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**L1-79 Bit3 of W2B module A**

Address: 0x914F  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**L1-80 Bit4 of W2B module A**

Address: 0x9150  
 Min.: 0  
 Max.: 65535

Effective mode: -  
 Unit: -  
 Data type: UInt16

Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Change: Unchangeable

**L1-81 Bit5 of W2B module A**

Address: 0x9151  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**  
 0 to 65535

**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**L1-82 Bit6 of W2B module A**

Address: 0x9152  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**  
 0 to 65535

**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**L1-83 Bit7 of W2B module A**

Address: 0x9153  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**  
 0 to 65535

**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**L1-84 Bit8 of W2B module A**

Address: 0x9154  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**  
 0 to 65535

**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**L1-85 Bit9 of W2B module A**

Address: 0x9155  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

0 to 65535

**Description**

-

**L1-86**

**Bit10 of W2B module A**

Address: 0x9156

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L1-87**

**Bit11 of W2B module A**

Address: 0x9157

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L1-88**

**Bit12 of W2B module A**

Address: 0x9158

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L1-89**

**Bit13 of W2B module A**

Address: 0x9159

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L1-90**

**Bit14 of W2B module A**

Address: 0x915A

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

	<b>Description</b>	
	-	
<b>L1-91</b>	<b>Bit15 of W2B module A</b>	
	Address: 0x915B	Effective mode: -
	Min.: 0	Unit: -
	Max.: 65535	Data type: UInt16
	Default: 0	Change: Unchangeable
	<b>Value Range:</b> 0 to 65535	
	<b>Description</b>	
	-	
<b>L1-92</b>	<b>Bit0 of W2B module B</b>	
	Address: 0x915C	Effective mode: -
	Min.: 0	Unit: -
	Max.: 65535	Data type: UInt16
	Default: 0	Change: Unchangeable
	<b>Value Range:</b> 0 to 65535	
	<b>Description</b>	
	-	
<b>L1-93</b>	<b>Bit1 of W2B module B</b>	
	Address: 0x915D	Effective mode: -
	Min.: 0	Unit: -
	Max.: 65535	Data type: UInt16
	Default: 0	Change: Unchangeable
	<b>Value Range:</b> 0 to 65535	
	<b>Description</b>	
	-	
<b>L1-94</b>	<b>Bit2 of W2B module B</b>	
	Address: 0x915E	Effective mode: -
	Min.: 0	Unit: -
	Max.: 65535	Data type: UInt16
	Default: 0	Change: Unchangeable
	<b>Value Range:</b> 0 to 65535	
	<b>Description</b>	
	-	
<b>L1-95</b>	<b>Bit3 of W2B module B</b>	
	Address: 0x915F	Effective mode: -
	Min.: 0	Unit: -
	Max.: 65535	Data type: UInt16
	Default: 0	Change: Unchangeable
	<b>Value Range:</b> 0 to 65535	
	<b>Description</b>	
	-	

**L1-96 Bit4 of W2B module B**

Address:	0x9160	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable

**Value Range:**  
0 to 65535

**Description**  
-

**L1-97 Bit5 of W2B module B**

Address:	0x9161	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable

**Value Range:**  
0 to 65535

**Description**  
-

**L1-98 Bit6 of W2B module B**

Address:	0x9162	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable

**Value Range:**  
0 to 65535

**Description**  
-

**L1-99 Bit7 of W2B module B**

Address:	0x9163	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable

**Value Range:**  
0 to 65535

**Description**  
-

## 4.69 L2: Bit Connector 3 Parameters

**L2-00 Bit8 of W2B module B**

Address:	0x9200	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable

**Value Range:**  
0 to 65535

	<b>Description</b>	
	-	
<b>L2-01</b>	<b>Bit9 of W2B module B</b>	
	Address: 0x9201	Effective mode: -
	Min.: 0	Unit: -
	Max.: 65535	Data type: UInt16
	Default: 0	Change: Unchangeable
	<b>Value Range:</b>	
	0 to 65535	
	<b>Description</b>	
	-	
<b>L2-02</b>	<b>Bit10 of W2B module B</b>	
	Address: 0x9202	Effective mode: -
	Min.: 0	Unit: -
	Max.: 65535	Data type: UInt16
	Default: 0	Change: Unchangeable
	<b>Value Range:</b>	
	0 to 65535	
	<b>Description</b>	
	-	
<b>L2-03</b>	<b>Bit11 of W2B module B</b>	
	Address: 0x9203	Effective mode: -
	Min.: 0	Unit: -
	Max.: 65535	Data type: UInt16
	Default: 0	Change: Unchangeable
	<b>Value Range:</b>	
	0 to 65535	
	<b>Description</b>	
	-	
<b>L2-04</b>	<b>Bit12 of W2B module B</b>	
	Address: 0x9204	Effective mode: -
	Min.: 0	Unit: -
	Max.: 65535	Data type: UInt16
	Default: 0	Change: Unchangeable
	<b>Value Range:</b>	
	0 to 65535	
	<b>Description</b>	
	-	
<b>L2-05</b>	<b>Bit13 of W2B module B</b>	
	Address: 0x9205	Effective mode: -
	Min.: 0	Unit: -
	Max.: 65535	Data type: UInt16
	Default: 0	Change: Unchangeable
	<b>Value Range:</b>	
	0 to 65535	
	<b>Description</b>	
	-	

<b>L2-06</b>	<b>Bit14 of W2B module B</b> Address: 0x9206 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>L2-07</b>	<b>Bit15 of W2B module B</b> Address: 0x9207 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>L2-08</b>	<b>Bit0 of W2B module C</b> Address: 0x9208 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>L2-09</b>	<b>Bit1 of W2B module C</b> Address: 0x9209 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>L2-10</b>	<b>Bit2 of W2B module C</b> Address: 0x920A Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>L2-11</b>	<b>Bit3 of W2B module C</b> Address: 0x920B	Effective mode: -

Min.: 0  
 Max.: 65535  
 Default: 0

Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L2-12 Bit4 of W2B module C**

Address: 0x920C  
 Min.: 0  
 Max.: 65535  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L2-13 Bit5 of W2B module C**

Address: 0x920D  
 Min.: 0  
 Max.: 65535  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L2-14 Bit6 of W2B module C**

Address: 0x920E  
 Min.: 0  
 Max.: 65535  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L2-15 Bit7 of W2B module C**

Address: 0x920F  
 Min.: 0  
 Max.: 65535  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L2-16 Bit8 of W2B module C**

Address: 0x9210  
 Min.: 0  
 Max.: 65535

Effective mode: -  
 Unit: -  
 Data type: UInt16



## Parameter Group

---

Default: 0  
**Value Range:**  
0 to 65535  
**Description**  
-

Change: Unchangeable

### L2-17 Bit9 of W2B module C

Address: 0x9211  
Min.: 0  
Max.: 65535  
Default: 0

**Value Range:**  
0 to 65535  
**Description**  
-

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Unchangeable

### L2-18 Bit10 of W2B module C

Address: 0x9212  
Min.: 0  
Max.: 65535  
Default: 0

**Value Range:**  
0 to 65535  
**Description**  
-

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Unchangeable

### L2-19 Bit11 of W2B module C

Address: 0x9213  
Min.: 0  
Max.: 65535  
Default: 0

**Value Range:**  
0 to 65535  
**Description**  
-

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Unchangeable

### L2-20 Bit12 of W2B module C

Address: 0x9214  
Min.: 0  
Max.: 65535  
Default: 0

**Value Range:**  
0 to 65535  
**Description**  
-

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Unchangeable

### L2-21 Bit13 of W2B module C

Address: 0x9215  
Min.: 0  
Max.: 65535  
Default: 0

**Value Range:**

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Unchangeable

0 to 65535

**Description**

-

**L2-22 Bit14 of W2B module C**

Address: 0x9216

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L2-23 Bit15 of W2B module C**

Address: 0x9217

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L2-24 Bit0 of W2B module D**

Address: 0x9218

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L2-25 Bit1 of W2B module D**

Address: 0x9219

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L2-26 Bit2 of W2B module D**

Address: 0x921A

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**Description**

-

**L2-27**

**Bit3 of W2B module D**

Address: 0x921B

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L2-28**

**Bit4 of W2B module D**

Address: 0x921C

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L2-29**

**Bit5 of W2B module D**

Address: 0x921D

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L2-30**

**Bit6 of W2B module D**

Address: 0x921E

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L2-31**

**Bit7 of W2B module D**

Address: 0x921F

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

<b>L2-32</b>	<b>Bit8 of W2B module D</b> Address: 0x9220 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>L2-33</b>	<b>Bit9 of W2B module D</b> Address: 0x9221 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>L2-34</b>	<b>Bit10 of W2B module D</b> Address: 0x9222 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>L2-35</b>	<b>Bit11 of W2B module D</b> Address: 0x9223 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>L2-36</b>	<b>Bit12 of W2B module D</b> Address: 0x9224 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>L2-37</b>	<b>Bit13 of W2B module D</b> Address: 0x9225	Effective mode: -

Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**L2-38 Bit14 of W2B module D**

Address: 0x9226  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**L2-39 Bit15 of W2B module D**

Address: 0x9227  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**L2-40 Bit0 of W2B module E**

Address: 0x9228  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**L2-41 Bit1 of W2B module E**

Address: 0x9229  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**L2-42 Bit2 of W2B module E**

Address: 0x922A  
 Min.: 0  
 Max.: 65535

Effective mode: -  
 Unit: -  
 Data type: UInt16

Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Change: Unchangeable

**L2-43 Bit3 of W2B module E**

Address: 0x922B  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**  
 0 to 65535

**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**L2-44 Bit4 of W2B module E**

Address: 0x922C  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**  
 0 to 65535

**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**L2-45 Bit5 of W2B module E**

Address: 0x922D  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**  
 0 to 65535

**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**L2-46 Bit6 of W2B module E**

Address: 0x922E  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**  
 0 to 65535

**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**L2-47 Bit7 of W2B module E**

Address: 0x922F  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

0 to 65535

**Description**

-

**L2-48**

**Bit8 of W2B module E**

Address: 0x9230

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L2-49**

**Bit9 of W2B module E**

Address: 0x9231

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L2-50**

**Bit10 of W2B module E**

Address: 0x9232

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L2-51**

**Bit11 of W2B module E**

Address: 0x9233

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L2-52**

**Bit12 of W2B module E**

Address: 0x9234

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**Description**

-

**L2-53 Bit13 of W2B module E**

Address: 0x9235

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L2-54 Bit14 of W2B module E**

Address: 0x9236

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L2-55 Bit15 of W2B module E**

Address: 0x9237

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L2-56 Bit0 of W2B module F**

Address: 0x9238

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L2-57 Bit1 of W2B module F**

Address: 0x9239

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable



<b>L2-58</b>	<p><b>Bit2 of W2B module F</b>          Address: 0x923A          Min.: 0          Max.: 65535          Default: 0  <b>Value Range:</b>          0 to 65535  <b>Description</b>          -</p>	<p>Effective mode: -          Unit: -          Data type: UInt16          Change: Unchangeable</p>
<b>L2-59</b>	<p><b>Bit3 of W2B module F</b>          Address: 0x923B          Min.: 0          Max.: 65535          Default: 0  <b>Value Range:</b>          0 to 65535  <b>Description</b>          -</p>	<p>Effective mode: -          Unit: -          Data type: UInt16          Change: Unchangeable</p>
<b>L2-60</b>	<p><b>Bit4 of W2B module F</b>          Address: 0x923C          Min.: 0          Max.: 65535          Default: 0  <b>Value Range:</b>          0 to 65535  <b>Description</b>          -</p>	<p>Effective mode: -          Unit: -          Data type: UInt16          Change: Unchangeable</p>
<b>L2-61</b>	<p><b>Bit5 of W2B module F</b>          Address: 0x923D          Min.: 0          Max.: 65535          Default: 0  <b>Value Range:</b>          0 to 65535  <b>Description</b>          -</p>	<p>Effective mode: -          Unit: -          Data type: UInt16          Change: Unchangeable</p>
<b>L2-62</b>	<p><b>Bit6 of W2B module F</b>          Address: 0x923E          Min.: 0          Max.: 65535          Default: 0  <b>Value Range:</b>          0 to 65535  <b>Description</b>          -</p>	<p>Effective mode: -          Unit: -          Data type: UInt16          Change: Unchangeable</p>
<b>L2-63</b>	<p><b>Bit7 of W2B module F</b>          Address: 0x923F</p>	<p>Effective mode: -</p>

Min.: 0  
 Max.: 65535  
 Default: 0

Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L2-64 Bit8 of W2B module F**

Address: 0x9240  
 Min.: 0  
 Max.: 65535  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L2-65 Bit9 of W2B module F**

Address: 0x9241  
 Min.: 0  
 Max.: 65535  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L2-66 Bit10 of W2B module F**

Address: 0x9242  
 Min.: 0  
 Max.: 65535  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L2-67 Bit11 of W2B module F**

Address: 0x9243  
 Min.: 0  
 Max.: 65535  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L2-68 Bit12 of W2B module F**

Address: 0x9244  
 Min.: 0  
 Max.: 65535

Effective mode: -  
 Unit: -  
 Data type: UInt16

## Parameter Group

---

Default: 0  
**Value Range:**  
0 to 65535  
**Description**  
-

Change: Unchangeable

### L2-69 Bit13 of W2B module F

Address: 0x9245  
Min.: 0  
Max.: 65535  
Default: 0

**Value Range:**  
0 to 65535  
**Description**  
-

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Unchangeable

### L2-70 Bit14 of W2B module F

Address: 0x9246  
Min.: 0  
Max.: 65535  
Default: 0

**Value Range:**  
0 to 65535  
**Description**  
-

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Unchangeable

### L2-71 Bit15 of W2B module F

Address: 0x9247  
Min.: 0  
Max.: 65535  
Default: 0

**Value Range:**  
0 to 65535  
**Description**  
-

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Unchangeable

### L2-72 Bit0 of W2B module G

Address: 0x9248  
Min.: 0  
Max.: 65535  
Default: 0

**Value Range:**  
0 to 65535  
**Description**  
-

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Unchangeable

### L2-73 Bit1 of W2B module G

Address: 0x9249  
Min.: 0  
Max.: 65535  
Default: 0

**Value Range:**

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Unchangeable

0 to 65535

**Description**

-

**L2-74****Bit2 of W2B module G**

Address: 0x924A

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L2-75****Bit3 of W2B module G**

Address: 0x924B

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L2-76****Bit4 of W2B module G**

Address: 0x924C

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L2-77****Bit5 of W2B module G**

Address: 0x924D

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L2-78****Bit6 of W2B module G**

Address: 0x924E

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**Description**

-

**L2-79**

**Bit7 of W2B module G**

Address: 0x924F

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L2-80**

**Bit8 of W2B module G**

Address: 0x9250

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L2-81**

**Bit9 of W2B module G**

Address: 0x9251

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L2-82**

**Bit10 of W2B module G**

Address: 0x9252

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L2-83**

**Bit11 of W2B module G**

Address: 0x9253

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

<b>L2-84</b>	<b>Bit12 of W2B module G</b> Address: 0x9254 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>L2-85</b>	<b>Bit13 of W2B module G</b> Address: 0x9255 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>L2-86</b>	<b>Bit14 of W2B module G</b> Address: 0x9256 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>L2-87</b>	<b>Bit15 of W2B module G</b> Address: 0x9257 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>L2-88</b>	<b>Bit0 of W2B module H</b> Address: 0x9258 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>L2-89</b>	<b>Bit1 of W2B module H</b> Address: 0x9259	Effective mode: -

Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**L2-90 Bit2 of W2B module H**

Address: 0x925A  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**L2-91 Bit3 of W2B module H**

Address: 0x925B  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**L2-92 Bit4 of W2B module H**

Address: 0x925C  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**L2-93 Bit5 of W2B module H**

Address: 0x925D  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**L2-94 Bit6 of W2B module H**

Address: 0x925E  
 Min.: 0  
 Max.: 65535

Effective mode: -  
 Unit: -  
 Data type: UInt16

Default: 0  
**Value Range:**  
0 to 65535  
**Description**  
-

Change: Unchangeable

**L2-95 Bit7 of W2B module H**

Address: 0x925F  
Min.: 0  
Max.: 65535  
Default: 0

**Value Range:**  
0 to 65535  
**Description**  
-

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Unchangeable

**L2-96 Bit8 of W2B module H**

Address: 0x9260  
Min.: 0  
Max.: 65535  
Default: 0

**Value Range:**  
0 to 65535  
**Description**  
-

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Unchangeable

**L2-97 Bit9 of W2B module H**

Address: 0x9261  
Min.: 0  
Max.: 65535  
Default: 0

**Value Range:**  
0 to 65535  
**Description**  
-

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Unchangeable

**L2-98 Bit10 of W2B module H**

Address: 0x9262  
Min.: 0  
Max.: 65535  
Default: 0

**Value Range:**  
0 to 65535  
**Description**  
-

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Unchangeable

**L2-99 Bit11 of W2B module H**

Address: 0x9263  
Min.: 0  
Max.: 65535  
Default: 0

**Value Range:**

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Unchangeable



0 to 65535  
**Description**  
 -

## 4.70 L3: Bit Connector 4 Parameters

### L3-00 Bit12 of W2B module H

Address:	0x9300	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable

**Value Range:**  
0 to 65535  
**Description**  
 -

### L3-01 Bit13 of W2B module H

Address:	0x9301	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable

**Value Range:**  
0 to 65535  
**Description**  
 -

### L3-02 Bit14 of W2B module H

Address:	0x9302	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable

**Value Range:**  
0 to 65535  
**Description**  
 -

### L3-03 Bit15 of W2B module H

Address:	0x9303	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable

**Value Range:**  
0 to 65535  
**Description**  
 -

### L3-04 Output of binary selector module A

Address:	0x9304	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16

Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Change: Unchangeable

### L3-05 Output of binary selector module B

Address: 0x9305  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**  
 0 to 65535

**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

### L3-06 Output of binary selector module C

Address: 0x9306  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**  
 0 to 65535

**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

### L3-07 Output of binary selector module D

Address: 0x9307  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**  
 0 to 65535

**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

### L3-08 Output of binary selector module E

Address: 0x9308  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**  
 0 to 65535

**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

### L3-09 Output of binary selector module F

Address: 0x9309  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

0 to 65535

**Description**

-

**L3-10 Output of binary selector module G**

Address: 0x930A

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L3-11 Output of binary selector module H**

Address: 0x930B

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L3-20 Output of logic delay module A**

Address: 0x9314

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L3-21 Output of logic delay module B**

Address: 0x9315

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L3-22 Output of logic delay module C**

Address: 0x9316

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**Description**

-

**L3-23 Output of logic delay module D**

Address: 0x9317

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L3-24 Output of logic delay module E**

Address: 0x9318

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L3-25 Output of logic delay module F**

Address: 0x9319

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L3-26 Output of logic delay module G**

Address: 0x931A

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L3-27 Output of logic delay module H**

Address: 0x931B

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L3-36 Output of logic AND-OR module A**

Address: 0x9324  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**  
 0 to 65535

**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**L3-37 Output of logic AND-OR module B**

Address: 0x9325  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**  
 0 to 65535

**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**L3-38 Output of logic AND-OR module C**

Address: 0x9326  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**  
 0 to 65535

**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**L3-39 Output of logic AND-OR module D**

Address: 0x9327  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**  
 0 to 65535

**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**L3-40 Output of logic AND-OR module E**

Address: 0x9328  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**  
 0 to 65535

**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**L3-41 Output of logic AND-OR module F**

Address: 0x9329

Effective mode: -

Min.: 0  
 Max.: 65535  
 Default: 0

Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L3-42 Output of logic AND-OR module G**

Address: 0x932A  
 Min.: 0  
 Max.: 65535  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L3-43 Output of logic AND-OR module H**

Address: 0x932B  
 Min.: 0  
 Max.: 65535  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L3-44 Output of logic AND-OR module I**

Address: 0x932C  
 Min.: 0  
 Max.: 65535  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L3-45 Output of logic AND-OR module J**

Address: 0x932D  
 Min.: 0  
 Max.: 65535  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L3-46 Output of logic AND-OR module K**

Address: 0x932E  
 Min.: 0  
 Max.: 65535

Effective mode: -  
 Unit: -  
 Data type: UInt16

Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Change: Unchangeable

**L3-47 Output of logic AND-OR module L**

Address: 0x932F  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**L3-52 Output of logic NOT module A**

Address: 0x9334  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**L3-53 Output of logic NOT module B**

Address: 0x9335  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**L3-54 Output of logic NOT module C**

Address: 0x9336  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**L3-55 Output of logic NOT module D**

Address: 0x9337  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

0 to 65535

**Description**

-

**L3-56 Output of logic NOT module E**

Address: 0x9338

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L3-57 Output of logic NOT module F**

Address: 0x9339

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L3-58 Output of logic NOT module G**

Address: 0x933A

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L3-59 Output of logic NOT module H**

Address: 0x933B

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L3-60 Output of logic NOT module I**

Address: 0x933C

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable



**Description**

-

**L3-61 Output of logic NOT module J**

Address: 0x933D  
 Min.: 0  
 Max.: 65535  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L3-62 Output of logic NOT module K**

Address: 0x933E  
 Min.: 0  
 Max.: 65535  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L3-63 Output of logic NOT module L**

Address: 0x933F  
 Min.: 0  
 Max.: 65535  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L3-64 Output of logic NOT module M**

Address: 0x9340  
 Min.: 0  
 Max.: 65535  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L3-65 Output of logic NOT module N**

Address: 0x9341  
 Min.: 0  
 Max.: 65535  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

<b>L3-66</b>	<b>Output of logic NOT module O</b> Address: 0x9342 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>L3-67</b>	<b>Output of logic NOT module P</b> Address: 0x9343 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>L3-68</b>	<b>Output of logic XOR/XNOR module A</b> Address: 0x9344 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>L3-69</b>	<b>Output of logic XOR/XNOR module B</b> Address: 0x9345 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>L3-70</b>	<b>Output of logic XOR/XNOR module C</b> Address: 0x9346 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>L3-71</b>	<b>Output of logic XOR/XNOR module D</b> Address: 0x9347	Effective mode: -

Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**L3-72 Output of logic XOR/XNOR module E**

Address: 0x9348  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**L3-73 Output of logic XOR/XNOR module F**

Address: 0x9349  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**L3-74 Output of logic XOR/XNOR module G**

Address: 0x934A  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**L3-75 Output of logic XOR/XNOR module H**

Address: 0x934B  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**L3-84 Output of level-to-pulse conversion module A**

Address: 0x9354  
 Min.: 0  
 Max.: 65535

Effective mode: -  
 Unit: -  
 Data type: UInt16



Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable

**Value Range:**  
0 to 65535

**Description**  
-

**L4-02 Output of floating-point comparison module C**

Address:	0x9402	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable

**Value Range:**  
0 to 65535

**Description**  
-

**L4-03 Output of floating-point comparison module D**

Address:	0x9403	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable

**Value Range:**  
0 to 65535

**Description**  
-

**L4-04 Output of fixed-point comparison module E**

Address:	0x9404	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable

**Value Range:**  
0 to 65535

**Description**  
-

**L4-05 Output of fixed-point comparison module F**

Address:	0x9405	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable

**Value Range:**  
0 to 65535

**Description**  
-

**L4-06 Output of fixed-point comparison module G**

Address:	0x9406	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16



Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable

**Value Range:**

0: Not negative

1: Negative

**Description**

-

**L4-20 Flag indicating whether input of floating-point absolute value module E is negative**

Address:	0x9414	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable

**Value Range:**

0: Not negative

1: Negative

**Description**

-

**L4-21 Flag indicating whether input of fixed-point absolute value module F is negative**

Address:	0x9415	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable

**Value Range:**

0: Not negative

1: Negative

**Description**

-

**L4-22 Flag indicating whether input of fixed-point absolute value module G is negative**

Address:	0x9416	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable

**Value Range:**

0: Not negative

1: Negative

**Description**

-

**L4-23 Flag indicating whether input of fixed-point absolute value module H is negative**

Address:	0x9417	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable

**Value Range:**

0: Not negative

1: Negative

**Description**

-

**L4-32 Flag indicating whether divisor of MULTIPLY/DIVIDE module A is 0**

Address:	0x9420	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable

**Value Range:**

0: Not 0

1: 0

**Description**

-

**L4-33 Flag indicating whether divisor of MULTIPLY/DIVIDE module B is 0**

Address:	0x9421	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable

**Value Range:**

0: Not 0

1: 0

**Description**

-

**L4-34 Flag indicating whether divisor of MULTIPLY/DIVIDE module C is 0**

Address:	0x9422	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable

**Value Range:**

0: Not 0

1: 0

**Description**

-

**L4-35 Flag indicating whether divisor of MULTIPLY/DIVIDE module D is 0**

Address:	0x9423	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable

**Value Range:**

0: Not 0

1: 0

**Description**

-

**L4-36 Flag indicating whether divisor of MULTIPLY/DIVIDE module E is 0**

Address:	0x9424	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable



**Value Range:**

0: Not 0

1: 0

**Description**

-

**L4-37 Flag indicating whether divisor of MULTIPLY/DIVIDE module F is 0**

Address: 0x9425

Effective mode: -

Min.: 0

Unit: -

Max.: 65535

Data type: UInt16

Default: 0

Change: Unchangeable

**Value Range:**

0: Not 0

1: 0

**Description**

-

**L4-38 Flag indicating whether divisor of MULTIPLY/DIVIDE module G is 0**

Address: 0x9426

Effective mode: -

Min.: 0

Unit: -

Max.: 65535

Data type: UInt16

Default: 0

Change: Unchangeable

**Value Range:**

0: Not 0

1: 0

**Description**

-

**L4-39 Flag indicating whether divisor of MULTIPLY/DIVIDE module H is 0**

Address: 0x9427

Effective mode: -

Min.: 0

Unit: -

Max.: 65535

Data type: UInt16

Default: 0

Change: Unchangeable

**Value Range:**

0: Not 0

1: 0

**Description**

-

**L4-48 Upper limit flag of limiting module A**

Address: 0x9430

Effective mode: -

Min.: 0

Unit: -

Max.: 65535

Data type: UInt16

Default: 0

Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L4-49 Lower limit flag of limiting module A**

Address: 0x9431

Effective mode: -

Min.: 0

Unit: -

Max.: 65535  
 Default: 0

Data type: UInt16  
 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L4-50 Upper limit flag of limiting module B**

Address: 0x9432

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L4-51 Lower limit flag of limiting module B**

Address: 0x9433

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L4-52 Upper limit flag of limiting module C**

Address: 0x9434

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L4-53 Lower limit flag of limiting module C**

Address: 0x9435

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L4-54 Upper limit flag of limiting module D**

Address: 0x9436

Min.: 0

Max.: 65535

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L4-55**

**Lower limit flag of limiting module D**

Address: 0x9437

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L4-56**

**Upper limit flag of limiting module E**

Address: 0x9438

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L4-57**

**Lower limit flag of limiting module E**

Address: 0x9439

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L4-58**

**Upper limit flag of limiting module F**

Address: 0x943A

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L4-59**

**Lower limit flag of limiting module F**

Address: 0x943B

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**Description**

-

**L4-64 Hibernation enable flag**

Address: 0x9440

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L4-66 Startup frequency RFG forcing**

Address: 0x9442

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L4-67 Startup frequency stop flag**

Address: 0x9443

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L4-72 Power-on duration reach**

Address: 0x9448

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L4-73 Running duration reach**

Address: 0x9449

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L4-74 Timing duration reach**

Address: 0x944A  
 Min.: 0  
 Max.: 65535  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**  
 0 to 65535

**Description**  
 -

**L4-75 Current running duration reach**

Address: 0x944B  
 Min.: 0  
 Max.: 65535  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**  
 0 to 65535

**Description**  
 -

## 4.72 L5: Word Connector 1 Parameters

**L5-00 System status word 1**

Address: 0x9500  
 Min.: 0  
 Max.: 65535  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**  
 Bit00: Ready to switch on  
 Bit01: Ready to run  
 Bit02: Running  
 Bit03: Faulty  
 Bit04: OFF2  
 Bit05: OFF3  
 Bit06: Switch-on blocking  
 Bit07: Running with limits  
 Bit08: No speed deviation  
 Bit09: Local or remote  
 Bit10: Target speed reach  
 Bit11: Torque limiting  
 Bit12: Positive speed  
 Bit13: Negative speed  
 Bit14: Running (pulse output)  
 Bit15: User-defined state 0

**Description**  
 -

**L5-01 System status word 2**

Address: 0x9501  
 Min.: 0  
 Max.: 65535  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**

Bit00: Self-check  
 Bit01: Auto-tuning  
 Bit02: Limit state  
 Bit03: Alarm state  
 Bit04: Speed mode  
 Bit05: Torque mode  
 Bit06: Position mode  
 Bit07: RFG enable  
 Bit08: RFG running  
 Bit09: Stop upon fault  
 Bit10: Normal running  
 Bit11: Jogging  
 Bit12: Decelerate to stop  
 Bit13: Reserved  
 Bit14: Terminal control  
 Bit15: User-defined state 1

**Description**

-

**L5-02 Main status word of drive**

Address: 0x9502  
 Min.: 0  
 Max.: 65535  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L5-03 Auxiliary status word of drive**

Address: 0x9503  
 Min.: 0  
 Max.: 65535  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L5-04 Main status word of motor**

Address: 0x9504  
 Min.: 0  
 Max.: 65535  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L5-05 Auxiliary status word of motor**

Address: 0x9505

Min.: 0

Max.: 65535

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L5-06 Current state of system state machine**

Address: 0x9506

Min.: 0

Max.: 65535

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**Value Range:**

0: Initializing

1: Switch-on prohibited

2: Switch-on allowed

3: Running allowed

4: Started

5: Running

6: Stopped

7: Self-check

8: Auto-tuning

**Description**

-

**L5-07 System state machine switchover command**

Address: 0x9507

Min.: 0

Max.: 65535

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**Value Range:**

Bit00: Startup active

Bit01: Stop active

Bit02: OFF2 stop active

Bit03: OFF3 stop active

Bit04: Running permission active

Bit05: Running prohibition active

Bit06: Stop upon fault active

**Description**

-

<b>L5-08</b>	<p><b>System running state</b>  Address: 0x9508  Min.: 0  Max.: 65535  Default: 0  <b>Value Range:</b>  0 to 65535  <b>Description</b>  -</p>	<p>Effective mode: -  Unit: -  Data type: UInt16  Change: Unchangeable</p>
<b>L5-09</b>	<p><b>Current stop mode</b>  Address: 0x9509  Min.: 0  Max.: 65535  Default: 0  <b>Value Range:</b>  0: Coast to stop  1: Stop at maximum capability  2: Quick stop  3: Decelerate to stop  <b>Description</b>  -</p>	<p>Effective mode: -  Unit: -  Data type: UInt16  Change: Unchangeable</p>
<b>L5-10</b>	<p><b>DC braking state during deceleration to stop</b>  Address: 0x950A  Min.: 0  Max.: 65535  Default: 0  <b>Value Range:</b>  0 to 65535  <b>Description</b>  -</p>	<p>Effective mode: -  Unit: -  Data type: UInt16  Change: Unchangeable</p>
<b>L5-17</b>	<p><b>Bus voltage</b>  Address: 0x9511  Min.: 0.0  Max.: 6553.5  Default: 0.0  <b>Value Range:</b>  0.0 V to 6553.5 V  <b>Description</b>  -</p>	<p>Effective mode: -  Unit: V  Data type: UInt16  Change: Unchangeable</p>
<b>L5-20</b>	<p><b>IGBT temperature</b>  Address: 0x9514  Min.: 0.0  Max.: 6553.5  Default: 0.0  <b>Value Range:</b>  0.0 to 6553.5</p>	<p>Effective mode: -  Unit: -  Data type: Int16  Change: Unchangeable</p>



**Description**

-

**L5-21**

**LED control word**

Address: 0x9515  
 Min.: 0  
 Max.: 65535  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L5-22**

**IDS control word**

Address: 0x9516  
 Min.: 0  
 Max.: 65535  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L5-23**

**SOP control word**

Address: 0x9517  
 Min.: 0  
 Max.: 65535  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L5-24**

**Command channel system command**

Address: 0x9518  
 Min.: 0  
 Max.: 65535  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L5-25**

**LED command clear flag**

Address: 0x9519  
 Min.: 0  
 Max.: 65535  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

<b>L5-26</b>	<b>SOP command clear flag</b> Address: 0x951A Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>L5-27</b>	<b>IDS command clear flag</b> Address: 0x951B Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>L5-28</b>	<b>Terminal module command</b> Address: 0x951C Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>L5-29</b>	<b>Input state of terminal module A</b> Address: 0x951D Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>L5-30</b>	<b>Input state of terminal module B</b> Address: 0x951E Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>L5-31</b>	<b>Running mode (normal jogging)</b> Address: 0x951F	Effective mode: -

## Parameter Group

---

Min.: 0  
Max.: 65535  
Default: 0  
**Value Range:**  
0 to 65535  
**Description**  
-

Unit: -  
Data type: UInt16  
Change: Unchangeable

### L5-32 Jogging source 12

Address: 0x9520  
Min.: 0  
Max.: 65535  
Default: 0  
**Value Range:**  
0 to 65535  
**Description**  
-

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Unchangeable

### L5-33 Control target

Address: 0x9521  
Min.: 0  
Max.: 65535  
Default: 0  
**Value Range:**  
0: Speed control  
1: Torque control  
1: Position control  
**Description**  
-

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Unchangeable

### L5-34 RFG status word

Address: 0x9522  
Min.: 0  
Max.: 65535  
Default: 0  
**Value Range:**  
0 to 65535  
**Description**  
-

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Unchangeable

### L5-35 RFG command word

Address: 0x9523  
Min.: 0  
Max.: 65535  
Default: 0  
**Value Range:**  
0 to 65535  
**Description**  
-

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Unchangeable

<b>L5-38</b>	<b>V/f separation time set to 0</b> Address: 0x9526 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>L5-40</b>	<b>AI1 raw sampling value</b> Address: 0x9528 Min.: -32.767 Max.: 32.767 Default: 0.000 <b>Value Range:</b> -32.767 V to +32.767 V <b>Description</b> -	Effective mode: - Unit: V Data type: Int16 Change: Unchangeable
<b>L5-41</b>	<b>AI2 raw sampling value</b> Address: 0x9529 Min.: -32.767 Max.: 32.767 Default: 0.000 <b>Value Range:</b> -32.767 V to +32.767 V <b>Description</b> -	Effective mode: - Unit: V Data type: Int16 Change: Unchangeable
<b>L5-42</b>	<b>AI3 raw sampling value</b> Address: 0x952A Min.: -32.767 Max.: 32.767 Default: 0.000 <b>Value Range:</b> -32.767 V to +32.767 V <b>Description</b> -	Effective mode: - Unit: V Data type: Int16 Change: Unchangeable
<b>L5-43</b>	<b>AI1 sampling value after correction</b> Address: 0x952B Min.: -327.67 Max.: 327.67 Default: 0.00 <b>Value Range:</b> -327.67 V to +327.67 V <b>Description</b> -	Effective mode: - Unit: V Data type: Int16 Change: Unchangeable
<b>L5-44</b>	<b>AI2 sampling value after correction</b> Address: 0x952C	Effective mode: -

Min.:	-327.67	Unit:	V
Max.:	327.67	Data type:	Int16
Default:	0.00	Change:	Unchangeable

**Value Range:**  
-327.67 V to +327.67 V

**Description**

-

**L5-45 AI3 sampling value after correction**

Address:	0x952D	Effective mode:	-
Min.:	-327.67	Unit:	V
Max.:	327.67	Data type:	Int16
Default:	0.00	Change:	Unchangeable

**Value Range:**  
-327.67 V to +327.67 V

**Description**

-

**L5-46 Input value of AI1 curve**

Address:	0x952E	Effective mode:	-
Min.:	-327.67	Unit:	V
Max.:	327.67	Data type:	Int16
Default:	0.00	Change:	Unchangeable

**Value Range:**  
-327.67 V to +327.67 V

**Description**

-

**L5-47 Input value of AI2 curve**

Address:	0x952F	Effective mode:	-
Min.:	-327.67	Unit:	V
Max.:	327.67	Data type:	Int16
Default:	0.00	Change:	Unchangeable

**Value Range:**  
-327.67 V to +327.67 V

**Description**

-

**L5-48 Input value of AI3 curve**

Address:	0x9530	Effective mode:	-
Min.:	-327.67	Unit:	V
Max.:	327.67	Data type:	Int16
Default:	0.00	Change:	Unchangeable

**Value Range:**  
-327.67 V to +327.67 V

**Description**

-

**L5-49 AO1 output (before correction)**

Address:	0x9531	Effective mode:	-
Min.:	-327.67	Unit:	V
Max.:	327.67	Data type:	Int16



0 to 65535

**Description**

-

**L5-55**

**Length count**

Address: 0x9537

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L5-56**

**Command word set through communication**

Address: 0x9538

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

Bit00: OFF1

Bit01: OFF2

Bit02: OFF3

Bit03: Running permission

Bit04: Reset

Bit05: JOG1

Bit06: JOG2

Bit07: Speed negation

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L5-57**

**Communication setpoint**

Address: 0x9539

Min.: 0.0

Max.: 6553.5

Default: 0.0

**Value Range:**

0.0% to 6553.5%

**Description**

-

Effective mode: -

Unit: %

Data type: Int16

Change: Unchangeable

**L5-58**

**Communication command clear flag**

Address: 0x953A

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

<b>L5-59</b>	<b>RFG performance forcing enable</b>	Address: 0x953B Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>L5-60</b>	<b>Pre-auto-tuning command</b>	Address: 0x953C Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>L5-62</b>	<b>DI immediate DC braking command</b>	Address: 0x953E Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>L5-63</b>	<b>Drive sampling DI state</b>	Address: 0x953F Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>L5-64</b>	<b>Drive output DI state</b>	Address: 0x9540 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>L5-65</b>	<b>Final output DI state</b>	Address: 0x9541	Effective mode: -



Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**L5-66 DI state inversion**

Address: 0x9542  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**L5-67 DO state before filtering**

Address: 0x9543  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**L5-68 Final output DO state**

Address: 0x9544  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**L5-69 I/O monitoring state**

Address: 0x9545  
 Min.: 0  
 Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**L5-70 Main speed**

Address: 0x9546  
 Min.: 0.0  
 Max.: 6553.5

Effective mode: -  
 Unit: %  
 Data type: Int16



-327.67 mA to +327.67 mA

**Description**

-

**L5-78 Flag indicating whether mapping write data is 32-bit**

Address:	0x954E	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L5-79 External communication data low-order 16 bits 1**

Address:	0x954F	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L5-80 External communication data low-order 16 bits 2**

Address:	0x9550	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L5-81 External communication data low-order 16 bits 3**

Address:	0x9551	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L5-82 External communication data low-order 16 bits 4**

Address:	0x9552	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L5-83 External communication data low-order 16 bits 5**

Address:	0x9553	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L5-84 External communication data low-order 16 bits 6**

Address:	0x9554	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L5-85 External communication data low-order 16 bits 7**

Address:	0x9555	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L5-86 External communication data low-order 16 bits 8**

Address:	0x9556	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L5-87 External communication data low-order 16 bits 9**

Address:	0x9557	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable

**Value Range:**

0 to 65535

**Description**

-

- L5-88 External communication data low-order 16 bits 10**  
 Address: 0x9558 Effective mode: -  
 Min.: 0 Unit: -  
 Max.: 65535 Data type: UInt16  
 Default: 0 Change: Unchangeable  
**Value Range:**  
 0 to 65535  
**Description**  
 -
- L5-89 External communication data high-order 16 bits 1**  
 Address: 0x9559 Effective mode: -  
 Min.: 0 Unit: -  
 Max.: 65535 Data type: UInt16  
 Default: 0 Change: Unchangeable  
**Value Range:**  
 0 to 65535  
**Description**  
 -
- L5-90 External communication data high-order 16 bits 2**  
 Address: 0x955A Effective mode: -  
 Min.: 0 Unit: -  
 Max.: 65535 Data type: UInt16  
 Default: 0 Change: Unchangeable  
**Value Range:**  
 0 to 65535  
**Description**  
 -
- L5-91 External communication data high-order 16 bits 3**  
 Address: 0x955B Effective mode: -  
 Min.: 0 Unit: -  
 Max.: 65535 Data type: UInt16  
 Default: 0 Change: Unchangeable  
**Value Range:**  
 0 to 65535  
**Description**  
 -
- L5-92 External communication data high-order 16 bits 4**  
 Address: 0x955C Effective mode: -  
 Min.: 0 Unit: -  
 Max.: 65535 Data type: UInt16  
 Default: 0 Change: Unchangeable  
**Value Range:**  
 0 to 65535  
**Description**  
 -
- L5-93 External communication data high-order 16 bits 5**  
 Address: 0x955D Effective mode: -

Min.: 0 Unit: -  
Max.: 65535 Data type: UInt16  
Default: 0 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L5-94 External communication data high-order 16 bits 6**

Address: 0x955E Effective mode: -  
Min.: 0 Unit: -  
Max.: 65535 Data type: UInt16  
Default: 0 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L5-95 External communication data high-order 16 bits 7**

Address: 0x955F Effective mode: -  
Min.: 0 Unit: -  
Max.: 65535 Data type: UInt16  
Default: 0 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L5-96 External communication data high-order 16 bits 8**

Address: 0x9560 Effective mode: -  
Min.: 0 Unit: -  
Max.: 65535 Data type: UInt16  
Default: 0 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L5-97 External communication data high-order 16 bits 9**

Address: 0x9561 Effective mode: -  
Min.: 0 Unit: -  
Max.: 65535 Data type: UInt16  
Default: 0 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L5-98 External communication data high-order 16 bits 10**

Address: 0x9562 Effective mode: -  
Min.: 0 Unit: -  
Max.: 65535 Data type: UInt16



Min.:	0.0	Unit:	kW
Max.:	6553.5	Data type:	UInt16
Default:	0.0	Change:	Unchangeable

**Value Range:**

0.0 kW to 6553.5 kW

**Description**

-

**L6-05 System main status word C**

Address:	0x9605	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable

**Value Range:**

Bit00: Control channel

Bit01: Reference channel

Bit02: Motor selection bit 0

Bit03: Motor selection bit 1

Bit04: Exception (fault and alarm)

Bit05: EEPROM idle

**Description**

-

**L6-06 Motor object auxiliary status word 2**

Address:	0x9606	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L6-07 V/f separation stop frequency control**

Address:	0x9607	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L6-08 Torque control frequency offset mode**

Address:	0x9608	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable

**Value Range:**

0 to 65535



**Description**

-

**L6-09 RFG acceleration/deceleration state**

Address: 0x9609

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L6-10 RFG rounding state**

Address: 0x960A

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L6-11 Inverter protection state monitoring**

Address: 0x960B

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

Bit00: Pulse-by-pulse current limit protection

Bit01: Pulse-by-pulse current limit inhibition

Bit02: Input phase loss Bit03: Output phase loss

Bit04: Pre-charge resistor exception Bit05: Drive overload

Bit06: Drive pre-overload

Bit07: Bus overvoltage

Bit08: Bus undervoltage

Bit09: Output overcurrent

Bit10: Drive overtemperature

Bit11: Drive pre-temperature

Bit12: Leakage current protection

Bit13: Current control exception Bit14: Software overcurrent

Bit15: Short-to-ground (reserved)

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L6-12 Modulation module status word**

Address: 0x960C

Min.: 0

Max.: 65535

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L6-13 Body sampling status word**

Address: 0x960D

Min.: 0

Max.: 65535

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L6-14 AI2 temperature mode - motor temperature sampling value**

Address: 0x960E

Min.: -32767

Max.: 32767

Default: 0

Effective mode: -

Unit: °C

Data type: Int16

Change: Unchangeable

**Value Range:**

-32767°C to +32767°C

**Description**

-

**L6-15 AI3 temperature mode - motor temperature sampling value**

Address: 0x960F

Min.: 0

Max.: 65535

Default: 0

Effective mode: -

Unit: °C

Data type: UInt16

Change: Unchangeable

**Value Range:**

0°C to 65535°C

**Description**

-

**L6-16 Motor protection status word**

Address: 0x9610

Min.: 0

Max.: 65535

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**Value Range:**

- Bit00: Motor overload
- Bit01: Motor pre-overload
- Bit02: Output load loss (reserved)
- Bit03: PG-detected fault (reserved)
- Bit04: Current control error
- Bit05: Locked-rotor
- Bit06: Motor wire breakage, two- or three-phase loss (reserved)
- Bit07: Excessive motor load at constant current (reserved)
- Bit08: VC out-of-step due to magnetic flux exception
- Bit09: Abnormal speed fluctuation (reserved)
- Bit10: Motor parameter setting error (reserved)
- Bit11: HSVM sampling card wire breakage and misphase (reserved)
- Bit12: Synchronous motor overcurrent (reserved)

**Description**

-

**L6-17 Speed controller status word**

Address:	0x9611	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable

**Value Range:**

- Bit00: Speed loop enable
- Bit01: Actual state of integral mode
- Bit02: Integral forcing enable Bit03: Feedforward torque enable
- Bit04: Positive limit reach Bit05: Negative limit reach
- Bit06: Integral hold enable
- Bit07: Fast integral cancel enable
- Bit08: Anti-load disturbance enable
- Bit09: Reserved
- Bit10: Reserved
- Bit11: Reserved
- Bit12: Reserved
- Bit13: Reserved
- Bit14: Reserved
- Bit15: Reserved

**Description**

-

**L6-18 VDC control status word**

Address:	0x9612	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable

**Value Range:**

Bit00: Undervoltage suppression enable  
 Bit01: Overvoltage suppression enable  
 Bit02: Low frequency lower limit for enabling undervoltage suppression  
 Bit03: Reserved  
 Bit04: Reserved  
 Bit05: Reserved  
 Bit06: Reserved  
 Bit07: Reserved  
 Bit08: Reserved  
 Bit09: Reserved  
 Bit10: Reserved  
 Bit11: Reserved  
 Bit12: Reserved  
 Bit13: Reserved  
 Bit14: Reserved  
 Bit15: Reserved

**Description**

-

**L6-19 Excitation module status word**

Address: 0x9613  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L6-20 Motor model status word**

Address: 0x9614  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L6-21 Motor current loop status word**

Address: 0x9615  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

<b>L6-22</b>	<b>Motor V/f control status word</b> Address: 0x9616 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>L6-23</b>	<b>Per-unit frequency after HDO function source selection</b> Address: 0x9617 Min.: 0.00 Max.: 655.35 Default: 0.00 <b>Value Range:</b> 0.00% to 655.35% <b>Description</b> -	Effective mode: - Unit: % Data type: Int16 Change: Unchangeable
<b>L6-24</b>	<b>Per-unit frequency before HDO curve correction</b> Address: 0x9618 Min.: 0.00 Max.: 655.35 Default: 0.00 <b>Value Range:</b> 0.00% to 655.35% <b>Description</b> -	Effective mode: - Unit: % Data type: Int16 Change: Unchangeable
<b>L6-25</b>	<b>Per-unit value of HDO final output frequency</b> Address: 0x9619 Min.: 0.00 Max.: 655.35 Default: 0.00 <b>Value Range:</b> 0.00% to 655.35% <b>Description</b> -	Effective mode: - Unit: % Data type: Int16 Change: Unchangeable
<b>L6-26</b>	<b>Actual value of HDO final output frequency</b> Address: 0x961A Min.: 0.00 Max.: 655.35 Default: 0.00 <b>Value Range:</b> 0.00 kHz to 655.35 kHz <b>Description</b> -	Effective mode: - Unit: kHz Data type: UInt16 Change: Unchangeable
<b>L6-35</b>	<b>System main status word D</b> Address: 0x9623	Effective mode: -

Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable

**Value Range:**

Bit0: Zero-speed running (inactive at stop)

Bit1: Zero-speed running (active at stop)

Bit2: Frequency-level detection 1

Bit3: Frequency-level detection 2

Bit4: AI1 &gt; AI2

Bit5: Simple PLC cycle completion

Bit6: Communication setpoint

Bit7: STO state

Bit8: Current 1 reach

Bit9: Current 2 reach

Bit10: Zero current state

Bit11: Output overcurrent

Bit12: Motor overload pre-warning

Bit13: AC drive overload pre-warning

Bit14: Undervoltage

Bit15: Load loss

**Description**

-

## 4.74 L7: Word Connector 3 Parameters

**L7-00 Per-unit constant value 22**

Address:	0x9700	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L7-01 Per-unit constant value 23**

Address:	0x9701	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L7-02 Per-unit constant value 24**

Address:	0x9702	Effective mode:	-
Min.:	0	Unit:	-

Max.: 65535  
 Default: 0  
**Value Range:**  
 0 to 65535  
**Description**  
 -

Data type: UInt16  
 Change: Unchangeable

**L7-03 Per-unit constant value 25**

Address: 0x9703  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**L7-04 Per-unit constant value 26**

Address: 0x9704  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**L7-05 Per-unit constant value 27**

Address: 0x9705  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**L7-06 Per-unit constant value 28**

Address: 0x9706  
 Min.: 0  
 Max.: 65535  
 Default: 0

**Value Range:**  
 0 to 65535  
**Description**  
 -

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**L7-07 Per-unit constant value 29**

Address: 0x9707  
 Min.: 0  
 Max.: 65535  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L7-08****Per-unit constant value 30**

Address: 0x9708

Min.: 0

Max.: 65535

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L7-09****Per-unit constant value 31**

Address: 0x9709

Min.: 0

Max.: 65535

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L7-10****Per-unit constant value 32**

Address: 0x970A

Min.: 0

Max.: 65535

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L7-11****Per-unit constant value 33**

Address: 0x970B

Min.: 0

Max.: 65535

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L7-12****Per-unit constant value 34**

Address: 0x970C

Min.: 0

Max.: 65535

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**Value Range:**

0 to 65535



**Description**

-

**L7-13**

**Per-unit constant value 35**

Address: 0x970D

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L7-14**

**Per-unit constant value 36**

Address: 0x970E

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L7-15**

**Per-unit constant value 37**

Address: 0x970F

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L7-16**

**Per-unit constant value 38**

Address: 0x9710

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L7-17**

**Per-unit constant value 39**

Address: 0x9711

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

<b>L7-18</b>	<b>Per-unit constant value 40</b> Address: 0x9712 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>L7-19</b>	<b>Per-unit constant value 41</b> Address: 0x9713 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>L7-20</b>	<b>Per-unit constant value 42</b> Address: 0x9714 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>L7-21</b>	<b>B2W module A</b> Address: 0x9715 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>L7-22</b>	<b>B2W module B</b> Address: 0x9716 Min.: 0 Max.: 65535 Default: 0 <b>Value Range:</b> 0 to 65535 <b>Description</b> -	Effective mode: - Unit: - Data type: UInt16 Change: Unchangeable
<b>L7-23</b>	<b>B2W module C</b> Address: 0x9717	Effective mode: -

## Parameter Group

---

Min.: 0  
Max.: 65535  
Default: 0  
**Value Range:**  
0 to 65535  
**Description**  
-

Unit: -  
Data type: UInt16  
Change: Unchangeable

**L7-24 B2W module D**  
Address: 0x9718  
Min.: 0  
Max.: 65535  
Default: 0  
**Value Range:**  
0 to 65535  
**Description**  
-

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Unchangeable

**L7-25 DW-W HIWORD A**  
Address: 0x9719  
Min.: 0  
Max.: 65535  
Default: 0  
**Value Range:**  
0 to 65535  
**Description**  
-

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Unchangeable

**L7-26 DW-W LOWORD A**  
Address: 0x971A  
Min.: 0  
Max.: 65535  
Default: 0  
**Value Range:**  
0 to 65535  
**Description**  
-

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Unchangeable

**L7-27 DW-W HIWORD B**  
Address: 0x971B  
Min.: 0  
Max.: 65535  
Default: 0  
**Value Range:**  
0 to 65535  
**Description**  
-

Effective mode: -  
Unit: -  
Data type: UInt16  
Change: Unchangeable

**L7-28 DW-W LOWORD B**  
Address: 0x971C  
Min.: 0  
Max.: 65535

Effective mode: -  
Unit: -  
Data type: UInt16

	Default: 0	Change: Unchangeable
	<b>Value Range:</b> 0 to 65535	
	<b>Description</b> -	
<b>L7-29</b>	<b>DW-W HIWORD C</b>	
	Address: 0x971D	Effective mode: -
	Min.: 0	Unit: -
	Max.: 65535	Data type: UInt16
	Default: 0	Change: Unchangeable
	<b>Value Range:</b> 0 to 65535	
	<b>Description</b> -	
<b>L7-30</b>	<b>DW-W LOWORD C</b>	
	Address: 0x971E	Effective mode: -
	Min.: 0	Unit: -
	Max.: 65535	Data type: UInt16
	Default: 0	Change: Unchangeable
	<b>Value Range:</b> 0 to 65535	
	<b>Description</b> -	
<b>L7-31</b>	<b>DW-W HIWORD D</b>	
	Address: 0x971F	Effective mode: -
	Min.: 0	Unit: -
	Max.: 65535	Data type: UInt16
	Default: 0	Change: Unchangeable
	<b>Value Range:</b> 0 to 65535	
	<b>Description</b> -	
<b>L7-32</b>	<b>DW-W LOWORD D</b>	
	Address: 0x9720	Effective mode: -
	Min.: 0	Unit: -
	Max.: 65535	Data type: UInt16
	Default: 0	Change: Unchangeable
	<b>Value Range:</b> 0 to 65535	
	<b>Description</b> -	
<b>L7-36</b>	<b>16-bit parameter monitoring 1</b>	
	Address: 0x9724	Effective mode: -
	Min.: 0	Unit: -
	Max.: 65535	Data type: UInt16
	Default: 0	Change: Unchangeable
	<b>Value Range:</b>	

0 to 65535

**Description**

-

**L7-37 16-bit parameter monitoring 2**

Address: 0x9725

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L7-38 16-bit parameter monitoring 3**

Address: 0x9726

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L7-39 16-bit parameter monitoring 4**

Address: 0x9727

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L7-40 16-bit parameter monitoring 5**

Address: 0x9728

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L7-41 Output of word selector A**

Address: 0x9729

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**Description**

-

**L7-42 Output of word selector B**

Address: 0x972A

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L7-43 Output of word selector C**

Address: 0x972B

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L7-44 Output of word selector D**

Address: 0x972C

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L7-50 Internal parameter monitoring output 1**

Address: 0x9732

Min.: -32767

Max.: 32767

Default: 0

**Value Range:**

-32767 to +32767

**Description**

-

Effective mode: -

Unit: -

Data type: Int16

Change: Unchangeable

**L7-51 Internal parameter monitoring output 2**

Address: 0x9733

Min.: -32767

Max.: 32767

Default: 0

**Value Range:**

-32767 to +32767

**Description**

-

Effective mode: -

Unit: -

Data type: Int16

Change: Unchangeable

<b>L7-52</b>	<b>Internal parameter monitoring output 3</b> Address: 0x9734 Min.: -32767 Max.: 32767 Default: 0 <b>Value Range:</b> -32767 to +32767 <b>Description</b> -	Effective mode: - Unit: - Data type: Int16 Change: Unchangeable
<b>L7-53</b>	<b>Internal parameter monitoring output 4</b> Address: 0x9735 Min.: -32767 Max.: 32767 Default: 0 <b>Value Range:</b> -32767 to +32767 <b>Description</b> -	Effective mode: - Unit: - Data type: Int16 Change: Unchangeable
<b>L7-54</b>	<b>Internal parameter monitoring output 5</b> Address: 0x9736 Min.: -32767 Max.: 32767 Default: 0 <b>Value Range:</b> -32767 to +32767 <b>Description</b> -	Effective mode: - Unit: - Data type: Int16 Change: Unchangeable
<b>L7-55</b>	<b>Internal parameter monitoring output 6</b> Address: 0x9737 Min.: -32767 Max.: 32767 Default: 0 <b>Value Range:</b> -32767 to +32767 <b>Description</b> -	Effective mode: - Unit: - Data type: Int16 Change: Unchangeable
<b>L7-56</b>	<b>Internal parameter monitoring output 7</b> Address: 0x9738 Min.: -32767 Max.: 32767 Default: 0 <b>Value Range:</b> -32767 to +32767 <b>Description</b> -	Effective mode: - Unit: - Data type: Int16 Change: Unchangeable
<b>L7-57</b>	<b>Internal parameter monitoring output 8</b> Address: 0x9739	Effective mode: -

Min.:	-32767	Unit:	-
Max.:	32767	Data type:	Int16
Default:	0	Change:	Unchangeable

**Value Range:**  
-32767 to +32767

**Description**  
-

## 4.75 L9: DWord Connector 1 Parameters

### L9-00 Output of W-DW module A

Address:	0x9900	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable

**Value Range:**  
0 to 65535

**Description**  
-

### L9-01 Output of W-DW module B

Address:	0x9901	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable

**Value Range:**  
0 to 65535

**Description**  
-

### L9-02 Output of W-DW module C

Address:	0x9902	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable

**Value Range:**  
0 to 65535

**Description**  
-

### L9-03 Output of W-DW module D

Address:	0x9903	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data type:	UInt16
Default:	0	Change:	Unchangeable

**Value Range:**  
0 to 65535

**Description**  
-



**L9-04 Output of DWord selector module A**

Address: 0x9904  
 Min.: 0  
 Max.: 65535  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L9-05 Output of DWord selector module B**

Address: 0x9905  
 Min.: 0  
 Max.: 65535  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L9-06 Output of DWord selector module C**

Address: 0x9906  
 Min.: 0  
 Max.: 65535  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L9-07 Output of DWord selector module D**

Address: 0x9907  
 Min.: 0  
 Max.: 65535  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L9-08 Output of fixed-point absolute value module F**

Address: 0x9908  
 Min.: 0  
 Max.: 65535  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L9-09 Output of fixed-point absolute value module G**

Address: 0x9909

Effective mode: -

Min.: 0 Unit: -  
Max.: 65535 Data type: UInt16  
Default: 0 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L9-10 Output of fixed-point absolute value module H**

Address: 0x990A Effective mode: -  
Min.: 0 Unit: -  
Max.: 65535 Data type: UInt16  
Default: 0 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L9-11 Output of fixed-point ADD/SUBTRACT module F**

Address: 0x990B Effective mode: -  
Min.: 0 Unit: -  
Max.: 65535 Data type: UInt16  
Default: 0 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L9-12 Output of fixed-point ADD/SUBTRACT module G**

Address: 0x990C Effective mode: -  
Min.: 0 Unit: -  
Max.: 65535 Data type: UInt16  
Default: 0 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L9-13 Output of fixed-point ADD/SUBTRACT module H**

Address: 0x990D Effective mode: -  
Min.: 0 Unit: -  
Max.: 65535 Data type: UInt16  
Default: 0 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L9-14 Output of fixed-point MULTIPLY/DIVIDE module F**

Address: 0x990E Effective mode: -  
Min.: 0 Unit: -  
Max.: 65535 Data type: UInt16



0 to 65535

**Description**

-

**L9-20****Output of fixed-point limiting module F**

Address: 0x9914

Min.: 0

Max.: 65535

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L9-21****32-bit parameter monitoring 1**

Address: 0x9915

Min.: 0

Max.: 65535

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L9-22****32-bit parameter monitoring 2**

Address: 0x9916

Min.: 0

Max.: 65535

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L9-23****32-bit parameter monitoring 3**

Address: 0x9917

Min.: 0

Max.: 65535

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L9-24****32-bit parameter monitoring 4**

Address: 0x9918

Min.: 0

Max.: 65535

Default: 0

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L9-25 32-bit parameter monitoring 5**

Address: 0x9919

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L9-30 Variable connector viewing output 1**

Address: 0x991E

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L9-31 Variable connector viewing output 2**

Address: 0x991F

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L9-32 Variable connector viewing output 3**

Address: 0x9920

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L9-33 Variable connector viewing output 4**

Address: 0x9921

Min.: 0

Max.: 65535

Default: 0

**Value Range:**

0 to 65535

**Description**

-

Effective mode: -

Unit: -

Data type: UInt16

Change: Unchangeable

**L9-34 Variable connector viewing output 5**

Address: 0x9922  
 Min.: 0  
 Max.: 65535  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L9-35 Variable connector viewing output 6**

Address: 0x9923  
 Min.: 0  
 Max.: 65535  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L9-36 Variable connector viewing output 7**

Address: 0x9924  
 Min.: 0  
 Max.: 65535  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**L9-37 Variable connector viewing output 8**

Address: 0x9925  
 Min.: 0  
 Max.: 65535  
 Default: 0

Effective mode: -  
 Unit: -  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**

0 to 65535

**Description**

-

**4.76 LB: Floating-point Connector 1 Parameters****LB-00 A11 input per-unit value**

Address: 0x9B00  
 Min.: 0.0  
 Max.: 6553.5  
 Default: 0.0

Effective mode: -  
 Unit: %  
 Data type: Int16  
 Change: Unchangeable

**Value Range:**

0.0% to 6553.5%

**Description**

-

**LB-01 AI2 input per-unit value**

Address: 0x9B01

Min.: 0.0

Max.: 6553.5

Default: 0.0

Effective mode: -

Unit: %

Data type: Int16

Change: Unchangeable

**Value Range:**

0.0% to 6553.5%

**Description**

-

**LB-02 AI3 input per-unit value**

Address: 0x9B02

Min.: 0.0

Max.: 6553.5

Default: 0.0

Effective mode: -

Unit: %

Data type: Int16

Change: Unchangeable

**Value Range:**

0.0% to 6553.5%

**Description**

-

**LB-03 HDI input per-unit value**

Address: 0x9B03

Min.: 0.0

Max.: 6553.5

Default: 0.0

Effective mode: -

Unit: %

Data type: Int16

Change: Unchangeable

**Value Range:**

0.0% to 6553.5%

**Description**

-

**LB-04 Per-unit value of speed reference set through communication**

Address: 0x9B04

Min.: 0.0

Max.: 6553.5

Default: 0.0

Effective mode: -

Unit: %

Data type: Int16

Change: Unchangeable

**Value Range:**

0.0% to 6553.5%

**Description**

-

**LB-05 Main speed reference**

Address: 0x9B05

Min.: 0.0

Max.: 6553.5

Default: 0.0

Effective mode: -

Unit: %

Data type: Int16

Change: Unchangeable

**Value Range:**

0.0% to 6553.5%

**Description**

-

<b>LB-06</b>	<b>Auxiliary speed reference</b> Address: 0x9B06 Min.: 0.0 Max.: 6553.5 Default: 0.0 <b>Value Range:</b> 0.0% to 6553.5% <b>Description</b> -	Effective mode: - Unit: % Data type: Int16 Change: Unchangeable
<b>LB-07</b>	<b>Channel target speed</b> Address: 0x9B07 Min.: 0.0 Max.: 6553.5 Default: 0.0 <b>Value Range:</b> 0.0% to 6553.5% <b>Description</b> -	Effective mode: - Unit: % Data type: Int16 Change: Unchangeable
<b>LB-08</b>	<b>Channel supplementary speed</b> Address: 0x9B08 Min.: 0.0 Max.: 6553.5 Default: 0.0 <b>Value Range:</b> 0.0% to 6553.5% <b>Description</b> -	Effective mode: - Unit: % Data type: Int16 Change: Unchangeable
<b>LB-09</b>	<b>Supplementary speed setpoint</b> Address: 0x9B09 Min.: 0.0 Max.: 6553.5 Default: 0.0 <b>Value Range:</b> 0.0% to 6553.5% <b>Description</b> -	Effective mode: - Unit: % Data type: Int16 Change: Unchangeable
<b>LB-10</b>	<b>Maximum forward speed</b> Address: 0x9B0A Min.: 0.0 Max.: 6553.5 Default: 0.0 <b>Value Range:</b> 0.0% to 6553.5% <b>Description</b> -	Effective mode: - Unit: % Data type: Int16 Change: Unchangeable
<b>LB-11</b>	<b>Minimum forward speed</b> Address: 0x9B0B	Effective mode: -



## Parameter Group

---

Min.: 0.0  
Max.: 6553.5  
Default: 0.0  
**Value Range:**  
0.0% to 6553.5%  
**Description**  
-

Unit: %  
Data type: Int16  
Change: Unchangeable

### LB-12 Maximum reverse speed

Address: 0x9B0C  
Min.: 0.0  
Max.: 6553.5  
Default: 0.0  
**Value Range:**  
0.0% to 6553.5%  
**Description**  
-

Effective mode: -  
Unit: %  
Data type: Int16  
Change: Unchangeable

### LB-13 Minimum reverse speed

Address: 0x9B0D  
Min.: 0.0  
Max.: 6553.5  
Default: 0.0  
**Value Range:**  
0.0% to 6553.5%  
**Description**  
-

Effective mode: -  
Unit: %  
Data type: Int16  
Change: Unchangeable

### LB-14 Forward limit

Address: 0x9B0E  
Min.: 0.0  
Max.: 6553.5  
Default: 0.0  
**Value Range:**  
0.0% to 6553.5%  
**Description**  
-

Effective mode: -  
Unit: %  
Data type: Int16  
Change: Unchangeable

### LB-15 Reverse limit

Address: 0x9B0F  
Min.: 0.0  
Max.: 6553.5  
Default: 0.0  
**Value Range:**  
0.0% to 6553.5%  
**Description**  
-

Effective mode: -  
Unit: %  
Data type: Int16  
Change: Unchangeable

### LB-16 Speed reference - raw

Address: 0x9B10  
Min.: 0.0  
Max.: 6553.5

Effective mode: -  
Unit: %  
Data type: Int16

Default: 0.0  
**Value Range:**  
 0.0% to 6553.5%  
**Description**  
 -

Change: Unchangeable

**LB-17 Speed reference - direction limit**

Address: 0x9B11  
 Min.: 0.0  
 Max.: 6553.5  
 Default: 0.0

**Value Range:**  
 0.0% to 6553.5%

**Description**  
 -

Effective mode: -  
 Unit: %  
 Data type: Int16  
 Change: Unchangeable

**LB-18 Speed reference - after limiting**

Address: 0x9B12  
 Min.: 0.0  
 Max.: 6553.5  
 Default: 0.0

**Value Range:**  
 0.0% to 6553.5%

**Description**  
 -

Effective mode: -  
 Unit: %  
 Data type: Int16  
 Change: Unchangeable

**LB-19 Speed reference - after skip frequency**

Address: 0x9B13  
 Min.: 0.0  
 Max.: 6553.5  
 Default: 0.0

**Value Range:**  
 0.0% to 6553.5%

**Description**  
 -

Effective mode: -  
 Unit: %  
 Data type: Int16  
 Change: Unchangeable

**LB-20 Speed reference - after ramp shift**

Address: 0x9B14  
 Min.: 0.0  
 Max.: 6553.5  
 Default: 0.0

**Value Range:**  
 0.0% to 6553.5%

**Description**  
 -

Effective mode: -  
 Unit: %  
 Data type: Int16  
 Change: Unchangeable

**LB-21 Torque reference**

Address: 0x9B15  
 Min.: 0.0  
 Max.: 6553.5  
 Default: 0.0

**Value Range:**

Effective mode: -  
 Unit: %  
 Data type: Int16  
 Change: Unchangeable

0.0% to 6553.5%

**Description**

-

**LB-22**

**Supplementary torque**

Address: 0x9B16

Min.: 0.0

Max.: 6553.5

Default: 0.0

**Value Range:**

0.0% to 6553.5%

**Description**

-

Effective mode: -

Unit: %

Data type: Int16

Change: Unchangeable

**LB-23**

**Torque reference after filtering**

Address: 0x9B17

Min.: 0.0

Max.: 6553.5

Default: 0.0

**Value Range:**

0.0% to 6553.5%

**Description**

-

Effective mode: -

Unit: %

Data type: Int16

Change: Unchangeable

**LB-24**

**Target torque reference**

Address: 0x9B18

Min.: 0.0

Max.: 6553.5

Default: 0.0

**Value Range:**

0.0% to 6553.5%

**Description**

-

Effective mode: -

Unit: %

Data type: Int16

Change: Unchangeable

**LB-25**

**Maximum torque**

Address: 0x9B19

Min.: 0.0

Max.: 6553.5

Default: 0.0

**Value Range:**

0.0% to 6553.5%

**Description**

-

Effective mode: -

Unit: %

Data type: Int16

Change: Unchangeable

**LB-26**

**Minimum torque**

Address: 0x9B1A

Min.: 0.0

Max.: 6553.5

Default: 0.0

**Value Range:**

0.0% to 6553.5%

Effective mode: -

Unit: %

Data type: Int16

Change: Unchangeable

**Description**

-

**LB-27****RFG reference input**

Address: 0x9B1B

Min.: 0.0

Max.: 6553.5

Default: 0.0

**Value Range:**

0.0% to 6553.5%

**Description**

-

Effective mode: -

Unit: %

Data type: Int16

Change: Unchangeable

**LB-28****RFG calculation input**

Address: 0x9B1C

Min.: 0.0

Max.: 6553.5

Default: 0.0

**Value Range:**

0.0% to 6553.5%

**Description**

-

Effective mode: -

Unit: %

Data type: Int16

Change: Unchangeable

**LB-29****RFG actual target**

Address: 0x9B1D

Min.: 0.0

Max.: 6553.5

Default: 0.0

**Value Range:**

0.0% to 6553.5%

**Description**

-

Effective mode: -

Unit: %

Data type: Int16

Change: Unchangeable

**LB-30****RFG calculation output**

Address: 0x9B1E

Min.: 0.0

Max.: 6553.5

Default: 0.0

**Value Range:**

0.0% to 6553.5%

**Description**

-

Effective mode: -

Unit: %

Data type: Int16

Change: Unchangeable

**LB-31****RFG final output (maximum per-unit value)**

Address: 0x9B1F

Min.: 0.0

Max.: 6553.5

Default: 0.0

**Value Range:**

0.0% to 6553.5%

**Description**

-

Effective mode: -

Unit: %

Data type: Int16

Change: Unchangeable

**LB-32 RFG final output (rated per-unit value)**

Address: 0x9B20  
 Min.: 0.0  
 Max.: 6553.5  
 Default: 0.0

Effective mode: -  
 Unit: %  
 Data type: Int16  
 Change: Unchangeable

**Value Range:**  
 0.0% to 6553.5%

**Description**  
 -

**LB-33 Updown upper limit**

Address: 0x9B21  
 Min.: 0.0  
 Max.: 6553.5  
 Default: 0.0

Effective mode: -  
 Unit: %  
 Data type: Int16  
 Change: Unchangeable

**Value Range:**  
 0.0% to 6553.5%

**Description**  
 -

**LB-34 Updown lower limit**

Address: 0x9B22  
 Min.: 0.0  
 Max.: 6553.5  
 Default: 0.0

Effective mode: -  
 Unit: %  
 Data type: Int16  
 Change: Unchangeable

**Value Range:**  
 0.0% to 6553.5%

**Description**  
 -

**LB-35 RFG acceleration**

Address: 0x9B23  
 Min.: 0.0  
 Max.: 6553.5  
 Default: 0.0

Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**  
 0.0% to 6553.5%

**Description**  
 -

**LB-36 V/f separation voltage output**

Address: 0x9B24  
 Min.: 0.0  
 Max.: 6553.5  
 Default: 0.0

Effective mode: -  
 Unit: %  
 Data type: UInt16  
 Change: Unchangeable

**Value Range:**  
 0.0% to 6553.5%

**Description**  
 -

**LB-37 RFG force value of startup frequency function**

Address: 0x9B25

Effective mode: -

Min.: 0.0 Unit: %  
 Max.: 6553.5 Data type: Int16  
 Default: 0.0 Change: Unchangeable

**Value Range:**  
 0.0% to 6553.5%

**Description**

-

#### LB-38 Speed limit in torque control mode

Address: 0x9B26 Effective mode: -  
 Min.: 0.0 Unit: %  
 Max.: 6553.5 Data type: Int16  
 Default: 0.0 Change: Unchangeable

**Value Range:**  
 0.0% to 6553.5%

**Description**

-

#### LB-39 Frequency offset in torque control mode

Address: 0x9B27 Effective mode: -  
 Min.: 0.0 Unit: %  
 Max.: 6553.5 Data type: UInt16  
 Default: 0.0 Change: Unchangeable

**Value Range:**  
 0.0% to 6553.5%

**Description**

-

#### LB-40 Running frequency

Address: 0x9B28 Effective mode: -  
 Min.: 0.0 Unit: %  
 Max.: 6553.5 Data type: Int16  
 Default: 0.0 Change: Unchangeable

**Value Range:**  
 0.0% to 6553.5%

**Description**

-

#### LB-41 Frequency reference

Address: 0x9B29 Effective mode: -  
 Min.: 0.0 Unit: %  
 Max.: 6553.5 Data type: Int16  
 Default: 0.0 Change: Unchangeable

**Value Range:**  
 0.0% to 6553.5%

**Description**

-

#### LB-42 Speed reference - after UpDn

Address: 0x9B2A Effective mode: -  
 Min.: 0.0 Unit: %  
 Max.: 6553.5 Data type: Int16



Min.: 0.0  
Max.: 6553.5  
Default: 0.0

Unit: %  
Data type: Int16  
Change: Unchangeable

**Value Range:**  
0.0% to 6553.5%

**Description**

-

**LC-05 Current loop saturation voltage**

Address: 0x9C05  
Min.: 0.0  
Max.: 6553.5  
Default: 0.0

Effective mode: -  
Unit: %  
Data type: Int16  
Change: Unchangeable

**Value Range:**  
0.0% to 6553.5%

**Description**

-

**LC-06 Torque reference**

Address: 0x9C06  
Min.: 0.0  
Max.: 6553.5  
Default: 0.0

Effective mode: -  
Unit: %  
Data type: Int16  
Change: Unchangeable

**Value Range:**  
0.0% to 6553.5%

**Description**

-

**LC-07 Final flux reference**

Address: 0x9C07  
Min.: 0.0  
Max.: 6553.5  
Default: 0.0

Effective mode: -  
Unit: %  
Data type: Int16  
Change: Unchangeable

**Value Range:**  
0.0% to 6553.5%

**Description**

-

**LC-08 Excitation current reference**

Address: 0x9C08  
Min.: 0.0  
Max.: 6553.5  
Default: 0.0

Effective mode: -  
Unit: %  
Data type: Int16  
Change: Unchangeable

**Value Range:**  
0.0% to 6553.5%

**Description**

-

**LC-09 Torque current reference**

Address: 0x9C09  
Min.: 0.0  
Max.: 6553.5

Effective mode: -  
Unit: %  
Data type: Int16



## Parameter Group

---

Default: 0.0  
**Value Range:**  
0.0% to 6553.5%  
**Description**  
-

Change: Unchangeable

### LC-10

#### Rotor speed

Address: 0x9C0A  
Min.: 0.0  
Max.: 6553.5  
Default: 0.0  
**Value Range:**  
0.0% to 6553.5%  
**Description**  
-

Effective mode: -  
Unit: %  
Data type: Int16  
Change: Unchangeable

### LC-11

#### Encoder speed

Address: 0x9C0B  
Min.: 0.0  
Max.: 6553.5  
Default: 0.0  
**Value Range:**  
0.0% to 6553.5%  
**Description**  
-

Effective mode: -  
Unit: %  
Data type: Int16  
Change: Unchangeable

### LC-12

#### Output torque

Address: 0x9C0C  
Min.: 0.0  
Max.: 6553.5  
Default: 0.0  
**Value Range:**  
0.0% to 6553.5%  
**Description**  
-

Effective mode: -  
Unit: %  
Data type: Int16  
Change: Unchangeable

### LC-13

#### Flux amplitude

Address: 0x9C0D  
Min.: 0.0  
Max.: 6553.5  
Default: 0.0  
**Value Range:**  
0.0% to 6553.5%  
**Description**  
-

Effective mode: -  
Unit: %  
Data type: Int16  
Change: Unchangeable

### LC-14

#### Flux angle

Address: 0x9C0E  
Min.: 0.0  
Max.: 6553.5  
Default: 0.0  
**Value Range:**

Effective mode: -  
Unit: %  
Data type: Int16  
Change: Unchangeable

0.0% to 6553.5%

**Description**

-

**LC-15 Synchronization frequency**

Address: 0x9C0F

Min.: 0.0

Max.: 6553.5

Default: 0.0

**Value Range:**

0.0% to 6553.5%

**Description**

-

Effective mode: -

Unit: %

Data type: Int16

Change: Unchangeable

**LC-16 Synchronous rotation angle**

Address: 0x9C10

Min.: 0.0

Max.: 6553.5

Default: 0.0

**Value Range:**

0.0% to 6553.5%

**Description**

-

Effective mode: -

Unit: %

Data type: Int16

Change: Unchangeable

**LC-17 Motor object output power**

Address: 0x9C11

Min.: 0.0

Max.: 6553.5

Default: 0.0

**Value Range:**

0.0% to 6553.5%

**Description**

-

Effective mode: -

Unit: %

Data type: Int16

Change: Unchangeable

**LC-18 Output voltage amplitude**

Address: 0x9C12

Min.: 0.0

Max.: 6553.5

Default: 0.0

**Value Range:**

0.0% to 6553.5%

**Description**

-

Effective mode: -

Unit: %

Data type: Int16

Change: Unchangeable

**LC-19 Output current amplitude**

Address: 0x9C13

Min.: 0.0

Max.: 6553.5

Default: 0.0

**Value Range:**

0.0% to 6553.5%

-

Effective mode: -

Unit: %

Data type: Int16

Change: Unchangeable

**Description**

-

**LC-20**

**Actual excitation current of motor**

Address: 0x9C14

Min.: 0.0

Max.: 6553.5

Default: 0.0

**Value Range:**

0.0% to 6553.5%

**Description**

-

Effective mode: -

Unit: %

Data type: Int16

Change: Unchangeable

**LC-21**

**Actual torque current of motor**

Address: 0x9C15

Min.: 0.0

Max.: 6553.5

Default: 0.0

**Value Range:**

0.0% to 6553.5%

**Description**

-

Effective mode: -

Unit: %

Data type: Int16

Change: Unchangeable

**LC-22**

**Output power**

Address: 0x9C16

Min.: 0.0

Max.: 6553.5

Default: 0.0

**Value Range:**

0.0% to 6553.5%

**Description**

-

Effective mode: -

Unit: %

Data type: Int16

Change: Unchangeable

**LC-23**

**PWMU**

Address: 0x9C17

Min.: 0.0

Max.: 6553.5

Default: 0.0

**Value Range:**

0.0% to 6553.5%

**Description**

-

Effective mode: -

Unit: %

Data type: Int16

Change: Unchangeable

**LC-24**

**PWMV**

Address: 0x9C18

Min.: 0.0

Max.: 6553.5

Default: 0.0

**Value Range:**

0.0% to 6553.5%

**Description**

-

Effective mode: -

Unit: %

Data type: Int16

Change: Unchangeable

<b>LC-25</b>	<b>PWMW</b> Address: 0x9C19 Min.: 0.0 Max.: 6553.5 Default: 0.0 <b>Value Range:</b> 0.0% to 6553.5% <b>Description</b> -	Effective mode: - Unit: % Data type: Int16 Change: Unchangeable
<b>LC-26</b>	<b>IU</b> Address: 0x9C1A Min.: 0.0 Max.: 6553.5 Default: 0.0 <b>Value Range:</b> 0.0% to 6553.5% <b>Description</b> -	Effective mode: - Unit: % Data type: Int16 Change: Unchangeable
<b>LC-27</b>	<b>IV</b> Address: 0x9C1B Min.: 0.0 Max.: 6553.5 Default: 0.0 <b>Value Range:</b> 0.0% to 6553.5% <b>Description</b> -	Effective mode: - Unit: % Data type: Int16 Change: Unchangeable
<b>LC-28</b>	<b>IW</b> Address: 0x9C1C Min.: 0.0 Max.: 6553.5 Default: 0.0 <b>Value Range:</b> 0.0% to 6553.5% <b>Description</b> -	Effective mode: - Unit: % Data type: Int16 Change: Unchangeable
<b>LC-31</b>	<b>Drive bus voltage</b> Address: 0x9C1F Min.: 0.0 Max.: 6553.5 Default: 0.0 <b>Value Range:</b> 0.0% to 6553.5% <b>Description</b> -	Effective mode: - Unit: % Data type: UInt16 Change: Unchangeable
<b>LC-32</b>	<b>Accumulative drive overload</b> Address: 0x9C20	Effective mode: -

## Parameter Group

---

Min.: 0.0  
Max.: 6553.5  
Default: 0.0

Unit: %  
Data type: Int16  
Change: Unchangeable

**Value Range:**  
0.0% to 6553.5%

**Description**

-

### LC-33 Accumulative motor overload

Address: 0x9C21  
Min.: 0.0  
Max.: 6553.5  
Default: 0.0

Effective mode: -  
Unit: %  
Data type: Int16  
Change: Unchangeable

**Value Range:**  
0.0% to 6553.5%

**Description**

-

### LC-34 Output voltage phase

Address: 0x9C22  
Min.: 0.0  
Max.: 6553.5  
Default: 0.0

Effective mode: -  
Unit: %  
Data type: Int16  
Change: Unchangeable

**Value Range:**  
0.0% to 6553.5%

**Description**

-

### LC-35 Output current phase

Address: 0x9C23  
Min.: 0.0  
Max.: 6553.5  
Default: 0.0

Effective mode: -  
Unit: %  
Data type: Int16  
Change: Unchangeable

**Value Range:**  
0.0% to 6553.5%

**Description**

-

### LC-36 General PID output

Address: 0x9C24  
Min.: 0.0  
Max.: 6553.5  
Default: 0.0

Effective mode: -  
Unit: %  
Data type: Int16  
Change: Unchangeable

**Value Range:**  
0.0% to 6553.5%

**Description**

-

### LC-37 General PID error

Address: 0x9C25  
Min.: 0.0  
Max.: 6553.5

Effective mode: -  
Unit: %  
Data type: Int16

Default: 0.0  
**Value Range:**  
 0.0% to 6553.5%  
**Description**  
 -

Change: Unchangeable

**LC-38 General PID reference**

Address: 0x9C26  
 Min.: 0.0  
 Max.: 6553.5  
 Default: 0.0

**Value Range:**  
 0.0% to 6553.5%

**Description**  
 -

Effective mode: -  
 Unit: %  
 Data type: Int16  
 Change: Unchangeable

**LC-39 General PID feedback**

Address: 0x9C27  
 Min.: 0.0  
 Max.: 6553.5  
 Default: 0.0

**Value Range:**  
 0.0% to 6553.5%

**Description**  
 -

Effective mode: -  
 Unit: %  
 Data type: Int16  
 Change: Unchangeable

**LC-40 General PID proportional output**

Address: 0x9C28  
 Min.: 0.0  
 Max.: 6553.5  
 Default: 0.0

**Value Range:**  
 0.0% to 6553.5%

**Description**  
 -

Effective mode: -  
 Unit: %  
 Data type: Int16  
 Change: Unchangeable

**LC-41 General PID integral output**

Address: 0x9C29  
 Min.: 0.0  
 Max.: 6553.5  
 Default: 0.0

**Value Range:**  
 0.0% to 6553.5%

**Description**  
 -

Effective mode: -  
 Unit: %  
 Data type: Int16  
 Change: Unchangeable

**LC-42 General PID derivative output**

Address: 0x9C2A  
 Min.: 0.0  
 Max.: 6553.5  
 Default: 0.0

**Value Range:**

Effective mode: -  
 Unit: %  
 Data type: Int16  
 Change: Unchangeable

0.0% to 6553.5%

**Description**

-

**LC-92 Variable connector viewing output 1**

Address: 0x9C5C

Min.: 0.0

Max.: 6553.5

Default: 0.0

**Value Range:**

0.0% to 6553.5%

**Description**

-

Effective mode: -

Unit: %

Data type: Int16

Change: Unchangeable

**LC-93 Variable connector viewing output 2**

Address: 0x9C5D

Min.: 0.0

Max.: 6553.5

Default: 0.0

**Value Range:**

0.0% to 6553.5%

**Description**

-

Effective mode: -

Unit: %

Data type: Int16

Change: Unchangeable

**LC-94 Variable connector viewing output 3**

Address: 0x9C5E

Min.: 0.0

Max.: 6553.5

Default: 0.0

**Value Range:**

0.0% to 6553.5%

**Description**

-

Effective mode: -

Unit: %

Data type: Int16

Change: Unchangeable

**LC-95 Variable connector viewing output 4**

Address: 0x9C5F

Min.: 0.0

Max.: 6553.5

Default: 0.0

**Value Range:**

0.0% to 6553.5%

**Description**

-

Effective mode: -

Unit: %

Data type: Int16

Change: Unchangeable

**LC-96 Variable connector viewing output 5**

Address: 0x9C60

Min.: 0.0

Max.: 6553.5

Default: 0.0

**Value Range:**

0.0% to 6553.5%

Effective mode: -

Unit: %

Data type: Int16

Change: Unchangeable

**Description**

-

**LC-97 Variable connector viewing output 6**

Address: 0x9C61

Min.: 0.0

Max.: 6553.5

Default: 0.0

**Value Range:**

0.0% to 6553.5%

**Description**

-

Effective mode: -

Unit: %

Data type: Int16

Change: Unchangeable

**LC-98 Variable connector viewing output 7**

Address: 0x9C62

Min.: 0.0

Max.: 6553.5

Default: 0.0

**Value Range:**

0.0% to 6553.5%

**Description**

-

Effective mode: -

Unit: %

Data type: Int16

Change: Unchangeable

**LC-99 Variable connector viewing output 8**

Address: 0x9C63

Min.: 0.0

Max.: 6553.5

Default: 0.0

**Value Range:**

0.0% to 6553.5%

**Description**

-

Effective mode: -

Unit: %

Data type: Int16

Change: Unchangeable

## 4.78 LD: Floating-point Connector 3 Parameters

**LD-00 Output of floating-point selector module A**

Address: 0x9D00

Min.: 0.0

Max.: 6553.5

Default: 0.0

**Value Range:**

0.0% to 6553.5%

**Description**

-

Effective mode: -

Unit: %

Data type: Int16

Change: Unchangeable

**LD-01 Output of floating-point selector module B**

Address: 0x9D01

Min.: 0.0

Max.: 6553.5

Default: 0.0

Effective mode: -

Unit: %

Data type: Int16

Change: Unchangeable



**Value Range:**

0.0% to 6553.5%

**Description**

-

**LD-02 Output of floating-point selector module C**

Address: 0x9D02

Min.: 0.0

Max.: 6553.5

Default: 0.0

Effective mode: -

Unit: %

Data type: Int16

Change: Unchangeable

**Value Range:**

0.0% to 6553.5%

**Description**

-

**LD-03 Output of floating-point selector module D**

Address: 0x9D03

Min.: 0.0

Max.: 6553.5

Default: 0.0

Effective mode: -

Unit: %

Data type: Int16

Change: Unchangeable

**Value Range:**

0.0% to 6553.5%

**Description**

-

**LD-04 Output of floating-point selector module E**

Address: 0x9D04

Min.: 0.0

Max.: 6553.5

Default: 0.0

Effective mode: -

Unit: %

Data type: Int16

Change: Unchangeable

**Value Range:**

0.0% to 6553.5%

**Description**

-

**LD-05 Output of floating-point selector module F**

Address: 0x9D05

Min.: 0.0

Max.: 6553.5

Default: 0.0

Effective mode: -

Unit: %

Data type: Int16

Change: Unchangeable

**Value Range:**

0.0% to 6553.5%

**Description**

-

**LD-06 Output of floating-point selector module G**

Address: 0x9D06

Min.: 0.0

Max.: 6553.5

Default: 0.0

Effective mode: -

Unit: %

Data type: Int16

Change: Unchangeable

**Value Range:**

0.0% to 6553.5%

**Description**

-

**LD-07 Output of floating-point selector module H**

Address:	0x9D07	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	6553.5	Data type:	Int16
Default:	0.0	Change:	Unchangeable

**Value Range:**

0.0% to 6553.5%

**Description**

-

**LD-08 Output of floating-point absolute value module A**

Address:	0x9D08	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	6553.5	Data type:	Int16
Default:	0.0	Change:	Unchangeable

**Value Range:**

0.0% to 6553.5%

**Description**

-

**LD-09 Output of floating-point absolute value module B**

Address:	0x9D09	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	6553.5	Data type:	Int16
Default:	0.0	Change:	Unchangeable

**Value Range:**

0.0% to 6553.5%

**Description**

-

**LD-10 Output of floating-point absolute value module C**

Address:	0x9D0A	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	6553.5	Data type:	Int16
Default:	0.0	Change:	Unchangeable

**Value Range:**

0.0% to 6553.5%

**Description**

-

**LD-11 Output of floating-point absolute value module D**

Address:	0x9D0B	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	6553.5	Data type:	Int16
Default:	0.0	Change:	Unchangeable

**Value Range:**

0.0% to 6553.5%

**Description**

-

- LD-12 Output of floating-point absolute value module E**  
 Address: 0x9D0C Effective mode: -  
 Min.: 0.0 Unit: %  
 Max.: 6553.5 Data type: Int16  
 Default: 0.0 Change: Unchangeable  
**Value Range:**  
 0.0% to 6553.5%  
**Description**  
 -
- LD-13 Output of floating-point ADD/SUBTRACT module A**  
 Address: 0x9D0D Effective mode: -  
 Min.: 0.0 Unit: %  
 Max.: 6553.5 Data type: Int16  
 Default: 0.0 Change: Unchangeable  
**Value Range:**  
 0.0% to 6553.5%  
**Description**  
 -
- LD-14 Output of floating-point ADD/SUBTRACT module B**  
 Address: 0x9D0E Effective mode: -  
 Min.: 0.0 Unit: %  
 Max.: 6553.5 Data type: Int16  
 Default: 0.0 Change: Unchangeable  
**Value Range:**  
 0.0% to 6553.5%  
**Description**  
 -
- LD-15 Output of floating-point ADD/SUBTRACT module C**  
 Address: 0x9D0F Effective mode: -  
 Min.: 0.0 Unit: %  
 Max.: 6553.5 Data type: Int16  
 Default: 0.0 Change: Unchangeable  
**Value Range:**  
 0.0% to 6553.5%  
**Description**  
 -
- LD-16 Output of floating-point ADD/SUBTRACT module D**  
 Address: 0x9D10 Effective mode: -  
 Min.: 0.0 Unit: %  
 Max.: 6553.5 Data type: Int16  
 Default: 0.0 Change: Unchangeable  
**Value Range:**  
 0.0% to 6553.5%  
**Description**  
 -
- LD-17 Output of floating-point ADD/SUBTRACT module E**  
 Address: 0x9D11 Effective mode: -

Min.:	0.0	Unit:	%
Max.:	6553.5	Data type:	Int16
Default:	0.0	Change:	Unchangeable

**Value Range:**

0.0% to 6553.5%

**Description**

-

**LD-18 Output of floating-point MULTIPLY/DIVIDE module A**

Address:	0x9D12	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	6553.5	Data type:	Int16
Default:	0.0	Change:	Unchangeable

**Value Range:**

0.0% to 6553.5%

**Description**

-

**LD-19 Output of floating-point MULTIPLY/DIVIDE module B**

Address:	0x9D13	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	6553.5	Data type:	Int16
Default:	0.0	Change:	Unchangeable

**Value Range:**

0.0% to 6553.5%

**Description**

-

**LD-20 Output of floating-point MULTIPLY/DIVIDE module C**

Address:	0x9D14	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	6553.5	Data type:	Int16
Default:	0.0	Change:	Unchangeable

**Value Range:**

0.0% to 6553.5%

**Description**

-

**LD-21 Output of floating-point MULTIPLY/DIVIDE module D**

Address:	0x9D15	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	6553.5	Data type:	Int16
Default:	0.0	Change:	Unchangeable

**Value Range:**

0.0% to 6553.5%

**Description**

-

**LD-22 Output of floating-point MULTIPLY/DIVIDE module E**

Address:	0x9D16	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	6553.5	Data type:	Int16

Default: 0.0  
**Value Range:**  
 0.0% to 6553.5%  
**Description**  
 -

Change: Unchangeable

**LD-23 Output of floating-point filter module A**

Address: 0x9D17  
 Min.: 0.0  
 Max.: 6553.5  
 Default: 0.0

**Value Range:**  
 0.0% to 6553.5%  
**Description**  
 -

Effective mode: -  
 Unit: %  
 Data type: Int16  
 Change: Unchangeable

**LD-24 Output of floating-point filter module B**

Address: 0x9D18  
 Min.: 0.0  
 Max.: 6553.5  
 Default: 0.0

**Value Range:**  
 0.0% to 6553.5%  
**Description**  
 -

Effective mode: -  
 Unit: %  
 Data type: Int16  
 Change: Unchangeable

**LD-25 Output of floating-point filter module C**

Address: 0x9D19  
 Min.: 0.0  
 Max.: 6553.5  
 Default: 0.0

**Value Range:**  
 0.0% to 6553.5%  
**Description**  
 -

Effective mode: -  
 Unit: %  
 Data type: Int16  
 Change: Unchangeable

**LD-26 Output of floating-point filter module D**

Address: 0x9D1A  
 Min.: 0.0  
 Max.: 6553.5  
 Default: 0.0

**Value Range:**  
 0.0% to 6553.5%  
**Description**  
 -

Effective mode: -  
 Unit: %  
 Data type: Int16  
 Change: Unchangeable

**LD-27 Output of floating-point limiting module A**

Address: 0x9D1B  
 Min.: 0.0  
 Max.: 6553.5  
 Default: 0.0

**Value Range:**

Effective mode: -  
 Unit: %  
 Data type: Int16  
 Change: Unchangeable

0.0% to 6553.5%

**Description**

-

**LD-28 Output of floating-point limiting module B**

Address: 0x9D1C

Min.: 0.0

Max.: 6553.5

Default: 0.0

Effective mode: -

Unit: %

Data type: Int16

Change: Unchangeable

**Value Range:**

0.0% to 6553.5%

**Description**

-

**LD-29 Output of floating-point limiting module C**

Address: 0x9D1D

Min.: 0.0

Max.: 6553.5

Default: 0.0

Effective mode: -

Unit: %

Data type: Int16

Change: Unchangeable

**Value Range:**

0.0% to 6553.5%

**Description**

-

**LD-30 Output of floating-point limiting module D**

Address: 0x9D1E

Min.: 0.0

Max.: 6553.5

Default: 0.0

Effective mode: -

Unit: %

Data type: Int16

Change: Unchangeable

**Value Range:**

0.0% to 6553.5%

**Description**

-

**LD-31 Output of word-to-floating point module A**

Address: 0x9D1F

Min.: 0.0

Max.: 6553.5

Default: 0.0

Effective mode: -

Unit: %

Data type: Int16

Change: Unchangeable

**Value Range:**

0.0% to 6553.5%

**Description**

-

**LD-32 Output of word-to-floating point module B**

Address: 0x9D20

Min.: 0.0

Max.: 6553.5

Default: 0.0

Effective mode: -

Unit: %

Data type: Int16

Change: Unchangeable

**Value Range:**

0.0% to 6553.5%

**Description**

-

**LD-33 Output of word-to-floating point module C**

Address: 0x9D21  
 Min.: 0.0  
 Max.: 6553.5  
 Default: 0.0

Effective mode: -  
 Unit: %  
 Data type: Int16  
 Change: Unchangeable

**Value Range:**

0.0% to 6553.5%

**Description**

-

**LD-34 Output of word-to-floating point module D**

Address: 0x9D22  
 Min.: 0.0  
 Max.: 6553.5  
 Default: 0.0

Effective mode: -  
 Unit: %  
 Data type: Int16  
 Change: Unchangeable

**Value Range:**

0.0% to 6553.5%

**Description**

-

**LD-35 Output of DWord-to-floating point module A**

Address: 0x9D23  
 Min.: 0.0  
 Max.: 6553.5  
 Default: 0.0

Effective mode: -  
 Unit: %  
 Data type: Int16  
 Change: Unchangeable

**Value Range:**

0.0% to 6553.5%

**Description**

-

**LD-36 Output of DWord-to-floating point module B**

Address: 0x9D24  
 Min.: 0.0  
 Max.: 6553.5  
 Default: 0.0

Effective mode: -  
 Unit: %  
 Data type: Int16  
 Change: Unchangeable

**Value Range:**

0.0% to 6553.5%

**Description**

-

**LD-37 Output of DWord-to-floating point module C**

Address: 0x9D25  
 Min.: 0.0  
 Max.: 6553.5  
 Default: 0.0

Effective mode: -  
 Unit: %  
 Data type: Int16  
 Change: Unchangeable

**Value Range:**

0.0% to 6553.5%

**Description**

-

<b>LD-38</b>	<b>Output of DWord-to-floating point module D</b>
Address: 0x9D26	Effective mode: -
Min.: 0.0	Unit: %
Max.: 6553.5	Data type: Int16
Default: 0.0	Change: Unchangeable
<b>Value Range:</b> 0.0% to 6553.5%	
<b>Description</b> -	
<b>LD-39</b>	<b>Force value of motor-driven potentiometer</b>
Address: 0x9D27	Effective mode: -
Min.: 0.0	Unit: %
Max.: 6553.5	Data type: Int16
Default: 0.0	Change: Unchangeable
<b>Value Range:</b> 0.0% to 6553.5%	
<b>Description</b> -	
<b>LD-40</b>	<b>Reset value of motor-driven potentiometer</b>
Address: 0x9D28	Effective mode: -
Min.: 0.0	Unit: %
Max.: 6553.5	Data type: Int16
Default: 0.0	Change: Unchangeable
<b>Value Range:</b> 0.0% to 6553.5%	
<b>Description</b> -	
<b>LD-41</b>	<b>Maximum value of motor-driven potentiometer</b>
Address: 0x9D29	Effective mode: -
Min.: 0.0	Unit: %
Max.: 6553.5	Data type: Int16
Default: 0.0	Change: Unchangeable
<b>Value Range:</b> 0.0% to 6553.5%	
<b>Description</b> -	
<b>LD-42</b>	<b>Minimum value of motor-driven potentiometer</b>
Address: 0x9D2A	Effective mode: -
Min.: 0.0	Unit: %
Max.: 6553.5	Data type: Int16
Default: 0.0	Change: Unchangeable
<b>Value Range:</b> 0.0% to 6553.5%	
<b>Description</b> -	
<b>LD-43</b>	<b>Initial value of motor-driven potentiometer</b>
Address: 0x9D2B	Effective mode: -



Min.:	0.0	Unit:	%
Max.:	6553.5	Data type:	Int16
Default:	0.0	Change:	Unchangeable

**Value Range:**  
0.0% to 6553.5%

**Description**  
-

**LD-44 Process operation output value of motor-driven potentiometer**

Address:	0x9D2C	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	6553.5	Data type:	Int16
Default:	0.0	Change:	Unchangeable

**Value Range:**  
0.0% to 6553.5%

**Description**  
-

**LD-45 Final output value of motor-driven potentiometer**

Address:	0x9D2D	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	6553.5	Data type:	Int16
Default:	0.0	Change:	Unchangeable

**Value Range:**  
0.0% to 6553.5%

**Description**  
-

**LD-46 Output of multi-point curve module A**

Address:	0x9D2E	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	6553.5	Data type:	Int16
Default:	0.0	Change:	Unchangeable

**Value Range:**  
0.0% to 6553.5%

**Description**  
-

**LD-47 Output of multi-point curve module B**

Address:	0x9D2F	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	6553.5	Data type:	Int16
Default:	0.0	Change:	Unchangeable

**Value Range:**  
0.0% to 6553.5%

**Description**  
-

**LD-48 Multi-reference selection output**

Address:	0x9D30	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	6553.5	Data type:	Int16

Default: 0.0  
**Value Range:**  
 0.0% to 6553.5%  
**Description**  
 -

Change: Unchangeable

**LD-49 Multi-reference 1 output**

Address: 0x9D31  
 Min.: 0.0  
 Max.: 6553.5  
 Default: 0.0

**Value Range:**  
 0.0% to 6553.5%

**Description**  
 -

Effective mode: -  
 Unit: %  
 Data type: Int16  
 Change: Unchangeable

**LD-50 Multi-reference 2 output**

Address: 0x9D32  
 Min.: 0.0  
 Max.: 6553.5  
 Default: 0.0

**Value Range:**  
 0.0% to 6553.5%

**Description**  
 -

Effective mode: -  
 Unit: %  
 Data type: Int16  
 Change: Unchangeable

**LD-51 Multi-reference 3 output**

Address: 0x9D33  
 Min.: 0.0  
 Max.: 6553.5  
 Default: 0.0

**Value Range:**  
 0.0% to 6553.5%

**Description**  
 -

Effective mode: -  
 Unit: %  
 Data type: Int16  
 Change: Unchangeable

**LD-52 Multi-reference 4 output**

Address: 0x9D34  
 Min.: 0.0  
 Max.: 6553.5  
 Default: 0.0

**Value Range:**  
 0.0% to 6553.5%

**Description**  
 -

Effective mode: -  
 Unit: %  
 Data type: Int16  
 Change: Unchangeable

**LD-53 Multi-reference 5 output**

Address: 0x9D35  
 Min.: 0.0  
 Max.: 6553.5  
 Default: 0.0

**Value Range:**

Effective mode: -  
 Unit: %  
 Data type: Int16  
 Change: Unchangeable

0.0% to 6553.5%

**Description**

-

**LD-54**

**Multi-reference 6 output**

Address: 0x9D36

Min.: 0.0

Max.: 6553.5

Default: 0.0

**Value Range:**

0.0% to 6553.5%

**Description**

-

Effective mode: -

Unit: %

Data type: Int16

Change: Unchangeable

**LD-55**

**Multi-reference 7 output**

Address: 0x9D37

Min.: 0.0

Max.: 6553.5

Default: 0.0

**Value Range:**

0.0% to 6553.5%

**Description**

-

Effective mode: -

Unit: %

Data type: Int16

Change: Unchangeable

**LD-56**

**Multi-reference 8 output**

Address: 0x9D38

Min.: 0.0

Max.: 6553.5

Default: 0.0

**Value Range:**

0.0% to 6553.5%

**Description**

-

Effective mode: -

Unit: %

Data type: Int16

Change: Unchangeable

**LD-57**

**Multi-reference 9 output**

Address: 0x9D39

Min.: 0.0

Max.: 6553.5

Default: 0.0

**Value Range:**

0.0% to 6553.5%

**Description**

-

Effective mode: -

Unit: %

Data type: Int16

Change: Unchangeable

**LD-58**

**Multi-reference 10 output**

Address: 0x9D3A

Min.: 0.0

Max.: 6553.5

Default: 0.0

**Value Range:**

0.0% to 6553.5%

Effective mode: -

Unit: %

Data type: Int16

Change: Unchangeable

**Description**

-

**LD-59 Multi-reference 11 output**

Address: 0x9D3B

Min.: 0.0

Max.: 6553.5

Default: 0.0

**Value Range:**

0.0% to 6553.5%

**Description**

-

Effective mode: -

Unit: %

Data type: Int16

Change: Unchangeable

**LD-60 Multi-reference 12 output**

Address: 0x9D3C

Min.: 0.0

Max.: 6553.5

Default: 0.0

**Value Range:**

0.0% to 6553.5%

**Description**

-

Effective mode: -

Unit: %

Data type: Int16

Change: Unchangeable

**LD-61 Multi-reference 13 output**

Address: 0x9D3D

Min.: 0.0

Max.: 6553.5

Default: 0.0

**Value Range:**

0.0% to 6553.5%

**Description**

-

Effective mode: -

Unit: %

Data type: Int16

Change: Unchangeable

**LD-62 Multi-reference 14 output**

Address: 0x9D3E

Min.: 0.0

Max.: 6553.5

Default: 0.0

**Value Range:**

0.0% to 6553.5%

**Description**

-

Effective mode: -

Unit: %

Data type: Int16

Change: Unchangeable

**LD-63 Multi-reference 15 output**

Address: 0x9D3F

Min.: 0.0

Max.: 6553.5

Default: 0.0

**Value Range:**

0.0% to 6553.5%

**Description**

-

Effective mode: -

Unit: %

Data type: Int16

Change: Unchangeable

**LD-64 Multi-reference 16 output**

Address: 0x9D40  
 Min.: 0.0  
 Max.: 6553.5  
 Default: 0.0

**Value Range:**  
 0.0% to 6553.5%

**Description**

-

Effective mode: -  
 Unit: %  
 Data type: Int16  
 Change: Unchangeable

**LD-65 Per-unit constant value 1**

Address: 0x9D41  
 Min.: 0.0  
 Max.: 6553.5  
 Default: 0.0

**Value Range:**  
 0.0% to 6553.5%

**Description**

-

Effective mode: -  
 Unit: %  
 Data type: Int16  
 Change: Unchangeable

**LD-66 Per-unit constant value 2**

Address: 0x9D42  
 Min.: 0.0  
 Max.: 6553.5  
 Default: 0.0

**Value Range:**  
 0.0% to 6553.5%

**Description**

-

Effective mode: -  
 Unit: %  
 Data type: Int16  
 Change: Unchangeable

**LD-67 Per-unit constant value 3**

Address: 0x9D43  
 Min.: 0.0  
 Max.: 6553.5  
 Default: 0.0

**Value Range:**  
 0.0% to 6553.5%

**Description**

-

Effective mode: -  
 Unit: %  
 Data type: Int16  
 Change: Unchangeable

**LD-68 Per-unit constant value 4**

Address: 0x9D44  
 Min.: 0.0  
 Max.: 6553.5  
 Default: 0.0

**Value Range:**  
 0.0% to 6553.5%

**Description**

-

Effective mode: -  
 Unit: %  
 Data type: Int16  
 Change: Unchangeable

**LD-69 Per-unit constant value 5**

Address: 0x9D45

Effective mode: -

Min.: 0.0 Unit: %  
 Max.: 6553.5 Data type: Int16  
 Default: 0.0 Change: Unchangeable

**Value Range:**  
 0.0% to 6553.5%

**Description**

-

**LD-70 Per-unit constant value 6**

Address: 0x9D46 Effective mode: -  
 Min.: 0.0 Unit: %  
 Max.: 6553.5 Data type: Int16  
 Default: 0.0 Change: Unchangeable

**Value Range:**  
 0.0% to 6553.5%

**Description**

-

**LD-71 Per-unit constant value 7**

Address: 0x9D47 Effective mode: -  
 Min.: 0.0 Unit: %  
 Max.: 6553.5 Data type: Int16  
 Default: 0.0 Change: Unchangeable

**Value Range:**  
 0.0% to 6553.5%

**Description**

-

**LD-72 Per-unit constant value 8**

Address: 0x9D48 Effective mode: -  
 Min.: 0.0 Unit: %  
 Max.: 6553.5 Data type: Int16  
 Default: 0.0 Change: Unchangeable

**Value Range:**  
 0.0% to 6553.5%

**Description**

-

**LD-73 Per-unit constant value 9**

Address: 0x9D49 Effective mode: -  
 Min.: 0.0 Unit: %  
 Max.: 6553.5 Data type: Int16  
 Default: 0.0 Change: Unchangeable

**Value Range:**  
 0.0% to 6553.5%

**Description**

-

**LD-74 Per-unit constant value 10**

Address: 0x9D4A Effective mode: -  
 Min.: 0.0 Unit: %  
 Max.: 6553.5 Data type: Int16

Default: 0.0  
**Value Range:**  
 0.0% to 6553.5%  
**Description**  
 -

Change: Unchangeable

**LD-75 Per-unit constant value 11**

Address: 0x9D4B  
 Min.: 0.0  
 Max.: 6553.5  
 Default: 0.0  
**Value Range:**  
 0.0% to 6553.5%  
**Description**  
 -

Effective mode: -  
 Unit: %  
 Data type: Int16  
 Change: Unchangeable

**LD-76 Per-unit constant value 12**

Address: 0x9D4C  
 Min.: 0.0  
 Max.: 6553.5  
 Default: 0.0  
**Value Range:**  
 0.0% to 6553.5%  
**Description**  
 -

Effective mode: -  
 Unit: %  
 Data type: Int16  
 Change: Unchangeable

**LD-77 Per-unit constant value 13**

Address: 0x9D4D  
 Min.: 0.0  
 Max.: 6553.5  
 Default: 0.0  
**Value Range:**  
 0.0% to 6553.5%  
**Description**  
 -

Effective mode: -  
 Unit: %  
 Data type: Int16  
 Change: Unchangeable

**LD-78 Per-unit constant value 14**

Address: 0x9D4E  
 Min.: 0.0  
 Max.: 6553.5  
 Default: 0.0  
**Value Range:**  
 0.0% to 6553.5%  
**Description**  
 -

Effective mode: -  
 Unit: %  
 Data type: Int16  
 Change: Unchangeable

**LD-79 Per-unit constant value 15**

Address: 0x9D4F  
 Min.: 0.0  
 Max.: 6553.5  
 Default: 0.0  
**Value Range:**

Effective mode: -  
 Unit: %  
 Data type: Int16  
 Change: Unchangeable

0.0% to 6553.5%

**Description**

-

**LD-80 Per-unit constant value 16**

Address: 0x9D50

Min.: 0.0

Max.: 6553.5

Default: 0.0

**Value Range:**

0.0% to 6553.5%

**Description**

-

Effective mode: -

Unit: %

Data type: Int16

Change: Unchangeable

**LD-81 Per-unit constant value 17**

Address: 0x9D51

Min.: 0.0

Max.: 6553.5

Default: 0.0

**Value Range:**

0.0% to 6553.5%

**Description**

-

Effective mode: -

Unit: %

Data type: Int16

Change: Unchangeable

**LD-82 Per-unit constant value 18**

Address: 0x9D52

Min.: 0.0

Max.: 6553.5

Default: 0.0

**Value Range:**

0.0% to 6553.5%

**Description**

-

Effective mode: -

Unit: %

Data type: Int16

Change: Unchangeable

**LD-83 Per-unit constant value 19**

Address: 0x9D53

Min.: 0.0

Max.: 6553.5

Default: 0.0

**Value Range:**

0.0% to 6553.5%

**Description**

-

Effective mode: -

Unit: %

Data type: Int16

Change: Unchangeable

**LD-84 Per-unit constant value 20**

Address: 0x9D54

Min.: 0.0

Max.: 6553.5

Default: 0.0

**Value Range:**

0.0% to 6553.5%

Effective mode: -

Unit: %

Data type: Int16

Change: Unchangeable



**Description**

-

**LD-85 Per-unit constant value 21**

Address: 0x9D55

Effective mode: -

Min.: 0.0

Unit: %

Max.: 6553.5

Data type: Int16

Default: 0.0

Change: Unchangeable

**Value Range:**

0.0% to 6553.5%

**Description**

-

**LD-86 Updown offset**

Address: 0x9D56

Effective mode: -

Min.: 0.0

Unit: %

Max.: 6553.5

Data type: Int16

Default: 0.0

Change: Unchangeable

**Value Range:**

0.0% to 6553.5%

**Description**

-

**LD-87 Percentage of current length relative to target length**

Address: 0x9D57

Effective mode: -

Min.: 0.0

Unit: %

Max.: 6553.5

Data type: Int16

Default: 0.0

Change: Unchangeable

**Value Range:**

0.0% to 6553.5%

**Description**

-

**LD-88 Percentage of current count value relative to target count value**

Address: 0x9D58

Effective mode: -

Min.: 0.0

Unit: %

Max.: 6553.5

Data type: Int16

Default: 0.0

Change: Unchangeable

**Value Range:**

0.0% to 6553.5%

**Description**

-

**LD-89 Percentage of AO1 value written through communication**

Address: 0x9D59

Effective mode: -

Min.: 0.0

Unit: %

Max.: 6553.5

Data type: UInt16

Default: 0.0

Change: Unchangeable

**Value Range:**

0.0% to 6553.5%

**Description**

-

<b>LD-90</b>	<b>Percentage of AO2 value written through communication</b>	
Address:	0x9D5A	Effective mode: -
Min.:	0.0	Unit: %
Max.:	6553.5	Data type: UInt16
Default:	0.0	Change: Unchangeable
	<b>Value Range:</b>	
	0.0% to 6553.5%	
	<b>Description</b>	
	-	
<b>LD-91</b>	<b>Percentage of HDO value written through communication</b>	
Address:	0x9D5B	Effective mode: -
Min.:	0.0	Unit: %
Max.:	6553.5	Data type: UInt16
Default:	0.0	Change: Unchangeable
	<b>Value Range:</b>	
	0.0% to 6553.5%	
	<b>Description</b>	
	-	
<b>LD-92</b>	<b>Current value based on the maximum 1000 A per-unit value</b>	
Address:	0x9D5C	Effective mode: -
Min.:	0.0	Unit: %
Max.:	6553.5	Data type: Int16
Default:	0.0	Change: Unchangeable
	<b>Value Range:</b>	
	0.0% to 6553.5%	
	<b>Description</b>	
	-	
<b>LD-93</b>	<b>Voltage value based on the maximum 1000 V per-unit value</b>	
Address:	0x9D5D	Effective mode: -
Min.:	0.0	Unit: %
Max.:	6553.5	Data type: Int16
Default:	0.0	Change: Unchangeable
	<b>Value Range:</b>	
	0.0% to 6553.5%	
	<b>Description</b>	
	-	
<b>LD-94</b>	<b>AO output torque absolute value output</b>	
Address:	0x9D5E	Effective mode: -
Min.:	0.0	Unit: %
Max.:	6553.5	Data type: UInt16
Default:	0.0	Change: Unchangeable
	<b>Value Range:</b>	
	0.0% to 6553.5%	
	<b>Description</b>	
	-	
<b>LD-95</b>	<b>AO output torque (-200.0% to +200.0%)</b>	
Address:	0x9D5F	Effective mode: -

## Parameter Group

---

Min.: 0.0  
Max.: 6553.5  
Default: 0.0

Unit: %  
Data type: Int16  
Change: Unchangeable

**Value Range:**

0.0% to 6553.5%

**Description**

-

## 5 List of Parameters

### 5.1 List of Parameters

If FP-00 is set to a non-zero value (password protection is enabled), the parameter menu is accessible in parameter mode and user-modification mode only after the correct password is entered. To disable password protection, set FP-00 to 0.

If a password is set to lock the operating panel, password authentication is required every time you access the parameter menu for reading or writing parameter values using the operating panel. During communication control, the values of parameters (excluding parameters in groups FP and FF) can be read and written without password authentication.

Password protection is not available for the parameter menu in user-defined mode.

Groups F, A, B, C, and H are standard function parameters, group U is monitoring function parameters, and group L is connector function parameters. The following symbols are used in the parameter table:

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
F0-00	0xF000	Load type display	0: Heavy load application 1: Light load application	0	-	Unchangeable	<a href="#">"F0-00" on page 241</a>
F0-01	0xF001	Motor 1 control mode	0: SVC 1: FVC 2: V/f	2	-	Changeable only at stop	<a href="#">"F0-01" on page 241</a>
F0-02	0xF002	Operation command source	0: Operating panel 1: Terminal 2: Communication 3: Customization	0	-	Changeable only at stop	<a href="#">"F0-02" on page 241</a>
F0-03	0xF003	Main frequency source X	0: Digital setting (non-retentive at power failure) 1: Digital setting (retentive at power failure) 2: AI1 3: AI2 4: AI3 5: Pulse reference (DI5) 6: Multi-reference 7: Simple PLC 8: PID 9: Communication Others: F connector	0	-	Changeable only at stop	<a href="#">"F0-03" on page 242</a>
F0-04	0xF004	Auxiliary frequency source Y	0: Digital setting (non-retentive at power failure) 1: Digital setting (retentive at power failure) 2: AI1 3: AI2 4: AI3 5: Pulse reference (DI5) 6: Multi-reference 7: Simple PLC 8: PID 9: Communication Others: F connector	0	-	Changeable only at stop	<a href="#">"F0-04" on page 243</a>

## List of Parameters

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
F0-05	0xF005	Base value of range of auxiliary frequency source for superposition	0: Relative to maximum frequency 1: Relative to main frequency X	0	-	Changeable at any time	<a href="#">“ F0-05” on page 245</a>
F0-06	0xF006	Range of auxiliary frequency source Y for superposition	0% to 150%	100	%	Changeable at any time	<a href="#">“ F0-06” on page 245</a>
F0-07	0xF007	Frequency source superposition	Ones: Frequency reference 0: Main frequency source X 1: Main and auxiliary operation result (based on tens) 2: Switchover between main frequency source X and auxiliary frequency source Y 3: Switchover between main frequency source X and the main and auxiliary operation result 4: Switchover between auxiliary frequency source Y and the main and auxiliary operation result Tens: Main and auxiliary frequency reference operation 0: Main + Auxiliary 1: Main – Auxiliary 2: Max. (main, auxiliary) 3: Min. (main, auxiliary) 4: Main x Auxiliary	0	-	Changeable at any time	<a href="#">“ F0-07” on page 245</a>
F0-08	0xF008	Preset frequency	0.00 Hz to F0-10	50.00	Hz	Changeable at any time	<a href="#">“ F0-08” on page 246</a>
F0-09	0xF009	Running direction	1: Default direction 1: Reverse to the default direction	0	-	Changeable at any time	<a href="#">“ F0-09” on page 246</a>
F0-10	0xF00A	Maximum frequency	50.00 Hz to 500.00 Hz	50.00	Hz	Changeable only at stop	<a href="#">“ F0-10” on page 247</a>
F0-11	0xF00B	Source of frequency upper limit	0: F0-12 1: AI1 2: AI2 3: AI3 4: Pulse reference 5: Communication Others: F connector	0	-	Changeable only at stop	<a href="#">“ F0-11” on page 247</a>
F0-12	0xF00C	Frequency upper limit	F0-14 to F0-10	50.00	Hz	Changeable at any time	<a href="#">“ F0-12” on page 248</a>
F0-13	0xF00D	Frequency upper limit offset	0.00 Hz to F0-10	0.00	Hz	Changeable at any time	<a href="#">“ F0-13” on page 248</a>
F0-14	0xF00E	Frequency lower limit	0.00 Hz to F0-12	0.00	Hz	Changeable at any time	<a href="#">“ F0-14” on page 248</a>
F0-15	0xF00F	Carrier frequency	0.5 kHz to 16.0 kHz	6.0	kHz	Changeable at any time	<a href="#">“ F0-15” on page 248</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
F0-16	0xF010	Carrier frequency adjusted with temperature	0: No 1: Yes	0	-	Changeable at any time	<a href="#">“ F0-16” on page 248</a>
F0-17	0xF011	Acceleration time 1	0.0s to 6500.0s	20.0	s	Changeable at any time	<a href="#">“ F0-17” on page 249</a>
F0-18	0xF012	Deceleration time 1	0.0s to 6500.0s	20.0	s	Changeable at any time	<a href="#">“ F0-18” on page 249</a>
F0-19	0xF013	Acceleration/ Deceleration time unit	0: 1s 1: 0.1s 2: 0.01s	1	-	Changeable only at stop	<a href="#">“ F0-19” on page 249</a>
F0-20	0xF014	Offset frequency source	0: F0-21 1: AI1 2: AI2 3: AI3 4: Pulse reference 5: Communication 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable only at stop	<a href="#">“ F0-20” on page 249</a>
F0-21	0xF015	Offset frequency	0.00 Hz to F0-10	0.00	Hz	Changeable at any time	<a href="#">“ F0-21” on page 251</a>
F0-22	0xF016	Decimal places of frequency reference	1: 0.1 Hz 2: 0.01 Hz	2	-	Changeable only at stop	<a href="#">“ F0-22” on page 251</a>
F0-23	0xF017	Retention of digital setting	0: Non-retentive 1: Retentive	0	-	Changeable at any time	<a href="#">“ F0-23” on page 251</a>
F0-24	0xF018	Motor parameter group	0: Motor parameter group 1 1: Motor parameter group 2 2: Motor parameter group 3 3: Motor parameter group 4	0	-	Changeable only at stop	<a href="#">“ F0-24” on page 251</a>
F0-25	0xF019	Acceleration/ Deceleration time base frequency	0: F0-10 (maximum frequency) 1: Frequency reference 2: 100 Hz 3: Rated frequency	0	-	Changeable only at stop	<a href="#">“ F0-25” on page 252</a>
F0-26	0xF01A	Base frequency for UP/DOWN modification during running	0: Running frequency 1: Frequency reference	0	-	Changeable only at stop	<a href="#">“ F0-26” on page 252</a>

## List of Parameters

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
F0-27	0xF01B	Frequency reference source bound to command source	<p>Ones: Frequency reference source bound to operating panel control</p> <p>0: No binding 1: Digital setting 2: AI1 3: AI2 4: AI3 5: Pulse 6: Multi-reference 7: Simple PLC 8: PID 9: Communication</p> <p>Tens: Frequency reference source bound to terminal control</p> <p>0: No binding 1: Digital setting 2: AI1 3: AI2 4: AI3 5: Pulse 6: Multi-reference 7: Simple PLC 8: PID 9: Communication</p> <p>Hundreds: Frequency reference source bound to communication control</p> <p>0: No binding 1: Digital setting 2: AI1 3: AI2 4: AI3 5: Pulse 6: Multi-reference 7: Simple PLC 8: PID 9: Communication</p>	0	-	Changeable at any time	<a href="#">“ F0-27” on page 252</a>
F0-28	0xF01C	Communication protocol	<p>0 Modbus</p> <p>1: Extended communication protocol</p>	0	-	Changeable only at stop	<a href="#">“ F0-28” on page 253</a>
F0-29	0xF01D	Load type	<p>0: Heavy load application</p> <p>1: Light load application</p>	0	-	Changeable only at stop	<a href="#">“ F0-29” on page 254</a>
F1-00	0xF100	Motor type	<p>0: Common asynchronous motor</p> <p>1: Variable frequency asynchronous motor</p> <p>2: Permanent magnet synchronous motor</p>	0	-	Changeable only at stop	<a href="#">“ F1-00” on page 254</a>
F1-01	0xF101	Rated motor power	0.1 kW to 1000.0 kW	3.7	kW	Changeable only at stop	<a href="#">“ F1-01” on page 254</a>
F1-02	0xF102	Rated motor voltage	1 V to 2000 V	380	V	Changeable only at stop	<a href="#">“ F1-02” on page 254</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
F1-03	0xF103	Rated motor current	0.01 A to 655.35 A	9.00	A	Changeable only at stop	<a href="#">“ F1-03” on page 255</a>
F1-04	0xF104	Rated motor frequency	0.01 Hz to F0-10	50.00	Hz	Changeable only at stop	<a href="#">“ F1-04” on page 255</a>
F1-05	0xF105	Rated motor speed	1 RPM to 65535 RPM	1460	RPM	Changeable only at stop	<a href="#">“ F1-05” on page 255</a>
F1-06	0xF106	Asynchronous motor stator resistance	0.001 $\Omega$ to 65.535 $\Omega$	1.204	$\Omega$	Changeable only at stop	<a href="#">“ F1-06” on page 255</a>
F1-07	0xF107	Asynchronous motor rotor resistance	0.001 $\Omega$ to 65.535 $\Omega$	0.908	$\Omega$	Changeable only at stop	<a href="#">“ F1-07” on page 255</a>
F1-08	0xF108	Asynchronous motor leakage inductance	0.01 mH to 655.35 mH	5.28	mH	Changeable only at stop	<a href="#">“ F1-08” on page 255</a>
F1-09	0xF109	Asynchronous motor mutual inductance	0.1 mH to 6553.5 mH	156.8	mH	Changeable only at stop	<a href="#">“ F1-09” on page 256</a>
F1-10	0xF10A	Asynchronous motor no-load current	0.01 A to F1-03	4.20	A	Changeable only at stop	<a href="#">“ F1-10” on page 256</a>
F1-16	0xF110	Synchronous motor stator resistance	0.001 $\Omega$ to 65.535 $\Omega$	1.204	$\Omega$	Changeable only at stop	<a href="#">“ F1-16” on page 256</a>
F1-17	0xF111	Synchronous motor D axis inductance	0.01 mH to 655.35 mH	5.28	mH	Changeable only at stop	<a href="#">“ F1-17” on page 256</a>
F1-18	0xF112	Synchronous motor Q axis inductance	0.01 mH to 655.35 mH	5.28	mH	Changeable only at stop	<a href="#">“ F1-18” on page 256</a>
F1-20	0xF114	Synchronous motor back EMF coefficient	0.0 V to 6553.5 V	300.0	V	Changeable only at stop	<a href="#">“ F1-20” on page 257</a>
F1-27	0xF11B	Encoder PPR	1 to 65535	1024	-	Changeable only at stop	<a href="#">“ F1-27” on page 257</a>
F1-28	0xF11C	Encoder type	0: ABZ incremental encoder 1: 23-bit encoder 2: Resolver 3: External input	0	-	Changeable only at stop	<a href="#">“ F1-28” on page 257</a>
F1-29	0xF11D	Speed feedback PG card	0: Local PG card 1: Extension PG card	0	-	Changeable only at stop	<a href="#">“ F1-29” on page 257</a>
F1-30	0xF11E	A/B phase sequence of encoder	0: Forward 1: Reverse	0	-	Changeable only at stop	<a href="#">“ F1-30” on page 258</a>
F1-31	0xF11F	Encoder installation angle	0.0° to 359.9°	0.0	°	Changeable only at stop	<a href="#">“ F1-31” on page 258</a>
F1-34	0xF122	Number of resolver pole pairs	1 to 65535	1	-	Changeable only at stop	<a href="#">“ F1-34” on page 258</a>



## List of Parameters

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
F1-36	0xF124	Speed feedback PG wire breakage detection time	0.0s to 10.0s	0.0	s	Changeable only at stop	<a href="#">“ F1-36” on page 258</a>
F1-37	0xF125	Auto-tuning	0: No operation 1: Static auto-tuning on partial parameters of asynchronous motor 2: Dynamic auto-tuning on asynchronous motor 3: Static auto-tuning on all parameters of asynchronous motor 4: Inertia auto-tuning 5: Deadzone auto-tuning 11: With-load auto-tuning on synchronous motor (excluding back EMF) 12: No-load dynamic auto-tuning on synchronous motor 13: Static auto-tuning on all parameters of synchronous motor (excluding zero point angle)	0	-	Changeable only at stop	<a href="#">“ F1-37” on page 258</a>
F2-00	0xF200	Speed loop proportional gain 1	1 to 300	30	-	Changeable at any time	<a href="#">“ F2-00” on page 259</a>
F2-01	0xF201	Speed loop integral time 1	0.01s to 10.00s	0.50	s	Changeable at any time	<a href="#">“ F2-01” on page 259</a>
F2-02	0xF202	Switchover frequency 1	0.00 Hz to F2-05	5.00	Hz	Changeable at any time	<a href="#">“ F2-02” on page 259</a>
F2-03	0xF203	Speed loop proportional gain 2	1 to 300	20	-	Changeable at any time	<a href="#">“ F2-03” on page 260</a>
F2-04	0xF204	Speed loop integral time 2	0.01s to 10.00s	1.00	s	Changeable at any time	<a href="#">“ F2-04” on page 260</a>
F2-05	0xF205	Switchover frequency 2	F2-02 to F0-10	10.00	Hz	Changeable at any time	<a href="#">“ F2-05” on page 260</a>
F2-06	0xF206	Vector control slip gain	50% to 200%	100	%	Changeable at any time	<a href="#">“ F2-06” on page 261</a>
F2-07	0xF207	Speed feedback filter time in SVC mode	0.000s to 0.100s	0.015	s	Changeable at any time	<a href="#">“ F2-07” on page 261</a>
F2-09	0xF209	Torque upper limit source in speed control mode (motoring)	0: Digital setting (F2-10) 1: AI1 2: AI2 3: AI3 4: Pulse reference 5: Communication 6: MIN (AI1, AI2) 7: MAX (AI1, AI2) Others: F connector	0	-	Changeable at any time	<a href="#">“ F2-09” on page 261</a>
F2-10	0xF20A	Torque upper limit in speed control mode	0.0% to 200.0%	150.0	%	Changeable at any time	<a href="#">“ F2-10” on page 262</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
F2-11	0xF20B	Torque upper limit source in speed control mode (generating)	0: Digital setting (F2-10) 1: AI1 2: AI2 3: AI3 4: Pulse reference (DI5) 5: Communication 6: MIN (AI1, AI2) 7: MAX (AI1, AI2) 8: Digital setting (F2-12) Others: F connector	0	-	Changeable at any time	<a href="#">“ F2-11” on page 263</a>
F2-12	0xF20C	Torque upper limit in speed control mode (generating)	0.0% to 200.0%	150.0	%	Changeable at any time	<a href="#">“ F2-12” on page 264</a>
F2-18	0xF212	Field weakening mode	0: No field weakening 1: Auto adjustment 2: Calculation+Auto adjustment	1	-	Changeable only at stop	<a href="#">“ F2-18” on page 264</a>
F2-19	0xF213	Field weakening gain	1 to 50	5	-	Changeable at any time	<a href="#">“ F2-19” on page 264</a>
F2-22	0xF216	Generating power limiting	0: Disabled 1: Enabled in the whole process 2: Enabled at constant speed 3: Enabled during deceleration	0	-	Changeable at any time	<a href="#">“ F2-22” on page 265</a>
F2-23	0xF217	Generating power upper limit	0.0% to 200.0%	20.0	%	Changeable at any time	<a href="#">“ F2-23” on page 265</a>
F2-24	0xF218	Initial position angle detection current of synchronous motor	50 to 180	80	-	Changeable only at stop	<a href="#">“ F2-24” on page 265</a>
F2-25	0xF219	Initial position angle detection of synchronous motor	0: Detected upon running 1: Not detected 2: Detected upon initial running after power-on	0	-	Changeable at any time	<a href="#">“ F2-25” on page 265</a>
F2-27	0xF21B	Salient pole rate adjustment gain of synchronous motor	0.20 to 3.00	1.00	-	Changeable at any time	<a href="#">“ F2-27” on page 265</a>
F2-28	0xF21C	Maximum torque-to-current ratio control of synchronous motor	0: Disabled 1: Enabled	1	-	Changeable at any time	<a href="#">“ F2-28” on page 266</a>
F2-32	0xF220	Z signal correction	0: Disabled 1: Enabled	1	-	Changeable at any time	<a href="#">“ F2-32” on page 266</a>
F2-37	0xF225	Low speed carrier frequency	0.8 kHz to F0-15	2.0	kHz	Changeable at any time	<a href="#">“ F2-37” on page 266</a>
F2-43	0xF22B	Position lock	0 to 1	0	-	Changeable at any time	<a href="#">“ F2-43” on page 266</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
F2-44	0xF22C	Switchover frequency	0.00 Hz to F2-02	0.30	Hz	Changeable at any time	<a href="#">"F2-44" on page 267</a>
F2-45	0xF22D	Position lock speed loop proportional gain	1 to 100	10	-	Changeable at any time	<a href="#">"F2-45" on page 267</a>
F2-46	0xF22E	Position lock speed loop integral time	0.01s to 10.00s	0.50	s	Changeable at any time	<a href="#">"F2-46" on page 267</a>
F2-49	0xF231	Auto-tuning free mode	0: Disabled 1: Auto-tuning upon initial running after power-on 2: Auto-tuning upon running	0	-	Changeable at any time	<a href="#">"F2-49" on page 267</a>
F2-51	0xF233	Initial position compensation angle	0.0 to 359.9	0.0	-	Changeable at any time	<a href="#">"F2-51" on page 267</a>
F3-00	0xF300	V/f curve	0: Straight-line V/f curve 1: Multi-point V/f curve 2-9: Reserved 10: V/f complete separation mode 11: V/f half separation mode	0	-	Changeable only at stop	<a href="#">"F3-00" on page 268</a>
F3-01	0xF301	Torque boost	0.0% to 30.0%	3.0	%	Changeable at any time	<a href="#">"F3-01" on page 268</a>
F3-02	0xF302	Cut-off frequency of torque boost	0.00 Hz to F0-10	50.00	Hz	Changeable only at stop	<a href="#">"F3-02" on page 268</a>
F3-03	0xF303	Multi-point V/f frequency 1	0.00 Hz to F3-05	0.00	Hz	Changeable only at stop	<a href="#">"F3-03" on page 268</a>
F3-04	0xF304	Multi-point V/f voltage 1	0.0% to +100.0%	0.0	%	Changeable only at stop	<a href="#">"F3-04" on page 268</a>
F3-05	0xF305	Multi-point V/f frequency 2	F3-03 to F3-07	0.00	Hz	Changeable only at stop	<a href="#">"F3-05" on page 269</a>
F3-06	0xF306	Multi-point V/f voltage 2	0.0% to +100.0%	0.0	%	Changeable only at stop	<a href="#">"F3-06" on page 269</a>
F3-07	0xF307	Multi-point V/f frequency 3	F3-05 to F1-04	0.00	Hz	Changeable only at stop	<a href="#">"F3-07" on page 269</a>
F3-08	0xF308	Multi-point V/f voltage 3	0.0% to +100.0%	0.0	%	Changeable only at stop	<a href="#">"F3-08" on page 269</a>
F3-09	0xF309	V/f slip compensation gain	0.0 to 200.0	0.0	-	Changeable at any time	<a href="#">"F3-09" on page 269</a>
F3-10	0xF30A	V/f overexcitation gain	0 to 200	64	-	Changeable at any time	<a href="#">"F3-10" on page 270</a>
F3-11	0xF30B	V/f oscillation suppression gain	0 to 100	40	-	Changeable at any time	<a href="#">"F3-11" on page 270</a>
F3-12	0xF30C	V/f oscillation suppression	0: Disabled 1: Enabled	1	-	Changeable at any time	<a href="#">"F3-12" on page 270</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
F3-13	0xF30D	Voltage source for V/f separation	0: Digital setting (F3-14) 1: AI1 2: AI2 3: AI3 4: Pulse reference (DI5) 5: Multi-reference 6: Simple PLC 7: PID 8: Communication Others: F connector	0	-	Changeable at any time	<a href="#">“F3-13” on page 270</a>
F3-14	0xF30E	V/f separation voltage	0 V to F1-02	0	V	Changeable at any time	<a href="#">“F3-14” on page 271</a>
F3-15	0xF30F	Voltage rise time of V/f separation	0.0s to 1000.0s	0.0	s	Changeable at any time	<a href="#">“F3-15” on page 271</a>
F3-16	0xF310	Voltage fall time of V/f separation	0.0s to 1000.0s	0.0	s	Changeable at any time	<a href="#">“F3-16” on page 272</a>
F3-17	0xF311	Stop mode for V/f separation	0: Frequency and voltage decline to 0 independently 1: Frequency declines to 0 after voltage declines to 0 2: Coast to stop (new)	0	-	Changeable at any time	<a href="#">“F3-17” on page 272</a>
F3-18	0xF312	Overcurrent stall suppression action current	50% to 200%	150	%	Changeable only at stop	<a href="#">“F3-18” on page 272</a>
F3-19	0xF313	Overcurrent stall suppression	0: Disabled 1: Enabled	1	-	Changeable only at stop	<a href="#">“F3-19” on page 272</a>
F3-20	0xF314	Overcurrent stall suppression gain	1 to 100	20	-	Changeable at any time	<a href="#">“F3-20” on page 273</a>
F3-21	0xF315	Compensation coefficient of speed multiplying overcurrent stall suppression action current	50% to 200%	100	%	Changeable only at stop	<a href="#">“F3-21” on page 273</a>
F3-22	0xF316	Overvoltage stall suppression action voltage	330.0 V to 800.0 V	770.0	V	Changeable at any time	<a href="#">“F3-22” on page 273</a>
F3-23	0xF317	Overvoltage stall suppression	0: Disabled 1: Enabled	1	-	Changeable only at stop	<a href="#">“F3-23” on page 273</a>
F3-24	0xF318	Overvoltage stall suppression frequency gain	1 to 100	30	-	Changeable at any time	<a href="#">“F3-24” on page 273</a>
F3-25	0xF319	Overvoltage stall suppression voltage gain	1 to 100	30	-	Changeable at any time	<a href="#">“F3-25” on page 274</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
F3-26	0xF31A	Frequency rise threshold for overvoltage stall suppression	0 Hz to 50 Hz	5	Hz	Changeable only at stop	<a href="#">“ F3-26” on page 274</a>
F3-27	0xF31B	Slip compensation filter time	0.1s to 10.0s	0.5	s	Changeable only at stop	<a href="#">“ F3-27” on page 274</a>
F3-28	0xF31C	Multi-point curve source	0: 3-point curve 1: Multi-point curve module A 2: Multi-point curve module B	0	-	Changeable only at stop	<a href="#">“ F3-28” on page 274</a>
F3-33	0xF321	Online torque compensation gain	80 to 150	100	-	Changeable only at stop	<a href="#">“ F3-33” on page 275</a>
F3-34	0xF322	ImaxKi coefficient	10% to 1000%	100	%	Changeable only at stop	<a href="#">“ F3-34” on page 275</a>
F3-35	0xF323	Overcurrent suppression threshold (relative to rated motor current)	80% to 300%	200	%	Changeable only at stop	<a href="#">“ F3-35” on page 275</a>
F3-36	0xF324	Frequency threshold for overcurrent suppression field weakening	100% to 500%	100	%	Changeable only at stop	<a href="#">“ F3-36” on page 275</a>
F3-37	0xF325	IT filter time	10 ms to 1000 ms	100	ms	Changeable only at stop	<a href="#">“ F3-37” on page 275</a>
F3-38	0xF326	Slip compensation mode	0: Disabled 1: Slip compensation without PG 2: Slip compensation with PG	1	-	Changeable only at stop	<a href="#">“ F3-38” on page 275</a>
F3-39	0xF327	VdcMaxCtrl allowed runtime	0.0s to 100.0s	0.0	s	Changeable only at stop	<a href="#">“ F3-39” on page 276</a>
F3-40	0xF328	Upper limit of V/f separation voltage	50.0% to 200.0%	100.0	%	Changeable only at stop	<a href="#">“ F3-40” on page 276</a>
F3-41	0xF329	RFG time of V/f separation frequency	0: RFG time forced to 0 1: Preset RFG time	0	-	Changeable only at stop	<a href="#">“ F3-41” on page 276</a>
F3-42	0xF32A	Cut-off frequency of V/f oscillation suppression filter	1.0 Hz to 50.0 Hz	8.0	Hz	Changeable at any time	<a href="#">“ F3-42” on page 276</a>
F3-43	0xF32B	Cut-off frequency threshold for V/f oscillation suppression	10 Hz to 3000 Hz	200	Hz	Changeable at any time	<a href="#">“ F3-43” on page 277</a>
F3-44	0xF32C	VdcMaxCtrl feedforward coefficient	0% to 500%	0	%	Changeable at any time	<a href="#">“ F3-44” on page 277</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
F3-50	0xF332	PMVVC low-speed IF	0: Disabled 1: Enabled	1	-	Changeable only at stop	<a href="#">“ F3-50” on page 277</a>
F3-51	0xF333	PMVVC low-speed IF current	30 to 250	100	-	Changeable only at stop	<a href="#">“ F3-51” on page 277</a>
F3-52	0xF334	PMVVC low-speed IF speed switching threshold	2.0% to 100.0%	10.0	%	Changeable only at stop	<a href="#">“ F3-52” on page 277</a>
F3-53	0xF335	PMVVC oscillation suppression gain coefficient	0 to 500	100	-	Changeable at any time	<a href="#">“ F3-53” on page 278</a>
F3-54	0xF336	PMVVC filter time coefficient	0 to 500	100	-	Changeable at any time	<a href="#">“ F3-54” on page 278</a>
F3-55	0xF337	PMVVC energy conservation control mode	0: Fixed straight-line V/f curve 1: Fixed 30% reactive current 2: MTPA control	2	-	Changeable only at stop	<a href="#">“ F3-55” on page 278</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
F4-00	0xF400	DI1 function	0: No function 1: Forward RUN (IN1) 2: Reverse RUN (IN2) 3: Three-wire control (IN3) 4: Forward jog (FJOG) 5: Reverse jog (RJOG) 6: Terminal UP 7: Terminal DOWN 8: Coast to stop 9: Fault reset (RESET) 10: Running pause 11: External fault NO input 12: Multi-reference terminal 1 13: Multi-reference terminal 2 14: Multi-reference terminal 3 15: Multi-reference terminal 4 16: Acceleration/deceleration selection terminal 1 17: Acceleration/deceleration selection terminal 2 18: Frequency source switchover 19: UP and DOWN setting clear 20: Command source switchover terminal 1 21: Acceleration/Deceleration inhibition 22: PID pause 23: Simple PLC state reset 24: Wobble pause 25: Counter input 26: Counter reset 27: Length count input 28: Length reset 29: Torque control inhibition 30: Pulse frequency input 31: Reserved 32: Immediate DC braking 33: External fault NC input 34: Frequency modification enable 35: PID action direction reversal (To be continued)	1	-	Changeable only at stop	<a href="#">"F4-00" on page 278</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
(Continued)	(Continued)	(Continued)	(Continued) 36: External stop terminal 1 37: Command source switchover terminal 2 38: PID integral pause 39: Switchover between main frequency and preset frequency 40: Switchover between auxiliary frequency and preset frequency 41: Motor selection terminal 1 42: Reserved 43: PID parameter switchover 44: User-defined fault 1 45: User-defined fault 2 46: Switchover between speed control and torque control 47: Emergency stop 48: External stop terminal 2 49: Deceleration DC braking 50: Current running duration clear 51: Switchover between two-wire and three-wire control 52: Reverse running inhibition 53-69: Reserved 70: Control channel 71: Reference source (Reserved) 72: Terminal module 73: Startup mode bit0 74: Startup mode bit1 75: Command source switchover terminal 3 76: Motor selection terminal 2 77: Running enable 78: Forward RUN enable 79: Reverse RUN enable 80: RFG input set to 0	1	-	Changeable only at stop	<a href="#">"F4-00" on page 278</a>
F4-01	0xF401	DI2 function	Same as F4-00	4	-	Changeable only at stop	<a href="#">"F4-01" on page 285</a>
F4-02	0xF402	DI3 function	Same as F4-00	9	-	Changeable only at stop	<a href="#">"F4-02" on page 285</a>
F4-03	0xF403	DI4 function	Same as F4-00	12	-	Changeable only at stop	<a href="#">"F4-03" on page 285</a>



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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
F4-04	0xF404	DI5 function	0: No function 1: Forward RUN (IN1) 2: Reverse RUN (IN2) 3: Three-wire control (IN3) 4: Forward jog (FJOG) 5: Reverse jog (RJOG) 6: Terminal UP 7: Terminal DOWN 8: Coast to stop 9: Fault reset (RESET) 10: Running pause 11: External fault NO input 12: Multi-reference terminal 1 13: Multi-reference terminal 2 14: Multi-reference terminal 3 15: Multi-reference terminal 4 16: Acceleration/deceleration selection terminal 1 17: Acceleration/deceleration selection terminal 2 18: Frequency source switchover 19: UP and DOWN setting clear 20: Command source switchover terminal 1 21: Acceleration/Deceleration inhibition 22: PID pause 23: Simple PLC state reset 24: Wobble pause 25: Counter input 26: Counter reset 27: Length count input 28: Length reset 29: Torque control inhibition 31: Reserved 32: Immediate DC braking 33: External fault NC input 34: Frequency modification enable 35: PID action direction reversal	13	-	Changeable only at stop	<a href="#">"F4-04" on page 285</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
(Continued)	(Continued)	(Continued)	(Continued) 36: External stop terminal 1 37: Command source switchover terminal 2 38: PID integral pause 39: Switchover between main frequency and preset frequency 40: Switchover between auxiliary frequency and preset frequency 41: Motor selection terminal 1 42: Reserved 43: PID parameter switchover 44: User-defined fault 1 45: User-defined fault 2 46: Switchover between speed control and torque control 47: Emergency stop 48: External stop terminal 2 49: Deceleration DC braking 50: Current running duration clear 51: Switchover between two-wire and three-wire control 52: Reverse running inhibition 53-69: Reserved 70: Control channel 71: Reference source (Reserved) 72: Terminal module 73: Startup mode bit0 74: Startup mode bit1 75: Command source switchover terminal 3 76: Motor selection terminal 2 77: Running enable 78: Forward RUN enable 79: Reverse RUN enable 80: RFG input set to 0 (To be continued)	13	-	Changeable only at stop	<a href="#">"F4-04" on page 285</a>
F4-05	0xF405	DI6 function	Same as F4-00	0	-	Changeable only at stop	<a href="#">"F4-05" on page 287</a>
F4-06	0xF406	DI7 function	Same as F4-00	0	-	Changeable only at stop	<a href="#">"F4-06" on page 288</a>
F4-07	0xF407	DI8 function	Same as F4-00	0	-	Changeable only at stop	<a href="#">"F4-07" on page 288</a>
F4-08	0xF408	DI9 function	Same as F4-00	0	-	Changeable only at stop	<a href="#">"F4-08" on page 288</a>
F4-09	0xF409	DI10 function	Same as F4-00	0	-	Changeable only at stop	<a href="#">"F4-09" on page 288</a>
F4-10	0xF40A	DI filter time	0.000s to 1.000s	0.010	s	Changeable at any time	<a href="#">"F4-10" on page 288</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
F4-11	0xF40B	Terminal control mode	0: Two-wire mode 1 1: Two-wire mode 2 2: Three-wire mode 1 3: Three-wire mode 2	0	-	Changeable only at stop	<a href="#">“ F4-11” on page 288</a>
F4-12	0xF40C	Terminal UP/DOWN change rate	0.001 Hz/s to 65.535 Hz/s	1.000	Hz/s	Changeable at any time	<a href="#">“ F4-12” on page 289</a>
F4-13	0xF40D	Minimum input of AI curve 1	-10 V to F4-15	0.00	V	Changeable at any time	<a href="#">“ F4-13” on page 289</a>
F4-14	0xF40E	Percentage corresponding to minimum input of AI curve 1	-100% to +100.0%	0.0	%	Changeable at any time	<a href="#">“ F4-14” on page 289</a>
F4-15	0xF40F	Maximum input of AI curve 1	F4-13 to 10.00 V	10.00	V	Changeable at any time	<a href="#">“ F4-15” on page 290</a>
F4-16	0xF410	Percentage corresponding to maximum input of AI curve 1	-100% to +100.0%	100.0	%	Changeable at any time	<a href="#">“ F4-16” on page 290</a>
F4-17	0xF411	AI1 filter time	0.00s to 10.00s	0.10	s	Changeable at any time	<a href="#">“ F4-17” on page 290</a>
F4-18	0xF412	Minimum input of AI curve 2	-10 V to F4-20	0.00	V	Changeable at any time	<a href="#">“ F4-18” on page 290</a>
F4-19	0xF413	Percentage corresponding to minimum input of AI curve 2	-100% to +100.0%	0.0	%	Changeable at any time	<a href="#">“ F4-19” on page 290</a>
F4-20	0xF414	Maximum input of AI curve 2	F4-18 to 10.00 V	10.00	V	Changeable at any time	<a href="#">“ F4-20” on page 291</a>
F4-21	0xF415	Percentage corresponding to maximum input of AI curve 2	-100% to +100.0%	100.0	%	Changeable at any time	<a href="#">“ F4-21” on page 291</a>
F4-22	0xF416	AI2 filter time	0.00s to 10.00s	0.10	s	Changeable at any time	<a href="#">“ F4-22” on page 291</a>
F4-23	0xF417	Minimum input of AI curve 3	-10 V to F4-25	-10	V	Changeable at any time	<a href="#">“ F4-23” on page 291</a>
F4-24	0xF418	Percentage corresponding to minimum input of AI curve 3	-100% to +100.0%	-100	%	Changeable at any time	<a href="#">“ F4-24” on page 291</a>
F4-25	0xF419	Maximum input of AI curve 3	F4-23 to 10.00 V	10.00	V	Changeable at any time	<a href="#">“ F4-25” on page 291</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
F4-26	0xF41A	Percentage corresponding to maximum input of AI curve 3	-100% to +100.0%	100.0	%	Changeable at any time	<a href="#">“ F4-26” on page 292</a>
F4-27	0xF41B	AI3 fitter time	0.00s to 10.00s	0.10	s	Changeable at any time	<a href="#">“ F4-27” on page 292</a>
F4-28	0xF41C	Minimum pulse input frequency	0.00 kHz to F4-30	0.00	kHz	Changeable at any time	<a href="#">“ F4-28” on page 292</a>
F4-29	0xF41D	Percentage corresponding to minimum pulse input frequency	-100% to +100.0%	0.0	%	Changeable at any time	<a href="#">“ F4-29” on page 292</a>
F4-30	0xF41E	Maximum pulse input frequency	F4-28 to 100.00 kHz	50.00	kHz	Changeable at any time	<a href="#">“ F4-30” on page 292</a>
F4-31	0xF41F	Percentage corresponding to maximum pulse input frequency	-100% to +100.0%	100.0	%	Changeable at any time	<a href="#">“ F4-31” on page 293</a>
F4-32	0xF420	Pulse filter time	0.00s to 10.00s	0.10	s	Changeable at any time	<a href="#">“ F4-32” on page 293</a>
F4-33	0xF421	AI curve	Ones: AI1 curve 1: Curve 1 (2 points, F4-13 to F4-16) 2: Curve 2 (2 points, F4-18 to F4-21) 3: Curve 3 (2 points, F4-23 to F4-26) 4: Curve 4 (4 points, A6-00 to A6-07) 5: Curve 5 (4 points, A6-08 to A6-15) Tens: AI2 curve 1: Curve 1 (2 points, F4-13 to F4-16) 2: Curve 2 (2 points, F4-18 to F4-21) 3: Curve 3 (2 points, F4-23 to F4-26) 4: Curve 4 (4 points, A6-00 to A6-07) 5: Curve 5 (4 points, A6-08 to A6-15) Hundreds: AI3 curve 1: Curve 1 (2 points, F4-13 to F4-16) 2: Curve 2 (2 points, F4-18 to F4-21) 3: Curve 3 (2 points, F4-23 to F4-26) 4: Curve 4 (4 points, A6-00 to A6-07) 5: Curve 5 (4 points, A6-08 to A6-15)	0x321	-	Changeable at any time	<a href="#">“ F4-33” on page 293</a>
F4-34	0xF422	AI lower limit	Ones: Setting for AI1 less than minimum input 0: Percentage corresponding to minimum input 1: 0.0% Tens: Setting for AI2 less than minimum input 0: Percentage corresponding to minimum input 1: 0.0% Hundreds: Setting for AI3 less than minimum input 0: Percentage corresponding to minimum input 1: 0.0%	0x0	-	Changeable at any time	<a href="#">“ F4-34” on page 294</a>

## List of Parameters

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
F4-35	0xF423	DI1 delay (invalid)	0.0s to 3600.0s	0.0	s	Changeable only at stop	<a href="#">“ F4-35” on page 294</a>
F4-36	0xF424	DI2 delay (invalid)	0.0s to 3600.0s	0.0	s	Changeable only at stop	<a href="#">“ F4-36” on page 294</a>
F4-37	0xF425	DI3 delay (invalid)	0.0s to 3600.0s	0.0	s	Changeable only at stop	<a href="#">“ F4-37” on page 294</a>
F4-38	0xF426	DI active mode selection 1	Ones: DI1 0: Active low 1: Active high Tens: DI2 0: Active low 1: Active high Hundreds: DI3 0: Active low 1: Active high Thousands: DI4 0: Active low 1: Active high Ten thousands: DI5 0: Active low 1: Active high	0	-	Changeable only at stop	<a href="#">“ F4-38” on page 295</a>
F4-39	0xF427	DI active mode selection 2	Ones: DI6 0: Active low 1: Active high Tens: DI7 0: Active low 1: Active high Hundreds: DI8 0: Active low 1: Active high Thousands: DI9 0: Active low 1: Active high Ten thousands: DI10 0: Active low 1: Active high	0	-	Changeable only at stop	<a href="#">“ F4-39” on page 295</a>
F4-41	0xF429	DI1 switch-on delay	0.0s to 3600.0s	0.0	s	Changeable only at stop	<a href="#">“ F4-41” on page 296</a>
F4-42	0xF42A	DI1 switch-off delay	0.0s to 3600.0s	0.0	s	Changeable only at stop	<a href="#">“ F4-42” on page 296</a>
F4-43	0xF42B	DI2 switch-on delay	0.0s to 3600.0s	0.0	s	Changeable only at stop	<a href="#">“ F4-43” on page 296</a>
F4-44	0xF42C	DI2 switch-off delay	0.0s to 3600.0s	0.0	s	Changeable only at stop	<a href="#">“ F4-44” on page 296</a>
F4-45	0xF42D	DI3 switch-on delay	0.0s to 3600.0s	0.0	s	Changeable only at stop	<a href="#">“ F4-45” on page 296</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
F4-46	0xF42E	DI3 switch-off delay	0.0s to 3600.0s	0.0	s	Changeable only at stop	<a href="#">“ F4-46” on page 296</a>
F4-47	0xF42F	DI4 switch-on delay	0.0s to 3600.0s	0.0	s	Changeable only at stop	<a href="#">“ F4-47” on page 297</a>
F4-48	0xF430	DI4 switch-off delay	0.0s to 3600.0s	0.0	s	Changeable only at stop	<a href="#">“ F4-48” on page 297</a>
F4-49	0xF431	DI force data	Bit00: DI1 0: Inactive 1: Active Bit01: DI2 0: Inactive 1: Active Bit02: DI3 0: Inactive 1: Active Bit03: DI4 0: Inactive 1: Active Bit04: DI5/HDI 0: Inactive 1: Active Bit05: DI6 0: Inactive 1: Active Bit06: DI7 0: Inactive 1: Active Bit07: DI8 0: Inactive 1: Active Bit08: DI9 0: Inactive 1: Active Bit09: DI10 0: Inactive 1: Active Bit10–15: Reserved	0x0	-	Changeable at any time	<a href="#">“ F4-49” on page 297</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
F4-50	0xF432	DI communication data	Bit00: DI1 0: Inactive 1: Active Bit01: DI2 0: Inactive 1: Active Bit02: DI3 0: Inactive 1: Active Bit03: DI4 0: Inactive 1: Active Bit04: DI5/HDI 0: Inactive 1: Active Bit05: DI6 0: Inactive 1: Active Bit06: DI7 0: Inactive 1: Active Bit07: DI8 0: Inactive 1: Active Bit08: DI9 0: Inactive 1: Active Bit09: DI10 0: Inactive 1: Active Bit10: VDI1 0: Inactive 1: Active (To be continued)	0x0	-	Changeable at any time	<a href="#">"F4-50" on page 298</a>
(Continued)	(Continued)	(Continued)	(Continued) Bit11: VDI2 0: Inactive 1: Active Bit12: VDI3 0: Inactive 1: Active Bit13: VDI4 0: Inactive 1: Active Bit14: VDI5 0: Inactive 1: Active Bit15: VDI6 0: Inactive 1: Active	0x0	-	Changeable at any time	<a href="#">"F4-50" on page 298</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
F4-51	0xF433	DI1 hardware source	0: Hardware 1: Force value	0	-	Changeable only at stop	<a href="#">“ F4-51” on page 300</a>
F4-52	0xF434	DI2 hardware source	0: Hardware 1: Force value	0	-	Changeable only at stop	<a href="#">“ F4-52” on page 300</a>
F4-53	0xF435	DI3 hardware source	0: Hardware 1: Force value	0	-	Changeable only at stop	<a href="#">“ F4-53” on page 300</a>
F4-54	0xF436	DI4 hardware source	0: Hardware 1: Force value	0	-	Changeable only at stop	<a href="#">“ F4-54” on page 301</a>
F4-55	0xF437	DI5/HDI hardware source	0: Hardware 1: Force value	0	-	Changeable only at stop	<a href="#">“ F4-55” on page 301</a>
F4-56	0xF438	DI6 hardware source	0: Hardware 1: Force value 2: Communication 4: AI1 5: AI2 6: AI3 11: DI1 12: DI2 13: DI3 14: DI4 15: DI5/HDI 17: DI7 18: DI8 19: DI9 20: DI10 21: VDI1 22: VDI2 23: VDI3 24: VDI4 25: VDI5 26: VDI6 31: Relay 1 32: Relay 2 33: DO1  (To be continued)	0	-	Changeable only at stop	<a href="#">“ F4-56” on page 301</a>



## List of Parameters

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
(Continued)	(Continued)	(Continued)	(Continued) 34: Expansion card relay 35: Expansion card DO2 36: VDO1 37: VDO2 38: VDO3 39: VDO4 40: VDO5 41: VDO6 42: VDO7 43: VDO8 44: VDO9 45: VDO10 46: VDO11	0	-	Changeable only at stop	<a href="#">" F4-56" on page 301</a>
F4-57	0xF439	DI7 hardware source	Same as F4-56	0	-	Changeable only at stop	<a href="#">" F4-57" on page 302</a>
F4-58	0xF43A	DI8 hardware source	Same as F4-56	0	-	Changeable only at stop	<a href="#">" F4-58" on page 303</a>
F4-59	0xF43B	DI9 hardware source	Same as F4-56	0	-	Changeable only at stop	<a href="#">" F4-59" on page 303</a>
F4-60	0xF43C	DI10 hardware source	Same as F4-56	0	-	Changeable only at stop	<a href="#">" F4-60" on page 303</a>
F4-61	0xF43D	DI5/HDI terminal type	0: HDI 1: DI	1	-	Unchangeable	<a href="#">" F4-61" on page 303</a>
F4-62	0xF43E	HDI polarity	0: Normal 1: Absolute value 2: Negated value 3: Negated absolute value	0	-	Changeable at any time	<a href="#">" F4-62" on page 303</a>
F4-63	0xF43F	HDI input enable	0: Disabled 1: Enabled Others: B connector	0	-	Unchangeable	<a href="#">" F4-63" on page 304</a>
F4-64	0xF440	HDI hardware source	0: Hardware sampling 1: Force setpoint	0	-	Changeable at any time	<a href="#">" F4-64" on page 304</a>
F4-65	0xF441	HDI force setpoint	0.00 kHz to 100.00 kHz	1.00	kHz	Changeable at any time	<a href="#">" F4-65" on page 304</a>
F4-66	0xF442	Minimum input of 4-point HDI curve	0.00 kHz to F4-68	10.00	kHz	Changeable at any time	<a href="#">" F4-66" on page 304</a>
F4-67	0xF443	Percentage corresponding to minimum input of 4-point HDI curve	-100% to +100.0%	-100	%	Changeable at any time	<a href="#">" F4-67" on page 305</a>
F4-68	0xF444	Inflection 1 input of 4-point HDI curve	F4-66 to F4-70	40.00	kHz	Changeable at any time	<a href="#">" F4-68" on page 305</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
F4-69	0xF445	Percentage corresponding to inflection 1 input of 4-point HDI curve	-100% to +100.0%	-30	%	Changeable at any time	<a href="#">“ F4-69” on page 305</a>
F4-70	0xF446	Inflection 2 input of 4-point HDI curve	F4-68 to F4-72	70.00	kHz	Changeable at any time	<a href="#">“ F4-70” on page 305</a>
F4-71	0xF447	Percentage corresponding to inflection 2 input of 4-point HDI curve	-100% to +100.0%	30.0	%	Changeable at any time	<a href="#">“ F4-71” on page 305</a>
F4-72	0xF448	Maximum input of 4-point HDI curve	F4-70 to 100.00 kHz	100.00	kHz	Changeable at any time	<a href="#">“ F4-72” on page 305</a>
F4-73	0xF449	Percentage corresponding to maximum input of 4-point HDI curve	-100% to +100.0%	100.0	%	Changeable at any time	<a href="#">“ F4-73” on page 306</a>
F4-74	0xF44A	HDI curve setting	Ones: HDI curve 0: 2-point curve 1: 4-point curve	0	-	Changeable at any time	<a href="#">“ F4-74” on page 306</a>
F4-75	0xF44B	HDI denoising threshold	0.0% to 10.0%	0.5	%	Changeable at any time	<a href="#">“ F4-75” on page 306</a>
F5-00	0xF500	FM multi-function terminal output	0: Pulse output (FMP) 1: Digital output (FMR)	0	-	Changeable at any time	<a href="#">“ F5-00” on page 306</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
F5-01	0xF501	FMR output function	0: No output 1: AC drive in running 2: Fault output 3: Frequency-level detection 1 (FDT1) 4: Frequency reach 5: Zero-speed running (no output at stop) 6: Motor overload pre-warning 7: AC drive overload pre-warning 8: Reference count value reach 9: Designated count value reach 10: Length reach 11: Simple PLC cycle completion 12: Accumulative running duration reach 13: Wobble limit reach 14: Torque limit reach 15: Ready to run 16: AI1 > AI2 17: Frequency upper limit reach 18: Frequency lower limit reach (no output at stop) 19: Undervoltage state 20: Communication setting 21-22: Reserved 23: Running at zero speed 2 (output at stop) 24: Accumulative power-on duration reach 25: Frequency-level detection 2 (FDT2) 26: Frequency 1 reach 27: Frequency 2 reach 28: Current 1 reach 29: Current 2 reach 30: Timing reach 31: AI1 input overlimit 32: Load loss 33: Reverse running (To be continued)	0	-	Changeable at any time	<a href="#">"F5-01" on page 307</a>
(Continued)	(Continued)	(Continued)	(continued) 34: Zero current state 35: IGBT temperature reach 36: Output overcurrent 37: Frequency lower limit reach (output at stop) 38: Alarm (all faults) 39: Motor overtemperature 40: Current running duration reach 41: Fault output (no output at undervoltage) 42: STO output 43: Running with limits Others: B connector				

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
F5-02	0xF502	Control board relay (DO3) output function	Same as F5-01	2	-	Changeable at any time	<a href="#">“ F5-02” on page 311</a>
F5-03	0xF503	Expansion card relay (DO4) output function	Same as F5-01	0	-	Changeable at any time	<a href="#">“ F5-03” on page 311</a>
F5-04	0xF504	DO1 function	Same as F5-01	1	-	Changeable at any time	<a href="#">“ F5-04” on page 311</a>
F5-05	0xF505	Expansion card DO2 function	Same as F5-01	4	-	Changeable at any time	<a href="#">“ F5-05” on page 311</a>
F5-06	0xF506	FMP output function	0: Running frequency 1: Frequency reference 2: Output current 3: Output torque (absolute value) 4: Output power 5: Output voltage 6: Pulse input 7: AI1 8: AI2 9: AI3 10: Length 11: Count value 12: Communication setting 13: Motor speed 14: Output current 15: Bus voltage 16: Output torque (actual value) Others: F connector	0	-	Changeable at any time	<a href="#">“ F5-06” on page 312</a>
F5-07	0xF507	AO1 function	Same as F5-06	0	-	Changeable at any time	<a href="#">“ F5-07” on page 312</a>
F5-08	0xF508	Expansion card AO2 function	Same as F5-06	1	-	Changeable at any time	<a href="#">“ F5-08” on page 312</a>
F5-09	0xF509	Maximum FMP output frequency	0.01 kHz to 100.00 kHz	50.00	kHz	Changeable at any time	<a href="#">“ F5-09” on page 312</a>
F5-10	0xF50A	AO1 zero offset coefficient	-100% to +100.0%	0.0	%	Changeable at any time	<a href="#">“ F5-10” on page 313</a>
F5-11	0xF50B	AO1 gain	-10 to +10.00	1.00	-	Changeable at any time	<a href="#">“ F5-11” on page 313</a>
F5-12	0xF50C	AO2 zero offset coefficient	-100% to +100.0%	0.0	%	Changeable at any time	<a href="#">“ F5-12” on page 313</a>
F5-13	0xF50D	AO2 gain	-10 to +10.00	1.00	-	Changeable at any time	<a href="#">“ F5-13” on page 313</a>
F5-14	0xF50E	HDO output filter time	0 to 1000	0	-	Changeable at any time	<a href="#">“ F5-14” on page 313</a>
F5-15	0xF50F	AO1 output filter time	0 to 1000	0	-	Changeable at any time	<a href="#">“ F5-15” on page 314</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
F5-16	0xF510	AO2 output filter time	0 to 1000	0	-	Changeable at any time	<a href="#">"F5-16" on page 314</a>
F5-17	0xF511	FMR output delay (invalid)	0.0s to 3600.0s	0.0	s	Changeable at any time	<a href="#">"F5-17" on page 314</a>
F5-18	0xF512	Relay 1 (DO3) output delay (invalid)	0.0s to 3600.0s	0.0	s	Changeable at any time	<a href="#">"F5-18" on page 314</a>
F5-19	0xF513	Relay 2 (DO4) output delay (invalid)	0.0s to 3600.0s	0.0	s	Changeable at any time	<a href="#">"F5-19" on page 314</a>
F5-20	0xF514	DO1 output delay (invalid)	0.0s to 3600.0s	0.0	s	Changeable at any time	<a href="#">"F5-20" on page 315</a>
F5-21	0xF515	DO2 output delay (invalid)	0.0s to 3600.0s	0.0	s	Changeable at any time	<a href="#">"F5-21" on page 315</a>
F5-22	0xF516	DO active mode	Ones: FMR 0: Positive logic active 1: Negative logic active Tens: Relay 1 (DO3) 0: Positive logic active 1: Negative logic active Hundreds: Relay 2 (DO4) 0: Positive logic active 1: Negative logic active Thousands: DO1 0: Positive logic active 1: Negative logic active Ten thousands: DO2 0: Positive logic active 1: Negative logic active	0	-	Changeable at any time	<a href="#">"F5-22" on page 315</a>
F5-24	0xF518	Control board relay (DO3) switch-on delay	0.0s to 3600.0s	0.0	s	Changeable at any time	<a href="#">"F5-24" on page 315</a>
F5-25	0xF519	Control board relay (DO3) switch-off delay	0.0s to 3600.0s	0.0	s	Changeable at any time	<a href="#">"F5-25" on page 316</a>
F5-26	0xF51A	FMR output switch-on delay	0.0s to 3600.0s	0.0	s	Changeable at any time	<a href="#">"F5-26" on page 316</a>
F5-27	0xF51B	FMR output switch-off delay	0.0s to 3600.0s	0.0	s	Changeable at any time	<a href="#">"F5-27" on page 316</a>
F5-28	0xF51C	DO1 output switch-on delay	0.0s to 3600.0s	0.0	s	Changeable at any time	<a href="#">"F5-28" on page 316</a>
F5-29	0xF51D	DO1 output switch-off delay	0.0s to 3600.0s	0.0	s	Changeable at any time	<a href="#">"F5-29" on page 316</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
F5-30	0xF51E	Expansion card relay (DO4) switch-on delay	0.0s to 3600.0s	0.0	s	Changeable at any time	<a href="#">“F5-30” on page 317</a>
F5-31	0xF51F	Expansion card relay (DO4) switch-off delay	0.0s to 3600.0s	0.0	s	Changeable at any time	<a href="#">“F5-31” on page 317</a>
F5-32	0xF520	Expansion card DO2 output switch-on delay	0.0s to 3600.0s	0.0	s	Changeable at any time	<a href="#">“F5-32” on page 317</a>
F5-33	0xF521	Expansion card DO2 output switch-off delay	0.0s to 3600.0s	0.0	s	Changeable at any time	<a href="#">“F5-33” on page 317</a>
F5-34	0xF522	DO/RO source	Bit00: Relay 1 (DO3) output source 0: Output function 1: Communication Bit01: FMR output source 0: Output function 1: Communication Bit02: DO1 output source 0: Output function 1: Communication Bit03: Relay 2 (DO4) output source 0: Output function 1: Communication Bit04: DO2 output source 0: Output function 1: Communication Bit05: VDO1 output source 0: Output function 1: Communication Bit06: VDO2 output source 0: Output function 1: Communication Bit07: VDO3 output source 0: Output function 1: Communication Bit08: VDO4 output source 0: Output function 1: Communication (To be continued)	0x0	-	Changeable at any time	<a href="#">“F5-34” on page 317</a>

## List of Parameters

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
(Continued)	(Continued)	(Continued)	(Continued) Bit09: VDO5 output source 0: Output function 1: Communication Bit10: VDO6 output source 0: Output function 1: Communication Bit11: VDO7 output source 0: Output function 1: Communication Bit12: VDO8 output source 0: Output function 1: Communication Bit13: VDO9 output source 0: Output function 1: Communication Bit14: VDO10 output source 0: Output function 1: Communication Bit15: VDO11 output source 0: Output function 1: Communication				
F5-35	0xF523	DO/RO terminal communication control	Same as F5-34	0x0	-	Changeable at any time	<a href="#">“ F5-35” on page 319</a>
F5-36	0xF524	Minimum input of AO1 curve	-100.0% to F5-38	0.0	%	Changeable at any time	<a href="#">“ F5-36” on page 321</a>
F5-37	0xF525	Setpoint corresponding to minimum input of AO1 curve	0.00 V to 10.00 V	0.00	V	Changeable at any time	<a href="#">“ F5-37” on page 321</a>
F5-38	0xF526	Maximum input of AO1 curve	F5-36 to 100.0%	100.0	%	Changeable at any time	<a href="#">“ F5-38” on page 322</a>
F5-39	0xF527	Setpoint corresponding to maximum input of AO1 curve	0.00 V to 10.00 V	10.00	V	Changeable at any time	<a href="#">“ F5-39” on page 322</a>
F5-40	0xF528	AO1 output offset	-10 V to +10.00 V	0.00	V	Changeable at any time	<a href="#">“ F5-40” on page 322</a>
F5-41	0xF529	Minimum input of AO2 curve	-100.0% to F5-43	0.0	%	Changeable at any time	<a href="#">“ F5-41” on page 322</a>
F5-42	0xF52A	Setpoint corresponding to minimum input of AO2 curve	0.00 V to 10.00 V	0.00	V	Changeable at any time	<a href="#">“ F5-42” on page 322</a>
F5-43	0xF52B	Maximum input of AO2 curve	F5-41 to 100.0%	100.0	%	Changeable at any time	<a href="#">“ F5-43” on page 323</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
F5-44	0xF52C	Setpoint corresponding to maximum input of AO2 curve	0.00 V to 10.00 V	10.00	V	Changeable at any time	<a href="#">"F5-44" on page 323</a>
F5-45	0xF52D	AO2 output offset	-10 V to +10.00 V	0.00	V	Changeable at any time	<a href="#">"F5-45" on page 323</a>
F5-46	0xF52E	AO curve	Ones: AO1 curve 0: 2-point curve 1: Gain+Offset Tens: AO2 curve 0: 2-point curve 1: Gain+Offset	11	-	Changeable at any time	<a href="#">"F5-46" on page 323</a>
F5-47	0xF52F	AO polarity	Ones: AO1 0: Normal 1: Absolute value 2: Negated value 3: Negated absolute value Tens: AO2 0: Normal 1: Absolute value 2: Negated value 3: Negated absolute value	0	-	Changeable at any time	<a href="#">"F5-47" on page 323</a>
F5-48	0xF530	AO hardware source	Ones: AO1 source 0: Output function 1: Force setpoint Tens: AO2 source 0: Output function 1: Force setpoint	0	-	Changeable at any time	<a href="#">"F5-48" on page 324</a>
F5-49	0xF531	AO force setpoint 1	0.00 V to 10.00 V	0.00	V	Changeable at any time	<a href="#">"F5-49" on page 324</a>
F5-50	0xF532	AO force setpoint 2	0.00 V to 10.00 V	0.00	V	Changeable at any time	<a href="#">"F5-50" on page 324</a>
F5-51	0xF533	Minimum input of HDO curve	-100.0% to F5-53	0.00	%	Changeable at any time	<a href="#">"F5-51" on page 325</a>
F5-52	0xF534	Percentage corresponding to minimum input of HDO curve	0.00% to 100.00%	0.00	%	Changeable at any time	<a href="#">"F5-52" on page 325</a>
F5-53	0xF535	Maximum input of HDO curve	F5-51 to 100.00%	100.00	%	Changeable at any time	<a href="#">"F5-53" on page 325</a>
F5-54	0xF536	Percentage corresponding to maximum input of HDO curve	0.00% to 100.00%	100.00	%	Changeable at any time	<a href="#">"F5-54" on page 325</a>



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F5-55	0xF537	HDO polarity	Ones: HDO 0: Normal 1: Absolute value 2: Negated value 3: Negated absolute value	0	-	Changeable at any time	<a href="#">" F5-55" on page 325</a>
F5-56	0xF538	HDO hardware source	0: Output function 1: Force value	0	-	Changeable at any time	<a href="#">" F5-56" on page 326</a>
F5-57	0xF539	HDO force setpoint	0.00% to 100.00%	0.00	%	Changeable at any time	<a href="#">" F5-57" on page 326</a>
F6-00	0xF600	Startup mode	0: Direct start 1: Flying start 2: Pre-excitation start (AC asynchronous motor) 3: SVC quick start	0	-	Changeable at any time	<a href="#">" F6-00" on page 326</a>
F6-01	0xF601	Speed tracking mode	0: From the stop frequency 1: From the power frequency 2: From the maximum frequency 3: Reserved 4: Magnetic field directional speed tracking (MD290)	0	-	Changeable at any time	<a href="#">" F6-01" on page 326</a>
F6-02	0xF602	Speed of speed tracking	1 to 100	20	-	Changeable at any time	<a href="#">" F6-02" on page 327</a>
F6-03	0xF603	Startup frequency	0.00 Hz to 10.00 Hz	0.00	Hz	Changeable at any time	<a href="#">" F6-03" on page 327</a>
F6-04	0xF604	Startup frequency hold time	0.0s to 100.0s	0.0	s	Changeable only at stop	<a href="#">" F6-04" on page 327</a>
F6-05	0xF605	DC braking current at startup	0% to 100%	50	%	Changeable only at stop	<a href="#">" F6-05" on page 327</a>
F6-06	0xF606	DC braking time at startup	0.0s to 100.0s	0.0	s	Changeable only at stop	<a href="#">" F6-06" on page 328</a>
F6-07	0xF607	Acceleration/Deceleration mode	0: Straight-line acceleration/deceleration 1: S-curve acceleration/deceleration	0	-	Changeable only at stop	<a href="#">" F6-07" on page 328</a>
F6-08	0xF608	Time proportion of S-curve start segment	0.0% to +100.0%	30.0	%	Changeable only at stop	<a href="#">" F6-08" on page 328</a>
F6-09	0xF609	Time proportion of S-curve end segment	0.0% to +100.0%	30.0	%	Changeable only at stop	<a href="#">" F6-09" on page 328</a>
F6-10	0xF60A	Stop mode	0: Decelerate to stop 1: Coast to stop 2: Stop at maximum capability	0	-	Changeable at any time	<a href="#">" F6-10" on page 328</a>
F6-11	0xF60B	Start frequency of DC braking at stop	0.00 Hz to F0-10	0.00	Hz	Changeable at any time	<a href="#">" F6-11" on page 329</a>
F6-12	0xF60C	DC braking delay at stop	0.0s to 100.0s	0.0	s	Changeable at any time	<a href="#">" F6-12" on page 329</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
F6-13	0xF60D	DC braking current at stop	0% to 100%	50	%	Changeable at any time	<a href="#">“ F6-13” on page 329</a>
F6-14	0xF60E	DC braking time at stop	0.0s to 100.0s	0.0	s	Changeable at any time	<a href="#">“ F6-14” on page 329</a>
F6-15	0xF60F	Braking transistor usage	0% to 100%	100	%	Changeable at any time	<a href="#">“ F6-15” on page 329</a>
F6-16	0xF610	Speed tracking sweep current limit closed loop Kp	0 to 1000	500	-	Changeable at any time	<a href="#">“ F6-16” on page 330</a>
F6-17	0xF611	Speed tracking sweep current limit closed loop Ki	0 to 1000	800	-	Changeable at any time	<a href="#">“ F6-17” on page 330</a>
F6-18	0xF612	Speed tracking current	30% to 200%	80	%	Changeable only at stop	<a href="#">“ F6-18” on page 330</a>
F6-19	0xF613	Current loop multiple	10% to 600%	100	%	Changeable at any time	<a href="#">“ F6-19” on page 330</a>
F6-20	0xF614	S-curve setting mode	0: Symmetrical mode 1: Separate setting of acceleration and deceleration arcs	0	-	Changeable only at stop	<a href="#">“ F6-20” on page 330</a>
F6-21	0xF615	Demagnetization time (valid for asynchronous motors)	0.00s to 5.00s	0.50	s	Changeable at any time	<a href="#">“ F6-21” on page 331</a>
F6-23	0xF617	Overexcitation enable	0: Disabled 2: Enabled during deceleration 3: Enabled always	0	-	Changeable at any time	<a href="#">“ F6-23” on page 331</a>
F6-24	0xF618	Overexcitation suppression current	0% to 150%	100	%	Changeable at any time	<a href="#">“ F6-24” on page 331</a>
F6-25	0xF619	Overexcitation gain	0.01 to 2.50	1.25	-	Changeable at any time	<a href="#">“ F6-25” on page 331</a>
F6-26	0xF61A	Forced switch-on of braking transistor	0: Switch-off 1: Switch-on	0	-	Changeable only at stop	<a href="#">“ F6-26” on page 332</a>
F6-28	0xF61C	Manual self-check enable	Bit00: IGBT shoot-through self-check upon startup 0: Disabled 1: Enabled Bit01: Short-to-ground self-check upon startup 0: Disabled 1: Enabled Bit02: Phase loss self-check upon startup 0: Disabled 1: Enabled Bit03: Reserved	0x7	-	Changeable only at stop	<a href="#">“ F6-28” on page 332</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
F6-29	0xF61D	Manual self-check command	0: None 1: Static self-check 2: Full self-check	0	-	Changeable only at stop	<a href="#">“ F6-29” on page 332</a>
F7-00	0xF700	LED segment missing check	0: Disabled 1: All indicators of the LED operating panel are steady on. 2: All indicators of the LED operating panel are off. 3: All indicators of the LED operating panel blink.	0	-	Changeable only at stop	<a href="#">“ F7-00” on page 333</a>
F7-01	0xF701	MF.K key function	0: MF.K key disabled 1: Forced operating panel control 2: Switchover between forward and reverse run 3: Forward jog 4: Reverse jog	0	-	Changeable only at stop	<a href="#">“ F7-01” on page 333</a>
F7-02	0xF702	STOP/RESET key function	0: Valid only under operating panel control 1: Valid under any control (OFF1) 2: Valid under any control (OFF2) 3: Valid under any control (OFF3)	1	-	Changeable at any time	<a href="#">“ F7-02” on page 334</a>
F7-03	0xF703	LED display 1 in running state	Bit00: Running frequency (Hz) Bit01: Reference frequency (Hz) Bit02: Bus voltage (V) Bit03: Output voltage (V) Bit04: Output current (A) Bit05: Output power (kW) Bit06: Output torque (%) Bit07: DI state Bit08: DO state Bit09: AI1 voltage (V) Bit10: AI2 voltage (V) Bit11: AI3 voltage (V) Bit12: Count value Bit13: Length value Bit14: Load speed Bit15: PID reference	0x1F	-	Changeable at any time	<a href="#">“ F7-03” on page 334</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
F7-04	0xF704	LED display 2 in running state	Bit00: PID feedback Bit01: PLC stage Bit02: Input pulse frequency (kHz) Bit03: Running frequency 2 (Hz) Bit04: Remaining running time Bit05: AI1 voltage before correction (V) Bit06: Free mapping 0 Bit07: Free mapping 1 Bit08: Motor speed Bit09: Current power-on duration (Hour) Bit10: Current running duration (min) Bit11: Input pulse frequency (Hz) Bit12: Communication setpoint Bit13: Encoder feedback speed Bit14: Main frequency X Bit15: Auxiliary frequency Y	0x0	-	Changeable at any time	<a href="#">“ F7-04” on page 334</a>
F7-05	0xF705	LED display in stop state	Bit00: Reference frequency (Hz) Bit01: Bus voltage (V) Bit02: DI state Bit03: DO state Bit04: AI1 voltage (V) Bit05: AI2 voltage (V) Bit06: AI3 voltage (V) Bit07: Count value Bit08: Length value Bit09: PLC stage Bit10: Load speed Bit11: PID reference Bit12: Input pulse frequency (kHz) Bit13: Reserved Bit14: Free mapping 0 Bit15: Free mapping 1	0x33	-	Changeable at any time	<a href="#">“ F7-05” on page 335</a>
F7-06	0xF706	Load speed display coefficient	1.0E-4 to 6.5000	1.0000	-	Changeable at any time	<a href="#">“ F7-06” on page 336</a>
F7-07	0xF707	IGBT heatsink temperature	-20°C to +120°C	0	°C	Unchangeable	<a href="#">“ F7-07” on page 336</a>
F7-08	0xF708	Product SN	0 to 65535	0	-	Unchangeable	<a href="#">“ F7-08” on page 336</a>
F7-09	0xF709	Accumulative running duration (hour)	0 h to 65535 h	0	h	Unchangeable	<a href="#">“ F7-09” on page 336</a>
F7-10	0xF70A	Performance software version	0.00 to 655.35	0.00	-	Unchangeable	<a href="#">“ F7-10” on page 336</a>
F7-11	0xF70B	Function software version	0.00 to 655.35	0.00	-	Unchangeable	<a href="#">“ F7-11” on page 337</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
F7-12	0xF70C	Number of decimal places for load speed display	Ones: Decimal places of U0-14/U0-24 0: No decimal place 1: One decimal place 2: Two decimal places Tens: Decimal places of U0-19/U0-29 0: No decimal place 1: One decimal place 2: Two decimal places Hundreds: Decimal places of U0-30/U0-31 0: No decimal place 1: One decimal place 2: Two decimal places	220	-	Changeable at any time	<a href="#">“ F7-12” on page 337</a>
F7-13	0xF70D	Accumulative power-on duration (hour)	0 h to 65535 h	0	h	Unchangeable	<a href="#">“ F7-13” on page 337</a>
F7-14	0xF70E	Accumulative power consumption	0 kW·h to 65535 kW·h	0	kW·h	Unchangeable	<a href="#">“ F7-14” on page 337</a>
F7-15	0xF70F	Temporary performance software version	0.00 to 655.35	0.00	-	Unchangeable	<a href="#">“ F7-15” on page 338</a>
F7-16	0xF710	Temporary function software version	0.00 to 655.35	0.00	-	Unchangeable	<a href="#">“ F7-16” on page 338</a>
F7-17	0xF711	Low-order bits of level-0 menu display address	0: Invalid address Others: K connector	0	-	Changeable at any time	<a href="#">“ F7-17” on page 338</a>
F7-18	0xF712	High-order bits of level-0 menu display address	0: Invalid address Others: K connector	0	-	Changeable at any time	<a href="#">“ F7-18” on page 338</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
F7-19	0xF713	Low-order bits of level-0 menu display format	Ones: Unit 0: None 1: HZ 2: A 3: RPM 4: V 5: Link 6: % 7: s 8: h 9: kW 10: kW/h 11: °C Tens: Decimal places 0: No decimal place 1: One decimal place 2: Two decimal places 3: Three decimal places 4: Four decimal places Hundreds: Enable 0: Disabled 1: Enabled	0x0	-	Changeable at any time	<a href="#">“F7-19” on page 339</a>
F7-20	0xF714	High-order bits of level-0 menu display format	Ones: Unit 0: None 1: HZ 2: A 3: RPM 4: V 5: Link 6: % 7: s 8: h 9: kW 10: kW/h 11: °C Tens: Decimal places 0: No decimal place 1: One decimal place 2: Two decimal places 3: Three decimal places 4: Four decimal places Hundreds: Enable 0: Disabled 1: Enabled	0x0	-	Changeable at any time	<a href="#">“F7-20” on page 339</a>
F7-21	0xF715	LED operating panel key test	0: Disabled 1: Enabled	0	-	Changeable only at stop	<a href="#">“F7-21” on page 340</a>
F7-22	0xF716	LED display update cycle	10 to 300	10	-	Changeable at any time	<a href="#">“F7-22” on page 340</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
F7-23	0xF717	LED display of direction	Ones: Direction display at stop 0: Not displayed 1: Displayed Tens: Reserved 0: Reserved 1: Reserved	1	-	Changeable at any time	<a href="#">" F7-23" on page 341</a>
F7-24	0xF718	Decimal places of floating-point connector values after conversion	0: Two decimal places 1: One decimal place	1	-	Changeable at any time	<a href="#">" F7-24" on page 341</a>
F7-25	0xF719	Fault display	0 to 1	0	-	Changeable at any time	<a href="#">" F7-25" on page 341</a>
F7-26	0xF71A	Storage of LED display in running state	0 to 31	0	-	Unchangeable	<a href="#">" F7-26" on page 341</a>
F7-27	0xF71B	Storage of LED display in stop state	0 to 15	0	-	Unchangeable	<a href="#">" F7-27" on page 342</a>
F7-28	0xF71C	Accumulative running duration (second)	0s to 3599s	0	s	Unchangeable	<a href="#">" F7-28" on page 342</a>
F7-29	0xF71D	Accumulative power-on duration (second)	0s to 3599s	0	s	Unchangeable	<a href="#">" F7-29" on page 342</a>
F7-30	0xF71E	Auxiliary calculation of accumulative power consumption	0 to 65535	0	-	Unchangeable	<a href="#">" F7-30" on page 342</a>
F7-31	0xF71F	Auxiliary calculation of accumulative power consumption of group U0	0 to 65535	0	-	Unchangeable	<a href="#">" F7-31" on page 342</a>
F7-32	0xF720	Low-order bits of accumulative power consumption	0.0 kW·h to 6553.5 kW·h	0.0	kW·h	Unchangeable	<a href="#">" F7-32" on page 343</a>
F7-33	0xF721	High-order bits of accumulative power consumption	0 kW·h to 65535 kW·h	0	kW·h	Unchangeable	<a href="#">" F7-33" on page 343</a>
F8-00	0xF800	Jog frequency	0.00 Hz to F0-10	2.00	Hz	Changeable at any time	<a href="#">" F8-00" on page 343</a>
F8-01	0xF801	Jog acceleration time	0.0s to 6500.0s	20.0	s	Changeable at any time	<a href="#">" F8-01" on page 343</a>
F8-02	0xF802	Jog deceleration time	0.0s to 6500.0s	20.0	s	Changeable at any time	<a href="#">" F8-02" on page 343</a>
F8-03	0xF803	Acceleration time 2	0.0s to 6500.0s	0.0	s	Changeable at any time	<a href="#">" F8-03" on page 344</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
F8-04	0xF804	Deceleration time 2	0.0s to 6500.0s	0.0	s	Changeable at any time	<a href="#">"F8-04" on page 344</a>
F8-05	0xF805	Acceleration time 3	0.0s to 6500.0s	0.0	s	Changeable at any time	<a href="#">"F8-05" on page 344</a>
F8-06	0xF806	Deceleration time 3	0.0s to 6500.0s	0.0	s	Changeable at any time	<a href="#">"F8-06" on page 344</a>
F8-07	0xF807	Acceleration time 4	0.0s to 6500.0s	0.0	s	Changeable at any time	<a href="#">"F8-07" on page 345</a>
F8-08	0xF808	Deceleration time 4	0.0s to 6500.0s	0.0	s	Changeable at any time	<a href="#">"F8-08" on page 345</a>
F8-09	0xF809	Skip frequency 1	0.00 Hz to F0-10	0.00	Hz	Changeable at any time	<a href="#">"F8-09" on page 345</a>
F8-10	0xF80A	Skip frequency 2	0.00 Hz to F0-10	0.00	Hz	Changeable at any time	<a href="#">"F8-10" on page 345</a>
F8-11	0xF80B	Skip frequency band	0.00 Hz to F0-10	0.00	Hz	Changeable at any time	<a href="#">"F8-11" on page 345</a>
F8-12	0xF80C	FWD/REV switchover deadzone time	0.0s to 3000.0s	0.0	s	Changeable at any time	<a href="#">"F8-12" on page 346</a>
F8-13	0xF80D	Reverse frequency inhibition	0: Disabled 1: Enabled	0	-	Changeable at any time	<a href="#">"F8-13" on page 346</a>
F8-14	0xF80E	Running mode when frequency reference below lower limit	0: Run at frequency lower limit 1: Stop 2: Run at zero speed 3: Coast to stop	0	-	Changeable at any time	<a href="#">"F8-14" on page 346</a>
F8-15	0xF80F	Droop rate	0.00% to 10.00%	0.00	%	Changeable at any time	<a href="#">"F8-15" on page 347</a>
F8-16	0xF810	Power-on duration threshold (hour)	0 h to 65535 h	0	h	Changeable at any time	<a href="#">"F8-16" on page 347</a>
F8-17	0xF811	Running duration threshold (hour)	0 h to 65535 h	0	h	Changeable at any time	<a href="#">"F8-17" on page 347</a>
F8-18	0xF812	Startup protection	0: Disabled 1: Enabled	1	-	Changeable at any time	<a href="#">"F8-18" on page 347</a>
F8-19	0xF813	Frequency detection value (FDT1)	0.00 Hz to F0-10	50.00	Hz	Changeable at any time	<a href="#">"F8-19" on page 347</a>
F8-20	0xF814	Frequency detection hysteresis (FDT1)	0.0% to +100.0%	5.0	%	Changeable at any time	<a href="#">"F8-20" on page 348</a>
F8-21	0xF815	Frequency reach detection range	0.0% to +100.0%	0.0	%	Changeable at any time	<a href="#">"F8-21" on page 348</a>



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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
F8-22	0xF816	Skip frequency enable during acceleration/ deceleration	0: Disabled 1: Enabled	0	-	Changeable at any time	<a href="#">“ F8-22” on page 348</a>
F8-25	0xF819	Switchover frequency of acceleration time 1 and acceleration time 2	0.00 Hz to F0-10	0.00	Hz	Changeable at any time	<a href="#">“ F8-25” on page 349</a>
F8-26	0xF81A	Switchover frequency of deceleration time 1 and deceleration time 2	0.00 Hz to F0-10	0.00	Hz	Changeable at any time	<a href="#">“ F8-26” on page 349</a>
F8-27	0xF81B	Jog priority mode	0: No priority 1: Jog preferred 2: OFF1 preferred	0	-	Changeable at any time	<a href="#">“ F8-27” on page 349</a>
F8-28	0xF81C	Frequency detection value (FDT2 level)	0.00 Hz to F0-10	50.00	Hz	Changeable at any time	<a href="#">“ F8-28” on page 349</a>
F8-29	0xF81D	Frequency detection hysteresis (FDT2)	0.0% to +100.0%	5.0	%	Changeable at any time	<a href="#">“ F8-29” on page 350</a>
F8-30	0xF81E	Frequency reach detection value 1	0.00 Hz to F0-10	50.00	Hz	Changeable at any time	<a href="#">“ F8-30” on page 350</a>
F8-31	0xF81F	Frequency reach detection range 1	0.1% to +100.0%	0.1	%	Changeable at any time	<a href="#">“ F8-31” on page 350</a>
F8-32	0xF820	Frequency reach detection value 2	0.00 Hz to F0-10	50.00	Hz	Changeable at any time	<a href="#">“ F8-32” on page 350</a>
F8-33	0xF821	Frequency reach detection range 2	0.1% to +100.0%	0.1	%	Changeable at any time	<a href="#">“ F8-33” on page 351</a>
F8-34	0xF822	Zero current detection level	0.0% to 300.0%	5.0	%	Changeable at any time	<a href="#">“ F8-34” on page 351</a>
F8-35	0xF823	Zero current detection delay	0.01s to 600.00s	0.10	s	Changeable at any time	<a href="#">“ F8-35” on page 351</a>
F8-36	0xF824	Output overcurrent threshold	0.0% to 300.0%	5.0	%	Changeable at any time	<a href="#">“ F8-36” on page 351</a>
F8-37	0xF825	Output overcurrent detection delay	0.00s to 600.00s	0.00	s	Changeable at any time	<a href="#">“ F8-37” on page 352</a>
F8-38	0xF826	Detection level of current 1	0.0% to 300.0%	100.0	%	Changeable at any time	<a href="#">“ F8-38” on page 352</a>
F8-39	0xF827	Detection width of current 1	0.0% to 300.0%	0.0	%	Changeable at any time	<a href="#">“ F8-39” on page 352</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
F8-40	0xF828	Detection level of current 2	0.0% to 300.0%	100.0	%	Changeable at any time	<a href="#">“ F8-40” on page 352</a>
F8-41	0xF829	Detection width of current 2	0.0% to 300.0%	0.0	%	Changeable at any time	<a href="#">“ F8-41” on page 353</a>
F8-42	0xF82A	Timing function	0: Disabled 1: Enabled	0	-	Changeable only at stop	<a href="#">“ F8-42” on page 353</a>
F8-43	0xF82B	Timing duration source	0: F8-44 1: AI1 2: AI2 3: AI3 Others: F connector	0	-	Changeable only at stop	<a href="#">“ F8-43” on page 353</a>
F8-44	0xF82C	Timing duration	0.0 min to 6500.0 min	0.0	min	Changeable only at stop	<a href="#">“ F8-44” on page 353</a>
F8-45	0xF82D	AI1 input voltage lower limit	0.00 V to F8-46	3.10	V	Changeable at any time	<a href="#">“ F8-45” on page 353</a>
F8-46	0xF82E	AI1 input voltage upper limit	F8-45 to 10.00 V	6.80	V	Changeable at any time	<a href="#">“ F8-46” on page 354</a>
F8-47	0xF82F	IGBT temperature reach (threshold)	0°C to 100°C	75	°C	Changeable at any time	<a href="#">“ F8-47” on page 354</a>
F8-48	0xF830	Cooling fan control	0: Working during AC drive running 1: Working always	0	-	Changeable at any time	<a href="#">“ F8-48” on page 354</a>
F8-49	0xF831	Wakeup frequency	F8-51 to F0-10	0.00	Hz	Changeable at any time	<a href="#">“ F8-49” on page 354</a>
F8-50	0xF832	Wakeup delay	0.0s to 6500.0s	0.0	s	Changeable at any time	<a href="#">“ F8-50” on page 354</a>
F8-51	0xF833	Hibernation frequency	0.00 Hz to F8-49	0.00	Hz	Changeable at any time	<a href="#">“ F8-51” on page 355</a>
F8-52	0xF834	Hibernation delay	0.0s to 6500.0s	0.0	s	Changeable at any time	<a href="#">“ F8-52” on page 355</a>
F8-53	0xF835	Current running duration threshold	0.0 min to 6500.0 min	0.0	min	Changeable only at stop	<a href="#">“ F8-53” on page 355</a>
F8-54	0xF836	Output power correction coefficient	0.0% to 200.0%	100.0	%	Changeable at any time	<a href="#">“ F8-54” on page 355</a>
F8-55	0xF837	Deceleration time for quick stop	0.0s to 6500.0s	0.0	s	Changeable at any time	<a href="#">“ F8-55” on page 356</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
F8-56	0xF838	Real-time target speed source	0: RFG output (default) 1: AI1 2: AI2 3: AI3 4: Pulse reference 5: Communication 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable only at stop	<a href="#">" F8-56" on page 356</a>
F8-57	0xF839	Undervoltage percentage for storage upon undervoltage	70% to 120%	100	%	Changeable at any time	<a href="#">" F8-57" on page 356</a>
F8-58	0xF83A	Number of E2P operations per unit time	0 to 100	0	-	Changeable at any time	<a href="#">" F8-58" on page 356</a>
F8-59	0xF83B	DI force function	0: The DI functions of group F4 are not enforced. (you need to set the corresponding function connection parameter to 2 to activate the DI function) 1: The DI functions of group F4 are enforced.	1	-	Changeable at any time	<a href="#">" F8-59" on page 357</a>
F8-60	0xF83C	Main status word 1	0: Invalid 1: Set to 1 Others: B connector	0	-	Changeable at any time	<a href="#">" F8-60" on page 357</a>
F8-61	0xF83D	Main status word 2	0: Invalid 1: Set to 1 Others: B connector	0	-	Changeable at any time	<a href="#">" F8-61" on page 357</a>
F8-62	0xF83E	Target speed reach hysteresis	0.0% to 600.0%	3.0	%	Changeable at any time	<a href="#">" F8-62" on page 357</a>
F8-63	0xF83F	Target speed reach time	0.00s to 100.00s	3.00	s	Changeable at any time	<a href="#">" F8-63" on page 357</a>
F8-64	0xF840	Speed comparison reach threshold 1	0.0% to 600.0%	100.0	%	Changeable at any time	<a href="#">" F8-64" on page 358</a>
F8-65	0xF841	Speed comparison reach hysteresis 1	0.0% to 600.0%	3.0	%	Changeable at any time	<a href="#">" F8-65" on page 358</a>
F8-66	0xF842	Speed comparison reach time 1	0.00s to 100.00s	3.00	s	Changeable at any time	<a href="#">" F8-66" on page 358</a>
F8-67	0xF843	Speed comparison reach threshold 2	0.0% to 600.0%	100.0	%	Changeable at any time	<a href="#">" F8-67" on page 358</a>
F8-68	0xF844	Speed comparison reach hysteresis 2	0.0% to 600.0%	3.0	%	Changeable at any time	<a href="#">" F8-68" on page 358</a>
F8-69	0xF845	Speed comparison reach time 2	0.00s to 100.00s	3.00	s	Changeable at any time	<a href="#">" F8-69" on page 359</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
F8-72	0xF848	Skip frequency 3	0.00 Hz to F0-10	0.00	Hz	Changeable at any time	<a href="#">"F8-72" on page 359</a>
F8-73	0xF849	Skip frequency 4	0.00 Hz to F0-10	0.00	Hz	Changeable at any time	<a href="#">"F8-73" on page 359</a>
F8-74	0xF84A	Power-on duration threshold (second)	0s to 3599s	0	s	Changeable at any time	<a href="#">"F8-74" on page 359</a>
F8-75	0xF84B	Running duration threshold (second)	0s to 3599s	0	s	Changeable at any time	<a href="#">"F8-75" on page 360</a>
F9-00	0xF900	Motor overload protection	0: Disabled 1: Enabled	1	-	Changeable at any time	<a href="#">"F9-00" on page 360</a>
F9-01	0xF901	Motor overload protection gain	0.20 to 10.00	1.00	-	Changeable at any time	<a href="#">"F9-01" on page 360</a>
F9-02	0xF902	Motor overload pre-warning coefficient	50% to 100%	80	%	Changeable at any time	<a href="#">"F9-02" on page 360</a>
F9-03	0xF903	Overvoltage stall suppression gain	1 to 100	30	-	Changeable at any time	<a href="#">"F9-03" on page 360</a>
F9-04	0xF904	Overvoltage stall protection voltage	330.0 V to 800.0 V	770.0	V	Changeable at any time	<a href="#">"F9-04" on page 361</a>
F9-07	0xF907	Short-to-ground detection	Ones: Short-to-ground detection upon power-on 0: Disabled 1: Enabled Tens: Short-to-ground detection before running 0: Disabled 1: Enabled	1	-	Changeable at any time	<a href="#">"F9-07" on page 361</a>
F9-08	0xF908	Braking unit applied voltage	330.0 V to 800.0 V	760.0	V	Changeable only at stop	<a href="#">"F9-08" on page 361</a>
F9-09	0xF909	Auto reset attempts	0 to 100	0	-	Changeable at any time	<a href="#">"F9-09" on page 361</a>
F9-10	0xF90A	Relay action during auto reset	0: Disabled 1: Enabled	0	-	Changeable at any time	<a href="#">"F9-10" on page 362</a>
F9-11	0xF90B	Auto reset interval	0.1s to 600.0s	1.0	s	Changeable at any time	<a href="#">"F9-11" on page 362</a>
F9-12	0xF90C	Input phase loss/ Contactor pickup protection	Ones: Input phase loss protection 0: Disabled 1: Protection enabled when both software and hardware input phase loss conditions are met 2: Protection enabled when software input phase loss conditions are met 3: Protection enabled when hardware input phase loss conditions are met Tens: Contactor pickup protection 0: Disabled 1: Enabled	11	-	Changeable at any time	<a href="#">"F9-12" on page 362</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
F9-13	0xF90D	Output phase loss protection	Ones: Output phase loss protection during running 0: Disabled 1: Enabled Tens: Output phase loss protection before running 0: Disabled 1: Enabled	1	-	Changeable at any time	<a href="#">"F9-13" on page 362</a>
F9-14	0xF90E	1st fault type	0: No fault 1: Reserved 2: Overcurrent (Err02) 5: Overvoltage (Err05) 8: Pre-charge resistor overload (Err08) 9: Undervoltage (Err09) 10: AC drive overload (Err10) 11: Motor overload (Err11) 12: Input phase loss (Err12) 13: Output phase loss (Err13) 14: IGBT overheat (Err14) 15: External fault (Err15) 16: Communication exception (Err16) 17: Contactor exception (Err17) 18: Current detection exception (Err18) 19: Motor auto-tuning exception (Err19) 20: Encoder/PG card exception 21: Parameter read/write exception (Err21) 22: Encoder card exception (Err22) 23: Motor short-to-ground (Err23) 26: Accumulative running duration reach (Err26) 27: User-defined fault 28: User-defined alarm 29: Accumulative power-on duration reach (Err29) 30: Load loss (Err30) 31: PID feedback loss (Err31) 32: Parameter exception (Err32)	0	-	Unchangeable	<a href="#">"F9-14" on page 363</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page	
(Continued)	(Continued)	(Continued)	40: Pulse-by-pulse current limit fault (Err40) 41: Reserved (Err41) 42: Excessive speed deviation (Err42) 43: Motor overspeed (Err43) 45: Motor overtemperature (Err45) 47: STO fault (Err47) 55: Slave fault under master-slave control (Err55) 56: Self-check fault (Err56) 57: IGBT fault (Err57) 58: Hardware sensor fault (Err58) 59: Two-phase imbalance (Err59) 61: Braking overload (Err61) 62: Braking module exception (Err62) 63: External alarm (Err63) 82: Pre-charge contactor feedback exception (Err82) 85: Timing exception (Err85) 93: Motor control exception (Err93) 94: Motor parameter exception (Err94) 169: Fault reset fault (Err169) 174: Wire breakage (Err174)					
F9-15	0xF90F	2nd fault type	Same as F9-15	0	-	Unchangeable	<a href="#">"F9-15" on page 364</a>	
F9-16	0xF910	3rd (latest) fault type	Same as F9-15	0	-	Unchangeable	<a href="#">"F9-16" on page 364</a>	
F9-17	0xF911	Frequency upon the 3rd (latest) fault	0.00 Hz to 655.35 Hz	0.00	Hz	Unchangeable	<a href="#">"F9-17" on page 365</a>	
F9-18	0xF912	Current upon the 3rd (latest) fault	0.00 A to 655.35 A	0.00	A	Unchangeable	<a href="#">"F9-18" on page 365</a>	
F9-19	0xF913	Bus voltage upon the 3rd (latest) fault	0.0 V to 6553.5 V	0.0	V	Unchangeable	<a href="#">"F9-19" on page 365</a>	
F9-20	0xF914	DI state upon the 3rd (latest) fault	0x0 to 0xFFFF	0x0	-	Unchangeable	<a href="#">"F9-20" on page 365</a>	
F9-21	0xF915	DO state upon the 3rd (latest) fault	0x0 to 0xFFFF	0x0	-	Unchangeable	<a href="#">"F9-21" on page 365</a>	
F9-22	0xF916	AC drive state upon the 3rd (latest) fault	0 to 65535	0	-	Unchangeable	<a href="#">"F9-22" on page 366</a>	
F9-23	0xF917	Power-on duration upon the 3rd (latest) fault	0 min to 65535 min	0	min	Unchangeable	<a href="#">"F9-23" on page 366</a>	
F9-24	0xF918	Running duration upon the 3rd (latest) fault	0.0 min to 6553.5 min	0.0	min	Unchangeable	<a href="#">"F9-24" on page 366</a>	
F9-25	0xF919	Status word A upon the 3rd (latest) fault	0x0 to 0xFFFF	0x0	-	Unchangeable	<a href="#">"F9-25" on page 366</a>	

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
F9-26	0xF91A	Status word B upon the 3rd (latest) fault	0x0 to 0xFFFF	0x0	-	Unchangeable	<a href="#">"F9-26" on page 366</a>
F9-27	0xF91B	Frequency upon the 2nd fault	0.00 Hz to 655.35 Hz	0.00	Hz	Unchangeable	<a href="#">"F9-27" on page 366</a>
F9-28	0xF91C	Current upon the 2nd fault	0.00 A to 655.35 A	0.00	A	Unchangeable	<a href="#">"F9-28" on page 367</a>
F9-29	0xF91D	Bus voltage upon the 2nd fault	0.0 V to 6553.5 V	0.0	V	Unchangeable	<a href="#">"F9-29" on page 367</a>
F9-30	0xF91E	DI state upon the 2nd fault	0x0 to 0xFFFF	0x0	-	Unchangeable	<a href="#">"F9-30" on page 367</a>
F9-31	0xF91F	DO state upon the 2nd fault	0x0 to 0xFFFF	0x0	-	Unchangeable	<a href="#">"F9-31" on page 367</a>
F9-32	0xF920	AC drive state upon the 2nd fault	0 to 65535	0	-	Unchangeable	<a href="#">"F9-32" on page 367</a>
F9-33	0xF921	Power-on duration upon the 2nd fault	0 min to 65535 min	0	min	Unchangeable	<a href="#">"F9-33" on page 368</a>
F9-34	0xF922	Running duration upon the 2nd fault	0.0 min to 6553.5 min	0.0	min	Unchangeable	<a href="#">"F9-34" on page 368</a>
F9-35	0xF923	Status word A upon the 2nd fault	0x0 to 0xFFFF	0x0	-	Unchangeable	<a href="#">"F9-35" on page 368</a>
F9-36	0xF924	Status word B upon the 2nd fault	0x0 to 0xFFFF	0x0	-	Unchangeable	<a href="#">"F9-36" on page 368</a>
F9-37	0xF925	Frequency upon the 1st fault	0.00 Hz to 655.35 Hz	0.00	Hz	Unchangeable	<a href="#">"F9-37" on page 368</a>
F9-38	0xF926	Current upon the 1st fault	0.00 A to 655.35 A	0.00	A	Unchangeable	<a href="#">"F9-38" on page 369</a>
F9-39	0xF927	Bus voltage upon the 1st fault	0.0 V to 6553.5 V	0.0	V	Unchangeable	<a href="#">"F9-39" on page 369</a>
F9-40	0xF928	DI state upon the 1st fault	0x0 to 0xFFFF	0x0	-	Unchangeable	<a href="#">"F9-40" on page 369</a>
F9-41	0xF929	DO state upon the 1st fault	0x0 to 0xFFFF	0x0	-	Unchangeable	<a href="#">"F9-41" on page 369</a>
F9-42	0xF92A	AC drive state upon the 1st fault	0 to 65535	0	-	Unchangeable	<a href="#">"F9-42" on page 369</a>
F9-43	0xF92B	Power-on duration upon the 1st fault	0 min to 65535 min	0	min	Unchangeable	<a href="#">"F9-43" on page 370</a>
F9-44	0xF92C	Running duration upon the 1st fault	0.0 min to 6553.5 min	0.0	min	Unchangeable	<a href="#">"F9-44" on page 370</a>
F9-45	0xF92D	Status word A upon the 1st fault	0x0 to 0xFFFF	0x0	-	Unchangeable	<a href="#">"F9-45" on page 370</a>
F9-46	0xF92E	Status word B upon the 1st fault	0x0 to 0xFFFF	0x0	-	Unchangeable	<a href="#">"F9-46" on page 370</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
F9-47	0xF92F	Fault protection action selection 1	<p>Ones: Motor overload (Err11)</p> <p>0: Coast to stop</p> <p>1: Stop according to the stop mode</p> <p>2: Continue to run</p> <p>3: Run with power limit</p> <p>4: Run with current limit</p> <p>5: Ignore</p> <p>Tens: Input phase loss (Err12)</p> <p>0: Coast to stop</p> <p>1: Stop according to the stop mode</p> <p>2: Continue to run</p> <p>3: Run with power limit</p> <p>4: Run with current limit</p> <p>5: Ignore</p> <p>Hundreds: Output phase loss (Err13)</p> <p>0: Coast to stop</p> <p>1: Stop according to the stop mode</p> <p>2: Continue to run</p> <p>3: Run with power limit</p> <p>4: Run with current limit</p> <p>Thousands: External fault (Err15)</p> <p>0: Coast to stop</p> <p>1: Stop according to the stop mode</p> <p>2: Continue to run</p> <p>3: Run with power limit</p> <p>4: Run with current limit</p> <p>Ten thousands: Reserved</p>	0	-	Changeable at any time	<a href="#">"F9-47" on page 370</a>
F9-48	0xF930	Fault protection action selection 2	<p>Ones: Encoder/PG card exception (Err20)</p> <p>0: Coast to stop</p> <p>1: Stop according to the stop mode</p> <p>2: Continue to run</p> <p>3: Run with power limit</p> <p>4: Run with current limit</p> <p>5: Ignore</p> <p>Tens: Parameter read/write exception (Err21)</p> <p>0: Coast to stop</p> <p>1: Stop according to the stop mode</p> <p>Hundreds: Reserved (Err24)</p> <p>0: Coast to stop</p> <p>Thousands: Reserved (Err25)</p> <p>0: Coast to stop</p> <p>Ten thousands: Running duration reach (Err26)</p> <p>0: Coast to stop</p> <p>1: Stop according to the stop mode</p> <p>2: Continue to run</p> <p>3: Run with power limit</p> <p>4: Run with current limit</p>	0	-	Changeable at any time	<a href="#">"F9-48" on page 371</a>



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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
F9-49	0xF931	Fault protection action selection 3	<p>Ones: User-defined fault 1 (Err27)</p> <p>0: Coast to stop</p> <p>1: Stop according to the stop mode</p> <p>2: Continue to run</p> <p>3: Run with power limit</p> <p>4: Run with current limit</p> <p>Tens: User-defined fault 2 (Err28)</p> <p>0: Coast to stop</p> <p>1: Stop according to the stop mode</p> <p>2: Continue to run</p> <p>3: Run with power limit</p> <p>4: Run with current limit</p> <p>Hundreds: Power-on duration reach (Err29)</p> <p>0: Coast to stop</p> <p>1: Stop according to the stop mode</p> <p>2: Continue to run</p> <p>3: Run with power limit</p> <p>4: Run with current limit</p> <p>Thousands: Load loss (Err30)</p> <p>0: Coast to stop</p> <p>1: Stop according to the stop mode</p> <p>2: Continue to run</p> <p>3: Run with power limit</p> <p>4: Run with current limit</p> <p>5: Ignore</p> <p>Ten thousands: PID loss during running (Err31)</p> <p>0: Coast to stop</p> <p>1: Stop according to the stop mode</p> <p>2: Continue to run</p> <p>3: Run with power limit</p> <p>4: Run with current limit</p>	220	-	Changeable at any time	<a href="#">"F9-49" on page 372</a>
F9-50	0xF932	Fault protection action selection 4	<p>Ones: Excessive speed deviation (Err42)</p> <p>0: Coast to stop</p> <p>1: Stop according to the stop mode</p> <p>2: Continue to run</p> <p>3: Run with power limit</p> <p>4: Run with current limit</p> <p>5: Ignore</p> <p>Tens: Motor overspeed (Err43)</p> <p>0: Coast to stop</p> <p>1: Stop according to the stop mode</p> <p>2: Continue to run</p> <p>3: Run with power limit</p> <p>4: Run with current limit</p> <p>5: Ignore</p> <p>Thousands: Magnetic pole position auto-tuning error (Err55)</p> <p>0: Coast to stop</p>	2	-	Changeable at any time	<a href="#">"F9-50" on page 373</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
F9-51	0xF933	Fault protection action selection 5	Ones: Modbus timeout (Err160) 0: Coast to stop 1: Stop according to the stop mode 2: Continue to run 3: Run with power limit 4: Run with current limit 5: Ignore Tens: CANOpen fault (Err161) 0: Coast to stop 1: Stop according to the stop mode 2: Continue to run 3: Run with power limit 4: Run with current limit 5: Ignore Hundreds: CANlink fault (Err162) 0: Coast to stop 1: Stop according to the stop mode 2: Continue to run 3: Run with power limit 4: Run with current limit 5: Ignore Thousands: Reserved Ten thousands: Expansion card fault (Err164) 0: Coast to stop 1: Stop according to the stop mode 2: Continue to run 3: Run with power limit 4: Run with current limit 5: Ignore	10111	-	Changeable at any time	<a href="#">"F9-51" on page 374</a>
F9-54	0xF936	Frequency for continuing to run upon fault	0: Current running frequency 1: Frequency reference 2: Frequency upper limit 3: Frequency lower limit 4: Alternative frequency upon exception	1	-	Changeable at any time	<a href="#">"F9-54" on page 375</a>
F9-55	0xF937	Alternative frequency upon exception	0.0% to +100.0%	100.0	%	Changeable at any time	<a href="#">"F9-55" on page 376</a>
F9-56	0xF938	AI3 temperature mode - motor temperature sensor type	0: No temperature sensor (AI channel used as analog input) 1: PT100 2: PT1000	0	-	Changeable at any time	<a href="#">"F9-56" on page 376</a>
F9-57	0xF939	AI3 temperature mode - motor overheat protection threshold	F9-58 to 200°C	110	°C	Changeable at any time	<a href="#">"F9-57" on page 376</a>
F9-58	0xF93A	AI3 temperature mode - motor overheat pre-warning threshold	0°C to F9-57	90	°C	Changeable at any time	<a href="#">"F9-58" on page 376</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
F9-59	0xF93B	Power dip ride-through	0: Disabled 1: Decelerate 2: Decelerate to stop 3: Suppress voltage dip	0	-	Changeable only at stop	<a href="#">“ F9-59” on page 376</a>
F9-60	0xF93C	Voltage threshold for disabling power dip ride-through	80% to 100%	85	%	Changeable only at stop	<a href="#">“ F9-60” on page 377</a>
F9-61	0xF93D	Delay of voltage recovery from power dip	0.0s to 100.0s	0.5	s	Changeable only at stop	<a href="#">“ F9-61” on page 377</a>
F9-62	0xF93E	Voltage threshold for enabling power dip ride-through	60% to 100%	80	%	Changeable only at stop	<a href="#">“ F9-62” on page 378</a>
F9-63	0xF93F	Protection upon load loss	0: Disabled 1: Enabled	0	-	Changeable at any time	<a href="#">“ F9-63” on page 378</a>
F9-64	0xF940	Load loss detection level	0.0% to +100.0%	10.0	%	Changeable at any time	<a href="#">“ F9-64” on page 378</a>
F9-65	0xF941	Load loss detection time	0.0s to 60.0s	1.0	s	Changeable at any time	<a href="#">“ F9-65” on page 378</a>
F9-67	0xF943	Overspeed detection level	0.0% to 50.0%	20.0	%	Changeable at any time	<a href="#">“ F9-67” on page 378</a>
F9-68	0xF944	Overspeed detection time	0.0s to 60.0s	1.0	s	Changeable at any time	<a href="#">“ F9-68” on page 379</a>
F9-69	0xF945	Detection level of excessive speed deviation	0.0% to 50.0%	20.0	%	Changeable at any time	<a href="#">“ F9-69” on page 379</a>
F9-70	0xF946	Detection time of excessive speed deviation	0.0s to 60.0s	5.0	s	Changeable at any time	<a href="#">“ F9-70” on page 379</a>
F9-71	0xF947	Power dip ride-through gain Kp	1 to 100	40	-	Changeable at any time	<a href="#">“ F9-71” on page 379</a>
F9-72	0xF948	Power dip ride-through integral coefficient Ki	1 to 100	30	-	Changeable at any time	<a href="#">“ F9-72” on page 379</a>
F9-73	0xF949	Deceleration time of power dip ride-through	0.0s to 300.0s	20.0	s	Changeable at any time	<a href="#">“ F9-73” on page 380</a>
F9-74	0xF94A	Voltage dip suppression time	0.1s to 600.0s	0.5	s	Changeable at any time	<a href="#">“ F9-74” on page 380</a>
F9-75	0xF94B	AI2 temperature mode - motor temperature sensor type	0: No temperature sensor (AI channel used as analog input) 1: PT100 2: PT1000 3: KTY84-130 4: PTC130	0	-	Changeable at any time	<a href="#">“ F9-75” on page 380</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
F9-76	0xF94C	AI2 temperature mode - motor overheat protection threshold	F9-77 to 200°C	110	°C	Changeable at any time	<a href="#">“ F9-76” on page 380</a>
F9-77	0xF94D	AI2 temperature mode - motor overheat pre-warning threshold	0°C to F9-76	90	°C	Changeable at any time	<a href="#">“ F9-77” on page 380</a>
F9-78	0xF94E	AI2 temperature mode - motor temperature reach	0°C to 100°C	75	°C	Changeable at any time	<a href="#">“ F9-78” on page 381</a>
F9-79	0xF94F	Auto reset of STO state	0: Manual reset 1: Auto reset	0	-	Changeable at any time	<a href="#">“ F9-79” on page 381</a>
F9-80	0xF950	AI3 temperature mode - motor temperature reach	0°C to 100°C	75	°C	Changeable at any time	<a href="#">“ F9-80” on page 381</a>
FA-00	0xFA00	PID reference source	0: FA-01 1: AI1 2: AI2 3: AI3 4: Pulse input (DI5) 5: Communication 6: Multi-reference Others: F connector	0	-	Changeable at any time	<a href="#">“ FA-00” on page 381</a>
FA-01	0xFA01	PID reference	0.0% to +100.0%	50.0	%	Changeable at any time	<a href="#">“ FA-01” on page 382</a>
FA-02	0xFA02	PID feedback source	0: AI1 1: AI2 2: AI3 3: AI1-AI2 4: Pulse reference (DIO1) 5: Communication 6: AI1+AI2 7: MAX( AI1 ,  AI2 ) 8: Min( AI1 ,  AI2 ) Others: F connector	0	-	Changeable at any time	<a href="#">“ FA-02” on page 382</a>
FA-03	0xFA03	PID action direction	0: Forward 1: Reverse Others: B connector	0	-	Changeable at any time	<a href="#">“ FA-03” on page 383</a>
FA-04	0xFA04	PID reference and feedback range	0 to 65535	1000	-	Changeable at any time	<a href="#">“ FA-04” on page 383</a>
FA-05	0xFA05	Proportional gain Kp1	0.0 to 1000.0	20.0	-	Changeable at any time	<a href="#">“ FA-05” on page 383</a>
FA-06	0xFA06	Integral time Ti1	0.01s to 10.00s	2.00	s	Changeable at any time	<a href="#">“ FA-06” on page 384</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
FA-07	0xFA07	Derivative time Td1	0.000s to 10.000s	0.000	s	Changeable at any time	<a href="#">“ FA-07” on page 384</a>
FA-08	0xFA08	PID cut-off frequency in reverse direction	0.00 Hz to F0-10	2.00	Hz	Changeable at any time	<a href="#">“ FA-08” on page 384</a>
FA-09	0xFA09	PID deviation limit	0.0% to +100.0%	0.0	%	Changeable at any time	<a href="#">“ FA-09” on page 384</a>
FA-10	0xFA0A	PID derivative limit	0.00% to 100.00%	0.10	%	Changeable at any time	<a href="#">“ FA-10” on page 385</a>
FA-11	0xFA0B	PID reference change time	0.00s to 650.00s	0.00	s	Changeable at any time	<a href="#">“ FA-11” on page 385</a>
FA-12	0xFA0C	PID feedback filter time	0.00s to 60.00s	0.00	s	Changeable at any time	<a href="#">“ FA-12” on page 385</a>
FA-13	0xFA0D	PID output filter time	0.00s to 60.00s	0.00	s	Changeable at any time	<a href="#">“ FA-13” on page 385</a>
FA-15	0xFA0F	Proportional gain Kp2	0.0 to 1000.0	20.0	-	Changeable at any time	<a href="#">“ FA-15” on page 385</a>
FA-16	0xFA10	Integral time Ti2	0.01s to 10.00s	2.00	s	Changeable at any time	<a href="#">“ FA-16” on page 386</a>
FA-17	0xFA11	Derivative time Td2	0.000s to 10.000s	0.000	s	Changeable at any time	<a href="#">“ FA-17” on page 386</a>
FA-18	0xFA12	PID parameter switchover condition	0: No switchover 1: Switchover by DI 2: Automatic switchover based on deviation 3: Automatic switchover based on running frequency	0	-	Changeable at any time	<a href="#">“ FA-18” on page 386</a>
FA-19	0xFA13	PID parameter switchover deviation 1	0.0% to FA-20	20.0	%	Changeable at any time	<a href="#">“ FA-19” on page 387</a>
FA-20	0xFA14	PID parameter switchover deviation 2	FA-19 to 100.0%	80.0	%	Changeable at any time	<a href="#">“ FA-20” on page 387</a>
FA-21	0xFA15	PID initial value	0.0% to +100.0%	0.0	%	Changeable at any time	<a href="#">“ FA-21” on page 387</a>
FA-22	0xFA16	Hold time of PID initial value	0.00s to 650.00s	0.00	s	Changeable at any time	<a href="#">“ FA-22” on page 387</a>
FA-23	0xFA17	Maximum deviation between two PID outputs	0.00% to 100.00%	1.00	%	Changeable at any time	<a href="#">“ FA-23” on page 388</a>
FA-24	0xFA18	Minimum deviation between two PID outputs	0.00% to 100.00%	1.00	%	Changeable at any time	<a href="#">“ FA-24” on page 388</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
FA-25	0xFA19	PID integral property	Ones: Integral separation 0: Disabled 1: Enabled Tens: Whether to stop integration when the output reaches the limit 0: Continue integration 1: Stop integration	10	-	Changeable at any time	<a href="#">“FA-25” on page 388</a>
FA-26	0xFA1A	Lower threshold of detection on feedback loss	0.0% to +100.0%	0.0	%	Changeable at any time	<a href="#">“FA-26” on page 389</a>
FA-27	0xFA1B	PID feedback loss detection time	0.0s to 20.0s	0.0	s	Changeable at any time	<a href="#">“FA-27” on page 389</a>
FA-28	0xFA1C	PID operation at stop	0: Disabled 1: Enabled Others: B connector	0	-	Changeable at any time	<a href="#">“FA-28” on page 389</a>
FA-29	0xFA1D	Upper threshold of detection on feedback loss	0.0% to +100.0%	100.0	%	Changeable at any time	<a href="#">“FA-29” on page 389</a>
FA-30	0xFA1E	Source of maximum output	0: [1] 1: AI1 2: AI2 3: AI3 4: Pulse reference 5: Communication 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable at any time	<a href="#">“FA-30” on page 390</a>
FA-31	0xFA1F	Source of minimum output	0: [0] 1: AI1 2: AI2 3: AI3 4: Pulse reference 5: Communication 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable at any time	<a href="#">“FA-31” on page 390</a>
FA-32	0xFA20	Forced output value	Same as FA-31	0	-	Changeable at any time	<a href="#">“FA-32” on page 391</a>
FA-33	0xFA21	Forced output assignment	0: Disabled 1: Enabled Others: B connector	0	-	Changeable at any time	<a href="#">“FA-33” on page 391</a>
FA-34	0xFA22	General PID enable	0: Disabled 1: Enabled Others: B connector	1	-	Changeable at any time	<a href="#">“FA-34” on page 391</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
FB-00	0xFB00	Wobble setting mode	0: Relative to center frequency 1: Relative to maximum frequency	0	-	Changeable at any time	<a href="#">“FB-00” on page 392</a>
FB-01	0xFB01	Wobble amplitude	0.0% to +100.0%	0.0	%	Changeable at any time	<a href="#">“FB-01” on page 392</a>
FB-02	0xFB02	Wobble step	0.0% to 50.0%	0.0	%	Changeable at any time	<a href="#">“FB-02” on page 392</a>
FB-03	0xFB03	Wobble cycle	0.1s to 3000.0s	10.0	s	Changeable at any time	<a href="#">“FB-03” on page 392</a>
FB-04	0xFB04	Triangular wave rise time coefficient	0.1% to +100.0%	50.0	%	Changeable at any time	<a href="#">“FB-04” on page 393</a>
FB-05	0xFB05	Reference length	0 to 65535	1000	-	Changeable at any time	<a href="#">“FB-05” on page 393</a>
FB-06	0xFB06	Actual length	0 to 65535	0	-	Unchangeable	<a href="#">“FB-06” on page 393</a>
FB-07	0xFB07	Number of pulses per meter	0.1 to 6553.5	100.0	-	Changeable at any time	<a href="#">“FB-07” on page 393</a>
FB-08	0xFB08	Reference count value	0 to 65535	1000	-	Changeable at any time	<a href="#">“FB-08” on page 393</a>
FB-09	0xFB09	Designated count value	0 to 65535	1000	-	Changeable at any time	<a href="#">“FB-09” on page 393</a>
FB-20	0xFB14	Motor-driven potentiometer enable	0: Disabled 1: Enabled 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector	0	-	Changeable at any time	<a href="#">“FB-20” on page 394</a>
FB-21	0xFB15	Memory retention at power failure of motor-driven potentiometer	0: Disabled 1: Enabled	0	-	Changeable at any time	<a href="#">“FB-21” on page 394</a>
FB-22	0xFB16	Initial value of motor-driven potentiometer	-600% to +600.0%	0.0	%	Changeable at any time	<a href="#">“FB-22” on page 395</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
FB-23	0xFB17	Value increase time base of motor-driven potentiometer	0.00s to 655.35s	20.00	s	Changeable at any time	<a href="#">“FB-23” on page 395</a>
FB-24	0xFB18	Value decrease time base of motor-driven potentiometer	0.00s to 655.35s	20.00	s	Changeable at any time	<a href="#">“FB-24” on page 395</a>
FB-25	0xFB19	Source of motor-driven potentiometer increase command	0: Invalid 1: Valid 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector	0	-	Changeable at any time	<a href="#">“FB-25” on page 395</a>
FB-26	0xFB1A	Source of motor-driven potentiometer decrease command	Same as FB-25	0	-	Changeable at any time	<a href="#">“FB-26” on page 396</a>
FB-27	0xFB1B	Maximum output value of motor-driven potentiometer	-600% to +600.0%	600.0	%	Changeable at any time	<a href="#">“FB-27” on page 397</a>
FB-28	0xFB1C	Minimum output value of motor-driven potentiometer	-600% to +600.0%	-600	%	Changeable at any time	<a href="#">“FB-28” on page 397</a>
FB-29	0xFB1D	Source 1 of motor-driven potentiometer pause command	Same as FB-25	0	-	Changeable at any time	<a href="#">“FB-29” on page 397</a>
FB-30	0xFB1E	Source 2 of motor-driven potentiometer pause command	Same as FB-25	0	-	Changeable at any time	<a href="#">“FB-30” on page 398</a>



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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
FB-31	0xFB1F	Source 1 of motor-driven potentiometer reset command	Same as FB-25	0	-	Changeable at any time	<a href="#">“FB-31” on page 399</a>
FB-32	0xFB20	Source 2 of motor-driven potentiometer reset command	Same as FB-25	0	-	Changeable at any time	<a href="#">“FB-32” on page 400</a>
FB-33	0xFB21	Source of motor-driven potentiometer reset value	0: Digital setting 1: AI1 2: AI2 3: AI3 4: Pulse reference 5: Communication 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable at any time	<a href="#">“FB-33” on page 401</a>
FB-34	0xFB22	Reset value of motor-driven potentiometer	-600% to +600.0%	0.0	%	Changeable at any time	<a href="#">“FB-34” on page 402</a>
FB-35	0xFB23	Source of motor-driven potentiometer force command	Same as FB-25	0	-	Changeable at any time	<a href="#">“FB-35” on page 402</a>
FB-36	0xFB24	Source of motor-driven potentiometer force value	0: Digital setting 1: AI1 2: AI2 3: AI3 4: Pulse reference 5: Communication 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable at any time	<a href="#">“FB-36” on page 403</a>
FB-37	0xFB25	Force value of motor-driven potentiometer	-600% to +600.0%	0.0	%	Changeable at any time	<a href="#">“FB-37” on page 403</a>
FB-38	0xFB26	High-order bits of motor-driven potentiometer storage	0 to 65535	0	-	Changeable at any time	<a href="#">“FB-38” on page 403</a>
FB-39	0xFB27	Low-order bits of motor-driven potentiometer storage	0 to 65535	0	-	Changeable at any time	<a href="#">“FB-39” on page 404</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
FB-46	0xFB2E	Simple UP/DOWN output	-32767 to +32767	0	-	Unchangeable	<a href="#">"FB-46" on page 404</a>
FC-00	0xFC00	Multi-reference 1	-100% to +100.0%	0.0	%	Changeable at any time	<a href="#">"FC-00" on page 404</a>
FC-01	0xFC01	Multi-reference 2	-100% to +100.0%	0.0	%	Changeable at any time	<a href="#">"FC-01" on page 405</a>
FC-02	0xFC02	Multi-reference 3	-100% to +100.0%	0.0	%	Changeable at any time	<a href="#">"FC-02" on page 405</a>
FC-03	0xFC03	Multi-reference 4	-100% to +100.0%	0.0	%	Changeable at any time	<a href="#">"FC-03" on page 405</a>
FC-04	0xFC04	Multi-reference 5	-100% to +100.0%	0.0	%	Changeable at any time	<a href="#">"FC-04" on page 405</a>
FC-05	0xFC05	Multi-reference 6	-100% to +100.0%	0.0	%	Changeable at any time	<a href="#">"FC-05" on page 405</a>
FC-06	0xFC06	Multi-reference 7	-100% to +100.0%	0.0	%	Changeable at any time	<a href="#">"FC-06" on page 405</a>
FC-07	0xFC07	Multi-reference 8	-100% to +100.0%	0.0	%	Changeable at any time	<a href="#">"FC-07" on page 406</a>
FC-08	0xFC08	Multi-reference 9	-100% to +100.0%	0.0	%	Changeable at any time	<a href="#">"FC-08" on page 406</a>
FC-09	0xFC09	Multi-reference 10	-100% to +100.0%	0.0	%	Changeable at any time	<a href="#">"FC-09" on page 406</a>
FC-10	0xFC0A	Multi-reference 11	-100% to +100.0%	0.0	%	Changeable at any time	<a href="#">"FC-10" on page 406</a>
FC-11	0xFC0B	Multi-reference 12	-100% to +100.0%	0.0	%	Changeable at any time	<a href="#">"FC-11" on page 406</a>
FC-12	0xFC0C	Multi-reference 13	-100% to +100.0%	0.0	%	Changeable at any time	<a href="#">"FC-12" on page 407</a>
FC-13	0xFC0D	Multi-reference 14	-100% to +100.0%	0.0	%	Changeable at any time	<a href="#">"FC-13" on page 407</a>
FC-14	0xFC0E	Multi-reference 15	-100% to +100.0%	0.0	%	Changeable at any time	<a href="#">"FC-14" on page 407</a>
FC-15	0xFC0F	Multi-reference 16	-100% to +100.0%	0.0	%	Changeable at any time	<a href="#">"FC-15" on page 407</a>
FC-16	0xFC10	Simple PLC running mode	0: Stop after running for one cycle 1: Keep final values after running for one cycle 2: Repeat after running for one cycle	0	-	Changeable at any time	<a href="#">"FC-16" on page 407</a>
FC-17	0xFC11	Simple PLC memory retention upon power failure	Ones: Retentive upon power failure 0: No 1: Yes Tens: Retentive upon stop 0: No 1: Yes	0	-	Changeable at any time	<a href="#">"FC-17" on page 408</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
FC-18	0xFC12	Running time of PLC reference 0	0.0s (h) to 6553.5s (h)	0.0	s (h)	Changeable at any time	<a href="#">“FC-18” on page 408</a>
FC-19	0xFC13	Acceleration/ Deceleration time of PLC reference 0	0 to 3	0	-	Changeable at any time	<a href="#">“FC-19” on page 408</a>
FC-20	0xFC14	Running time of PLC reference 1	0.0s (h) to 6553.5s (h)	0.0	s (h)	Changeable at any time	<a href="#">“FC-20” on page 408</a>
FC-21	0xFC15	Acceleration/ Deceleration time of PLC reference 1	0 to 3	0	-	Changeable at any time	<a href="#">“FC-21” on page 409</a>
FC-22	0xFC16	Running time of PLC reference 2	0.0s (h) to 6553.5s (h)	0.0	s (h)	Changeable at any time	<a href="#">“FC-22” on page 409</a>
FC-23	0xFC17	Acceleration/ Deceleration time of PLC reference 2	0 to 3	0	-	Changeable at any time	<a href="#">“FC-23” on page 409</a>
FC-24	0xFC18	Running time of PLC reference 3	0.0s (h) to 6553.5s (h)	0.0	s (h)	Changeable at any time	<a href="#">“FC-24” on page 409</a>
FC-25	0xFC19	Acceleration/ Deceleration time of PLC reference 3	0 to 3	0	-	Changeable at any time	<a href="#">“FC-25” on page 409</a>
FC-26	0xFC1A	Running time of PLC reference 4	0.0s (h) to 6553.5s (h)	0.0	s (h)	Changeable at any time	<a href="#">“FC-26” on page 409</a>
FC-27	0xFC1B	Acceleration/ Deceleration time of PLC reference 4	0 to 3	0	-	Changeable at any time	<a href="#">“FC-27” on page 410</a>
FC-28	0xFC1C	Running time of PLC reference 5	0.0s (h) to 6553.5s (h)	0.0	s (h)	Changeable at any time	<a href="#">“FC-28” on page 410</a>
FC-29	0xFC1D	Acceleration/ Deceleration time of PLC reference 5	0 to 3	0	-	Changeable at any time	<a href="#">“FC-29” on page 410</a>
FC-30	0xFC1E	Running time of PLC reference 6	0.0s (h) to 6553.5s (h)	0.0	s (h)	Changeable at any time	<a href="#">“FC-30” on page 410</a>
FC-31	0xFC1F	Acceleration/ Deceleration time of PLC reference 6	0 to 3	0	-	Changeable at any time	<a href="#">“FC-31” on page 410</a>
FC-32	0xFC20	Running time of PLC reference 7	0.0s (h) to 6553.5s (h)	0.0	s (h)	Changeable at any time	<a href="#">“FC-32” on page 411</a>
FC-33	0xFC21	Acceleration/ Deceleration time of PLC reference 7	0 to 3	0	-	Changeable at any time	<a href="#">“FC-33” on page 411</a>
FC-34	0xFC22	Running time of PLC reference 8	0.0s (h) to 6553.5s (h)	0.0	s (h)	Changeable at any time	<a href="#">“FC-34” on page 411</a>
FC-35	0xFC23	Acceleration/ Deceleration time of PLC reference 8	0 to 3	0	-	Changeable at any time	<a href="#">“FC-35” on page 411</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
FC-36	0xFC24	Running time of PLC reference 9	0.0s (h) to 6553.5s (h)	0.0	s (h)	Changeable at any time	<a href="#">“FC-36” on page 411</a>
FC-37	0xFC25	Acceleration/ Deceleration time of PLC reference 9	0 to 3	0	-	Changeable at any time	<a href="#">“FC-37” on page 412</a>
FC-38	0xFC26	Running time of PLC reference 10	0.0s (h) to 6553.5s (h)	0.0	s (h)	Changeable at any time	<a href="#">“FC-38” on page 412</a>
FC-39	0xFC27	Acceleration/ Deceleration time of PLC reference 10	0 to 3	0	-	Changeable at any time	<a href="#">“FC-39” on page 412</a>
FC-40	0xFC28	Running time of PLC reference 11	0.0s (h) to 6553.5s (h)	0.0	s (h)	Changeable at any time	<a href="#">“FC-40” on page 412</a>
FC-41	0xFC29	Acceleration/ Deceleration time of PLC reference 11	0 to 3	0	-	Changeable at any time	<a href="#">“FC-41” on page 412</a>
FC-42	0xFC2A	Running time of PLC reference 12	0.0s (h) to 6553.5s (h)	0.0	s (h)	Changeable at any time	<a href="#">“FC-42” on page 413</a>
FC-43	0xFC2B	Acceleration/ Deceleration time of PLC reference 12	0 to 3	0	-	Changeable at any time	<a href="#">“FC-43” on page 413</a>
FC-44	0xFC2C	Running time of PLC reference 13	0.0s (h) to 6553.5s (h)	0.0	s (h)	Changeable at any time	<a href="#">“FC-44” on page 413</a>
FC-45	0xFC2D	Acceleration/ Deceleration time of PLC reference 13	0 to 3	0	-	Changeable at any time	<a href="#">“FC-45” on page 413</a>
FC-46	0xFC2E	Running time of PLC reference 14	0.0s (h) to 6553.5s (h)	0.0	s (h)	Changeable at any time	<a href="#">“FC-46” on page 413</a>
FC-47	0xFC2F	Acceleration/ Deceleration time of PLC reference 14	0 to 3	0	-	Changeable at any time	<a href="#">“FC-47” on page 414</a>
FC-48	0xFC30	Running time of PLC reference 15	0.0s (h) to 6553.5s (h)	0.0	s (h)	Changeable at any time	<a href="#">“FC-48” on page 414</a>
FC-49	0xFC31	Acceleration/ Deceleration time of PLC reference 15	0 to 3	0	-	Changeable at any time	<a href="#">“FC-49” on page 414</a>
FC-50	0xFC32	PLC running time unit	0: s (second) 1: h (hour)	0	-	Changeable at any time	<a href="#">“FC-50” on page 414</a>
FC-51	0xFC33	Multi-reference 0 source	0: FC-00 1: AI1 2: AI2 3: AI3 4: Pulse reference 5: PID 6: Preset frequency (F0-08) Others: F connector	0	-	Changeable at any time	<a href="#">“FC-51” on page 414</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
FC-52	0xFC34	Current multi-reference	0: Multi-reference 1 1: Multi-reference 2 2: Multi-reference 3 3: Multi-reference 4 4: Multi-reference 5 5: Multi-reference 6 6: Multi-reference 7 7: Multi-reference 8 8: Multi-reference 9 9: Multi-reference 10 10: Multi-reference 11 11: Multi-reference 12 12: Multi-reference 13 13: Multi-reference 14 14: Multi-reference 15 15: Multi-reference 16	0	-	Unchangeable	<a href="#">“FC-52” on page 415</a>
FC-53	0xFC35	Current multi-reference value	-600% to +600.0%	0.0	%	Unchangeable	<a href="#">“FC-53” on page 415</a>
FC-55	0xFC37	Multi-reference value bit0	0: 0 1: 1 2: Terminal function input 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector	0	-	Changeable at any time	<a href="#">“FC-55” on page 415</a>
FC-56	0xFC38	Multi-reference value bit1	FC-55	0	-	Changeable at any time	<a href="#">“FC-56” on page 416</a>
FC-57	0xFC39	Multi-reference value bit2	FC-55	0	-	Changeable at any time	<a href="#">“FC-57” on page 417</a>
FC-58	0xFC3A	Multi-reference value bit3	FC-55	0	-	Changeable at any time	<a href="#">“FC-58” on page 418</a>
FC-59	0xFC3B	Current STEP of PLC	0 to 65535	0	-	Unchangeable	<a href="#">“FC-59” on page 419</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
FC-60	0xFC3C	High-order bits of PLC current STEP running time	0 to 65535	0	-	Unchangeable	<a href="#">“FC-60” on page 419</a>
FC-61	0xFC3D	Low-order bits of PLC current STEP running time	0 to 65535	0	-	Unchangeable	<a href="#">“FC-61” on page 419</a>
FD-00	0xFD00	Baud rate	Ones: Modbus 0: 300 bps 1: 600 bps 2: 1200 bps 3: 2400 bps 4: 4800 bps 5: 9600 bps 6: 19200 bps 7: 38400 bps 8: 57600 bps 9: 115200 bps Tens: Reserved  Hundreds: Reserved  Thousands: CANLink/CANOpen 0: 20 1: 50 2: 100 3: 125 4: 250 5: 500 6: 1M	5005	-	Changeable only at stop	<a href="#">“FD-00” on page 420</a>
FD-01	0xFD01	Modbus data format	0: No check (8-N-2) 1: Even parity (8-E-1) 2: Odd parity (8-O-1) 3: No check (8-N-1) 4: No check (7-N-2) 5: Even parity (7-E-1) 6: Odd parity (7-O-1) 7: No check (7-N-1)	0	-	Changeable at any time	<a href="#">“FD-01” on page 420</a>
FD-02	0xFD02	Local address	1 to 247	1	-	Changeable only at stop	<a href="#">“FD-02” on page 421</a>
FD-03	0xFD03	Modbus response delay	0 ms to 20 ms	2	ms	Changeable at any time	<a href="#">“FD-03” on page 421</a>
FD-04	0xFD04	Communication timeout time	0.0s to 60.0s	0.0	s	Changeable at any time	<a href="#">“FD-04” on page 421</a>
FD-06	0xFD06	Current resolution read by communication	0: 0.01 A (valid when $\leq 55$ kW) 1: 0.1 A	0	-	Changeable at any time	<a href="#">“FD-06” on page 421</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
FD-08	0xFD08	Expansion card communication timeout time	0.0s to 60.0s	0.0	s	Changeable at any time	<a href="#">“FD-08” on page 422</a>
FD-10	0xFD0A	CANopen/CANlink switchover	1: CANopen 2: CANlink	2	-	Changeable at any time	<a href="#">“FD-10” on page 422</a>
FD-14	0xFD0E	Number of frames received per unit time	0 to 65535	0	-	Unchangeable	<a href="#">“FD-14” on page 422</a>
FD-15	0xFD0F	Maximum RX error count	0 to 65535	0	-	Unchangeable	<a href="#">“FD-15” on page 422</a>
FD-16	0xFD10	Maximum TX error count	0 to 65535	0	-	Unchangeable	<a href="#">“FD-16” on page 422</a>
FD-17	0xFD11	Bus-off count per unit time	0 to 65535	0	-	Unchangeable	<a href="#">“FD-17” on page 423</a>
FD-19	0xFD13	CAN communication disconnection coefficient	1 to 15	3	-	Changeable only at stop	<a href="#">“FD-19” on page 423</a>
FD-20	0xFD14	PROFIBUS DP communication address	0 to 125	0	-	Changeable only at stop	<a href="#">“FD-20” on page 423</a>
FD-21	0xFD15	PROFIBUS DP communication disconnection coefficient	0 to 65535	350	-	Changeable only at stop	<a href="#">“FD-21” on page 423</a>
FD-27	0xFD1B	Storage of parameters written through communication	0 to 1	0	-	Changeable at any time	<a href="#">“FD-27” on page 423</a>
FD-28	0xFD1C	Auto reset upon communication fault	0 to 1	1	-	Changeable at any time	<a href="#">“FD-28” on page 424</a>
FD-29	0xFD1D	Communication state	0 to 999	0	-	Unchangeable	<a href="#">“FD-29” on page 424</a>
FD-30	0xFD1E	Number of RPDO mapped bytes	0 to 65535	0	-	Changeable at any time	<a href="#">“FD-30” on page 424</a>
FD-31	0xFD1F	Number of TPDO mapped bytes	0 to 65535	0	-	Changeable at any time	<a href="#">“FD-31” on page 424</a>
FD-32	0xFD20	Group AF mapping mode switchover	0: Parameters written through communication are not saved 1: Parameters written through communication are saved	0	-	Changeable only at stop	<a href="#">“FD-32” on page 424</a>
FD-37	0xFD25	DHCP function	0: Disabled 1: Enabled	0	-	Changeable only at stop	<a href="#">“FD-37” on page 425</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
FD-38	0xFD26	MSB of IP address	0 to 255	0	-	Changeable only at stop	<a href="#">“FD-38” on page 425</a>
FD-39	0xFD27	Second MSB of IP address	0 to 255	0	-	Changeable only at stop	<a href="#">“FD-39” on page 425</a>
FD-40	0xFD28	Third byte of IP address	0 to 255	0	-	Changeable only at stop	<a href="#">“FD-40” on page 425</a>
FD-41	0xFD29	LSB of IP address	0 to 255	0	-	Changeable only at stop	<a href="#">“FD-41” on page 425</a>
FD-42	0xFD2A	MSB of subnet mask	0 to 255	0	-	Changeable only at stop	<a href="#">“FD-42” on page 426</a>
FD-43	0xFD2B	Second MSB of subnet mask	0 to 255	0	-	Changeable only at stop	<a href="#">“FD-43” on page 426</a>
FD-44	0xFD2C	Third byte of subnet mask	0 to 255	0	-	Changeable only at stop	<a href="#">“FD-44” on page 426</a>
FD-45	0xFD2D	LSB of subnet mask	0 to 255	0	-	Changeable only at stop	<a href="#">“FD-45” on page 426</a>
FD-46	0xFD2E	MSB of gateway	0 to 255	0	-	Changeable only at stop	<a href="#">“FD-46” on page 426</a>
FD-47	0xFD2F	Second MSB of gateway	0 to 255	0	-	Changeable only at stop	<a href="#">“FD-47” on page 426</a>
FD-48	0xFD30	Third byte of gateway	0 to 255	0	-	Changeable only at stop	<a href="#">“FD-48” on page 427</a>
FD-49	0xFD31	LSB of gateway	0 to 255	0	-	Changeable only at stop	<a href="#">“FD-49” on page 427</a>
FD-58	0xFD3A	Ethernet/IP expansion card error code	0 to 255	0	-	Unchangeable	<a href="#">“FD-58” on page 427</a>
FD-61	0xFD3D	High-order byte of MAC address	0x0 to 0xFFFF	0x0	-	Changeable only at stop	<a href="#">“FD-61” on page 427</a>
FD-62	0xFD3E	Middle byte of MAC address	0x0 to 0xFFFF	0x0	-	Changeable only at stop	<a href="#">“FD-62” on page 427</a>
FD-63	0xFD3F	Low-order byte of MAC address	0x0 to 0xFFFF	0x0	-	Changeable only at stop	<a href="#">“FD-63” on page 428</a>
FD-92	0xFD5C	Slave alias backup	0 to 65535	0	-	Changeable at any time	<a href="#">“FD-92” on page 428</a>
FD-93	0xFD5D	Null pointer	0 to 65535	0	-	Changeable at any time	<a href="#">“FD-93” on page 428</a>
FD-94	0xFD5E	Communication software version	0.00 to 655.35	0.00	-	Unchangeable	<a href="#">“FD-94” on page 428</a>
FE-00	0x2F00	User-defined parameter 0	0 to 65535	0	-	Changeable at any time	<a href="#">“FE-00” on page 428</a>



## List of Parameters

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
FE-01	0x2F01	User-defined parameter 1	0 to 65535	0	-	Changeable at any time	<a href="#">“FE-01” on page 429</a>
FE-02	0x2F02	User-defined parameter 2	0 to 65535	0	-	Changeable at any time	<a href="#">“FE-02” on page 429</a>
FE-03	0x2F03	User-defined parameter 3	0 to 65535	0	-	Changeable at any time	<a href="#">“FE-03” on page 429</a>
FE-04	0x2F04	User-defined parameter 4	0 to 65535	0	-	Changeable at any time	<a href="#">“FE-04” on page 429</a>
FE-05	0x2F05	User-defined parameter 5	0 to 65535	0	-	Changeable at any time	<a href="#">“FE-05” on page 429</a>
FE-06	0x2F06	User-defined parameter 6	0 to 65535	0	-	Changeable at any time	<a href="#">“FE-06” on page 430</a>
FE-07	0x2F07	User-defined parameter 7	0 to 65535	0	-	Changeable at any time	<a href="#">“FE-07” on page 430</a>
FE-08	0x2F08	User-defined parameter 8	0 to 65535	0	-	Changeable at any time	<a href="#">“FE-08” on page 430</a>
FE-09	0x2F09	User-defined parameter 9	0 to 65535	0	-	Changeable at any time	<a href="#">“FE-09” on page 430</a>
FE-10	0x2F0A	User-defined parameter 10	0 to 65535	0	-	Changeable at any time	<a href="#">“FE-10” on page 430</a>
FE-11	0x2F0B	User-defined parameter 11	0 to 65535	0	-	Changeable at any time	<a href="#">“FE-11” on page 431</a>
FE-12	0x2F0C	User-defined parameter 12	0 to 65535	0	-	Changeable at any time	<a href="#">“FE-12” on page 431</a>
FE-13	0x2F0D	User-defined parameter 13	0 to 65535	0	-	Changeable at any time	<a href="#">“FE-13” on page 431</a>
FE-14	0x2F0E	User-defined parameter 14	0 to 65535	0	-	Changeable at any time	<a href="#">“FE-14” on page 431</a>
FE-15	0x2F0F	User-defined parameter 15	0 to 65535	0	-	Changeable at any time	<a href="#">“FE-15” on page 431</a>
FE-16	0x2F10	User-defined parameter 16	0 to 65535	0	-	Changeable at any time	<a href="#">“FE-16” on page 432</a>
FE-17	0x2F11	User-defined parameter 17	0 to 65535	0	-	Changeable at any time	<a href="#">“FE-17” on page 432</a>
FE-18	0x2F12	User-defined parameter 18	0 to 65535	0	-	Changeable at any time	<a href="#">“FE-18” on page 432</a>
FE-19	0x2F13	User-defined parameter 19	0 to 65535	0	-	Changeable at any time	<a href="#">“FE-19” on page 432</a>
FE-20	0x2F14	User-defined parameter 20	0 to 65535	0	-	Changeable at any time	<a href="#">“FE-20” on page 432</a>
FE-21	0x2F15	User-defined parameter 21	0 to 65535	0	-	Changeable at any time	<a href="#">“FE-21” on page 433</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
FE-22	0x2F16	User-defined parameter 22	0 to 65535	0	-	Changeable at any time	<a href="#">“FE-22” on page 433</a>
FE-23	0x2F17	User-defined parameter 23	0 to 65535	0	-	Changeable at any time	<a href="#">“FE-23” on page 433</a>
FE-24	0x2F18	User-defined parameter 24	0 to 65535	0	-	Changeable at any time	<a href="#">“FE-24” on page 433</a>
FE-25	0x2F19	User-defined parameter 25	0 to 65535	0	-	Changeable at any time	<a href="#">“FE-25” on page 433</a>
FE-26	0x2F1A	User-defined parameter 26	0 to 65535	0	-	Changeable at any time	<a href="#">“FE-26” on page 433</a>
FE-27	0x2F1B	User-defined parameter 27	0 to 65535	0	-	Changeable at any time	<a href="#">“FE-27” on page 434</a>
FE-28	0x2F1C	User-defined parameter 28	0 to 65535	0	-	Changeable at any time	<a href="#">“FE-28” on page 434</a>
FE-29	0x2F1D	User-defined parameter 29	0 to 65535	0	-	Changeable at any time	<a href="#">“FE-29” on page 434</a>
FE-30	0x2F1E	User-defined parameter 30	0 to 65535	0	-	Changeable at any time	<a href="#">“FE-30” on page 434</a>
FE-31	0x2F1F	User-defined parameter 31	0 to 65535	0	-	Changeable at any time	<a href="#">“FE-31” on page 434</a>
FP-00	0x1F00	User password	0 to 65535	0	-	Changeable at any time	<a href="#">“FP-00” on page 435</a>
FP-01	0x1F01	Parameter initialization	0: No operation 1: Restore default settings (excluding motor parameters) 2: Clear records 4: Back up current user parameters 501: Restore user parameters from backup 503: Restore default settings (including motor parameters)	0	-	Changeable only at stop	<a href="#">“FP-01” on page 435</a>

## List of Parameters

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
FP-02	0x1F02	Parameter display	Bit00: Group U 0: Hidden 1: Displayed Bit01: Group A 0: Hidden 1: Displayed Bit02: Group B 0: Hidden 1: Displayed Bit03: Group C 0: Hidden 1: Displayed Bit04: Group H 0: Hidden 1: Displayed Bit05: Group L 0: Hidden 1: Displayed	63	-	Changeable at any time	<a href="#">“FP-02” on page 435</a>
FP-03	0x1F03	Display of individualized parameters	Ones: User mode 0: Hidden 1: Displayed Tens: Correction mode 0: Hidden 1: Displayed Hundreds: Error menu 0: Hidden 1: Displayed	111	-	Changeable at any time	<a href="#">“FP-03” on page 436</a>
FP-04	0x1F04	Parameter modification	0: Modification allowed 1: Modification prohibited	0	-	Changeable at any time	<a href="#">“FP-04” on page 436</a>
FP-06	0x1F06	Monitoring password	0 to 65535	0	-	Changeable at any time	<a href="#">“FP-06” on page 437</a>
FP-07	0x1F07	Expert password	0 to 65535	0	-	Changeable at any time	<a href="#">“FP-07” on page 437</a>
FP-08	0x1F08	Factory password	0 to 65535	0	-	Changeable at any time	<a href="#">“FP-08” on page 437</a>
FP-09	0x1F09	Password input window	0 to 65535	0	-	Changeable at any time	<a href="#">“FP-09” on page 437</a>
FP-14	0x1F0E	Parameter clearing	0: No operation 1: Clear all record (faults and time) parameters 2: Clear fault information 500: Clear all backup user parameters 1000: Clear all backup motor parameters	0	-	Changeable only at stop	<a href="#">“FP-14” on page 438</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
FP-15	0x1F0F	Parameter restoration	0: No operation 500: Restore user backup 501: Restore user macro backup 1 502: Restore user macro backup 2 503: Restore user macro backup 3 504: Restore user macro backup 4 505: Restore user macro backup 5 506: Restore user macro backup 6 2011: Restore motor macro backup parameter 1 to motor 1 2012: Restore motor macro backup parameter 1 to motor 2 (To be continued)	0	-	Changeable only at stop	<a href="#">“FP-15” on page 438</a>
(Continued)	(Continued)	(Continued)	(Continued) 2013: Restore motor macro backup parameter 1 to motor 3 2014: Restore motor macro backup parameter 1 to motor 4 2021: Restore motor macro backup parameter 2 to motor 1 2022: Restore motor macro backup parameter 2 to motor 2 2023: Restore motor macro backup parameter 2 to motor 3 2024: Restore motor macro backup parameter 2 to motor 4 2031: Restore motor macro backup parameter 3 to motor 1 2032: Restore motor macro backup parameter 3 to motor 2 2033: Restore motor macro backup parameter 3 to motor 3 2034: Restore motor macro backup parameter 3 to motor 4 (To be continued)	0	-	Changeable only at stop	<a href="#">“FP-15” on page 438</a>

List of Parameters

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
(Continued)	(Continued)	(Continued)	(Continued) 2041: Restore motor macro backup parameter 4 to motor 1 2042: Restore motor macro backup parameter 4 to motor 2 2043: Restore motor macro backup parameter 4 to motor 3 2044: Restore motor macro backup parameter 4 to motor 4 2051: Restore motor macro backup parameter 5 to motor 1 2052: Restore motor macro backup parameter 5 to motor 2 2053: Restore motor macro backup parameter 5 to motor 3 2054: Restore motor macro backup parameter 5 to motor 4 2061: Restore motor macro backup parameter 6 to motor 1 2062: Restore motor macro backup parameter 6 to motor 2 2063: Restore motor macro backup parameter 6 to motor 3 (To be continued)	(Continued)	(Continued)	(Continued)	(Continued)
(Continued)	(Continued)	(Continued)	(Continued) 2064: Restore motor macro backup parameter 6 to motor 4 2071: Restore motor macro backup parameter 7 to motor 1 2072: Restore motor macro backup parameter 7 to motor 2 2073: Restore motor macro backup parameter 7 to motor 3 2074: Restore motor macro backup parameter 7 to motor 4 2081: Restore motor macro backup parameter 8 to motor 1 2082: Restore motor macro backup parameter 8 to motor 2 2083: Restore motor macro backup parameter 8 to motor 3 2084: Restore motor macro backup parameter 8 to motor 4 2091: Restore motor macro backup parameter 9 to motor 1 (To be continued)	(Continued)	(Continued)	(Continued)	(Continued)

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
(Continued)	(Continued)	(Continued)	(Continued) 2092: Restore motor macro backup parameter 9 to motor 2 2093: Restore motor macro backup parameter 9 to motor 3 2094: Restore motor macro backup parameter 9 to motor 4 2101: Restore motor macro backup parameter 10 to motor 1 2102: Restore motor macro backup parameter 10 to motor 2 2103: Restore motor macro backup parameter 10 to motor 3 2104: Restore motor macro backup parameter 10 to motor 4 2111: Restore motor macro backup parameter 11 to motor 1 (To be continued)	(Continued)	(Continued)	(Continued)	(Continued)
(Continued)	(Continued)	(Continued)	(Continued) 2112: Restore motor macro backup parameter 11 to motor 2 2113: Restore motor macro backup parameter 11 to motor 3 2114: Restore motor macro backup parameter 11 to motor 4 2121: Restore motor macro backup parameter 12 to motor 1 2122: Restore motor macro backup parameter 12 to motor 2 2123: Restore motor macro backup parameter 12 to motor 3 2124: Restore motor macro backup parameter 12 to motor 4 2131: Restore motor macro backup parameter 13 to motor 1 2132: Restore motor macro backup parameter 13 to motor 2 (To be continued)	0	-	Changeable only at stop	<i>"FP-15" on page 438</i>

List of Parameters

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
(Continued)	(Continued)	(Continued)	(Continued) 2133: Restore motor macro backup parameter 13 to motor 3 2134: Restore motor macro backup parameter 13 to motor 4 2141: Restore motor macro backup parameter 14 to motor 1 2142: Restore motor macro backup parameter 14 to motor 2 2143: Restore motor macro backup parameter 14 to motor 3 2144: Restore motor macro backup parameter 14 to motor 4 2151: Restore motor macro backup parameter 15 to motor 1 2152: Restore motor macro backup parameter 15 to motor 2 2153: Restore motor macro backup parameter 15 to motor 3 2154: Restore motor macro backup parameter 15 to motor 4 2161: Restore motor macro backup parameter 16 to motor 1 2162: Restore motor macro backup parameter 16 to motor 2 2163: Restore motor macro backup parameter 16 to motor 3 (To be continued)	(Continued)	(Continued)	(Continued)	(Continued)
(Continued)	(Continued)	(Continued)	(Continued) 2164: Restore motor macro backup parameter 16 to motor 4 2171: Restore motor macro backup parameter 17 to motor 1 2172: Restore motor macro backup parameter 17 to motor 2 2173: Restore motor macro backup parameter 17 to motor 3 2174: Restore motor macro backup parameter 17 to motor 4 2181: Restore motor macro backup parameter 18 to motor 1 2182: Restore motor macro backup parameter 18 to motor 2 2183: Restore motor macro backup parameter 18 to motor 3 (To be continued)	(Continued)	(Continued)	(Continued)	(Continued)

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
(Continued)	(Continued)	(Continued)	(Continued) 2184: Restore motor macro backup parameter 18 to motor 4 2191: Restore motor macro backup parameter 19 to motor 1 2192: Restore motor macro backup parameter 19 to motor 2 2193: Restore motor macro backup parameter 19 to motor 3 2194: Restore motor macro backup parameter 19 to motor 4 2201: Restore motor macro backup parameter 20 to motor 1 2202: Restore motor macro backup parameter 20 to motor 2 2203: Restore motor macro backup parameter 20 to motor 3 2204: Restore motor macro backup parameter 20 to motor 4	(Continued)	(Continued)	(Continued)	(Continued)
FP-16	0x1F10	User backup	0: No operation 400: Back up user parameters 401: Back up user macro parameters to address 1 402: Back up user macro parameters to 2 403: Back up user macro parameters to 3 404: Back up user macro parameters to 4 405: Back up user macro parameters to 5 406: Back up user macro parameters to 6 1011: Back up parameters of motor 1 to address 1 1012: Back up parameters of motor 2 to address 1 1013: Back up parameters of motor 3 to address 1 1014: Back up parameters of motor 4 to address 1 1021: Back up parameters of motor 1 to address 2 1022: Back up parameters of motor 2 to address 2 1023: Back up parameters of motor 3 to address 2 1024: Back up parameters of motor 4 to address 2 1031: Back up parameters of motor 1 to address 3 (To be continued)	0	-	Changeable only at stop	<a href="#">"FP-16" on page 440</a>



## List of Parameters

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
(Continued)	(Continued)	(Continued)	(Continued) 1032: Back up parameters of motor 2 to address 3 1033: Back up parameters of motor 3 to address 3 1034: Back up parameters of motor 4 to address 3 1041: Back up parameters of motor 1 to address 4 1042: Back up parameters of motor 2 to address 4 1043: Back up parameters of motor 3 to address 4 1044: Back up parameters of motor 4 to address 4 1051: Back up parameters of motor 1 to address 5 1052: Back up parameters of motor 2 to address 5 1053: Back up parameters of motor 3 to address 5 1054: Back up parameters of motor 4 to address 5 1061: Back up parameters of motor 1 to address 6 1062: Back up parameters of motor 2 to address 6 1063: Back up parameters of motor 3 to address 6 1064: Back up parameters of motor 4 to address 6 (To be continued)	(Continued)	(Continued)	(Continued)	(Continued)

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
(Continued)	(Continued)	(Continued)	(Continued) 1071: Back up parameters of motor 1 to address 7 1072: Back up parameters of motor 2 to address 7 1073: Back up parameters of motor 3 to address 7 1074: Back up parameters of motor 4 to address 7 1081: Back up parameters of motor 1 to address 8 1082: Back up parameters of motor 2 to address 8 1083: Back up parameters of motor 3 to address 8 1084: Back up parameters of motor 4 to address 8 1091: Back up parameters of motor 1 to address 9 1092: Back up parameters of motor 2 to address 9 1093: Back up parameters of motor 3 to address 9 1094: Back up parameters of motor 4 to address 9 1101: Back up parameters of motor 1 to address 10 (To be continued)	(Continued)	(Continued)	(Continued)	(Continued)

List of Parameters

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
(Continued)	(Continued)	(Continued)	(Continued)	(Continued)	(Continued)	(Continued)	(Continued)
			1102: Back up parameters of motor 2 to address 10				
			1103: Back up parameters of motor 3 to address 10				
			1104: Back up parameters of motor 4 to address 10				
			1111: Back up parameters of motor 1 to address 11				
			1112: Back up parameters of motor 2 to address 11				
			1113: Back up parameters of motor 3 to address 11				
			1114: Back up parameters of motor 4 to address 11				
			1121: Back up parameters of motor 1 to address 12				
			1122: Back up parameters of motor 2 to address 12				
			1123: Back up parameters of motor 3 to address 12				
			1124: Back up parameters of motor 4 to address 12				
			1131: Back up parameters of motor 1 to address 13				
			1132: Back up parameters of motor 2 to address 13				
			1133: Back up parameters of motor 3 to address 13				
			1134: Back up parameters of motor 4 to address 13				
			1141: Back up parameters of motor 1 to address 14				
			1142: Back up parameters of motor 2 to address 14				
			1143: Back up parameters of motor 3 to address 14				
			1144: Back up parameters of motor 4 to address 14				
			(To be continued)				

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
(Continued)	(Continued)	(Continued)	(Continued) 1151: Back up parameters of motor 1 to address 15 1152: Back up parameters of motor 2 to address 15 1153: Back up parameters of motor 3 to address 15 1154: Back up parameters of motor 4 to address 15 1161: Back up parameters of motor 1 to address 16 1162: Back up parameters of motor 2 to address 16 1163: Back up parameters of motor 3 to address 16 1164: Back up parameters of motor 4 to address 16 1171: Back up parameters of motor 1 to address 17 1172: Back up parameters of motor 2 to address 17 (To be continued)	(Continued)	(Continued)	(Continued)	(Continued)

## List of Parameters

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
(Continued)	(Continued)	(Continued)	(Continued) 1173: Back up parameters of motor 3 to address 17 1174: Back up parameters of motor 4 to address 17 1181: Back up parameters of motor 1 to address 18 1182: Back up parameters of motor 2 to address 18 1183: Back up parameters of motor 3 to address 18 1184: Back up parameters of motor 4 to address 18 1191: Back up parameters of motor 1 to address 19 1192: Back up parameters of motor 2 to address 19 1193: Back up parameters of motor 3 to address 19 1194: Back up parameters of motor 4 to address 19 1201: Back up parameters of motor 1 to address 20 1202: Back up parameters of motor 2 to address 20 1203: Back up parameters of motor 3 to address 20 1204: Back up parameters of motor 4 to address 20 (To be continued)	(Continued)	(Continued)	(Continued)	(Continued)
A0-00	0xA000	Speed/Torque control mode	0: Speed control 1: Torque control	0	-	Changeable at any time	<a href="#">"A0-00" on page 443</a>
A0-01	0xA001	Torque reference source in torque control mode (torque upper limit source)	0: A0-03 1: AI1 2: AI2 3: AI3 4: Pulse 5: Communication 6: MIN (AI1, AI2) 7: MAX (AI1, AI2) Others: F connector	0	-	Changeable only at stop	<a href="#">"A0-01" on page 444</a>
A0-03	0xA003	Torque reference in torque control mode	-200% to +200.0%	150.0	%	Changeable at any time	<a href="#">"A0-03" on page 444</a>
A0-04	0xA004	Torque reference filter time (upper limit)	0 ms to 10000 ms	0	ms	Changeable at any time	<a href="#">"A0-04" on page 444</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
A0-05	0xA005	Maximum forward frequency in torque control	0.00 Hz to F0-10	0.00	Hz	Changeable at any time	<a href="#">“A0-05” on page 445</a>
A0-06	0xA006	Maximum reverse frequency in torque control	0.00 Hz to F0-10	0.00	Hz	Changeable at any time	<a href="#">“A0-06” on page 445</a>
A0-07	0xA007	Torque rising filter time	0.00s to 650.00s	0.00	s	Changeable at any time	<a href="#">“A0-07” on page 445</a>
A0-08	0xA008	Torque falling filter time	0.00s to 650.00s	0.00	s	Changeable at any time	<a href="#">“A0-08” on page 445</a>
A0-10	0xA00A	Torque mode	0: MD500 torque mode 1: Vanguard torque mode	0	-	Changeable only at stop	<a href="#">“A0-10” on page 445</a>
A0-11	0xA00B	Torque acceleration time gain	0: 100% 1: AI1 2: AI2 3: AI3 4: Pulse reference 5: Communication 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable at any time	<a href="#">“A0-11” on page 446</a>
A0-12	0xA00C	Torque deceleration time gain	Same as A0-11	0	-	Changeable at any time	<a href="#">“A0-12” on page 446</a>
A0-13	0xA00D	Torque reference source	0: Digital setting 1: AI1 2: AI2 3: AI3 4: Pulse reference 5: Communication 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable at any time	<a href="#">“A0-13” on page 446</a>
A0-14	0xA00E	Torque reference	-400% to +400.0%	0.0	%	Changeable at any time	<a href="#">“A0-14” on page 447</a>
A0-15	0xA00F	Speed limit source in torque control mode	0: Digital setting 1: Speed reference channel	0	-	Changeable at any time	<a href="#">“A0-15” on page 447</a>
A0-16	0xA010	Speed limit in torque control mode	-100% to +100.0%	0.0	%	Changeable at any time	<a href="#">“A0-16” on page 447</a>
A0-17	0xA011	Speed limit offset mode	0: Bidirectional offset 1: Unidirectional offset 2: Compatible solution	0	-	Changeable at any time	<a href="#">“A0-17” on page 447</a>

## List of Parameters

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
A0-18	0xA012	Speed limit offset source	Same as A0-13	0	-	Changeable at any time	<a href="#">“A0-18” on page 448</a>
A0-19	0xA013	Speed limit offset	0.0% to 300.0%	5.0	%	Changeable at any time	<a href="#">“A0-19” on page 448</a>
A0-20	0xA014	Source of supplementary torque reference 1	Same as A0-13	0	-	Changeable at any time	<a href="#">“A0-20” on page 448</a>
A0-21	0xA015	Supplementary torque reference 1	-400% to +400.0%	0.0	%	Changeable at any time	<a href="#">“A0-21” on page 449</a>
A0-22	0xA016	Source of supplementary torque reference 2	Same as A0-13	0	-	Changeable at any time	<a href="#">“A0-22” on page 449</a>
A0-23	0xA017	Supplementary torque reference 2 input enable	0: Disabled 1: Enabled 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector	1	-	Changeable at any time	<a href="#">“A0-23” on page 449</a>
A0-24	0xA018	Torque filter time	0 ms to 10000 ms	0	ms	Changeable at any time	<a href="#">“A0-24” on page 450</a>
A0-25	0xA019	Torque acceleration time	0.000s to 60.000s	0.000	s	Changeable at any time	<a href="#">“A0-25” on page 450</a>
A0-26	0xA01A	Torque deceleration time	0.000s to 60.000s	0.000	s	Changeable at any time	<a href="#">“A0-26” on page 450</a>
A0-27	0xA01B	Torque reference gain	0: 100% 1: AI1 2: AI2 3: AI3 4: Pulse reference 5: Communication 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable at any time	<a href="#">“A0-27” on page 451</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
A1-00	0xA100	VDI1 function	Same as F4-04	0	-	Changeable only at stop	<a href="#">“A1-00” on page 451</a>
A1-01	0xA101	VDI2 function	Same as F4-04	0	-	Changeable only at stop	<a href="#">“A1-01” on page 451</a>
A1-02	0xA102	VDI3 function	Same as F4-04	0	-	Changeable only at stop	<a href="#">“A1-02” on page 451</a>
A1-03	0xA103	VDI4 function	Same as F4-04	0	-	Changeable only at stop	<a href="#">“A1-03” on page 452</a>
A1-04	0xA104	VDI5 function	Same as F4-04	0	-	Changeable only at stop	<a href="#">“A1-04” on page 452</a>
A1-05	0xA105	VDI active state source	Tens: VDI1 active state source 0: VDO1 1: A1-06 2: DI1 3: Communication setpoint (bit10 of F4-50) 4: AI1 5: Reserved Tens: VDI2 active state source 0: VDO2 1: A1-06 2: DI2 3: Communication setpoint (bit11 of F4-50) 4: AI2 5: Reserved To be continued	0	-	Changeable only at stop	<a href="#">“A1-05” on page 452</a>
Continued	Continued	Continued	Continued Hundreds: VDI3 active state source 0: VDO3 1: A1-06 2: DI3 3: Communication setpoint (bit12 of F4-50) 4: AI3 5: Reserved Thousands: VDI4 active state source 0: VDO4 1: A1-06 2: DI4 3: Communication setpoint (bit13 of F4-50) 4–5: Reserved Ten thousands: VDI5 active state source 0: VDO5 1: A1-06 2: DI5 3: Communication setpoint (bit14 of F4-50) 4–5: Reserved	Continued	Continued	Continued	Continued



## List of Parameters

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
A1-06	0xA106	VDI state	Ones: VDI1 0: Inactive 1: Active Tens: VDI2 0: Inactive 1: Active Hundreds: VDI3 0: Inactive 1: Active Thousands: VDI4 0: Inactive 1: Active Ten thousands: VDI5 0: Inactive 1: Active	0	-	Changeable at any time	<a href="#">“A1-06” on page 453</a>
A1-07	0xA107	AI1 (used as DI) function	Same as A1-00	0	-	Changeable only at stop	<a href="#">“A1-07” on page 454</a>
A1-08	0xA108	AI2 (used as DI) function	Same as A1-00	0	-	Changeable only at stop	<a href="#">“A1-08” on page 454</a>
A1-09	0xA109	AI3 (used as DI) function	Same as A1-00	0	-	Changeable only at stop	<a href="#">“A1-09” on page 454</a>
A1-10	0xA10A	AI (used as DI) active mode	Ones: AI1 0: Active low 1: Active high Tens: AI2 0: Active low 1: Active high Hundreds: AI3 0: Active low 1: Active high	0	-	Changeable only at stop	<a href="#">“A1-10” on page 454</a>
A1-11	0xA10B	VDO1 function	Same as F5-01	0	-	Changeable at any time	<a href="#">“A1-11” on page 455</a>
A1-12	0xA10C	VDO2 function	Same as F5-01	0	-	Changeable at any time	<a href="#">“A1-12” on page 455</a>
A1-13	0xA10D	VDO3 function	Same as F5-01	0	-	Changeable at any time	<a href="#">“A1-13” on page 455</a>
A1-14	0xA10E	VDO4 function	Same as F5-01	0	-	Changeable at any time	<a href="#">“A1-14” on page 455</a>
A1-15	0xA10F	VDO5 function	Same as F5-01	0	-	Changeable at any time	<a href="#">“A1-15” on page 456</a>
A1-16	0xA110	VDO1 output delay (invalid)	0.0s to 3600.0s	0.0	s	Changeable at any time	<a href="#">“A1-16” on page 456</a>
A1-17	0xA111	VDO2 output delay (invalid)	0.0s to 3600.0s	0.0	s	Changeable at any time	<a href="#">“A1-17” on page 456</a>
A1-18	0xA112	VDO3 output delay (invalid)	0.0s to 3600.0s	0.0	s	Changeable at any time	<a href="#">“A1-18” on page 456</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
A1-19	0xA113	VDO4 output delay (invalid)	0.0s to 3600.0s	0.0	s	Changeable at any time	<a href="#">“A1-19” on page 456</a>
A1-20	0xA114	VDO5 output delay (invalid)	0.0s to 3600.0s	0.0	s	Changeable at any time	<a href="#">“A1-20” on page 457</a>
A1-21	0xA115	VDO active mode	Ones: VDO1 0: Positive logic active 1: Negative logic active Tens: VDO2 0: Positive logic active 1: Negative logic active Hundreds: VDO3 0: Positive logic active 1: Negative logic active Thousands: VDO4 0: Positive logic active 1: Negative logic active Ten thousands: VDO5 0: Positive logic active 1: Negative logic active	0	-	Changeable at any time	<a href="#">“A1-21” on page 457</a>
A1-22	0xA116	VDO1 output switch-on delay	0.0s to 3600.0s	0.0	s	Changeable at any time	<a href="#">“A1-22” on page 457</a>
A1-23	0xA117	VDO2 output switch-on delay	0.0s to 3600.0s	0.0	s	Changeable at any time	<a href="#">“A1-23” on page 457</a>
A1-24	0xA118	VDO3 output switch-on delay	0.0s to 3600.0s	0.0	s	Changeable at any time	<a href="#">“A1-24” on page 458</a>
A1-25	0xA119	VDO4 output switch-on delay	0.0s to 3600.0s	0.0	s	Changeable at any time	<a href="#">“A1-25” on page 458</a>
A1-26	0xA11A	VDO5 output switch-on delay	0.0s to 3600.0s	0.0	s	Changeable at any time	<a href="#">“A1-26” on page 458</a>
A1-27	0xA11B	VDO1 output switch-off delay	0.0s to 3600.0s	0.0	s	Changeable at any time	<a href="#">“A1-27” on page 458</a>
A1-28	0xA11C	VDO2 output switch-off delay	0.0s to 3600.0s	0.0	s	Changeable at any time	<a href="#">“A1-28” on page 458</a>
A1-29	0xA11D	VDO3 output switch-off delay	0.0s to 3600.0s	0.0	s	Changeable at any time	<a href="#">“A1-29” on page 459</a>
A1-30	0xA11E	VDO4 output switch-off delay	0.0s to 3600.0s	0.0	s	Changeable at any time	<a href="#">“A1-30” on page 459</a>
A1-31	0xA11F	VDO5 output switch-off delay	0.0s to 3600.0s	0.0	s	Changeable at any time	<a href="#">“A1-31” on page 459</a>
A1-32	0xA120	VDO6 function	Same as F5-01	0	-	Changeable at any time	<a href="#">“A1-32” on page 459</a>
A1-33	0xA121	VDO7 function	Same as F5-01	0	-	Changeable at any time	<a href="#">“A1-33” on page 459</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
A1-34	0xA122	VDO8 function	Same as F5-01	0	-	Changeable at any time	<a href="#">“A1-34” on page 460</a>
A1-35	0xA123	VDO9 function	Same as F5-01	0	-	Changeable at any time	<a href="#">“A1-35” on page 460</a>
A1-36	0xA124	VDO10 function	Same as F5-01	0	-	Changeable at any time	<a href="#">“A1-36” on page 460</a>
A1-37	0xA125	VDO11 function	Same as F5-01	0	-	Changeable at any time	<a href="#">“A1-37” on page 460</a>
A1-38	0xA126	VDO6–VDO10 active mode	Ones: VDO6 0: Positive logic active 1: Negative logic active Tens: VDO7 0: Positive logic active 1: Negative logic active Hundreds: VDO8 0: Positive logic active 1: Negative logic active Thousands: VDO9 0: Positive logic active 1: Negative logic active Ten thousands: VDO10 0: Positive logic active 1: Negative logic active	0	-	Changeable at any time	<a href="#">“A1-38” on page 460</a>
A1-39	0xA127	VDO11 active mode	0: Positive logic active 1: Negative logic active	0	-	Changeable at any time	<a href="#">“A1-39” on page 461</a>
A1-40	0xA128	VDI6 function	Same as A1-00	0	-	Changeable only at stop	<a href="#">“A1-40” on page 461</a>
A1-41	0xA129	VDI6 hardware source	Ones: VDI6 0: VDO6 1: A1-42 2: DI6 3: Communication setpoint (bit15 of F4-50) 4: Reserved 5: Reserved	0	-	Changeable only at stop	<a href="#">“A1-41” on page 461</a>
A1-42	0xA12A	VDI6 state	Ones: VDI6 0: Inactive 1: Active	0	-	Changeable at any time	<a href="#">“A1-42” on page 462</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
A1-43	0xA12B	VDI1–VDI5 active mode	Ones: VDI1 0: Active low 1: Active high Tens: VDI2 0: Active low 1: Active high Hundreds: VDI3 0: Active low 1: Active high Thousands: VDI4 0: Active low 1: Active high Ten thousands: VDI5 0: Active low 1: Active high	0	-	Changeable only at stop	<a href="#">“A1-43” on page 462</a>
A1-44	0xA12C	VDI6 active mode	Ones: VDI6 0: Active low 1: Active high	0	-	Changeable only at stop	<a href="#">“A1-44” on page 462</a>
A1-50	0xA132	DIO edge count reset	0: Not reset 1: Counting module 1 2: Counting module 2 3: Counting module 3 4: Counting module 4 5: All counting modules	0	-	Changeable at any time	<a href="#">“A1-50” on page 463</a>
A1-51	0xA133	DIO edge counting channel selection 1	0: None 1: DI1 2: DI2 3: DI3 4: DI4 5: DI5 6: DI6 7: DI7 8: DI8 9: DI9 10: DI10 11: VDI1 12: VDI2 13: VDI3 14: VDI4  To be continued	0	-	Changeable at any time	<a href="#">“A1-51” on page 463</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
Continued	Continued	Continued	Continued 15: VDI5 16: VDI6 17: Relay 1 (DO3) 18: FMR 19: DO1 20: Relay 2 (DO4) 21: DO2 22: VDO1 23: VDO2 24: VDO3 25: VDO4 26: VDO5 27: VDO6 28: VDO7 29: VDO8 30: VDO9 31: VDO10 32: VDO11	Continued	Continued	Continued	Continued
A1-52	0xA134	DIO edge counting channel selection 2	Same as A1-51	0	-	Changeable at any time	<a href="#">“A1-52” on page 464</a>
A1-53	0xA135	DIO edge counting channel selection 3	Same as A1-51	0	-	Changeable at any time	<a href="#">“A1-53” on page 465</a>
A1-54	0xA136	DIO edge counting channel selection 4	Same as A1-51	0	-	Changeable at any time	<a href="#">“A1-54” on page 465</a>
A1-55	0xA137	DIO edge counting comparison value 1	0 to 65535	0	-	Changeable at any time	<a href="#">“A1-55” on page 465</a>
A1-56	0xA138	DIO edge counting comparison value 2	0 to 65535	0	-	Changeable at any time	<a href="#">“A1-56” on page 465</a>
A1-57	0xA139	DIO edge counting comparison value 3	0 to 65535	0	-	Changeable at any time	<a href="#">“A1-57” on page 465</a>
A1-58	0xA13A	DIO edge counting comparison value 4	0 to 65535	0	-	Changeable at any time	<a href="#">“A1-58” on page 465</a>
A1-59	0xA13B	DIO edge counting module count value 1	0 to 65535	0	-	Unchangeable	<a href="#">“A1-59” on page 466</a>
A1-60	0xA13C	DIO edge counting module count value 2	0 to 65535	0	-	Unchangeable	<a href="#">“A1-60” on page 466</a>
A1-61	0xA13D	DIO edge counting module count value 3	0 to 65535	0	-	Unchangeable	<a href="#">“A1-61” on page 466</a>
A1-62	0xA13E	DIO edge counting module count value 4	0 to 65535	0	-	Unchangeable	<a href="#">“A1-62” on page 466</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
A2-00	0xA200	Motor type	0: Common asynchronous motor 1: Variable frequency asynchronous motor 2: Permanent magnet synchronous motor	0	-	Changeable only at stop	<a href="#">"A2-00" on page 467</a>
A2-01	0xA201	Rated motor power	0.1 kW to 1000.0 kW	3.7	kW	Changeable only at stop	<a href="#">"A2-01" on page 467</a>
A2-02	0xA202	Rated motor voltage	1 V to 2000 V	380	V	Changeable only at stop	<a href="#">"A2-02" on page 467</a>
A2-03	0xA203	Rated motor current	0.01 A to 655.35 A	9.00	A	Changeable only at stop	<a href="#">"A2-03" on page 467</a>
A2-04	0xA204	Rated motor frequency	0.01 Hz to F0-10	50.00	Hz	Changeable only at stop	<a href="#">"A2-04" on page 467</a>
A2-05	0xA205	Rated motor speed	1 RPM to 65535 RPM	1460	RPM	Changeable only at stop	<a href="#">"A2-05" on page 468</a>
A2-06	0xA206	Asynchronous motor stator resistance	0.001 $\Omega$ to 65.535 $\Omega$	1.204	$\Omega$	Changeable only at stop	<a href="#">"A2-06" on page 468</a>
A2-07	0xA207	Asynchronous motor rotor resistance	0.001 $\Omega$ to 65.535 $\Omega$	0.908	$\Omega$	Changeable only at stop	<a href="#">"A2-07" on page 468</a>
A2-08	0xA208	Asynchronous motor leakage inductance	0.01 mH to 655.35 mH	5.28	mH	Changeable only at stop	<a href="#">"A2-08" on page 468</a>
A2-09	0xA209	Asynchronous motor mutual inductance	0.1 mH to 6553.5 mH	156.8	mH	Changeable only at stop	<a href="#">"A2-09" on page 468</a>
A2-10	0xA20A	Asynchronous motor no-load current	0.01 A to A2-03	4.20	A	Changeable only at stop	<a href="#">"A2-10" on page 469</a>
A2-16	0xA210	Synchronous motor stator resistance	0.001 $\Omega$ to 65.535 $\Omega$	1.204	$\Omega$	Changeable only at stop	<a href="#">"A2-16" on page 469</a>
A2-17	0xA211	Synchronous motor D axis inductance	0.01 mH to 655.35 mH	5.28	mH	Changeable only at stop	<a href="#">"A2-17" on page 469</a>
A2-18	0xA212	Synchronous motor Q axis inductance	0.01 mH to 655.35 mH	5.28	mH	Changeable only at stop	<a href="#">"A2-18" on page 469</a>
A2-20	0xA214	Synchronous motor back EMF coefficient	0.0 V to 6553.5 V	300.0	V	Changeable only at stop	<a href="#">"A2-20" on page 469</a>
A2-27	0xA21B	Encoder PPR	1 to 65535	1024	-	Changeable only at stop	<a href="#">"A2-27" on page 469</a>
A2-28	0xA21C	Encoder type	0: ABZ incremental encoder 1: 23-bit encoder 2: Resolver 3: External input	0	-	Changeable only at stop	<a href="#">"A2-28" on page 470</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
A2-29	0xA21D	Speed feedback PG card	0: Local PG card 1: Extension PG card	0	-	Changeable only at stop	<a href="#">“A2-29” on page 470</a>
A2-30	0xA21E	A/B phase sequence of encoder	0: Forward 1: Reverse	0	-	Changeable only at stop	<a href="#">“A2-30” on page 470</a>
A2-31	0xA21F	Encoder installation angle	0.0° to 359.9°	0.0	°	Changeable only at stop	<a href="#">“A2-31” on page 470</a>
A2-34	0xA222	Number of resolver pole pairs	1 to 65535	1	-	Changeable only at stop	<a href="#">“A2-34” on page 471</a>
A2-36	0xA224	Speed feedback PG wire breakage detection time	0.0s to 10.0s	0.0	s	Changeable only at stop	<a href="#">“A2-36” on page 471</a>
A2-37	0xA225	Auto-tuning	0: No operation 1: Static auto-tuning on partial parameters of asynchronous motor 2: Dynamic auto-tuning on asynchronous motor 3: Static auto-tuning on all parameters of asynchronous motor 4: Inertia auto-tuning 5: Deadzone auto-tuning 11: With-load auto-tuning on synchronous motor (excluding back EMF) 12: No-load dynamic auto-tuning on synchronous motor 13: Static auto-tuning on all parameters of synchronous motor (excluding zero point angle)	0	-	Changeable only at stop	<a href="#">“A2-37” on page 471</a>
A2-38	0xA226	Speed loop proportional gain 1	1 to 100	30	-	Changeable at any time	<a href="#">“A2-38” on page 471</a>
A2-39	0xA227	Speed loop integral time 1	0.01s to 10.00s	0.50	s	Changeable at any time	<a href="#">“A2-39” on page 472</a>
A2-40	0xA228	Switchover frequency 1	0.00 Hz to A2-43	5.00	Hz	Changeable at any time	<a href="#">“A2-40” on page 472</a>
A2-41	0xA229	Speed loop proportional gain 2	1 to 100	20	-	Changeable at any time	<a href="#">“A2-41” on page 472</a>
A2-42	0xA22A	Speed loop integral time 2	0.01s to 10.00s	1.00	s	Changeable at any time	<a href="#">“A2-42” on page 472</a>
A2-43	0xA22B	Switchover frequency 2	A2-40 to F0-10	10.00	Hz	Changeable at any time	<a href="#">“A2-43” on page 472</a>
A2-44	0xA22C	Vector control slip gain	50% to 200%	100	%	Changeable at any time	<a href="#">“A2-44” on page 472</a>
A2-45	0xA22D	Speed feedback filter time in SVC mode	0.000s to 0.100s	0.015	s	Changeable at any time	<a href="#">“A2-45” on page 473</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
A2-47	0xA22F	Torque upper limit source in speed control mode (motoring)	0: Digital setting (F2-10) 1: AI1 2: AI2 3: AI3 4: Pulse reference 5: Communication 6: MIN (AI1, AI2) 7: MAX (AI1, AI2) Others: F connector	0	-	Changeable at any time	<a href="#">“A2-47” on page 473</a>
A2-48	0xA230	Torque upper limit in speed control mode	0.0% to 200.0%	150.0	%	Changeable at any time	<a href="#">“A2-48” on page 473</a>
A2-49	0xA231	Torque upper limit source in speed control mode (generating)	0: Digital setting (F2-10) 1: AI1 2: AI2 3: AI3 4: Pulse reference (DI5) 5: Communication 6: MIN (AI1, AI2) 7: MAX (AI1, AI2) 8: Digital setting (F2-12) Others: F connector	0	-	Changeable at any time	<a href="#">“A2-49” on page 473</a>
A2-50	0xA232	Torque upper limit in speed control mode (generating)	0.0% to 200.0%	150.0	%	Changeable at any time	<a href="#">“A2-50” on page 474</a>
A2-56	0xA238	Field weakening mode	0: No field weakening 1: Auto adjustment 2: Calculation+Auto adjustment	1	-	Changeable only at stop	<a href="#">“A2-56” on page 474</a>
A2-57	0xA239	Field weakening gain	1 to 50	5	-	Changeable at any time	<a href="#">“A2-57” on page 475</a>
A2-60	0xA23C	Generating power limiting	0: Disabled 1: Enabled in the whole process 2: Enabled at constant speed 3: Enabled during deceleration	0	-	Changeable at any time	<a href="#">“A2-60” on page 475</a>
A2-61	0xA23D	Generating power upper limit	0.0% to 200.0%	20.0	%	Changeable at any time	<a href="#">“A2-61” on page 475</a>
A2-62	0xA23E	Motor 2 control mode	0: SVC 1: FVC 2: V/f	2	-	Changeable only at stop	<a href="#">“A2-62” on page 475</a>
A2-64	0xA240	Torque boost	0.0% to 30.0%	3.0	%	Changeable at any time	<a href="#">“A2-64” on page 475</a>
A2-66	0xA242	V/f oscillation suppression gain	0 to 100	40	-	Changeable at any time	<a href="#">“A2-66” on page 476</a>



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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
A2-67	0xA243	Initial position angle detection current of synchronous motor	50 to 180	80	-	Changeable only at stop	<a href="#">“A2-67” on page 476</a>
A2-68	0xA244	Initial position angle detection of synchronous motor	0: Detected upon running 1: Not detected 2: Detected upon initial running after power-on	0	-	Changeable at any time	<a href="#">“A2-68” on page 476</a>
A2-70	0xA246	Salient pole rate adjustment gain of synchronous motor	0.20 to 3.00	1.00	-	Changeable at any time	<a href="#">“A2-70” on page 476</a>
A2-71	0xA247	Maximum torque-to-current ratio control of synchronous motor	0: Disabled 1: Enabled	1	-	Changeable at any time	<a href="#">“A2-71” on page 477</a>
A2-75	0xA24B	Z signal correction	0: Disabled 1: Enabled	1	-	Changeable at any time	<a href="#">“A2-75” on page 477</a>
A2-80	0xA250	Low speed carrier frequency	0.8 kHz to F0-15	2.0	kHz	Changeable at any time	<a href="#">“A2-80” on page 477</a>
A2-86	0xA256	Position lock	0 to 1	0	-	Changeable at any time	<a href="#">“A2-86” on page 477</a>
A2-87	0xA257	Switchover frequency	0.00 Hz to A2-40	0.30	Hz	Changeable at any time	<a href="#">“A2-87” on page 477</a>
A2-88	0xA258	Position lock speed loop proportional gain	1 to 100	10	-	Changeable at any time	<a href="#">“A2-88” on page 478</a>
A2-89	0xA259	Position lock speed loop integral time	0.01s to 10.00s	0.50	s	Changeable at any time	<a href="#">“A2-89” on page 478</a>
A2-92	0xA25C	Auto-tuning free mode	0: Disabled 1: Auto-tuning upon initial running after power-on 2: Auto-tuning upon running	0	-	Changeable at any time	<a href="#">“A2-92” on page 478</a>
A2-94	0xA25E	Initial position compensation angle	0.0 to 359.9	0.0	-	Changeable at any time	<a href="#">“A2-94” on page 478</a>
A3-00	0xA300	V/f curve	0: Straight-line V/f curve 1: Multi-point V/f curve 2: Reserved 3: Reserved 4: Reserved 5: Reserved 6: Reserved 7: Reserved 8: Reserved 9: Reserved 10: V/f complete separation mode 11: V/f half separation mode	0	-	Changeable only at stop	<a href="#">“A3-00” on page 479</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
A3-01	0xA301	Torque boost	0.0% to 30.0%	3.0	%	Changeable at any time	<a href="#">“A3-01” on page 479</a>
A3-02	0xA302	Cut-off frequency of torque boost	0.00 Hz to F0-10	50.00	Hz	Changeable only at stop	<a href="#">“A3-02” on page 479</a>
A3-03	0xA303	Multi-point V/f frequency 1	0.00 Hz to A3-05	0.00	Hz	Changeable only at stop	<a href="#">“A3-03” on page 479</a>
A3-04	0xA304	Multi-point V/f voltage 1	0.0% to +100.0%	0.0	%	Changeable only at stop	<a href="#">“A3-04” on page 480</a>
A3-05	0xA305	Multi-point V/f frequency 2	A3-03 to A3-07	0.00	Hz	Changeable only at stop	<a href="#">“A3-05” on page 480</a>
A3-06	0xA306	Multi-point V/f voltage 2	0.0% to +100.0%	0.0	%	Changeable only at stop	<a href="#">“A3-06” on page 480</a>
A3-07	0xA307	Multi-point V/f frequency 3	A3-05 to A2-04	0.00	Hz	Changeable only at stop	<a href="#">“A3-07” on page 480</a>
A3-08	0xA308	Multi-point V/f voltage 3	0.0% to +100.0%	0.0	%	Changeable only at stop	<a href="#">“A3-08” on page 480</a>
A3-09	0xA309	V/f slip compensation gain	0.0 to 200.0	0.0	-	Changeable at any time	<a href="#">“A3-09” on page 481</a>
A3-10	0xA30A	V/f overexcitation gain	0 to 200	64	-	Changeable at any time	<a href="#">“A3-10” on page 481</a>
A3-11	0xA30B	V/f oscillation suppression gain	0 to 100	40	-	Changeable at any time	<a href="#">“A3-11” on page 481</a>
A3-12	0xA30C	V/f oscillation suppression	0: Disabled 1: Enabled	1	-	Changeable at any time	<a href="#">“A3-12” on page 481</a>
A3-13	0xA30D	Voltage source for V/f separation	0: Digital setting (A3-14) 1: AI1 2: AI2 3: AI3 4: Pulse reference (DI5) 5: Multi-reference 6: Simple PLC 7: PID 8: Communication Others: F connector	0	-	Changeable at any time	<a href="#">“A3-13” on page 481</a>
A3-14	0xA30E	V/f separation voltage	0 V to A2-02	0	V	Changeable at any time	<a href="#">“A3-14” on page 483</a>
A3-15	0xA30F	Voltage rise time of V/f separation	0.0s to 1000.0s	0.0	s	Changeable at any time	<a href="#">“A3-15” on page 483</a>
A3-16	0xA310	Voltage fall time of V/f separation	0.0s to 1000.0s	0.0	s	Changeable at any time	<a href="#">“A3-16” on page 483</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
A3-17	0xA311	Stop mode for V/f separation	0: Frequency and voltage decline to 0 independently 1: Frequency declines to 0 after voltage declines to 0 2: Coast to stop (new)	0	-	Changeable at any time	<a href="#">“A3-17” on page 483</a>
A3-18	0xA312	Overcurrent stall suppression action current	50% to 200%	150	%	Changeable only at stop	<a href="#">“A3-18” on page 483</a>
A3-19	0xA313	Overcurrent stall suppression	0: Disabled 1: Enabled	1	-	Changeable only at stop	<a href="#">“A3-19” on page 484</a>
A3-20	0xA314	Overcurrent stall suppression gain	1 to 100	20	-	Changeable at any time	<a href="#">“A3-20” on page 484</a>
A3-21	0xA315	Compensation coefficient of speed multiplying overcurrent stall suppression action current	50% to 200%	100	%	Changeable only at stop	<a href="#">“A3-21” on page 484</a>
A3-22	0xA316	Overvoltage stall suppression action voltage	330.0 V to 800.0 V	770.0	V	Changeable at any time	<a href="#">“A3-22” on page 484</a>
A3-23	0xA317	Overvoltage stall suppression	0: Disabled 1: Enabled	1	-	Changeable only at stop	<a href="#">“A3-23” on page 484</a>
A3-24	0xA318	Overvoltage stall suppression frequency gain	1 to 100	30	-	Changeable at any time	<a href="#">“A3-24” on page 485</a>
A3-25	0xA319	Overvoltage stall suppression voltage gain	1 to 100	30	-	Changeable at any time	<a href="#">“A3-25” on page 485</a>
A3-26	0xA31A	Frequency rise threshold for overvoltage stall suppression	0 Hz to 50 Hz	5	Hz	Changeable only at stop	<a href="#">“A3-26” on page 485</a>
A3-27	0xA31B	Slip compensation filter time	0.1s to 10.0s	0.5	s	Changeable only at stop	<a href="#">“A3-27” on page 485</a>
A3-28	0xA31C	Multi-point curve source	0: 3-point curve 1: Multi-point curve module A 2: Multi-point curve module B	0	-	Changeable only at stop	<a href="#">“A3-28” on page 485</a>
A3-33	0xA321	Online torque compensation gain	80 to 150	100	-	Changeable only at stop	<a href="#">“A3-33” on page 486</a>
A3-34	0xA322	ImaxKi coefficient	10% to 1000%	100	%	Changeable only at stop	<a href="#">“A3-34” on page 486</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
A3-35	0xA323	Overcurrent suppression threshold (relative to rated motor current)	80% to 300%	200	%	Changeable only at stop	<a href="#">“A3-35” on page 486</a>
A3-36	0xA324	Frequency threshold for overcurrent suppression field weakening	100% to 500%	100	%	Changeable only at stop	<a href="#">“A3-36” on page 486</a>
A3-37	0xA325	IT filter time	10 ms to 1000 ms	100	ms	Changeable only at stop	<a href="#">“A3-37” on page 487</a>
A3-38	0xA326	Slip compensation mode	0: Disabled 1: Slip compensation without PG 2: Slip compensation with PG	1	-	Changeable only at stop	<a href="#">“A3-38” on page 487</a>
A3-39	0xA327	VdcMaxCtrl allowed runtime	0.0s to 100.0s	0.0	s	Changeable only at stop	<a href="#">“A3-39” on page 487</a>
A3-40	0xA328	Upper limit of V/f separation voltage	50.0% to 200.0%	100.0	%	Changeable only at stop	<a href="#">“A3-40” on page 487</a>
A3-41	0xA329	RFG time of V/f separation frequency	0: RFG time forced to 0 1: Preset RFG time	0	-	Changeable only at stop	<a href="#">“A3-41” on page 487</a>
A3-42	0xA32A	Cut-off frequency of V/f oscillation suppression filter	1.0 Hz to 50.0 Hz	8.0	Hz	Changeable at any time	<a href="#">“A3-42” on page 488</a>
A3-43	0xA32B	Cut-off frequency threshold for V/f oscillation suppression	10 Hz to 3000 Hz	200	Hz	Changeable at any time	<a href="#">“A3-43” on page 488</a>
A3-44	0xA32C	VdcMaxCtrl feedforward coefficient	0% to 500%	0	%	Changeable at any time	<a href="#">“A3-44” on page 488</a>
A3-50	0xA332	PMVVC low-speed IF	0: Disabled 1: Enabled	1	-	Changeable only at stop	<a href="#">“A3-50” on page 488</a>
A3-51	0xA333	PMVVC low-speed IF current	30 to 250	100	-	Changeable only at stop	<a href="#">“A3-51” on page 488</a>
A3-52	0xA334	PMVVC low-speed IF speed switching threshold	2.0% to 100.0%	10.0	%	Changeable only at stop	<a href="#">“A3-52” on page 489</a>
A3-53	0xA335	PMVVC oscillation suppression gain coefficient	0 to 500	100	-	Changeable at any time	<a href="#">“A3-53” on page 489</a>
A3-54	0xA336	PMVVC filter time coefficient	0 to 500	100	-	Changeable at any time	<a href="#">“A3-54” on page 489</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
A3-55	0xA337	PMVVC energy conservation control mode	0: Fixed straight-line V/f curve 1: Fixed 30% reactive current 2: MTPA control	2	-	Changeable only at stop	<a href="#">“A3-55” on page 489</a>
A4-00	0xA400	Control channel	0: Control channel 1 1: Control channel 2	0	-	Changeable at any time	<a href="#">“A4-00” on page 490</a>
A4-01	0xA401	Custom OFF1 source	0: Inactive 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector	0	-	Changeable at any time	<a href="#">“A4-01” on page 490</a>
A4-02	0xA402	Custom OFF2 source 1	0: Active 1: Inactive 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector	1	-	Changeable at any time	<a href="#">“A4-02” on page 490</a>
A4-03	0xA403	Custom OFF3 source 1	Same as A4-02	1	-	Changeable at any time	<a href="#">“A4-03” on page 491</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
A4-04	0xA404	Custom running permission source	0: Not permitted 1: Permitted 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector	1	-	Changeable at any time	<a href="#">“A4-04” on page 491</a>
A4-05	0xA405	Custom fault reset source 1	0: Inactive 1: Active 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector	0	-	Changeable at any time	<a href="#">“A4-05” on page 492</a>
A4-06	0xA406	Custom JOG1 source	Same as A4-01	0	-	Changeable at any time	<a href="#">“A4-06” on page 493</a>
A4-07	0xA407	Custom JOG2 source	Same as A4-01	0	-	Changeable at any time	<a href="#">“A4-07” on page 493</a>
A4-08	0xA408	Custom speed negation source	Same as A4-05	0	-	Changeable at any time	<a href="#">“A4-08” on page 493</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
A4-10	0xA40A	OFF2 source 2	0: Active 1: Inactive 2: Terminal function input 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector	1	-	Changeable at any time	<a href="#">“A4-10” on page 493</a>
A4-11	0xA40B	OFF2 source 3	Same as A4-02	1	-	Changeable at any time	<a href="#">“A4-11” on page 494</a>
A4-12	0xA40C	OFF3 source 2	Same as A4-10	1	-	Changeable at any time	<a href="#">“A4-12” on page 494</a>
A4-13	0xA40D	OFF3 source 3	Same as A4-02	1	-	Changeable at any time	<a href="#">“A4-13” on page 494</a>
A4-14	0xA40E	Fault reset source 2	Same as A4-10	0	-	Changeable at any time	<a href="#">“A4-14” on page 495</a>
A4-15	0xA40F	Fault reset source 3	0: Inactive 1: Active 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector	0	-	Changeable at any time	<a href="#">“A4-15” on page 495</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
A4-16	0xA410	RFG prohibition source	Same as A4-02	1	-	Changeable at any time	<a href="#">“A4-16” on page 496</a>
A4-17	0xA411	RFG pause source	Same as A4-10	1	-	Changeable at any time	<a href="#">“A4-17” on page 496</a>
A4-18	0xA412	Source of setting RFG reference to 0	Same as A4-10	1	-	Changeable at any time	<a href="#">“A4-18” on page 496</a>
A4-21	0xA415	Custom OFF1 source	Same as A4-01	0	-	Changeable at any time	<a href="#">“A4-21” on page 496</a>
A4-22	0xA416	Custom OFF2 source 1	Same as A4-02	1	-	Changeable at any time	<a href="#">“A4-22” on page 496</a>
A4-23	0xA417	Custom OFF3 source 1	Same as A4-02	1	-	Changeable at any time	<a href="#">“A4-23” on page 497</a>
A4-24	0xA418	Custom running permission source	A4-04	1	-	Changeable at any time	<a href="#">“A4-24” on page 497</a>
A4-25	0xA419	Custom fault reset source 1	Same as A4-01	0	-	Changeable at any time	<a href="#">“A4-25” on page 497</a>
A4-26	0xA41A	Custom JOG1 source	Same as A4-01	0	-	Changeable at any time	<a href="#">“A4-26” on page 497</a>
A4-27	0xA41B	Custom JOG2 source	Same as A4-01	0	-	Changeable at any time	<a href="#">“A4-27” on page 497</a>
A4-28	0xA41C	Custom speed negation source	0: Inactive 1: Active 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector	0	-	Changeable at any time	<a href="#">“A4-28” on page 498</a>
A4-30	0xA41E	OFF2 source 2	Same as A4-10	1	-	Changeable at any time	<a href="#">“A4-30” on page 498</a>
A4-31	0xA41F	OFF2 source 3	Same as A4-02	1	-	Changeable at any time	<a href="#">“A4-31” on page 498</a>
A4-32	0xA420	OFF3 source 2	Same as A4-10	1	-	Changeable at any time	<a href="#">“A4-32” on page 499</a>



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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
A4-33	0xA421	OFF3 source 3	Same as A4-02	1	-	Changeable at any time	<a href="#">“A4-33” on page 499</a>
A4-34	0xA422	Fault reset source 2	Same as A4-10	0	-	Changeable at any time	<a href="#">“A4-34” on page 499</a>
A4-35	0xA423	Fault reset source 3	A4-15	0	-	Changeable at any time	<a href="#">“A4-35” on page 499</a>
A4-36	0xA424	RFG prohibition source	Same as A4-02	1	-	Changeable at any time	<a href="#">“A4-36” on page 500</a>
A4-37	0xA425	RFG pause source	Same as A4-10	1	-	Changeable at any time	<a href="#">“A4-37” on page 500</a>
A4-38	0xA426	Source of setting RFG reference to 0	Same as A4-10	1	-	Changeable at any time	<a href="#">“A4-38” on page 500</a>
A4-41	0xA429	Terminal start/stop module A/B	0: Module A 1: Module B	0	-	Changeable at any time	<a href="#">“A4-41” on page 500</a>
A4-43	0xA42B	Input 1 of terminal start/stop module A	0: Active 2: Terminal function input 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector	2	-	Changeable at any time	<a href="#">“A4-43” on page 500</a>
A4-44	0xA42C	Input 2 of terminal start/stop command A	A4-43	2	-	Changeable at any time	<a href="#">“A4-44” on page 501</a>
A4-45	0xA42D	Input 3 of terminal start/stop command A	A4-43	2	-	Changeable at any time	<a href="#">“A4-45” on page 501</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
A4-46	0xA42E	Running permission source of terminal start/stop module A	0: Inactive 1: Active 2: Terminal function input 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector	1	-	Changeable at any time	<a href="#">“A4-46” on page 501</a>
A4-47	0xA42F	Fault reset source of terminal start/stop module A	A4-46	0	-	Changeable at any time	<a href="#">“A4-47” on page 502</a>
A4-48	0xA430	JOG1 source of terminal start/stop module A	A4-43	2	-	Changeable at any time	<a href="#">“A4-48” on page 502</a>
A4-49	0xA431	JOG2 source of terminal start/stop module A	A4-43	2	-	Changeable at any time	<a href="#">“A4-49” on page 502</a>
A4-50	0xA432	Control mode of terminal start/stop module B	0: Two-wire mode 1 1: Two-wire mode 2 2: Three-wire mode 1 3: Three-wire mode 2	0	-	Changeable at any time	<a href="#">“A4-50” on page 503</a>
A4-51	0xA433	Input 1 of terminal start/stop module B	A4-43	2	-	Changeable at any time	<a href="#">“A4-51” on page 503</a>
A4-52	0xA434	Input 2 of terminal start/stop command B	A4-43	2	-	Changeable at any time	<a href="#">“A4-52” on page 503</a>
A4-53	0xA435	Input 3 of terminal start/stop command B	A4-43	2	-	Changeable at any time	<a href="#">“A4-53” on page 503</a>
A4-54	0xA436	Running permission source of terminal start/stop module B	A4-46	1	-	Changeable at any time	<a href="#">“A4-54” on page 503</a>
A4-55	0xA437	Fault reset source of terminal start/stop module B	A4-46	2	-	Changeable at any time	<a href="#">“A4-55” on page 504</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
A4-56	0xA438	JOG1 source of terminal start/stop module B	A4-43	2	-	Changeable at any time	<a href="#">"A4-56" on page 504</a>
A4-57	0xA439	JOG2 source of terminal start/stop module B	A4-43	2	-	Changeable at any time	<a href="#">"A4-57" on page 504</a>
A4-58	0xA43A	Reserved	0 to 65535	0	-	Changeable at any time	<a href="#">"A4-58" on page 504</a>
A4-59	0xA43B	Reserved	0 to 65535	0	-	Changeable at any time	<a href="#">"A4-59" on page 504</a>
A4-60	0xA43C	Reserved	0 to 65535	0	-	Changeable at any time	<a href="#">"A4-60" on page 505</a>
A4-61	0xA43D	Source of supplementary speed in speed control	0: 0 1: AI1 2: AI2 3: AI3 4: Pulse reference 5: Communication 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable at any time	<a href="#">"A4-61" on page 505</a>
A4-62	0xA43E	JOG1 speed source	0: Digital setting 1: AI1 2: AI2 3: AI3 4: Pulse reference 5: Communication 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable at any time	<a href="#">"A4-62" on page 505</a>
A4-65	0xA441	Ramp rounding mode	0: Incontinuous smoothing 1: Continuous smoothing	0	-	Changeable at any time	<a href="#">"A4-65" on page 506</a>
A4-66	0xA442	Jog ramp source	0: Normal running ramp time 1: Jog ramp time	1	-	Changeable at any time	<a href="#">"A4-66" on page 506</a>
A4-67	0xA443	Proportion of starting arc in acceleration	0.0% to +100.0%	30.0	%	Changeable only at stop	<a href="#">"A4-67" on page 506</a>
A4-68	0xA444	Proportion of end arc in acceleration	0.0% to +100.0%	30.0	%	Changeable only at stop	<a href="#">"A4-68" on page 506</a>
A4-69	0xA445	Proportion of starting arc in deceleration	0.0% to +100.0%	30.0	%	Changeable only at stop	<a href="#">"A4-69" on page 507</a>
A4-70	0xA446	Proportion of end arc in deceleration	0.0% to +100.0%	30.0	%	Changeable only at stop	<a href="#">"A4-70" on page 507</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
A4-71	0xA447	Ramp output forcing enable	0: Disabled 1: Enabled 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector	0	-	Changeable at any time	<a href="#">“A4-71” on page 507</a>
A4-72	0xA448	Ramp output force value	0: 100% 1: AI1 2: AI2 3: AI3 4: Pulse reference 5: Communication 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable at any time	<a href="#">“A4-72” on page 508</a>
A4-73	0xA449	Ramp input ramp shift enable	Same as A4-71	0	-	Changeable at any time	<a href="#">“A4-73” on page 508</a>
A4-74	0xA44A	Ramp input update interval	2 ms to 10000 ms	50	ms	Changeable at any time	<a href="#">“A4-74” on page 508</a>
A4-75	0xA44B	Ramp tracking enable	0: Disabled 1: Enabled	0	-	Changeable at any time	<a href="#">“A4-75” on page 508</a>
A4-76	0xA44C	Ramp tracking error	0.0% to +100.0%	10.0	%	Changeable at any time	<a href="#">“A4-76” on page 509</a>
A4-77	0xA44D	Frequency acceleration time in torque control	0.0s to 6500.0s	0.0	s	Changeable at any time	<a href="#">“A4-77” on page 509</a>
A4-78	0xA44E	Frequency deceleration time in torque control	0.0s to 6500.0s	0.0	s	Changeable at any time	<a href="#">“A4-78” on page 509</a>
A4-79	0xA44F	Forced use of the fourth set of time in torque control	0 to 1	1	-	Changeable at any time	<a href="#">“A4-79” on page 509</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
A4-80	0xA450	Speed limited running mode	0: Run with a maximum speed limit 1: Run at a specified safe speed	1	-	Changeable at any time	<a href="#">“A4-80” on page 509</a>
A4-81	0xA451	Forward speed limit in restricted running mode	0.0% to +100.0%	100.0	%	Changeable at any time	<a href="#">“A4-81” on page 510</a>
A4-82	0xA452	Reverse speed limit in restricted running mode	0.0% to +100.0%	100.0	%	Changeable at any time	<a href="#">“A4-82” on page 510</a>
A4-83	0xA453	Maximum motoring power in restricted running mode	0.0% to 400.0%	50.0	%	Changeable at any time	<a href="#">“A4-83” on page 510</a>
A4-84	0xA454	Maximum regenerative power in restricted running mode	0.0% to 400.0%	50.0	%	Changeable at any time	<a href="#">“A4-84” on page 510</a>
A4-85	0xA455	Forward torque limit in restricted running mode	0.0% to 400.0%	50.0	%	Changeable at any time	<a href="#">“A4-85” on page 510</a>
A4-86	0xA456	Reverse torque limit in restricted running mode	0.0% to 400.0%	50.0	%	Changeable at any time	<a href="#">“A4-86” on page 511</a>
A4-87	0xA457	Maximum allowable current in restricted running mode	0.0% to 400.0%	90.0	%	Changeable at any time	<a href="#">“A4-87” on page 511</a>
A5-00	0xA500	DPWM switchover frequency upper limit	5.00 Hz to F0-10	15.00	Hz	Changeable at any time	<a href="#">“A5-00” on page 511</a>
A5-01	0xA501	PWM modulation mode	0: Asynchronous modulation 1: Synchronous modulation	0	-	Changeable at any time	<a href="#">“A5-01” on page 511</a>
A5-02	0xA502	Deadzone compensation	0: Disabled 1: Enabled (compensation mode 1)	1	-	Changeable at any time	<a href="#">“A5-02” on page 512</a>
A5-03	0xA503	Random PWM depth	0 to 10	0	-	Changeable at any time	<a href="#">“A5-03” on page 512</a>
A5-04	0xA504	Pulse-by-pulse current limit protection	0: Disabled 1: Enabled	0	-	Changeable at any time	<a href="#">“A5-04” on page 512</a>
A5-05	0xA505	Voltage overmodulation coefficient	100% to 110%	105	%	Changeable at any time	<a href="#">“A5-05” on page 512</a>
A5-06	0xA506	Undervoltage threshold	140.0 V to 420.0 V	350.0	V	Changeable at any time	<a href="#">“A5-06” on page 513</a>
A5-08	0xA508	Low speed carrier frequency upper limit	0.0 kHz to 8.0 kHz	0.0	kHz	Changeable at any time	<a href="#">“A5-08” on page 513</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
A5-09	0xA509	Overvoltage threshold	330.0 V to 820.0 V	820.0	V	Changeable at any time	<a href="#">“A5-09” on page 513</a>
A5-10	0xA50A	Energy conservation control	0: Disabled 1: Enabled	0	-	Changeable at any time	<a href="#">“A5-10” on page 513</a>
A6-00	0xA600	Minimum input of AI curve 4	-10 V to A6-02	0.00	V	Changeable at any time	<a href="#">“A6-00” on page 513</a>
A6-01	0xA601	Percentage corresponding to minimum input of AI curve 4	-100% to +100.0%	0.0	%	Changeable at any time	<a href="#">“A6-01” on page 514</a>
A6-02	0xA602	Inflection 1 input of AI curve 4	A6-00 to A6-04	3.00	V	Changeable at any time	<a href="#">“A6-02” on page 514</a>
A6-03	0xA603	Percentage corresponding to inflection 1 input of AI curve 4	-100% to +100.0%	30.0	%	Changeable at any time	<a href="#">“A6-03” on page 514</a>
A6-04	0xA604	Inflection 2 input of AI curve 4	A6-02 to A6-06	6.00	V	Changeable at any time	<a href="#">“A6-04” on page 514</a>
A6-05	0xA605	Percentage corresponding to inflection 2 input of AI curve 4	-100% to +100.0%	60.0	%	Changeable at any time	<a href="#">“A6-05” on page 514</a>
A6-06	0xA606	Maximum input of AI curve 4	A6-04 to 10.00 V	10.00	V	Changeable at any time	<a href="#">“A6-06” on page 515</a>
A6-07	0xA607	Percentage corresponding to maximum input of AI curve 4	-100% to +100.0%	100.0	%	Changeable at any time	<a href="#">“A6-07” on page 515</a>
A6-08	0xA608	Minimum input of AI curve 5	-10 V to A6-10	-10	V	Changeable at any time	<a href="#">“A6-08” on page 515</a>
A6-09	0xA609	Percentage corresponding to minimum input of AI curve 5	-100% to +100.0%	-100	%	Changeable at any time	<a href="#">“A6-09” on page 515</a>
A6-10	0xA60A	Inflection 1 input of AI curve 5	A6-08 to A6-12	-3	V	Changeable at any time	<a href="#">“A6-10” on page 515</a>
A6-11	0xA60B	Percentage corresponding to inflection 1 input of AI curve 5	-100% to +100.0%	-30	%	Changeable at any time	<a href="#">“A6-11” on page 516</a>
A6-12	0xA60C	Inflection 2 input of AI curve 5	A6-10 to A6-14	3.00	V	Changeable at any time	<a href="#">“A6-12” on page 516</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
A6-13	0xA60D	Percentage corresponding to inflection 2 input of AI curve 5	-100% to +100.0%	30.0	%	Changeable at any time	<a href="#">“A6-13” on page 516</a>
A6-14	0xA60E	Maximum input of AI curve 5	A6-12 to 10.00	10.00	V	Changeable at any time	<a href="#">“A6-14” on page 516</a>
A6-15	0xA60F	Percentage corresponding to maximum input of AI curve 5	-100% to +100.0%	100.0	%	Changeable at any time	<a href="#">“A6-15” on page 516</a>
A6-24	0xA618	AI1 skip point	-100% to +100.0%	0.0	%	Changeable at any time	<a href="#">“A6-24” on page 517</a>
A6-25	0xA619	AI1 skip amplitude	0.0% to +100.0%	0.1	%	Changeable at any time	<a href="#">“A6-25” on page 517</a>
A6-26	0xA61A	AI2 skip point	-100% to +100.0%	0.0	%	Changeable at any time	<a href="#">“A6-26” on page 517</a>
A6-27	0xA61B	AI2 skip amplitude	0.0% to +100.0%	0.1	%	Changeable at any time	<a href="#">“A6-27” on page 517</a>
A6-28	0xA61C	AI3 skip point	-100% to +100.0%	0.0	%	Changeable at any time	<a href="#">“A6-28” on page 517</a>
A6-29	0xA61D	AI3 skip amplitude	0.0% to +100.0%	0.1	%	Changeable at any time	<a href="#">“A6-29” on page 517</a>
A6-30	0xA61E	AI automatic curve calibration	Ones: Point selection (for setting) 0: Disabled 1: Point 1 2: Point 2 3: Point 3 4: Point 4 Tens: AI channel selection (for setting) 0: Disabled 1: AI1 2: AI2 3: AI3 Hundreds: Enable control (for setting) 0: Disabled 1: Enabled Thousands: X-point curve (for display) 0: The function is disabled or the channel is not selected. 2: 2-point curve 4: 4-point curve Ten thousands: Reserved	0	-	Changeable at any time	<a href="#">“A6-30” on page 518</a>
A6-31	0xA61F	AI1 input enable	0: Disabled 1: Enabled Others: B connector	1	-	Changeable at any time	<a href="#">“A6-31” on page 518</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
A6-32	0xA620	AI2 input enable	0: Disabled 1: Enabled Others: B connector	1	-	Changeable at any time	<a href="#">“A6-32” on page 519</a>
A6-33	0xA621	AI3 input enable	0: Disabled 1: Enabled Others: B connector	1	-	Changeable at any time	<a href="#">“A6-33” on page 519</a>
A6-34	0xA622	AI polarity	Ones: AI1 0: Normal 1: Absolute value 2: Negated value 3: Negated absolute value Tens: AI2 0: Normal 1: Absolute value 2: Negated value 3: Negated absolute value Hundreds: AI3 0: Normal 1: Absolute value 2: Negated value 3: Negated absolute value	0	-	Changeable at any time	<a href="#">“A6-34” on page 519</a>
A6-35	0xA623	AI hardware source	Ones: AI1 source 1: Hardware sampling 1: Force setpoint Tens: AI2 source 1: Hardware sampling 1: Force setpoint Hundreds: AI3 source 1: Hardware sampling 1: Force setpoint	0	-	Changeable only at stop	<a href="#">“A6-35” on page 519</a>
A6-36	0xA624	AI1 force setpoint	-10 V to +10.00 V	0.00	V	Changeable at any time	<a href="#">“A6-36” on page 520</a>
A6-37	0xA625	AI2 force setpoint	-10 V to +10.00 V	0.00	V	Changeable at any time	<a href="#">“A6-37” on page 520</a>
A6-38	0xA626	AI3 force setpoint	-10 V to +10.00 V	0.00	V	Changeable at any time	<a href="#">“A6-38” on page 520</a>
A6-39	0xA627	High level for AI used as DI	5.5 V to 9.0 V	7.0	V	Changeable at any time	<a href="#">“A6-39” on page 520</a>
A6-40	0xA628	Low level for AI used as DI	1.0 V to 4.5 V	3.0	V	Changeable at any time	<a href="#">“A6-40” on page 521</a>
A6-41	0xA629	AI1 gain	-10 to +10.00	1.00	-	Changeable at any time	<a href="#">“A6-41” on page 521</a>
A6-42	0xA62A	AI1 offset	-10 V to +10.00 V	0.00	V	Changeable at any time	<a href="#">“A6-42” on page 521</a>
A6-43	0xA62B	AI1 denoising threshold	0.0% to +100.0%	0.5	%	Changeable at any time	<a href="#">“A6-43” on page 521</a>



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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
A6-44	0xA62C	AI1 deadzone width	0.0% to +100.0%	0.5	%	Changeable at any time	<a href="#">“A6-44” on page 521</a>
A6-45	0xA62D	AI1 input upper limit	A6-46 to 10.00 V	8.00	V	Changeable at any time	<a href="#">“A6-45” on page 522</a>
A6-46	0xA62E	AI1 input lower limit	0.00 V to A6-45	2.00	V	Changeable at any time	<a href="#">“A6-46” on page 522</a>
A6-47	0xA62F	AI2 gain	-10 to +10.00	1.00	-	Changeable at any time	<a href="#">“A6-47” on page 522</a>
A6-48	0xA630	AI2 offset	-10 V to +10.00 V	0.00	V	Changeable at any time	<a href="#">“A6-48” on page 522</a>
A6-49	0xA631	AI2 denoising threshold	0.0% to +100.0%	0.5	%	Changeable at any time	<a href="#">“A6-49” on page 522</a>
A6-50	0xA632	AI2 deadzone width	0.0% to +100.0%	0.5	%	Changeable at any time	<a href="#">“A6-50” on page 523</a>
A6-51	0xA633	AI2 input upper limit	A6-52 to 10.00 V	8.00	V	Changeable at any time	<a href="#">“A6-51” on page 523</a>
A6-52	0xA634	AI2 input lower limit	0.00 V to A6-51	2.00	V	Changeable at any time	<a href="#">“A6-52” on page 523</a>
A6-53	0xA635	AI3 gain	-10 to +10.00	1.00	-	Changeable at any time	<a href="#">“A6-53” on page 523</a>
A6-54	0xA636	AI3 offset	-10 V to +10.00 V	0.00	V	Changeable at any time	<a href="#">“A6-54” on page 523</a>
A6-55	0xA637	AI3 denoising threshold	0.0% to +100.0%	0.5	%	Changeable at any time	<a href="#">“A6-55” on page 523</a>
A6-56	0xA638	AI3 deadzone width	0.0% to +100.0%	0.5	%	Changeable at any time	<a href="#">“A6-56” on page 524</a>
A6-57	0xA639	AI3 input upper limit	A6-58 to 10.00 V	8.00	V	Changeable at any time	<a href="#">“A6-57” on page 524</a>
A6-58	0xA63A	AI3 input lower limit	0.00 V to A6-57	2.00	V	Changeable at any time	<a href="#">“A6-58” on page 524</a>
A6-59	0xA63B	AI input protection time	0.00s to 1.00s	0.01	s	Changeable at any time	<a href="#">“A6-59” on page 524</a>
A8-00	0xA800	Master/Slave control function	0: Disabled 1: Enabled	0	-	Changeable at any time	<a href="#">“A8-00” on page 525</a>
A8-01	0xA801	Master/Slave selection	0: Master 1: Slave	0	-	Changeable at any time	<a href="#">“A8-01” on page 525</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
A8-02	0xA802	Slave following master's command	Ones: Whether the slave follows the operation command of the master 0: No 1: Yes Tens: Whether the slave fault information is transmitted 0: No 1: Yes Hundreds: Whether the master reports a fault (ERR-16) upon disconnection of the slave 0: No 1: Yes	11	-	Changeable only at stop	<a href="#">"A8-02" on page 525</a>
A8-03	0xA803	Function of slave RX data	0: Running frequency 1: Target frequency	0	-	Changeable at any time	<a href="#">"A8-03" on page 525</a>
A8-04	0xA804	RX data zero offset	-100% to +100.00%	0.00	%	Changeable at any time	<a href="#">"A8-04" on page 526</a>
A8-05	0xA805	RX data gain	-10% to +100.00%	1.00	%	Changeable at any time	<a href="#">"A8-05" on page 526</a>
A8-06	0xA806	Master-slave communication heartbeat time	0.0s to 10.0s	1.0	s	Changeable at any time	<a href="#">"A8-06" on page 526</a>
A8-07	0xA807	Master data TX cycle in point-to-point communication	0.001s to 10.000s	0.001	s	Changeable at any time	<a href="#">"A8-07" on page 526</a>
A8-08	0xA808	Zero offset of RX frequency data	-10000 to +10000	0	-	Changeable at any time	<a href="#">"A8-08" on page 526</a>
A8-09	0xA809	Gain of RX frequency data	-1000 to +1000	100	-	Changeable at any time	<a href="#">"A8-09" on page 527</a>
A8-10	0xA80A	Maximum forward deviation of slave frequency	0 to 10000	1000	-	Changeable at any time	<a href="#">"A8-10" on page 527</a>
A8-11	0xA80B	Maximum reverse deviation of slave frequency	0.20 Hz to 10.00 Hz	0.50	Hz	Changeable at any time	<a href="#">"A8-11" on page 527</a>
A9-00	0xA900	Number of parallel motors	1 to 200	1	-	Changeable only at stop	<a href="#">"A9-00" on page 527</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
A9-01	0xA901	Motor information command word	Bit00: Mutual inductance curve 0: Disabled 1: Enabled Bit01: D- and Q-axis inductance curve 0: Disabled 1: Enabled Bit02: Rotor resistance online auto-tuning 0: Disabled 1: Enabled Bit03: Rotor resistance online auto-tuning method 0: Amplitude 1: Phase Bit04: Motor thermal model 0: Disabled 1: Enabled Bit05: Temperature source of motor thermal model 0: Estimated temperature 1: Temperature detected by sensor Bit06: Torque coefficient calculation of asynchronous motor 0: Torque formula 1: Current distribution Bit07: Torque coefficient calculation of synchronous motor 0: Torque formula 1: Torque matching the rated torque Bit08: Zero speed friction torque calculation 0: Torque linearly decreasing to zero 1: Torque to maintain minimum speed Bit09: Calculation of model parameters based on nameplate parameters 0: Disabled 1: Enabled Bit10: Confirmation of calculating model parameters based on nameplate parameters 0: Default 1: Confirm	0x3	-	Changeable only at stop	<a href="#">“A9-01” on page 527</a>
A9-02	0xA902	Number of motor pole pairs	0 to 64	0	-	Changeable only at stop	<a href="#">“A9-02” on page 528</a>
A9-03	0xA903	Motor power factor	0.600 to 1.000	0.860	-	Changeable only at stop	<a href="#">“A9-03” on page 529</a>
A9-05	0xA905	Expansion card	1: Expansion card 1 2: Expansion card 2	1	-	Changeable only at stop	<a href="#">“A9-05” on page 529</a>
A9-06	0xA906	ABZ encoder speed measurement mode at low speed	0: Maintain 1: Attenuate 2: Optimized solution	2	-	Changeable only at stop	<a href="#">“A9-06” on page 529</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
A9-07	0xA907	Encoder speed measurement filter time constant	0.000s to 10.000s	0.004	s	Changeable at any time	<a href="#">“A9-07” on page 529</a>
A9-08	0xA908	Encoder wire breakage software detection coefficient	0.000 to 8.000	1.000	-	Changeable at any time	<a href="#">“A9-08” on page 530</a>
A9-09	0xA909	Encoder control word	Bit00: Speed measurement 0: Disabled 1: Enabled Bit01: Software detection of wire breakage 0: Disabled 1: Enabled Bit02: Glitch removal 0: Disabled 1: Enabled Bit03: ABZ encoder speed measurement mode 0: Quadruplicated frequency 1: Single pulse	0	-	Changeable only at stop	<a href="#">“A9-09” on page 530</a>
A9-10	0xA90A	Speed measurement exception count threshold	1 to 100	10	-	Changeable only at stop	<a href="#">“A9-10” on page 531</a>
A9-11	0xA90B	Motor gear ratio (numerator)	1 to 65535	1	-	Changeable only at stop	<a href="#">“A9-11” on page 531</a>
A9-12	0xA90C	Motor gear ratio (denominator)	1 to 65535	1	-	Changeable only at stop	<a href="#">“A9-12” on page 531</a>
A9-13	0xA90D	External input source of encoder	0: 0 1: AI1 2: AI2 3: AI3 4: Pulse reference 5: Communication 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable only at stop	<a href="#">“A9-13” on page 531</a>
A9-15	0xA90F	Stator leakage inductance	0.000 mH to 65.535 mH	6.540	mH	Changeable only at stop	<a href="#">“A9-15” on page 532</a>
A9-16	0xA910	Electromechanical time constant	1 ms to 65535 ms	100	ms	Unchangeable	<a href="#">“A9-16” on page 532</a>
A9-17	0xA911	Inertia ratio	0.0% to 6553.5%	120.0	%	Changeable only at stop	<a href="#">“A9-17” on page 532</a>
A9-18	0xA912	Friction torque	0.0% to 6553.5%	2.0	%	Changeable only at stop	<a href="#">“A9-18” on page 532</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
A9-19	0xA913	Excitation current coefficient 1 of mutual inductance curve (rated)	5.0% to 100.0%	50.0	%	Changeable only at stop	<a href="#">“A9-19” on page 533</a>
A9-20	0xA914	Excitation current coefficient 2 of mutual inductance curve (rated)	5.0% to 100.0%	75.0	%	Changeable only at stop	<a href="#">“A9-20” on page 533</a>
A9-21	0xA915	Excitation current coefficient 3 of mutual inductance curve	100.0% to 800.0%	150.0	%	Changeable only at stop	<a href="#">“A9-21” on page 533</a>
A9-22	0xA916	Excitation current coefficient 4 of mutual inductance curve	100.0% to 800.0%	210.0	%	Changeable only at stop	<a href="#">“A9-22” on page 533</a>
A9-23	0xA917	Flux coefficient 1 of mutual inductance curve (rated)	10.0% to 100.0%	50.0	%	Changeable only at stop	<a href="#">“A9-23” on page 533</a>
A9-24	0xA918	Flux coefficient 2 of mutual inductance curve (rated)	10.0% to 100.0%	85.0	%	Changeable only at stop	<a href="#">“A9-24” on page 534</a>
A9-25	0xA919	Flux coefficient 3 of mutual inductance curve	100.0% to 300.0%	115.0	%	Changeable only at stop	<a href="#">“A9-25” on page 534</a>
A9-26	0xA91A	Flux coefficient 4 of mutual inductance curve	100.0% to 300.0%	125.0	%	Changeable only at stop	<a href="#">“A9-26” on page 534</a>
A9-27	0xA91B	Speed point 1 of friction curve	0 RPM to 30000 RPM	15	RPM	Changeable only at stop	<a href="#">“A9-27” on page 534</a>
A9-28	0xA91C	Speed point 2 of friction curve	0 RPM to 30000 RPM	30	RPM	Changeable only at stop	<a href="#">“A9-28” on page 534</a>
A9-29	0xA91D	Speed point 3 of friction curve	0 RPM to 30000 RPM	60	RPM	Changeable only at stop	<a href="#">“A9-29” on page 534</a>
A9-30	0xA91E	Speed point 4 of friction curve	0 RPM to 30000 RPM	120	RPM	Changeable only at stop	<a href="#">“A9-30” on page 535</a>
A9-31	0xA91F	Speed point 5 of friction curve	0 RPM to 30000 RPM	150	RPM	Changeable only at stop	<a href="#">“A9-31” on page 535</a>
A9-32	0xA920	Speed point 6 of friction curve	0 RPM to 30000 RPM	300	RPM	Changeable only at stop	<a href="#">“A9-32” on page 535</a>
A9-33	0xA921	Speed point 7 of friction curve	0 RPM to 30000 RPM	600	RPM	Changeable only at stop	<a href="#">“A9-33” on page 535</a>
A9-34	0xA922	Speed point 8 of friction curve	0 RPM to 30000 RPM	1200	RPM	Changeable only at stop	<a href="#">“A9-34” on page 535</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
A9-35	0xA923	Speed point 9 of friction curve	0 RPM to 30000 RPM	1500	RPM	Changeable only at stop	<a href="#">“A9-35” on page 536</a>
A9-36	0xA924	Speed point 10 of friction curve	0 RPM to 30000 RPM	3000	RPM	Changeable only at stop	<a href="#">“A9-36” on page 536</a>
A9-37	0xA925	Torque point 1 of friction curve	-320 N·m to +320 N·m	0.00	N·m	Changeable only at stop	<a href="#">“A9-37” on page 536</a>
A9-38	0xA926	Torque point 2 of friction curve	-320 N·m to +320 N·m	0.00	N·m	Changeable only at stop	<a href="#">“A9-38” on page 536</a>
A9-39	0xA927	Torque point 3 of friction curve	-320 N·m to +320 N·m	0.00	N·m	Changeable only at stop	<a href="#">“A9-39” on page 536</a>
A9-40	0xA928	Torque point 4 of friction curve	-320 N·m to +320 N·m	0.00	N·m	Changeable only at stop	<a href="#">“A9-40” on page 537</a>
A9-41	0xA929	Torque point 5 of friction curve	-320 N·m to +320 N·m	0.00	N·m	Changeable only at stop	<a href="#">“A9-41” on page 537</a>
A9-42	0xA92A	Torque point 6 of friction curve	-320 N·m to +320 N·m	0.00	N·m	Changeable only at stop	<a href="#">“A9-42” on page 537</a>
A9-43	0xA92B	Torque point 7 of friction curve	-320 N·m to +320 N·m	0.00	N·m	Changeable only at stop	<a href="#">“A9-43” on page 537</a>
A9-44	0xA92C	Torque point 8 of friction curve	-320 N·m to +320 N·m	0.00	N·m	Changeable only at stop	<a href="#">“A9-44” on page 537</a>
A9-45	0xA92D	Torque point 9 of friction curve	-320 N·m to +320 N·m	0.00	N·m	Changeable only at stop	<a href="#">“A9-45” on page 538</a>
A9-46	0xA92E	Torque point 10 of friction curve	-320 N·m to +320 N·m	0.00	N·m	Changeable only at stop	<a href="#">“A9-46” on page 538</a>
A9-47	0xA92F	Current coefficient starting point of D- and Q-axis inductance curve	-800% to +800.0%	-200	%	Changeable only at stop	<a href="#">“A9-47” on page 538</a>
A9-48	0xA930	Current coefficient end point of D- and Q-axis inductance curve	-800% to +800.0%	200.0	%	Changeable only at stop	<a href="#">“A9-48” on page 538</a>
A9-49	0xA931	D axis inductance 1 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“A9-49” on page 538</a>
A9-50	0xA932	D axis inductance 2 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“A9-50” on page 539</a>
A9-51	0xA933	D axis inductance 3 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“A9-51” on page 539</a>
A9-52	0xA934	D axis inductance 4 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“A9-52” on page 539</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
A9-53	0xA935	D axis inductance 5 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“ A9-53” on page 539</a>
A9-54	0xA936	D axis inductance 6 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“ A9-54” on page 539</a>
A9-55	0xA937	D axis inductance 7 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“ A9-55” on page 539</a>
A9-56	0xA938	D axis inductance 8 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“ A9-56” on page 540</a>
A9-57	0xA939	D axis inductance 9 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“ A9-57” on page 540</a>
A9-58	0xA93A	D axis inductance 10 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“ A9-58” on page 540</a>
A9-59	0xA93B	D axis inductance 11 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“ A9-59” on page 540</a>
A9-60	0xA93C	D axis inductance 12 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“ A9-60” on page 540</a>
A9-61	0xA93D	Q axis inductance 1 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“ A9-61” on page 541</a>
A9-62	0xA93E	Q axis inductance 2 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“ A9-62” on page 541</a>
A9-63	0xA93F	Q axis inductance 3 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“ A9-63” on page 541</a>
A9-64	0xA940	Q axis inductance 4 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“ A9-64” on page 541</a>
A9-65	0xA941	Q axis inductance 5 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“ A9-65” on page 541</a>
A9-66	0xA942	Q axis inductance 6 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“ A9-66” on page 542</a>
A9-67	0xA943	Q axis inductance 7 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“ A9-67” on page 542</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
A9-68	0xA944	Q axis inductance 8 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“A9-68” on page 542</a>
A9-69	0xA945	Q axis inductance 9 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“A9-69” on page 542</a>
A9-70	0xA946	Q axis inductance 10 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“A9-70” on page 542</a>
A9-71	0xA947	Q axis inductance 11 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“A9-71” on page 543</a>
A9-72	0xA948	Q axis inductance 12 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“A9-72” on page 543</a>
AA-00	0xAA00	Parameter auto-tuning upon startup	Bit00: Synchronous motor pole position auto-tuning upon startup 0: Disabled 1: Enabled Bit01: Quick stator resistance auto-tuning upon startup 0: Disabled 1: Enabled Bit02–Bit03: HFI pole position auto-tuning 0: Disabled 1: Enabled 2: Adaptive Bit04: IGBT shoot-through self-check upon startup 0: Disabled 1: Enabled Bit05: Short-to-ground self-check upon startup (reserved) 0: Disabled 1: Enabled Bit06: Phase loss self-check upon startup (reserved) 0: Disabled 1: Enabled	1	-	Changeable only at stop	<a href="#">“AA-00” on page 543</a>
AA-01	0xAA01	Auto-tuning direction	0 to 1	1	-	Changeable only at stop	<a href="#">“AA-01” on page 544</a>
AA-02	0xAA02	Oscillation suppression gain of synchronous motor back EMF auto-tuning	0.0 to 30.0	3.2	-	Changeable only at stop	<a href="#">“AA-02” on page 544</a>



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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
AA-03	0xAA03	Target speed of rotation auto-tuning	30.0% to 100.0%	70.0	%	Changeable only at stop	<a href="#">“AA-03” on page 544</a>
AA-04	0xAA04	Target speed 1 of inertia auto-tuning	0.0% to AA-05	40.0	%	Changeable only at stop	<a href="#">“AA-04” on page 545</a>
AA-05	0xAA05	Target speed 2 of inertia auto-tuning	AA-04 to 100.0%	60.0	%	Changeable only at stop	<a href="#">“AA-05” on page 545</a>
AA-06	0xAA06	Overcurrent prevention of mutual inductance saturation curve	0 to 1	1	-	Changeable only at stop	<a href="#">“AA-06” on page 545</a>
AA-07	0xAA07	Auto-tuning items	Bit00: Speed loop parameter adaptation 0: Disabled 1: Enabled Bit01: Current loop parameter adaptation 0: Disabled 1: Enabled Bit02: Drive nonlinear auto-tuning 0: Disabled 1: Enabled Bit03: Inter-phase deviation coefficient auto-tuning 0: Disabled 1: Enabled Bit04: Auto-tuning of initial pole position of synchronous motor 0: Disabled 1: Enabled Bit05: Auto-tuning of D- and Q-axis inductance model of synchronous motor 0: Disabled 1: Enabled Bit06: System inertia auto-tuning 0: Disabled 1: Enabled Bit07: HFI pole position auto-tuning 0: Disabled 1: Enabled	117	-	Changeable only at stop	<a href="#">“AA-07” on page 545</a>
AA-08	0xAA08	OFF3 stop mode	0: Quick stop 1: Stop at maximum capability	0	-	Changeable only at stop	<a href="#">“AA-08” on page 546</a>
AA-09	0xAA09	Stop mode during running	0: OFF1 stop mode 1: OFF2 stop mode 2: OFF3 stop mode	1	-	Changeable only at stop	<a href="#">“AA-09” on page 546</a>
AA-10	0xAA0A	Stop mode for torque control	0: Coast to stop forcibly 1: Switch to speed control mode and then stop 2: Maintain torque control mode until zero speed and then block	1	-	Changeable only at stop	<a href="#">“AA-10” on page 547</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
AA-12	0xAA0C	Proportional gain adjustment coefficient	0.1 to 2.0	1.0	-	Changeable at any time	<a href="#">“AA-12” on page 547</a>
AA-13	0xAA0D	Integral gain adjustment coefficient	0.1 to 2.0	1.0	-	Changeable at any time	<a href="#">“AA-13” on page 547</a>
AA-14	0xAA0E	Zero-speed threshold	0.1% to 200.0%	2.0	%	Changeable at any time	<a href="#">“AA-14” on page 547</a>
AA-15	0xAA0F	Zero-speed stop delay	0.00s to 10.00s	0.10	s	Changeable only at stop	<a href="#">“AA-15” on page 547</a>
AA-16	0xAA10	Reference source execution interval	0 to 20	4	-	Changeable only at stop	<a href="#">“AA-16” on page 548</a>
AA-17	0xAA11	Trial current for speed tracking of synchronous motor	5.0% to 50.0%	10.0	%	Changeable only at stop	<a href="#">“AA-17” on page 548</a>
AA-18	0xAA12	Minimum frequency for speed tracking of synchronous motor	0.0 Hz to 100.0 Hz	0.0	Hz	Changeable only at stop	<a href="#">“AA-18” on page 548</a>
AA-19	0xAA13	Angle compensation for speed tracking of synchronous motor	0 to 360	0	-	Changeable only at stop	<a href="#">“AA-19” on page 548</a>
AA-20	0xAA14	Parameter auto-tuning of synchronous motor upon startup	0 to 1	0	-	Changeable at any time	<a href="#">“AA-20” on page 548</a>
AA-21	0xAA15	Current motor angle	0 to 65535	0	-	Unchangeable	<a href="#">“AA-21” on page 549</a>
AA-22	0xAA16	Forward torque limit 1	0.0 to 400.0	150.0	-	Changeable at any time	<a href="#">“AA-22” on page 549</a>
AA-23	0xAA17	Reverse torque limit 1	0.0 to 400.0	150.0	-	Changeable at any time	<a href="#">“AA-23” on page 549</a>
AA-24	0xAA18	Source of forward torque limit 2	0: 400% Others: F connector	0	-	Changeable at any time	<a href="#">“AA-24” on page 549</a>
AA-25	0xAA19	Source of reverse torque limit 2	0: -400% Others: F connector	0	-	Changeable at any time	<a href="#">“AA-25” on page 549</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
AA-26	0xAA1A	Ramp (FRG) selection bit0	0: 0 1: 1 2: Terminal function input 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector	0	-	Changeable at any time	<a href="#">“AA-26” on page 550</a>
AA-27	0xAA1B	Ramp (FRG) selection bit1	Same as A4-26	0	-	Changeable at any time	<a href="#">“AA-27” on page 550</a>
AA-30	0xAA1E	Motor protection	Bit00: Motor overload determination (reserved) Bit01: Motor overheat detection (reserved) Bit02: PG fault detection (reserved) Bit03: Current control error detection Bit04: Motor stall error detection Bit05: Locked-rotor detection Bit06: Synchronous motor demagnetization protection Bit07: Protection against locked-rotor in SVC speed open-loop control Bit08: Reserved Bit09: Parameter setting error	537	-	Changeable at any time	<a href="#">“AA-30” on page 550</a>
AA-31	0xAA1F	Locked-rotor time	0.0s to 65.0s	2.0	s	Changeable at any time	<a href="#">“AA-31” on page 551</a>
AA-32	0xAA20	Locked-rotor frequency	0.0% to 600.0%	6.0	%	Changeable at any time	<a href="#">“AA-32” on page 551</a>
AA-33	0xAA21	Motor stall detection time	0.0s to 10.0s	0.5	s	Changeable at any time	<a href="#">“AA-33” on page 551</a>
AA-34	0xAA22	Stall detection threshold	0.0% to +100.0%	30.0	%	Changeable at any time	<a href="#">“AA-34” on page 551</a>
AA-35	0xAA23	Current control exception detection time	0.00s to 1.00s	0.05	s	Changeable at any time	<a href="#">“AA-35” on page 552</a>
AA-36	0xAA24	Current control exception detection threshold	0.0% to 200.0%	25.0	%	Changeable at any time	<a href="#">“AA-36” on page 552</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
AA-37	0xAA25	Synchronous motor overcurrent threshold	0.0% to 500.0%	300.0	%	Changeable at any time	<a href="#">“AA-37” on page 552</a>
AA-39	0xAA27	Speed deviation detection	0 to 1	1	-	Changeable at any time	<a href="#">“AA-39” on page 552</a>
AA-40	0xAA28	Asynchronous motor FVC model switchover frequency	0% to 1000%	20	%	Changeable only at stop	<a href="#">“AA-40” on page 552</a>
AA-41	0xAA29	Asynchronous motor FVC model switchover hysteresis frequency	10% to 50%	20	%	Changeable only at stop	<a href="#">“AA-41” on page 553</a>
AA-42	0xAA2A	Asynchronous motor FVC observer filter time	5 ms to 100 ms	15	ms	Changeable only at stop	<a href="#">“AA-42” on page 553</a>
AA-43	0xAA2B	Asynchronous motor FVC current model mode	0 to 1	0	-	Changeable only at stop	<a href="#">“AA-43” on page 553</a>
AA-44	0xAA2C	Asynchronous motor FVC pre-excitation output observation angle mode	0 to 1	0	-	Changeable only at stop	<a href="#">“AA-44” on page 553</a>
AA-45	0xAA2D	Asynchronous motor SVC model switchover frequency	10% to 20%	15	%	Changeable only at stop	<a href="#">“AA-45” on page 553</a>
AA-46	0xAA2E	Asynchronous motor SVC observer filter time	5 ms to 50 ms	10	ms	Changeable at any time	<a href="#">“AA-46” on page 553</a>
AA-47	0xAA2F	Asynchronous motor SVC observer gain 1	10% to 500%	100	%	Changeable at any time	<a href="#">“AA-47” on page 554</a>
AA-48	0xAA30	Asynchronous motor SVC observer gain 2	10% to 100%	20	%	Changeable at any time	<a href="#">“AA-48” on page 554</a>
AA-49	0xAA31	Asynchronous motor SVC observer mode	0 to 3	0	-	Changeable only at stop	<a href="#">“AA-49” on page 554</a>
AA-50	0xAA32	Asynchronous motor SVC pre-excitation mode	0 to 1	0	-	Changeable only at stop	<a href="#">“AA-50” on page 554</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
AA-51	0xAA33	Asynchronous motor SVC speed tracking mode	0 to 1	0	-	Changeable only at stop	<a href="#">“AA-51” on page 554</a>
AA-54	0xAA36	Synchronous motor 1 model control	Bit00: Low speed processing Bit01: Low speed processing 1 Bit02: Online auto-tuning of resistance Bit03: Online auto-tuning of back EMF Bit04: KS	5	-	Changeable at any time	<a href="#">“AA-54” on page 555</a>
AA-55	0xAA37	Synchronous motor model K1	10 to 3000	200	-	Changeable at any time	<a href="#">“AA-55” on page 555</a>
AA-56	0xAA38	Synchronous motor model K1Max	100 to 6000	3000	-	Changeable at any time	<a href="#">“AA-56” on page 555</a>
AA-57	0xAA39	Synchronous motor model KsMin	0.0 to 4.0	0.3	-	Changeable at any time	<a href="#">“AA-57” on page 555</a>
AA-58	0xAA3A	Synchronous motor model Kspeed	50 to 2000	400	-	Changeable at any time	<a href="#">“AA-58” on page 556</a>
AA-59	0xAA3B	Synchronous motor frequency filter time constant	2 ms to 100 ms	10	ms	Changeable at any time	<a href="#">“AA-59” on page 556</a>
AA-60	0xAA3C	Frequency upper limit of synchronous motor Rs online auto-tuning	1.0% to 20.0%	3.5	%	Changeable at any time	<a href="#">“AA-60” on page 556</a>
AA-61	0xAA3D	Synchronous motor model Kr	0 to 50	10	-	Changeable at any time	<a href="#">“AA-61” on page 556</a>
AA-62	0xAA3E	Synchronous motor model Kr1	0 to 50	5	-	Changeable at any time	<a href="#">“AA-62” on page 556</a>
AA-63	0xAA3F	Synchronous motor low-speed D axis injection current	0% to 100%	20	%	Changeable at any time	<a href="#">“AA-63” on page 556</a>
AA-64	0xAA40	Synchronous motor model LowFreqTime1	0 to 500	50	-	Changeable at any time	<a href="#">“AA-64” on page 557</a>
AA-67	0xAA43	Frequency lower limit of back EMF online auto-tuning	10% to 100%	25	%	Changeable at any time	<a href="#">“AA-67” on page 557</a>
AA-68	0xAA44	Synchronous motor model LowFreq	0.0% to 2.0%	0.3	%	Changeable at any time	<a href="#">“AA-68” on page 557</a>
AA-69	0xAA45	Synchronous motor model LowFreqTime	0 to 100	10	-	Changeable at any time	<a href="#">“AA-69” on page 557</a>
AA-70	0xAA46	Percentage of pole auto-tuning current	50% to 200%	100	%	Changeable at any time	<a href="#">“AA-70” on page 557</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
AA-71	0xAA47	Percentage of high frequency response current	0% to 100%	25	%	Changeable at any time	<a href="#">“AA-71” on page 558</a>
AA-72	0xAA48	Percentage of HFI and SVC switching frequency	0% to 30%	10	%	Changeable at any time	<a href="#">“AA-72” on page 558</a>
AA-73	0xAA49	Observer parameter	10 to 200	100	-	Changeable at any time	<a href="#">“AA-73” on page 558</a>
AA-74	0xAA4A	Speed filter cut-off frequency	1 Hz to 200 Hz	10	Hz	Changeable at any time	<a href="#">“AA-74” on page 558</a>
AA-75	0xAA4B	Carrier frequency during NS auto-tuning	2.00 Hz to 16.00 Hz	8.00	Hz	Changeable at any time	<a href="#">“AA-75” on page 558</a>
AA-76	0xAA4C	Automatic calculation of NS auto-tuning voltage	0 to 1	1	-	Changeable at any time	<a href="#">“AA-76” on page 559</a>
AA-77	0xAA4D	Percentage of NS auto-tuning voltage set manually	0% to 100%	10	%	Changeable at any time	<a href="#">“AA-77” on page 559</a>
AA-78	0xAA4E	Duration of HFI stage 1	50 ms to 500 ms	150	ms	Changeable at any time	<a href="#">“AA-78” on page 559</a>
AA-80	0xAA50	Speed loop command word	Bit00: Speed loop 0: Disabled 1: Enabled Bit01: Integration mode 0: Conventional integration 1: Position integration Bit02: Acceleration torque 0: Disabled 1: Enabled Bit03–Bit04: Acceleration source 0: Function transfer torque 1: Automatic calculation 2: Function transfer acceleration Bit05: Anti-load disturbance 0: Disabled 1: Enabled	11	-	Changeable at any time	<a href="#">“AA-80” on page 559</a>
AA-81	0xAA51	Locked-rotor fast integral cancel coefficient	0.0% to +100.0%	0.0	%	Changeable at any time	<a href="#">“AA-81” on page 560</a>
AA-82	0xAA52	Integral torque	-100% to +100.0%	0.0	%	Changeable at any time	<a href="#">“AA-82” on page 560</a>
AA-83	0xAA53	Speed controller frequency window size	0.00 Hz to 10.00 Hz	0.00	Hz	Changeable only at stop	<a href="#">“AA-83” on page 560</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
AA-84	0xAA54	Current filter time for torque reference	0.0 ms to 100.0 ms	0.0	ms	Changeable only at stop	<a href="#">“AA-84” on page 561</a>
AA-85	0xAA55	Acceleration torque	0: Inactive 1: AI1 2: AI2 3: AI3 4: Pulse reference 5: Communication 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable at any time	<a href="#">“AA-85” on page 561</a>
AA-87	0xAA57	Reference model bandwidth	0.00 Hz to 300.00 Hz	0.00	Hz	Changeable at any time	<a href="#">“AA-87” on page 561</a>
AA-88	0xAA58	Torque feedforward coefficient	0.0% to 1000.0%	100.0	%	Changeable at any time	<a href="#">“AA-88” on page 561</a>
AA-89	0xAA59	Vector control reference frequency filter time	0.0 ms to 100.0 ms	0.0	ms	Changeable only at stop	<a href="#">“AA-89” on page 561</a>
AA-90	0xAA5A	Vector control feedback frequency filter time	0.0 ms to 100.0 ms	0.0	ms	Changeable only at stop	<a href="#">“AA-90” on page 562</a>
AA-91	0xAA5B	Load observation bandwidth	0.00 Hz to 300.00 Hz	0.00	Hz	Changeable at any time	<a href="#">“AA-91” on page 562</a>
AA-92	0xAA5C	Load observation coefficient	0.0% to 1000.0%	100.0	%	Changeable at any time	<a href="#">“AA-92” on page 562</a>
AA-93	0xAA5D	Pseudo integral coefficient	0.000 to 10.000	1.000	-	Changeable at any time	<a href="#">“AA-93” on page 562</a>
AA-94	0xAA5E	Torque coefficient enable	0: Disabled 1: Enabled	0	-	Changeable at any time	<a href="#">“AA-94” on page 562</a>
AA-96	0xAA60	Center frequency of notch filter 1	0.0 to 4000.0	4000.0	-	Changeable at any time	<a href="#">“AA-96” on page 563</a>
AA-97	0xAA61	Center frequency of notch filter 2	0.0 to 4000.0	4000.0	-	Changeable at any time	<a href="#">“AA-97” on page 563</a>
AA-98	0xAA62	Integral setting control word	0: Disabled 1: Enabled Others: B connector	0	-	Changeable at any time	<a href="#">“AA-98” on page 563</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
AA-99	0xAA63	Integral reference source	0: Digital setting 1: AI1 2: AI2 3: AI3 4: Pulse reference 5: Communication 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable at any time	<a href="#">“AA-99” on page 563</a>
AB-00	0xAB00	Externally transferred acceleration	0: Inactive 1: AI1 2: AI2 3: AI3 4: Pulse reference 5: Communication 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable at any time	<a href="#">“AB-00” on page 564</a>
AB-03	0xAB03	Overturning torque limiting coefficient	0.0% to 400.0%	100.0	%	Changeable at any time	<a href="#">“AB-03” on page 564</a>
AB-04	0xAB04	Motoring power limiting coefficient	0.0% to 400.0%	400.0	%	Changeable at any time	<a href="#">“AB-04” on page 564</a>
AB-05	0xAB05	Generating power limiting coefficient	0.0% to 400.0%	400.0	%	Changeable at any time	<a href="#">“AB-05” on page 565</a>
AB-06	0xAB06	Overspeed limiting enable	0 to 1	1	-	Changeable at any time	<a href="#">“AB-06” on page 565</a>
AB-07	0xAB07	Sine wave frequency of bandwidth test	0 Hz to 1000 Hz	0	Hz	Changeable at any time	<a href="#">“AB-07” on page 565</a>
AB-08	0xAB08	Sine wave amplitude of bandwidth test	0% to 100%	0	%	Changeable at any time	<a href="#">“AB-08” on page 565</a>
AB-09	0xAB09	Bandwidth test enable	0 to 4	0	-	Changeable at any time	<a href="#">“AB-09” on page 565</a>
AB-11	0xAB0B	Speed loop parameter calculation mode	0: New solution 1: Compatible solution	1	-	Changeable only at stop	<a href="#">“AB-11” on page 566</a>
AB-12	0xAB0C	Speed loop proportional gain in FVC mode	0.00 Hz to 100.00 Hz	8.00	Hz	Changeable at any time	<a href="#">“AB-12” on page 566</a>
AB-13	0xAB0D	Speed loop integral time in FVC mode	0.000s to 20.000s	0.080	s	Changeable at any time	<a href="#">“AB-13” on page 566</a>



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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
AB-14	0xAB0E	Speed loop proportional gain in SVC mode	0.00 Hz to 100.00 Hz	5.00	Hz	Changeable at any time	<a href="#">“AB-14” on page 566</a>
AB-15	0xAB0F	Speed loop integral time in SVC mode	0.000s to 20.000s	0.127	s	Changeable at any time	<a href="#">“AB-15” on page 566</a>
AB-16	0xAB10	Low frequency proportional correction coefficient	0.0% to 1000.0%	100.0	%	Changeable at any time	<a href="#">“AB-16” on page 567</a>
AB-17	0xAB11	Low frequency integral correction coefficient	0.0% to 1000.0%	100.0	%	Changeable at any time	<a href="#">“AB-17” on page 567</a>
AB-18	0xAB12	Speed loop adaption factor	0.000 to 10.000	0.200	-	Changeable at any time	<a href="#">“AB-18” on page 567</a>
AB-19	0xAB13	Speed loop adaption switchover lower limit	0.000 to 10.000	0.400	-	Changeable at any time	<a href="#">“AB-19” on page 567</a>
AB-20	0xAB14	Speed loop adaption switchover upper limit	0.000 to 10.000	1.000	-	Changeable at any time	<a href="#">“AB-20” on page 567</a>
AB-21	0xAB15	Speed loop adaption correction upper limit	0.0% to 1000.0%	100.0	%	Changeable at any time	<a href="#">“AB-21” on page 568</a>
AB-22	0xAB16	Speed loop adaption correction lower limit	0.0% to 1000.0%	100.0	%	Changeable at any time	<a href="#">“AB-22” on page 568</a>
AB-23	0xAB17	Flux adaptation enable	0 to 1	0	-	Changeable at any time	<a href="#">“AB-23” on page 568</a>
AB-24	0xAB18	Overspeed controller correction coefficient	0.0% to 1000.0%	100.0	%	Changeable at any time	<a href="#">“AB-24” on page 568</a>
AB-25	0xAB19	VDC control command word	Bit00: VdcMin 0: Disabled 1: Enabled Bit01: VdcMax 0: Disabled 1: Enabled Bit02: Automatic calculation of VDC trigger voltage 0: Disabled 1: Enabled Bit03: VDC control integral action 0: Disabled 1: Enabled	0	-	Changeable at any time	<a href="#">“AB-25” on page 568</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
AB-26	0xAB1A	Bus capacitance ratio	50.0% to 1000.0%	100.0	%	Changeable at any time	<a href="#">“AB-26” on page 569</a>
AB-27	0xAB1B	Undervoltage suppression exit hysteresis frequency	0.00 Hz to 10.00 Hz	3.00	Hz	Changeable at any time	<a href="#">“AB-27” on page 569</a>
AB-28	0xAB1C	Minimum VDC failure speed threshold	0.00 Hz to 20.00 Hz	2.00	Hz	Changeable at any time	<a href="#">“AB-28” on page 569</a>
AB-29	0xAB1D	Dynamic adjustment coefficient	0.0% to 1000.0%	100.0	%	Changeable at any time	<a href="#">“AB-29” on page 569</a>
AB-30	0xAB1E	Minimum VDC activation voltage	320.0 V to 540.0 V	430.0	V	Changeable at any time	<a href="#">“AB-30” on page 570</a>
AB-31	0xAB1F	Maximum VDC activation voltage	650.0 V to 800.0 V	770.0	V	Changeable at any time	<a href="#">“AB-31” on page 570</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
AB-32	0xAB20	Flux linkage control command word	Bit00: Output voltage limit calculation filtering mode 0: Symmetric filtering 1: Asymmetric filtering Bit01: Asynchronous motor inverse proportion curve calculation 0: The inverse proportional synchronization frequency decreases. 1: The inverse proportional speed decreases. Bit02: Flux linkage feedforward calculation by using inverse proportional speed 0: Disabled 1: Enabled Bit03: Reserved Bit04: Reserved Bit05: Field weakening adjustment 0: Disabled 1: Enabled Bit06: Flux linkage derivative feedforward 0: Disabled 1: Enabled Bit07: Energy conservation control 0: Disabled 1: Enabled Bit08: Asynchronous motor flux closed loop 0: Disabled 1: Enabled Bit09: Reserved Bit10: Reserved Bit11: Asynchronous motor pre-excitation mode 0: Pre-excitation based on time 1: Pre-excitation based on current Bit12: Asynchronous motor pre-excitation current 0: Reference current 1: Maximum current allowed by the drive	2357	-	Changeable at any time	<a href="#">“AB-32” on page 570</a>
AB-33	0xAB21	Output voltage upper limit margin for field weakening adjustment	1% to 50%	5	%	Changeable at any time	<a href="#">“AB-33” on page 572</a>
AB-34	0xAB22	Output voltage upper limit margin for auto adjustment of field weakening	1% to 20%	3	%	Changeable at any time	<a href="#">“AB-34” on page 572</a>
AB-35	0xAB23	Filter time for calculating maximum output voltage	0 ms to 3000 ms	30	ms	Changeable at any time	<a href="#">“AB-35” on page 572</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
AB-36	0xAB24	Rated flux adjustment coefficient for calculation	0.5 to 2.0	1.0	-	Changeable at any time	<a href="#">"AB-36" on page 572</a>
AB-37	0xAB25	Field weakening frequency adjustment coefficient for calculation	0.8 to 1.2	1.0	-	Changeable at any time	<a href="#">"AB-37" on page 573</a>
AB-38	0xAB26	Slip filter time for calculating field weakening frequency	0 ms to 3000 ms	62	ms	Changeable at any time	<a href="#">"AB-38" on page 573</a>
AB-39	0xAB27	Feedback speed filtering	0 ms to 8000 ms	50	ms	Changeable at any time	<a href="#">"AB-39" on page 573</a>
AB-40	0xAB28	Flux linkage rising filter time	0 ms to 8000 ms	20	ms	Changeable at any time	<a href="#">"AB-40" on page 573</a>
AB-42	0xAB2A	Feedback voltage filter time	0 ms to 3000 ms	5	ms	Changeable at any time	<a href="#">"AB-42" on page 574</a>
AB-43	0xAB2B	Maximum demagnetization current of synchronous motor	0% to 500%	300	%	Changeable at any time	<a href="#">"AB-43" on page 574</a>
AB-44	0xAB2C	Voltage outer loop lower limit coefficient	0 to 500	50	-	Changeable at any time	<a href="#">"AB-44" on page 574</a>
AB-45	0xAB2D	Flux linkage derivative feedforward coefficient	0.0 to 1.5	1.0	-	Changeable at any time	<a href="#">"AB-45" on page 574</a>
AB-46	0xAB2E	Flux linkage derivative feedforward filter time	0 ms to 3000 ms	6	ms	Changeable at any time	<a href="#">"AB-46" on page 574</a>
AB-47	0xAB2F	Torque current rising filter time under energy conservation control	0 ms to 3000 ms	50	ms	Changeable at any time	<a href="#">"AB-47" on page 575</a>
AB-48	0xAB30	Torque current falling filter time under energy conservation control	0 ms to 3000 ms	100	ms	Changeable at any time	<a href="#">"AB-48" on page 575</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
AB-49	0xAB31	Flux linkage lower limit coefficient under energy conservation control	0.00 to 0.50	0.10	-	Changeable at any time	<a href="#">“AB-49” on page 575</a>
AB-51	0xAB33	Pre-excitation current	1% to 200%	100	%	Changeable at any time	<a href="#">“AB-51” on page 575</a>
AB-52	0xAB34	Pre-excitation time	1 ms to 30000 ms	1000	ms	Changeable at any time	<a href="#">“AB-52” on page 576</a>
AB-53	0xAB35	Flux linkage closed-loop bandwidth frequency	0.0 Hz to 100.0 Hz	2.0	Hz	Changeable at any time	<a href="#">“AB-53” on page 576</a>
AB-54	0xAB36	Feedback flux linkage filter time coefficient	0 to 200	4	-	Changeable at any time	<a href="#">“AB-54” on page 576</a>
AB-55	0xAB37	Static output flux linkage filter time	0 ms to 5000 ms	10	ms	Changeable at any time	<a href="#">“AB-55” on page 576</a>
AB-56	0xAB38	Current loop mode	0: ImCsr2 mode 1: Complex vector mode 2: 880 mode 3: No field weakening	1	-	Changeable only at stop	<a href="#">“AB-56” on page 576</a>
AB-57	0xAB39	PI regulator proportional gain adaptation with load	0: Disabled 1: Enabled	0	-	Changeable only at stop	<a href="#">“AB-57” on page 577</a>
AB-58	0xAB3A	Current loop damping	0.2 to 5.0	0.8	-	Changeable at any time	<a href="#">“AB-58” on page 577</a>
AB-59	0xAB3B	Low-speed current loop Kp adjustment	0.1 to 10.0	1.0	-	Changeable at any time	<a href="#">“AB-59” on page 577</a>
AB-60	0xAB3C	High-speed current loop Kp adjustment	0.1 to 10.0	1.0	-	Changeable at any time	<a href="#">“AB-60” on page 577</a>
AB-61	0xAB3D	Low-speed current loop Ki adjustment	0.1 to 10.0	1.0	-	Changeable at any time	<a href="#">“AB-61” on page 578</a>
AB-62	0xAB3E	High-speed current loop Ki adjustment	0.1 to 10.0	2.0	-	Changeable at any time	<a href="#">“AB-62” on page 578</a>
AB-63	0xAB3F	D-axis current loop complex vector adjustment	0.1 to 10.0	1.0	-	Changeable at any time	<a href="#">“AB-63” on page 578</a>
AB-64	0xAB40	Q-axis current loop complex vector adjustment	0.1 to 10.0	1.0	-	Changeable at any time	<a href="#">“AB-64” on page 578</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
AB-65	0xAB41	Complex vector hysteresis frequency lower limit as a percentage of rated frequency	0% to AB-66	0	%	Changeable at any time	<a href="#">"AB-65" on page 578</a>
AB-66	0xAB42	Complex vector hysteresis frequency upper limit as a percentage of rated frequency	AB-65 to 150%	0	%	Changeable at any time	<a href="#">"AB-66" on page 579</a>
AB-67	0xAB43	ImCsr2 hysteresis switchover voltage upper limit as a percentage of saturation voltage	AB-68 to 95%	89	%	Changeable at any time	<a href="#">"AB-67" on page 579</a>
AB-68	0xAB44	ImCsr2 hysteresis switchover voltage lower limit as a percentage of saturation voltage	60% to AB-67	79	%	Changeable at any time	<a href="#">"AB-68" on page 579</a>
AB-69	0xAB45	ImCsr2 hysteresis switchover frequency hysteresis range as a percentage of rated frequency	1% to 30%	10	%	Changeable at any time	<a href="#">"AB-69" on page 579</a>
AB-70	0xAB46	ImCsr2 hysteresis switchover frequency lower limit (below which the hysteresis condition does not take effect) as a percentage of the rated frequency	40% to 80%	60	%	Changeable at any time	<a href="#">"AB-70" on page 579</a>
AB-71	0xAB47	ImCsr2 current loop Kss adjustment	0.1 to 10.0	1.0	-	Changeable at any time	<a href="#">"AB-71" on page 580</a>
AB-72	0xAB48	Proportional gain adjustment coefficient corresponding to the maximum torque when proportional gain is adjusted with load	0.1 to 1.0	0.5	-	Changeable at any time	<a href="#">"AB-72" on page 580</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
AB-73	0xAB49	Torque upper limit setpoint as a percentage of rated torque when proportional gain is adjusted with load	AB-74 to 300%	200	%	Changeable at any time	<a href="#">“AB-73” on page 580</a>
AB-74	0xAB4A	Torque lower limit setpoint as a percentage of rated torque when proportional gain is adjusted with load	10% to AB-73	100	%	Changeable at any time	<a href="#">“AB-74” on page 580</a>
AB-75	0xAB4B	Derivative feedforward adjustment	0.0 to 1.0	0.0	-	Changeable at any time	<a href="#">“AB-75” on page 581</a>
AB-76	0xAB4C	Decoupling control start frequency as a percentage of rated frequency	20% to 150%	40	%	Changeable at any time	<a href="#">“AB-76” on page 581</a>
AB-77	0xAB4D	Decoupling control filter time adjustment coefficient	0.1 to 3.0	1.0	-	Changeable at any time	<a href="#">“AB-77” on page 581</a>
AB-78	0xAB4E	Decoupling control output adjustment coefficient	0.0 to 1.0	1.0	-	Changeable at any time	<a href="#">“AB-78” on page 581</a>
AB-79	0xAB4F	CPC feedforward enable	0: Disabled 1: Enabled	0	-	Changeable at any time	<a href="#">“AB-79” on page 581</a>
AB-80	0xAB50	Current loop auxiliary command word	Bit00: Complex vector angle limiting 0: Disabled 1: Enabled Bit01: Voltage angle limiting 0: Program internal limiting 1: Parameter setting Bit02: 0 by default 0: No lower limit on the excitation current is imposed during the dynamic process. 1: A lower limit on the excitation current is imposed during the dynamic process in ImCsr2 mode. Bit03–Bit15: Reserved (0 by default)	0	-	Changeable at any time	<a href="#">“AB-80” on page 582</a>
AB-81	0xAB51	Voltage angle upper limit	90° to 180°	150	°	Changeable at any time	<a href="#">“AB-81” on page 582</a>
AB-82	0xAB52	Voltage angle lower limit	0° to 90°	30	°	Changeable at any time	<a href="#">“AB-82” on page 582</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
AB-83	0xAB53	Asynchronous motor D axis integral limit	0.500 to 1.000	0.707	-	Changeable at any time	<a href="#">“AB-83” on page 582</a>
AB-84	0xAB54	Current loop carrier frequency upper limit	5.0 to 16.0	8.0	-	Changeable at any time	<a href="#">“AB-84” on page 583</a>
AB-85	0xAB55	Droop enable	0 to 1	0	-	Changeable only at stop	<a href="#">“AB-85” on page 583</a>
AB-86	0xAB56	Droop source	0: Line current 1: Torque reference 2: Speed adjustment output 3: Speed adjustment integral component	1	-	Changeable only at stop	<a href="#">“AB-86” on page 583</a>
AB-87	0xAB57	Frequency reference droop coefficient	0.0% to 50.0%	0.0	%	Changeable at any time	<a href="#">“AB-87” on page 583</a>
AB-88	0xAB58	FVC-SVC switchover mode	0: No switchover 1: Active switchover 2: Passive switchover (The AC drive switches to SVC mode upon detection of encoder wire breakage, and it switches back to FVC mode when the encoder recovers during stop and does not switch back to FVC mode when the encoder recovers during running.) 3: Passive switchover (The AC drive switches to SVC mode upon detection of encoder wire breakage, and it switches back to FVC mode when the encoder recovers during running or stop.)	0	-	Changeable only at stop	<a href="#">“AB-88” on page 583</a>
AB-89	0xAB59	FVC-SVC switchover frequency	10% to 500%	50	%	Changeable only at stop	<a href="#">“AB-89” on page 584</a>
AB-90	0xAB5A	FVC-SVC switchover hysteresis	10% to 100%	10	%	Changeable only at stop	<a href="#">“AB-90” on page 584</a>
AC-00	0xAC00	AI1 measured voltage 1	-10 V to +10.000 V	2.000	V	Changeable only at stop	<a href="#">“AC-00” on page 584</a>
AC-01	0xAC01	AI1 displayed voltage 1	-10 V to +10.000 V	2.000	V	Changeable only at stop	<a href="#">“AC-01” on page 584</a>
AC-02	0xAC02	AI1 measured voltage 2	-10 V to +10.000 V	8.000	V	Changeable only at stop	<a href="#">“AC-02” on page 585</a>
AC-03	0xAC03	AI1 displayed voltage 2	-10 V to +10.000 V	8.000	V	Changeable only at stop	<a href="#">“AC-03” on page 585</a>
AC-04	0xAC04	AI2 measured voltage 1	-10 V to +10.000 V	2.000	V	Changeable only at stop	<a href="#">“AC-04” on page 585</a>
AC-05	0xAC05	AI2 displayed voltage 1	-10 V to +10.000 V	2.000	V	Changeable only at stop	<a href="#">“AC-05” on page 585</a>



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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
AC-06	0xAC06	AI2 measured voltage 2	-10 V to +10.000 V	8.000	V	Changeable only at stop	<a href="#">“AC-06” on page 585</a>
AC-07	0xAC07	AI2 displayed voltage 2	-10 V to +10.000 V	8.000	V	Changeable only at stop	<a href="#">“AC-07” on page 586</a>
AC-08	0xAC08	AI3 measured voltage 1	-10 V to +10.000 V	2.000	V	Changeable only at stop	<a href="#">“AC-08” on page 586</a>
AC-09	0xAC09	AI3 displayed voltage 1	-10 V to +10.000 V	2.000	V	Changeable only at stop	<a href="#">“AC-09” on page 586</a>
AC-10	0xAC0A	AI3 measured voltage 2	-10 V to +10.000 V	8.000	V	Changeable only at stop	<a href="#">“AC-10” on page 586</a>
AC-11	0xAC0B	AI3 displayed voltage 2	-10 V to +10.000 V	8.000	V	Changeable only at stop	<a href="#">“AC-11” on page 586</a>
AC-12	0xAC0C	AO1 target voltage 1	-10 V to +10.000 V	2.000	V	Changeable only at stop	<a href="#">“AC-12” on page 586</a>
AC-13	0xAC0D	AO1 measured voltage 1	-10 V to +10.000 V	2.000	V	Changeable only at stop	<a href="#">“AC-13” on page 587</a>
AC-14	0xAC0E	AO1 target voltage 2	-10 V to +10.000 V	8.000	V	Changeable only at stop	<a href="#">“AC-14” on page 587</a>
AC-15	0xAC0F	AO1 measured voltage 2	-10 V to +10.000 V	8.000	V	Changeable only at stop	<a href="#">“AC-15” on page 587</a>
AC-16	0xAC10	AO2 target voltage 1	-10 V to +10.000 V	2.000	V	Changeable only at stop	<a href="#">“AC-16” on page 587</a>
AC-17	0xAC11	AO2 measured voltage 1	-10 V to +10.000 V	2.000	V	Changeable only at stop	<a href="#">“AC-17” on page 587</a>
AC-18	0xAC12	AO2 target voltage 2	-10 V to +10.000 V	8.000	V	Changeable only at stop	<a href="#">“AC-18” on page 588</a>
AC-19	0xAC13	AO2 measured voltage 2	-10 V to +10.000 V	8.000	V	Changeable only at stop	<a href="#">“AC-19” on page 588</a>
AF-00	0xAF00	RPDO1-SubIndex0-H	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“AF-00” on page 588</a>
AF-01	0xAF01	RPDO1-SubIndex0-L	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“AF-01” on page 588</a>
AF-02	0xAF02	RPDO1-SubIndex1-H	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“AF-02” on page 588</a>
AF-03	0xAF03	RPDO1-SubIndex1-L	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“AF-03” on page 589</a>
AF-04	0xAF04	RPDO1-SubIndex2-H	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“AF-04” on page 589</a>
AF-05	0xAF05	RPDO1-SubIndex2-L	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“AF-05” on page 589</a>
AF-06	0xAF06	RPDO1-SubIndex3-H	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“AF-06” on page 589</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
AF-07	0xAF07	RPDO1-SubIndex3-L	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“AF-07” on page 589</a>
AF-08	0xAF08	RPDO2-SubIndex0-H	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“AF-08” on page 590</a>
AF-09	0xAF09	RPDO2-SubIndex0-L	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“AF-09” on page 590</a>
AF-10	0xAF0A	RPDO2-SubIndex1-H	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“AF-10” on page 590</a>
AF-11	0xAF0B	RPDO2-SubIndex1-L	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“AF-11” on page 590</a>
AF-12	0xAF0C	RPDO2-SubIndex2-H	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“AF-12” on page 590</a>
AF-13	0xAF0D	RPDO2-SubIndex2-L	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“AF-13” on page 591</a>
AF-14	0xAF0E	RPDO2-SubIndex3-H	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“AF-14” on page 591</a>
AF-15	0xAF0F	RPDO2-SubIndex3-L	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“AF-15” on page 591</a>
AF-16	0xAF10	RPDO3-SubIndex0-H	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“AF-16” on page 591</a>
AF-17	0xAF11	RPDO3-SubIndex0-L	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“AF-17” on page 591</a>
AF-18	0xAF12	RPDO3-SubIndex1-H	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“AF-18” on page 592</a>
AF-19	0xAF13	RPDO3-SubIndex1-L	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“AF-19” on page 592</a>
AF-20	0xAF14	RPDO3-SubIndex2-H	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“AF-20” on page 592</a>
AF-21	0xAF15	RPDO3-SubIndex2-L	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“AF-21” on page 592</a>
AF-22	0xAF16	RPDO3-SubIndex3-H	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“AF-22” on page 592</a>
AF-23	0xAF17	RPDO3-SubIndex3-L	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“AF-23” on page 593</a>
AF-24	0xAF18	RPDO4-SubIndex0-H	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“AF-24” on page 593</a>
AF-25	0xAF19	RPDO4-SubIndex0-L	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“AF-25” on page 593</a>
AF-26	0xAF1A	RPDO4-SubIndex1-H	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“AF-26” on page 593</a>
AF-27	0xAF1B	RPDO4-SubIndex1-L	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“AF-27” on page 593</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
AF-28	0xAF1C	RPDO4-SubIndex2-H	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“AF-28” on page 593</a>
AF-29	0xAF1D	RPDO4-SubIndex2-L	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“AF-29” on page 594</a>
AF-30	0xAF1E	RPDO4-SubIndex3-H	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“AF-30” on page 594</a>
AF-31	0xAF1F	RPDO4-SubIndex3-L	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“AF-31” on page 594</a>
AF-32	0xAF20	TPDO1-SubIndex0-H	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“AF-32” on page 594</a>
AF-33	0xAF21	TPDO1-SubIndex0-L	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“AF-33” on page 594</a>
AF-34	0xAF22	TPDO1-SubIndex1-H	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“AF-34” on page 595</a>
AF-35	0xAF23	TPDO1-SubIndex1-L	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“AF-35” on page 595</a>
AF-36	0xAF24	TPDO1-SubIndex2-H	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“AF-36” on page 595</a>
AF-37	0xAF25	TPDO1-SubIndex2-L	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“AF-37” on page 595</a>
AF-38	0xAF26	TPDO1-SubIndex3-H	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“AF-38” on page 595</a>
AF-39	0xAF27	TPDO1-SubIndex3-L	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“AF-39” on page 596</a>
AF-40	0xAF28	TPDO2-SubIndex0-H	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“AF-40” on page 596</a>
AF-41	0xAF29	TPDO2-SubIndex0-L	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“AF-41” on page 596</a>
AF-42	0xAF2A	TPDO2-SubIndex1-H	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“AF-42” on page 596</a>
AF-43	0xAF2B	TPDO2-SubIndex1-L	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“AF-43” on page 596</a>
AF-44	0xAF2C	TPDO2-SubIndex2-H	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“AF-44” on page 597</a>
AF-45	0xAF2D	TPDO2-SubIndex2-L	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“AF-45” on page 597</a>
AF-46	0xAF2E	TPDO2-SubIndex3-H	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“AF-46” on page 597</a>
AF-47	0xAF2F	TPDO2-SubIndex3-L	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“AF-47” on page 597</a>
AF-48	0xAF30	TPDO3-SubIndex0-H	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“AF-48” on page 597</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
AF-49	0xAF31	TPDO3-SubIndex0-L	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“AF-49” on page 598</a>
AF-50	0xAF32	TPDO3-SubIndex1-H	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“AF-50” on page 598</a>
AF-51	0xAF33	TPDO3-SubIndex1-L	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“AF-51” on page 598</a>
AF-52	0xAF34	TPDO3-SubIndex2-H	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“AF-52” on page 598</a>
AF-53	0xAF35	TPDO3-SubIndex2-L	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“AF-53” on page 598</a>
AF-54	0xAF36	TPDO3-SubIndex3-H	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“AF-54” on page 598</a>
AF-55	0xAF37	TPDO3-SubIndex3-L	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“AF-55” on page 599</a>
AF-56	0xAF38	TPDO4-SubIndex0-H	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“AF-56” on page 599</a>
AF-57	0xAF39	TPDO4-SubIndex0-L	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“AF-57” on page 599</a>
AF-58	0xAF3A	TPDO4-SubIndex1-H	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“AF-58” on page 599</a>
AF-59	0xAF3B	TPDO4-SubIndex1-L	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“AF-59” on page 599</a>
AF-60	0xAF3C	TPDO4-SubIndex2-H	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“AF-60” on page 600</a>
AF-61	0xAF3D	TPDO4-SubIndex2-L	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“AF-61” on page 600</a>
AF-62	0xAF3E	TPDO4-SubIndex3-H	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“AF-62” on page 600</a>
AF-63	0xAF3F	TPDO4-SubIndex3-L	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“AF-63” on page 600</a>
AF-66	0xAF42	Number of valid RPDOs	0x0 to 0xFFFF	0x0	-	Unchangeable	<a href="#">“AF-66” on page 600</a>
AF-67	0xAF43	Number of valid TPDOs	0x0 to 0xFFFF	0x0	-	Unchangeable	<a href="#">“AF-67” on page 601</a>
B6-00	0xB600	Startup mode	0: Direct start 1: Flying start 2: Pre-excitation start (AC asynchronous motor) 3: SVC quick start	0	-	Changeable at any time	<a href="#">“B6-00” on page 601</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
B6-01	0xB601	Speed tracking mode	0: From the stop frequency 1: From the power frequency 2: From the maximum frequency 3: Reserved 4: Magnetic field directional speed tracking (MD290)	0	-	Changeable at any time	<a href="#">" B6-01" on page 601</a>
B6-02	0xB602	Speed of speed tracking	1 to 100	20	-	Changeable at any time	<a href="#">" B6-02" on page 601</a>
B6-03	0xB603	Startup frequency	0.00 Hz to 10.00 Hz	0.00	Hz	Changeable at any time	<a href="#">" B6-03" on page 602</a>
B6-04	0xB604	Startup frequency hold time	0.0s to 100.0s	0.0	s	Changeable only at stop	<a href="#">" B6-04" on page 602</a>
B6-05	0xB605	DC braking current at startup	0% to 100%	50	%	Changeable only at stop	<a href="#">" B6-05" on page 602</a>
B6-06	0xB606	DC braking time at startup	0.0s to 100.0s	0.0	s	Changeable only at stop	<a href="#">" B6-06" on page 602</a>
B6-07	0xB607	Stop mode	0: Decelerate to stop 1: Coast to stop 2: Stop at maximum capability	0	-	Changeable at any time	<a href="#">" B6-07" on page 603</a>
B6-08	0xB608	Start frequency of DC braking at stop	0.00 Hz to F0-10	0.00	Hz	Changeable at any time	<a href="#">" B6-08" on page 603</a>
B6-09	0xB609	DC braking delay at stop	0.0s to 100.0s	0.0	s	Changeable at any time	<a href="#">" B6-09" on page 603</a>
B6-10	0xB60A	DC braking current at stop	0% to 100%	50	%	Changeable at any time	<a href="#">" B6-10" on page 603</a>
B6-11	0xB60B	DC braking time at stop	0.0s to 100.0s	0.0	s	Changeable at any time	<a href="#">" B6-11" on page 603</a>
B6-12	0xB60C	Speed tracking sweep current limit closed loop Kp	0 to 1000	500	-	Changeable at any time	<a href="#">" B6-12" on page 604</a>
B6-13	0xB60D	Speed tracking sweep current limit closed loop Ki	0 to 1000	800	-	Changeable at any time	<a href="#">" B6-13" on page 604</a>
B6-14	0xB60E	Speed tracking current	30% to 200%	80	%	Changeable only at stop	<a href="#">" B6-14" on page 604</a>
B6-15	0xB60F	Current loop multiple	10% to 600%	100	%	Changeable at any time	<a href="#">" B6-15" on page 604</a>
B6-16	0xB610	Demagnetization time (valid for asynchronous motors)	0.00s to 5.00s	0.50	s	Changeable at any time	<a href="#">" B6-16" on page 604</a>
B6-17	0xB611	Overexcitation enable	0: Disabled 2: Enabled during deceleration 3: Enabled always	0	-	Changeable at any time	<a href="#">" B6-17" on page 605</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
B6-18	0xB612	Overexcitation suppression current	0% to 150%	100	%	Changeable at any time	<a href="#">“ B6-18” on page 605</a>
B6-19	0xB613	Overexcitation gain	0.01 to 2.50	1.25	-	Changeable at any time	<a href="#">“ B6-19” on page 605</a>
B6-25	0xB619	Skip frequency 1	0.00 Hz to F0-10	0.00	Hz	Changeable at any time	<a href="#">“ B6-25” on page 605</a>
B6-26	0xB61A	Skip frequency 2	0.00 Hz to F0-10	0.00	Hz	Changeable at any time	<a href="#">“ B6-26” on page 605</a>
B6-27	0xB61B	Skip frequency 3	0.00 Hz to F0-10	0.00	Hz	Changeable at any time	<a href="#">“ B6-27” on page 606</a>
B6-28	0xB61C	Skip frequency 4	0.00 Hz to F0-10	0.00	Hz	Changeable at any time	<a href="#">“ B6-28” on page 606</a>
B6-29	0xB61D	Skip frequency band	0.00 Hz to F0-10	0.00	Hz	Changeable at any time	<a href="#">“ B6-29” on page 606</a>
B6-30	0xB61E	Source of frequency upper limit	0: F0-12 1: AI1 2: AI2 3: AI3 4: Pulse reference 5: Communication Others: F connector	0	-	Changeable only at stop	<a href="#">“ B6-30” on page 606</a>
B6-31	0xB61F	Frequency upper limit	B6-33 to F0-10	50.00	Hz	Changeable at any time	<a href="#">“ B6-31” on page 607</a>
B6-32	0xB620	Frequency upper limit offset	0.00 Hz to F0-10 (maximum frequency)	0.00	Hz	Changeable at any time	<a href="#">“ B6-32” on page 607</a>
B6-33	0xB621	Frequency lower limit	0.00 Hz to B6-31	0.00	Hz	Changeable at any time	<a href="#">“ B6-33” on page 607</a>
B6-34	0xB622	Speed/Torque control mode	0: Speed control 1: Torque control	0	-	Changeable at any time	<a href="#">“ B6-34” on page 607</a>
B6-35	0xB623	Motor overload protection	0: Disabled 1: Enabled	1	-	Changeable at any time	<a href="#">“ B6-35” on page 607</a>
B6-36	0xB624	Motor overload protection gain	0.20 to 10.00	1.00	-	Changeable at any time	<a href="#">“ B6-36” on page 608</a>
B6-37	0xB625	Motor overload pre-warning coefficient	50% to 100%	80	%	Changeable at any time	<a href="#">“ B6-37” on page 608</a>
B6-38	0xB626	Overvoltage stall suppression gain	1 to 100	30	-	Changeable at any time	<a href="#">“ B6-38” on page 608</a>
B6-39	0xB627	Overvoltage stall protection voltage	330.0 V to 800.0 V	770.0	V	Changeable at any time	<a href="#">“ B6-39” on page 608</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
B6-40	0xB628	Input phase loss/ Contactor pickup protection	Ones: Input phase loss protection 0: Disabled 1: Protection enabled when both software and hardware input phase loss conditions are met 2: Protection enabled when software input phase loss conditions are met 3: Protection enabled when hardware input phase loss conditions are met Tens: Contactor pickup protection 0: Disabled 1: Enabled	11	-	Changeable at any time	<a href="#">“ B6-40” on page 608</a>
B6-41	0xB629	Output phase loss protection	Ones: Output phase loss protection upon power-on 0: Disabled 1: Enabled Tens: Output phase loss protection before running 0: Disabled 1: Enabled	1	-	Changeable at any time	<a href="#">“ B6-41” on page 609</a>
B6-42	0xB62A	Power dip ride- through	0: Disabled 1: Decelerate 2: Decelerate to stop 3: Suppress voltage dip	0	-	Changeable only at stop	<a href="#">“ B6-42” on page 609</a>
B6-43	0xB62B	Voltage threshold for disabling power dip ride-through	80% to 100%	85	%	Changeable only at stop	<a href="#">“ B6-43” on page 609</a>
B6-44	0xB62C	Delay of voltage recovery from power dip	0.0s to 100.0s	0.5	s	Changeable only at stop	<a href="#">“ B6-44” on page 610</a>
B6-45	0xB62D	Voltage threshold for enabling power dip ride-through	60% to 100%	80	%	Changeable only at stop	<a href="#">“ B6-45” on page 610</a>
B6-46	0xB62E	Protection upon load loss	0: Disabled 1: Enabled	0	-	Changeable at any time	<a href="#">“ B6-46” on page 610</a>
B6-47	0xB62F	Load loss detection level	0.0% to +100.0%	10.0	%	Changeable at any time	<a href="#">“ B6-47” on page 610</a>
B6-48	0xB630	Load loss detection time	0.0s to 60.0s	1.0	s	Changeable at any time	<a href="#">“ B6-48” on page 610</a>
B6-49	0xB631	Overspeed detection level	0.0% to 50.0%	20.0	%	Changeable at any time	<a href="#">“ B6-49” on page 611</a>
B6-50	0xB632	Overspeed detection time	0.0s to 60.0s	1.0	s	Changeable at any time	<a href="#">“ B6-50” on page 611</a>
B6-51	0xB633	Detection level of excessive speed deviation	0.0% to 50.0%	20.0	%	Changeable at any time	<a href="#">“ B6-51” on page 611</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
B6-52	0xB634	Detection time of excessive speed deviation	0.0s to 60.0s	5.0	s	Changeable at any time	<a href="#">“ B6-52” on page 611</a>
B6-53	0xB635	Power dip ride-through gain Kp	1 to 100	40	-	Changeable at any time	<a href="#">“ B6-53” on page 611</a>
B6-54	0xB636	Power dip ride-through integral coefficient Ki	1 to 100	30	-	Changeable at any time	<a href="#">“ B6-54” on page 611</a>
B6-55	0xB637	Deceleration time of power dip ride-through	0.0s to 300.0s	20.0	s	Changeable at any time	<a href="#">“ B6-55” on page 612</a>
B6-56	0xB638	Voltage dip suppression time	0.1s to 600.0s	0.5	s	Changeable at any time	<a href="#">“ B6-56” on page 612</a>
B7-00	0xB700	Number of parallel motors	1 to 200	1	-	Changeable only at stop	<a href="#">“ B7-00” on page 612</a>



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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
B7-01	0xB701	Motor information command word	Bit00: Mutual inductance curve 0: Disabled 1: Enabled Bit01: D- and Q-axis inductance curve 0: Disabled 1: Enabled Bit02: Rotor resistance online auto-tuning 0: Disabled 1: Enabled Bit03: Rotor resistance online auto-tuning method 0: Amplitude 1: Phase Bit04: Motor thermal model 0: Disabled 1: Enabled Bit05: Temperature source of motor thermal model 0: Estimated temperature 1: Temperature detected by sensor Bit06: Torque coefficient calculation of asynchronous motor 0: Torque formula 1: Current distribution Bit07: Torque coefficient calculation of synchronous motor 0: Torque formula 1: Torque matching the rated torque Bit08: Zero speed friction torque calculation 0: Torque linearly decreasing to zero 1: Torque to maintain minimum speed Bit09: Calculation of model parameters based on nameplate parameters 0: Disabled 1: Enabled Bit10: Confirmation of calculating model parameters based on nameplate parameters 0: Default 1: Confirm	0x3	-	Changeable only at stop	<a href="#">“B7-01” on page 612</a>
B7-02	0xB702	Number of motor pole pairs	0 to 64	0	-	Changeable only at stop	<a href="#">“B7-02” on page 613</a>
B7-03	0xB703	Motor power factor	0.600 to 1.000	0.860	-	Changeable only at stop	<a href="#">“B7-03” on page 614</a>
B7-05	0xB705	Expansion card	1: Expansion card 1 2: Expansion card 2	1	-	Changeable only at stop	<a href="#">“B7-05” on page 614</a>
B7-06	0xB706	ABZ encoder speed measurement mode at low speed	0: Maintain 1: Attenuate 2: Optimized solution	2	-	Changeable only at stop	<a href="#">“B7-06” on page 614</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
B7-07	0xB707	Encoder speed measurement filter time constant	0.000s to 10.000s	0.004	s	Changeable at any time	<a href="#">“ B7-07” on page 614</a>
B7-08	0xB708	Encoder wire breakage software detection coefficient	0.000 to 8.000	1.000	-	Changeable at any time	<a href="#">“ B7-08” on page 614</a>
B7-09	0xB709	Encoder control word	Bit00: Speed measurement 0: Disabled 1: Enabled Bit01: Software detection of wire breakage 0: Disabled 1: Enabled Bit02: Glitch removal 0: Disabled 1: Enabled Bit03: ABZ encoder speed measurement mode 0: Quadruplicated frequency 1: Single pulse	0	-	Changeable only at stop	<a href="#">“ B7-09” on page 615</a>
B7-10	0xB70A	Speed measurement exception count threshold	1 to 100	10	-	Changeable only at stop	<a href="#">“ B7-10” on page 615</a>
B7-11	0xB70B	Motor gear ratio (numerator)	1 to 65535	1	-	Changeable only at stop	<a href="#">“ B7-11” on page 615</a>
B7-12	0xB70C	Motor gear ratio (denominator)	1 to 65535	1	-	Changeable only at stop	<a href="#">“ B7-12” on page 615</a>
B7-13	0xB70D	External input source of encoder	0: 0 1: AI1 2: AI2 3: AI3 4: Pulse reference 5: Communication 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable only at stop	<a href="#">“ B7-13” on page 616</a>
B7-15	0xB70F	Stator leakage inductance	0.000 mH to 65.535 mH	6.540	mH	Changeable only at stop	<a href="#">“ B7-15” on page 616</a>
B7-16	0xB710	Electromechanical time constant	1 ms to 65535 ms	100	ms	Unchangeable	<a href="#">“ B7-16” on page 616</a>
B7-17	0xB711	Inertia ratio	0.0% to 6553.5%	120.0	%	Changeable only at stop	<a href="#">“ B7-17” on page 616</a>
B7-18	0xB712	Friction torque	0.0% to 6553.5%	2.0	%	Changeable only at stop	<a href="#">“ B7-18” on page 617</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
B7-19	0xB713	Excitation current coefficient 1 of mutual inductance curve (rated)	5.0% to 100.0%	50.0	%	Changeable only at stop	<a href="#">“ B7-19” on page 617</a>
B7-20	0xB714	Excitation current coefficient 2 of mutual inductance curve (rated)	5.0% to 100.0%	75.0	%	Changeable only at stop	<a href="#">“ B7-20” on page 617</a>
B7-21	0xB715	Excitation current coefficient 3 of mutual inductance curve	100.0% to 800.0%	150.0	%	Changeable only at stop	<a href="#">“ B7-21” on page 617</a>
B7-22	0xB716	Excitation current coefficient 4 of mutual inductance curve	100.0% to 800.0%	210.0	%	Changeable only at stop	<a href="#">“ B7-22” on page 617</a>
B7-23	0xB717	Flux coefficient 1 of mutual inductance curve (rated)	10.0% to 100.0%	50.0	%	Changeable only at stop	<a href="#">“ B7-23” on page 618</a>
B7-24	0xB718	Flux coefficient 2 of mutual inductance curve (rated)	10.0% to 100.0%	85.0	%	Changeable only at stop	<a href="#">“ B7-24” on page 618</a>
B7-25	0xB719	Flux coefficient 3 of mutual inductance curve	100.0% to 300.0%	115.0	%	Changeable only at stop	<a href="#">“ B7-25” on page 618</a>
B7-26	0xB71A	Flux coefficient 4 of mutual inductance curve	100.0% to 300.0%	125.0	%	Changeable only at stop	<a href="#">“ B7-26” on page 618</a>
B7-27	0xB71B	Speed point 1 of friction curve	0 RPM to 30000 RPM	15	RPM	Changeable only at stop	<a href="#">“ B7-27” on page 618</a>
B7-28	0xB71C	Speed point 2 of friction curve	0 RPM to 30000 RPM	30	RPM	Changeable only at stop	<a href="#">“ B7-28” on page 618</a>
B7-29	0xB71D	Speed point 3 of friction curve	0 RPM to 30000 RPM	60	RPM	Changeable only at stop	<a href="#">“ B7-29” on page 619</a>
B7-30	0xB71E	Speed point 4 of friction curve	0 RPM to 30000 RPM	120	RPM	Changeable only at stop	<a href="#">“ B7-30” on page 619</a>
B7-31	0xB71F	Speed point 5 of friction curve	0 RPM to 30000 RPM	150	RPM	Changeable only at stop	<a href="#">“ B7-31” on page 619</a>
B7-32	0xB720	Speed point 6 of friction curve	0 RPM to 30000 RPM	300	RPM	Changeable only at stop	<a href="#">“ B7-32” on page 619</a>
B7-33	0xB721	Speed point 7 of friction curve	0 RPM to 30000 RPM	600	RPM	Changeable only at stop	<a href="#">“ B7-33” on page 619</a>
B7-34	0xB722	Speed point 8 of friction curve	0 RPM to 30000 RPM	1200	RPM	Changeable only at stop	<a href="#">“ B7-34” on page 620</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
B7-35	0xB723	Speed point 9 of friction curve	0 RPM to 30000 RPM	1500	RPM	Changeable only at stop	<a href="#">"B7-35" on page 620</a>
B7-36	0xB724	Speed point 10 of friction curve	0 RPM to 30000 RPM	3000	RPM	Changeable only at stop	<a href="#">"B7-36" on page 620</a>
B7-37	0xB725	Torque point 1 of friction curve	-320 N·m to +320 N·m	0.00	N·m	Changeable only at stop	<a href="#">"B7-37" on page 620</a>
B7-38	0xB726	Torque point 2 of friction curve	-320 N·m to +320 N·m	0.00	N·m	Changeable only at stop	<a href="#">"B7-38" on page 620</a>
B7-39	0xB727	Torque point 3 of friction curve	-320 N·m to +320 N·m	0.00	N·m	Changeable only at stop	<a href="#">"B7-39" on page 621</a>
B7-40	0xB728	Torque point 4 of friction curve	-320 N·m to +320 N·m	0.00	N·m	Changeable only at stop	<a href="#">"B7-40" on page 621</a>
B7-41	0xB729	Torque point 5 of friction curve	-320 N·m to +320 N·m	0.00	N·m	Changeable only at stop	<a href="#">"B7-41" on page 621</a>
B7-42	0xB72A	Torque point 6 of friction curve	-320 N·m to +320 N·m	0.00	N·m	Changeable only at stop	<a href="#">"B7-42" on page 621</a>
B7-43	0xB72B	Torque point 7 of friction curve	-320 N·m to +320 N·m	0.00	N·m	Changeable only at stop	<a href="#">"B7-43" on page 621</a>
B7-44	0xB72C	Torque point 8 of friction curve	-320 N·m to +320 N·m	0.00	N·m	Changeable only at stop	<a href="#">"B7-44" on page 622</a>
B7-45	0xB72D	Torque point 9 of friction curve	-320 N·m to +320 N·m	0.00	N·m	Changeable only at stop	<a href="#">"B7-45" on page 622</a>
B7-46	0xB72E	Torque point 10 of friction curve	-320 N·m to +320 N·m	0.00	N·m	Changeable only at stop	<a href="#">"B7-46" on page 622</a>
B7-47	0xB72F	Current coefficient starting point of D- and Q-axis inductance curve	-800% to +800.0%	-200	%	Changeable only at stop	<a href="#">"B7-47" on page 622</a>
B7-48	0xB730	Current coefficient end point of D- and Q-axis inductance curve	-800% to +800.0%	200.0	%	Changeable only at stop	<a href="#">"B7-48" on page 622</a>
B7-49	0xB731	D axis inductance 1 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">"B7-49" on page 623</a>
B7-50	0xB732	D axis inductance 2 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">"B7-50" on page 623</a>
B7-51	0xB733	D axis inductance 3 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">"B7-51" on page 623</a>
B7-52	0xB734	D axis inductance 4 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">"B7-52" on page 623</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
B7-53	0xB735	D axis inductance 5 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">" B7-53" on page 623</a>
B7-54	0xB736	D axis inductance 6 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">" B7-54" on page 623</a>
B7-55	0xB737	D axis inductance 7 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">" B7-55" on page 624</a>
B7-56	0xB738	D axis inductance 8 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">" B7-56" on page 624</a>
B7-57	0xB739	D axis inductance 9 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">" B7-57" on page 624</a>
B7-58	0xB73A	D axis inductance 10 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">" B7-58" on page 624</a>
B7-59	0xB73B	D axis inductance 11 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">" B7-59" on page 624</a>
B7-60	0xB73C	D axis inductance 12 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">" B7-60" on page 625</a>
B7-61	0xB73D	Q axis inductance 1 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">" B7-61" on page 625</a>
B7-62	0xB73E	Q axis inductance 2 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">" B7-62" on page 625</a>
B7-63	0xB73F	Q axis inductance 3 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">" B7-63" on page 625</a>
B7-64	0xB740	Q axis inductance 4 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">" B7-64" on page 625</a>
B7-65	0xB741	Q axis inductance 5 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">" B7-65" on page 626</a>
B7-66	0xB742	Q axis inductance 6 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">" B7-66" on page 626</a>
B7-67	0xB743	Q axis inductance 7 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">" B7-67" on page 626</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
B7-68	0xB744	Q axis inductance 8 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“B7-68” on page 626</a>
B7-69	0xB745	Q axis inductance 9 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“B7-69” on page 626</a>
B7-70	0xB746	Q axis inductance 10 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“B7-70” on page 627</a>
B7-71	0xB747	Q axis inductance 11 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“B7-71” on page 627</a>
B7-72	0xB748	Q axis inductance 12 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“B7-72” on page 627</a>
B8-00	0xB800	Parameter auto-tuning upon startup	Bit00: Synchronous motor pole position auto-tuning upon startup 0: Disabled 1: Enabled Bit01: Quick stator resistance auto-tuning upon startup 0: Disabled 1: Enabled Bit02–Bit03: HFI pole position auto-tuning 0: Disabled 1: Enabled 2: Adaptive Bit04: IGBT shoot-through self-check upon startup 0: Disabled 1: Enabled Bit05: Short-to-ground self-check upon startup (reserved) 0: Disabled 1: Enabled Bit06: Phase loss self-check upon startup (reserved) 0: Disabled 1: Enabled	1	-	Changeable only at stop	<a href="#">“B8-00” on page 627</a>
B8-01	0xB801	Auto-tuning direction	0 to 1	1	-	Changeable only at stop	<a href="#">“B8-01” on page 628</a>
B8-02	0xB802	Oscillation suppression gain of synchronous motor back EMF auto-tuning	0.0 to 30.0	3.2	-	Changeable only at stop	<a href="#">“B8-02” on page 628</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
B8-03	0xB803	Target speed of rotation auto-tuning	30.0% to 100.0%	70.0	%	Changeable only at stop	<a href="#">“B8-03” on page 628</a>
B8-04	0xB804	Target speed 1 of inertia auto-tuning	10.0% to B8-05	40.0	%	Changeable only at stop	<a href="#">“B8-04” on page 629</a>
B8-05	0xB805	Target speed 2 of inertia auto-tuning	B8-04 to 100.0%	60.0	%	Changeable only at stop	<a href="#">“B8-05” on page 629</a>
B8-06	0xB806	Overcurrent prevention of mutual inductance saturation curve	0 to 1	1	-	Changeable only at stop	<a href="#">“B8-06” on page 629</a>
B8-07	0xB807	Auto-tuning items	Bit00: Speed loop parameter adaptation 0: Disabled 1: Enabled Bit01: Current loop parameter adaptation 0: Disabled 1: Enabled Bit02: Drive nonlinear auto-tuning 0: Disabled 1: Enabled Bit03: Inter-phase deviation coefficient auto-tuning 0: Disabled 1: Enabled Bit04: Auto-tuning of initial pole position of synchronous motor 0: Disabled 1: Enabled Bit05: Auto-tuning of D- and Q-axis inductance model of synchronous motor 0: Disabled 1: Enabled Bit06: System inertia auto-tuning 0: Disabled 1: Enabled Bit07: HFI pole position auto-tuning 0: Disabled 1: Enabled	117	-	Changeable only at stop	<a href="#">“B8-07” on page 629</a>
B8-08	0xB808	OFF3 stop mode	0: Quick stop 1: Stop at maximum capability	0	-	Changeable only at stop	<a href="#">“B8-08” on page 630</a>
B8-09	0xB809	Stop mode during running	0: OFF1 stop mode 1: OFF2 stop mode 2: OFF3 stop mode	1	-	Changeable only at stop	<a href="#">“B8-09” on page 630</a>
B8-10	0xB80A	Stop mode for torque control	0: Coast to stop forcibly 1: Switch to speed control mode and then stop 2: Maintain torque control mode until zero speed and then block	1	-	Changeable only at stop	<a href="#">“B8-10” on page 631</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
B8-12	0xB80C	Proportional gain adjustment coefficient	0.1 to 2.0	1.0	-	Changeable at any time	<a href="#">“B8-12” on page 631</a>
B8-13	0xB80D	Integral gain adjustment coefficient	0.1 to 2.0	1.0	-	Changeable at any time	<a href="#">“B8-13” on page 631</a>
B8-14	0xB80E	Zero-speed threshold	0.1% to 200.0%	2.0	%	Changeable at any time	<a href="#">“B8-14” on page 631</a>
B8-15	0xB80F	Zero-speed stop delay	0.00s to 10.00s	0.10	s	Changeable only at stop	<a href="#">“B8-15” on page 631</a>
B8-16	0xB810	Reference source execution interval	0 to 20	4	-	Changeable only at stop	<a href="#">“B8-16” on page 632</a>
B8-17	0xB811	Trial current for speed tracking of synchronous motor	5.0% to 50.0%	10.0	%	Changeable only at stop	<a href="#">“B8-17” on page 632</a>
B8-18	0xB812	Minimum frequency for speed tracking of synchronous motor	0.0 Hz to 100.0 Hz	0.0	Hz	Changeable only at stop	<a href="#">“B8-18” on page 632</a>
B8-19	0xB813	Angle compensation for speed tracking of synchronous motor	0 to 360	0	-	Changeable only at stop	<a href="#">“B8-19” on page 632</a>
B8-20	0xB814	Parameter auto-tuning of synchronous motor upon startup	0 to 1	0	-	Changeable at any time	<a href="#">“B8-20” on page 632</a>
B8-21	0xB815	Current motor angle	0 to 65535	0	-	Unchangeable	<a href="#">“B8-21” on page 633</a>
B8-22	0xB816	Forward torque limit 1	0.0 to 400.0	150.0	-	Changeable at any time	<a href="#">“B8-22” on page 633</a>
B8-23	0xB817	Reverse torque limit 1	0.0 to 400.0	150.0	-	Changeable at any time	<a href="#">“B8-23” on page 633</a>
B8-24	0xB818	Source of forward torque limit 2	0: 400% Others: F connector	0	-	Changeable at any time	<a href="#">“B8-24” on page 633</a>
B8-25	0xB819	Source of reverse torque limit 2	0: -400% Others: F connector	0	-	Changeable at any time	<a href="#">“B8-25” on page 633</a>



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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
B8-26	0xB81A	Ramp (FRG) selection bit0	0: 0 1: 1 2: Terminal function input 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector	0	-	Changeable at any time	<a href="#">"B8-26" on page 634</a>
B8-27	0xB81B	Ramp (FRG) selection bit1	Same as B8-26	0	-	Changeable at any time	<a href="#">"B8-27" on page 634</a>
B8-30	0xB81E	Motor protection	Bit00: Motor overload determination (reserved) Bit01: Motor overheat detection (reserved) Bit02: PG fault detection (reserved) Bit03: Current control error detection Bit04: Motor stall error detection Bit05: Locked-rotor detection Bit06: Synchronous motor demagnetization protection Bit07: Protection against locked-rotor in SVC speed open-loop control Bit08: Reserved Bit09: Parameter setting error	537	-	Changeable at any time	<a href="#">"B8-30" on page 634</a>
B8-31	0xB81F	Locked-rotor time	0.0s to 65.0s	2.0	s	Changeable at any time	<a href="#">"B8-31" on page 635</a>
B8-32	0xB820	Locked-rotor frequency	0.0% to 600.0%	6.0	%	Changeable at any time	<a href="#">"B8-32" on page 635</a>
B8-33	0xB821	Motor stall detection time	0.0s to 10.0s	0.5	s	Changeable at any time	<a href="#">"B8-33" on page 635</a>
B8-34	0xB822	Stall detection threshold	0.0% to +100.0%	30.0	%	Changeable at any time	<a href="#">"B8-34" on page 635</a>
B8-35	0xB823	Current control exception detection time	0.00s to 1.00s	0.05	s	Changeable at any time	<a href="#">"B8-35" on page 636</a>
B8-36	0xB824	Current control exception detection threshold	0.0% to 200.0%	25.0	%	Changeable at any time	<a href="#">"B8-36" on page 636</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
B8-37	0xB825	Synchronous motor overcurrent threshold	0.0% to 500.0%	300.0	%	Changeable at any time	<a href="#">“B8-37” on page 636</a>
B8-39	0xB827	Speed deviation detection	0 to 1	1	-	Changeable at any time	<a href="#">“B8-39” on page 636</a>
B8-40	0xB828	Asynchronous motor FVC model switchover frequency	0% to 1000%	20	%	Changeable only at stop	<a href="#">“B8-40” on page 636</a>
B8-41	0xB829	Asynchronous motor FVC model switchover hysteresis frequency	10% to 50%	20	%	Changeable only at stop	<a href="#">“B8-41” on page 637</a>
B8-42	0xB82A	Asynchronous motor FVC observer filter time	5 ms to 100 ms	15	ms	Changeable only at stop	<a href="#">“B8-42” on page 637</a>
B8-43	0xB82B	Asynchronous motor FVC current model mode	0 to 1	0	-	Changeable only at stop	<a href="#">“B8-43” on page 637</a>
B8-44	0xB82C	Asynchronous motor FVC pre-excitation output observation angle mode	0 to 1	0	-	Changeable only at stop	<a href="#">“B8-44” on page 637</a>
B8-45	0xB82D	Asynchronous motor SVC model switchover frequency	10% to 20%	15	%	Changeable only at stop	<a href="#">“B8-45” on page 637</a>
B8-46	0xB82E	Asynchronous motor SVC observer filter time	5 ms to 50 ms	10	ms	Changeable at any time	<a href="#">“B8-46” on page 637</a>
B8-47	0xB82F	Asynchronous motor SVC observer gain 1	10% to 500%	100	%	Changeable at any time	<a href="#">“B8-47” on page 638</a>
B8-48	0xB830	Asynchronous motor SVC observer gain 2	10% to 100%	20	%	Changeable at any time	<a href="#">“B8-48” on page 638</a>
B8-49	0xB831	Asynchronous motor SVC observer mode	0 to 3	0	-	Changeable only at stop	<a href="#">“B8-49” on page 638</a>
B8-50	0xB832	Asynchronous motor SVC pre-excitation mode	0 to 1	0	-	Changeable only at stop	<a href="#">“B8-50” on page 638</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
B8-51	0xB833	Asynchronous motor SVC speed tracking mode	0 to 1	0	-	Changeable only at stop	<a href="#">"B8-51" on page 638</a>
B8-54	0xB836	Synchronous motor 1 model control	Bit00: Low speed processing Bit01: Low speed processing 1 Bit02: Online auto-tuning of resistance Bit03: Online auto-tuning of back EMF Bit04: KS	5	-	Changeable at any time	<a href="#">"B8-54" on page 639</a>
B8-55	0xB837	Synchronous motor model K1	10 to 3000	200	-	Changeable at any time	<a href="#">"B8-55" on page 639</a>
B8-56	0xB838	Synchronous motor model K1Max	100 to 6000	3000	-	Changeable at any time	<a href="#">"B8-56" on page 639</a>
B8-57	0xB839	Synchronous motor model KsMin	0.0 to 4.0	0.3	-	Changeable at any time	<a href="#">"B8-57" on page 639</a>
B8-58	0xB83A	Synchronous motor model Kspeed	50 to 2000	400	-	Changeable at any time	<a href="#">"B8-58" on page 640</a>
B8-59	0xB83B	Synchronous motor frequency filter time constant	2 ms to 100 ms	10	ms	Changeable at any time	<a href="#">"B8-59" on page 640</a>
B8-60	0xB83C	Frequency upper limit of synchronous motor Rs online auto-tuning	1.0% to 20.0%	3.5	%	Changeable at any time	<a href="#">"B8-60" on page 640</a>
B8-61	0xB83D	Synchronous motor model Kr	0 to 50	10	-	Changeable at any time	<a href="#">"B8-61" on page 640</a>
B8-62	0xB83E	Synchronous motor model Kr1	0 to 50	5	-	Changeable at any time	<a href="#">"B8-62" on page 640</a>
B8-63	0xB83F	Synchronous motor low-speed D axis injection current	0% to 100%	20	%	Changeable at any time	<a href="#">"B8-63" on page 640</a>
B8-64	0xB840	Synchronous motor model LowFreqTime1	0 to 500	50	-	Changeable at any time	<a href="#">"B8-64" on page 641</a>
B8-67	0xB843	Frequency lower limit of back EMF online auto-tuning	10% to 100%	25	%	Changeable at any time	<a href="#">"B8-67" on page 641</a>
B8-68	0xB844	Synchronous motor model LowFreq	0.0% to 2.0%	0.3	%	Changeable at any time	<a href="#">"B8-68" on page 641</a>
B8-69	0xB845	Synchronous motor model LowFreqTime	0 to 100	10	-	Changeable at any time	<a href="#">"B8-69" on page 641</a>
B8-70	0xB846	Percentage of pole auto-tuning current	50% to 200%	100	%	Changeable at any time	<a href="#">"B8-70" on page 641</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
B8-71	0xB847	Percentage of high frequency response current	0% to 100%	25	%	Changeable at any time	<a href="#">“B8-71” on page 642</a>
B8-72	0xB848	Percentage of HFI and SVC switching frequency	0% to 30%	10	%	Changeable at any time	<a href="#">“B8-72” on page 642</a>
B8-73	0xB849	Observer parameter	10 to 200	100	-	Changeable at any time	<a href="#">“B8-73” on page 642</a>
B8-74	0xB84A	Speed filter cut-off frequency	1 Hz to 200 Hz	10	Hz	Changeable at any time	<a href="#">“B8-74” on page 642</a>
B8-75	0xB84B	Carrier frequency during NS auto-tuning	2.00 Hz to 16.00 Hz	8.00	Hz	Changeable at any time	<a href="#">“B8-75” on page 642</a>
B8-76	0xB84C	Automatic calculation of NS auto-tuning voltage	0 to 1	1	-	Changeable at any time	<a href="#">“B8-76” on page 643</a>
B8-77	0xB84D	Percentage of NS auto-tuning voltage set manually	0% to 100%	10	%	Changeable at any time	<a href="#">“B8-77” on page 643</a>
B8-78	0xB84E	Duration of HFI stage 1	50 ms to 500 ms	150	ms	Changeable at any time	<a href="#">“B8-78” on page 643</a>
B8-80	0xB850	Speed loop command word	Bit00: Speed loop 0: Disabled 1: Enabled Bit01: Integration mode 0: Conventional integration 1: Position integration Bit02: Acceleration torque 0: Disabled 1: Enabled Bit03–Bit04: Acceleration source 0: Function transfer torque 1: Automatic calculation 2: Function transfer acceleration Bit05: Anti-load disturbance 0: Disabled 1: Enabled	11	-	Changeable at any time	<a href="#">“B8-80” on page 643</a>
B8-81	0xB851	Locked-rotor fast integral cancel coefficient	0.0% to +100.0%	0.0	%	Changeable at any time	<a href="#">“B8-81” on page 644</a>
B8-82	0xB852	Integral torque	-100% to +100.0%	0.0	%	Changeable at any time	<a href="#">“B8-82” on page 644</a>
B8-83	0xB853	Speed controller frequency window size	0.00 Hz to 10.00 Hz	0.00	Hz	Changeable only at stop	<a href="#">“B8-83” on page 644</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
B8-84	0xB854	Current filter time for torque reference	0.0 ms to 100.0 ms	0.0	ms	Changeable only at stop	<a href="#">“B8-84” on page 645</a>
B8-85	0xB855	Acceleration torque	0: Inactive 1: AI1 2: AI2 3: AI3 4: Pulse reference 5: Communication 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable at any time	<a href="#">“B8-85” on page 645</a>
B8-87	0xB857	Reference model bandwidth	0.00 Hz to 300.00 Hz	0.00	Hz	Changeable at any time	<a href="#">“B8-87” on page 645</a>
B8-88	0xB858	Torque feedforward coefficient	0.0% to 1000.0%	100.0	%	Changeable at any time	<a href="#">“B8-88” on page 645</a>
B8-89	0xB859	Vector control reference frequency filter time	0.0 ms to 100.0 ms	0.0	ms	Changeable only at stop	<a href="#">“B8-89” on page 645</a>
B8-90	0xB85A	Vector control feedback frequency filter time	0.0 ms to 100.0 ms	0.0	ms	Changeable only at stop	<a href="#">“B8-90” on page 646</a>
B8-91	0xB85B	Load observation bandwidth	0.00 Hz to 300.00 Hz	0.00	Hz	Changeable at any time	<a href="#">“B8-91” on page 646</a>
B8-92	0xB85C	Load observation coefficient	0.0% to 1000.0%	100.0	%	Changeable at any time	<a href="#">“B8-92” on page 646</a>
B8-93	0xB85D	Pseudo integral coefficient	0.000 to 10.000	1.000	-	Changeable at any time	<a href="#">“B8-93” on page 646</a>
B8-94	0xB85E	Torque coefficient enable	0: Disabled 1: Enabled	0	-	Changeable at any time	<a href="#">“B8-94” on page 646</a>
B8-96	0xB860	Center frequency of notch filter 1	0.0 to 4000.0	4000.0	-	Changeable at any time	<a href="#">“B8-96” on page 647</a>
B8-97	0xB861	Center frequency of notch filter 2	0.0 to 4000.0	4000.0	-	Changeable at any time	<a href="#">“B8-97” on page 647</a>
B8-98	0xB862	Integral setting control word	0: Disabled 1: Enabled Others: B connector	0	-	Changeable at any time	<a href="#">“B8-98” on page 647</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
B8-99	0xB863	Integral reference source	0: Digital setting 1: AI1 2: AI2 3: AI3 4: Pulse reference 5: Communication 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable at any time	<a href="#">“B8-99” on page 647</a>
B9-00	0xB900	Externally transferred acceleration	0: Inactive 1: AI1 2: AI2 3: AI3 4: Pulse reference 5: Communication 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable at any time	<a href="#">“B9-00” on page 648</a>
B9-03	0xB903	Overturning torque limiting coefficient	0.0% to 400.0%	100.0	%	Changeable at any time	<a href="#">“B9-03” on page 648</a>
B9-04	0xB904	Motoring power limiting coefficient	0.0% to 400.0%	400.0	%	Changeable at any time	<a href="#">“B9-04” on page 648</a>
B9-05	0xB905	Generating power limiting coefficient	0.0% to 400.0%	400.0	%	Changeable at any time	<a href="#">“B9-05” on page 649</a>
B9-06	0xB906	Overspeed limiting enable	0 to 1	1	-	Changeable at any time	<a href="#">“B9-06” on page 649</a>
B9-07	0xB907	Sine wave frequency of bandwidth test	0 Hz to 1000 Hz	0	Hz	Changeable at any time	<a href="#">“B9-07” on page 649</a>
B9-08	0xB908	Sine wave amplitude of bandwidth test	0% to 100%	0	%	Changeable at any time	<a href="#">“B9-08” on page 649</a>
B9-09	0xB909	Bandwidth test enable	0 to 4	0	-	Changeable at any time	<a href="#">“B9-09” on page 649</a>
B9-11	0xB90B	Speed loop parameter calculation mode	0: New solution 1: Compatible solution	1	-	Changeable only at stop	<a href="#">“B9-11” on page 650</a>
B9-12	0xB90C	Speed loop proportional gain in FVC mode	0.00 Hz to 100.00 Hz	8.00	Hz	Changeable at any time	<a href="#">“B9-12” on page 650</a>
B9-13	0xB90D	Speed loop integral time in FVC mode	0.000s to 20.000s	0.080	s	Changeable at any time	<a href="#">“B9-13” on page 650</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
B9-14	0xB90E	Speed loop proportional gain in SVC mode	0.00 Hz to 100.00 Hz	5.00	Hz	Changeable at any time	<a href="#">“ B9-14” on page 650</a>
B9-15	0xB90F	Speed loop integral time in SVC mode	0.000s to 20.000s	0.127	s	Changeable at any time	<a href="#">“ B9-15” on page 650</a>
B9-16	0xB910	Low frequency proportional correction coefficient	0.0% to 1000.0%	100.0	%	Changeable at any time	<a href="#">“ B9-16” on page 651</a>
B9-17	0xB911	Low frequency integral correction coefficient	0.0% to 1000.0%	100.0	%	Changeable at any time	<a href="#">“ B9-17” on page 651</a>
B9-18	0xB912	Speed loop adaption factor	0.000 to 10.000	0.200	-	Changeable at any time	<a href="#">“ B9-18” on page 651</a>
B9-19	0xB913	Speed loop adaption switchover lower limit	0.000 to 10.000	0.400	-	Changeable at any time	<a href="#">“ B9-19” on page 651</a>
B9-20	0xB914	Speed loop adaption switchover upper limit	0.000 to 10.000	1.000	-	Changeable at any time	<a href="#">“ B9-20” on page 651</a>
B9-21	0xB915	Speed loop adaption correction upper limit	0.0% to 1000.0%	100.0	%	Changeable at any time	<a href="#">“ B9-21” on page 652</a>
B9-22	0xB916	Speed loop adaption correction lower limit	0.0% to 1000.0%	100.0	%	Changeable at any time	<a href="#">“ B9-22” on page 652</a>
B9-23	0xB917	Flux adaptation enable	0 to 1	0	-	Changeable at any time	<a href="#">“ B9-23” on page 652</a>
B9-24	0xB918	Overspeed controller correction coefficient	0.0% to 1000.0%	100.0	%	Changeable at any time	<a href="#">“ B9-24” on page 652</a>
B9-25	0xB919	VDC control command word	Bit00: VdcMin 0: Disabled 1: Enabled Bit01: VdcMax 0: Disabled 1: Enabled Bit02: Automatic calculation of VDC trigger voltage 0: Disabled 1: Enabled Bit03: VDC control integral action 0: Disabled 1: Enabled	0	-	Changeable at any time	<a href="#">“ B9-25” on page 652</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
B9-26	0xB91A	Bus capacitance ratio	50.0% to 1000.0%	100.0	%	Changeable at any time	<a href="#">“B9-26” on page 653</a>
B9-27	0xB91B	Undervoltage suppression exit hysteresis frequency	0.00 Hz to 10.00 Hz	3.00	Hz	Changeable at any time	<a href="#">“B9-27” on page 653</a>
B9-28	0xB91C	Minimum VDC failure speed threshold	0.00 Hz to 20.00 Hz	2.00	Hz	Changeable at any time	<a href="#">“B9-28” on page 653</a>
B9-29	0xB91D	Dynamic adjustment coefficient	0.0% to 1000.0%	100.0	%	Changeable at any time	<a href="#">“B9-29” on page 653</a>
B9-30	0xB91E	Minimum VDC activation voltage	320.0 V to 540.0 V	430.0	V	Changeable at any time	<a href="#">“B9-30” on page 654</a>
B9-31	0xB91F	Maximum VDC activation voltage	650.0 V to 800.0 V	770.0	V	Changeable at any time	<a href="#">“B9-31” on page 654</a>



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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
B9-32	0xB920	Flux linkage control command word	Bit00: Output voltage limit calculation filtering mode 0: Symmetric filtering 1: Asymmetric filtering Bit01: Asynchronous motor inverse proportion curve calculation 0: The inverse proportional synchronization frequency decreases. 1: The inverse proportional speed decreases. Bit02: Flux linkage feedforward calculation by using inverse proportional speed 0: Disabled 1: Enabled Bit03: Reserved Bit04: Reserved Bit05: Field weakening adjustment 0: Disabled 1: Enabled Bit06: Flux linkage derivative feedforward 0: Disabled 1: Enabled Bit07: Energy conservation control 0: Disabled 1: Enabled Bit08: Asynchronous motor flux closed loop 0: Disabled 1: Enabled Bit09: Reserved Bit10: Reserved Bit11: Asynchronous motor pre-excitation mode 0: Pre-excitation based on time 1: Pre-excitation based on current Bit12: Asynchronous motor pre-excitation current 0: Reference current 1: Maximum current allowed by the drive	2357	-	Changeable at any time	<a href="#">“ B9-32” on page 654</a>
B9-33	0xB921	Output voltage upper limit margin for field weakening adjustment	1% to 50%	5	%	Changeable at any time	<a href="#">“ B9-33” on page 656</a>
B9-34	0xB922	Output voltage upper limit margin for auto adjustment of field weakening	1% to 20%	3	%	Changeable at any time	<a href="#">“ B9-34” on page 656</a>
B9-35	0xB923	Filter time for calculating maximum output voltage	0 ms to 3000 ms	30	ms	Changeable at any time	<a href="#">“ B9-35” on page 656</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
B9-36	0xB924	Rated flux adjustment coefficient for calculation	0.5 to 2.0	1.0	-	Changeable at any time	<a href="#">"B9-36" on page 656</a>
B9-37	0xB925	Field weakening frequency adjustment coefficient for calculation	0.8 to 1.2	1.0	-	Changeable at any time	<a href="#">"B9-37" on page 657</a>
B9-38	0xB926	Slip filter time for calculating field weakening frequency	0 ms to 3000 ms	62	ms	Changeable at any time	<a href="#">"B9-38" on page 657</a>
B9-39	0xB927	Feedback speed filtering	0 ms to 8000 ms	50	ms	Changeable at any time	<a href="#">"B9-39" on page 657</a>
B9-40	0xB928	Flux linkage rising filter time	0 ms to 8000 ms	20	ms	Changeable at any time	<a href="#">"B9-40" on page 657</a>
B9-42	0xB92A	Feedback voltage filter time	0 ms to 3000 ms	5	ms	Changeable at any time	<a href="#">"B9-42" on page 658</a>
B9-43	0xB92B	Maximum demagnetization current of synchronous motor	0% to 500%	300	%	Changeable at any time	<a href="#">"B9-43" on page 658</a>
B9-44	0xB92C	Voltage outer loop lower limit coefficient	0 to 500	50	-	Changeable at any time	<a href="#">"B9-44" on page 658</a>
B9-45	0xB92D	Flux linkage derivative feedforward coefficient	0.0 to 1.5	1.0	-	Changeable at any time	<a href="#">"B9-45" on page 658</a>
B9-46	0xB92E	Flux linkage derivative feedforward filter time	0 ms to 3000 ms	6	ms	Changeable at any time	<a href="#">"B9-46" on page 658</a>
B9-47	0xB92F	Torque current rising filter time under energy conservation control	0 ms to 3000 ms	50	ms	Changeable at any time	<a href="#">"B9-47" on page 659</a>
B9-48	0xB930	Torque current falling filter time under energy conservation control	0 ms to 3000 ms	100	ms	Changeable at any time	<a href="#">"B9-48" on page 659</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
B9-49	0xB931	Flux linkage lower limit coefficient under energy conservation control	0.00 to 0.50	0.10	-	Changeable at any time	<a href="#">“ B9-49” on page 659</a>
B9-51	0xB933	Pre-excitation current	1% to 200%	100	%	Changeable at any time	<a href="#">“ B9-51” on page 659</a>
B9-52	0xB934	Pre-excitation time	1 ms to 30000 ms	1000	ms	Changeable at any time	<a href="#">“ B9-52” on page 660</a>
B9-53	0xB935	Flux linkage closed-loop bandwidth frequency	0.0 Hz to 100.0 Hz	2.0	Hz	Changeable at any time	<a href="#">“ B9-53” on page 660</a>
B9-54	0xB936	Feedback flux linkage filter time coefficient	0 to 200	4	-	Changeable at any time	<a href="#">“ B9-54” on page 660</a>
B9-55	0xB937	Static output flux linkage filter time	0 ms to 5000 ms	10	ms	Changeable at any time	<a href="#">“ B9-55” on page 660</a>
B9-56	0xB938	Current loop mode	0: ImCsr2 mode 1: Complex vector mode 2: 880 mode 3: No field weakening	1	-	Changeable only at stop	<a href="#">“ B9-56” on page 660</a>
B9-57	0xB939	PI regulator proportional gain adaptation with load	0 to 1	0	-	Changeable only at stop	<a href="#">“ B9-57” on page 661</a>
B9-58	0xB93A	Current loop damping	0.2 to 5.0	0.8	-	Changeable at any time	<a href="#">“ B9-58” on page 661</a>
B9-59	0xB93B	Low-speed current loop Kp adjustment	0.1 to 10.0	1.0	-	Changeable at any time	<a href="#">“ B9-59” on page 661</a>
B9-60	0xB93C	High-speed current loop Kp adjustment	0.1 to 10.0	1.0	-	Changeable at any time	<a href="#">“ B9-60” on page 661</a>
B9-61	0xB93D	Low-speed current loop Ki adjustment	0.1 to 10.0	1.0	-	Changeable at any time	<a href="#">“ B9-61” on page 662</a>
B9-62	0xB93E	High-speed current loop Ki adjustment	0.1 to 10.0	2.0	-	Changeable at any time	<a href="#">“ B9-62” on page 662</a>
B9-63	0xB93F	D-axis current loop complex vector adjustment	0.1 to 10.0	1.0	-	Changeable at any time	<a href="#">“ B9-63” on page 662</a>
B9-64	0xB940	Q-axis current loop complex vector adjustment	0.1 to 10.0	1.0	-	Changeable at any time	<a href="#">“ B9-64” on page 662</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
B9-65	0xB941	Complex vector hysteresis frequency lower limit as a percentage of rated frequency	0% to B9-66	0	%	Changeable at any time	<a href="#">"B9-65" on page 662</a>
B9-66	0xB942	Complex vector hysteresis frequency upper limit as a percentage of rated frequency	B9-65 to 150%	0	%	Changeable at any time	<a href="#">"B9-66" on page 663</a>
B9-67	0xB943	ImCsr2 hysteresis switchover voltage upper limit as a percentage of saturation voltage	B9-68 to 95%	89	%	Changeable at any time	<a href="#">"B9-67" on page 663</a>
B9-68	0xB944	ImCsr2 hysteresis switchover voltage lower limit as a percentage of saturation voltage	60% to B9-67	79	%	Changeable at any time	<a href="#">"B9-68" on page 663</a>
B9-69	0xB945	ImCsr2 hysteresis switchover frequency hysteresis range as a percentage of rated frequency	1% to 30%	10	%	Changeable at any time	<a href="#">"B9-69" on page 663</a>
B9-70	0xB946	ImCsr2 hysteresis switchover frequency lower limit (below which the hysteresis condition does not take effect) as a percentage of the rated frequency	40% to 80%	60	%	Changeable at any time	<a href="#">"B9-70" on page 663</a>
B9-71	0xB947	ImCsr2 current loop Kss adjustment	0.1 to 10.0	1.0	-	Changeable at any time	<a href="#">"B9-71" on page 664</a>
B9-72	0xB948	Proportional gain adjustment coefficient corresponding to the maximum torque when proportional gain is adjusted with load	0.1 to 1.0	0.5	-	Changeable at any time	<a href="#">"B9-72" on page 664</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
B9-73	0xB949	Torque upper limit setpoint as a percentage of rated torque when proportional gain is adjusted with load	B9-74 to 300%	200	%	Changeable at any time	<a href="#">“ B9-73” on page 664</a>
B9-74	0xB94A	Torque lower limit setpoint as a percentage of rated torque when proportional gain is adjusted with load	10% to B9-73	100	%	Changeable at any time	<a href="#">“ B9-74” on page 664</a>
B9-75	0xB94B	Derivative feedforward adjustment	0.0 to 1.0	0.0	-	Changeable at any time	<a href="#">“ B9-75” on page 665</a>
B9-76	0xB94C	Decoupling control start frequency as a percentage of rated frequency	20% to 150%	40	%	Changeable at any time	<a href="#">“ B9-76” on page 665</a>
B9-77	0xB94D	Decoupling control filter time adjustment coefficient	0.1 to 3.0	1.0	-	Changeable at any time	<a href="#">“ B9-77” on page 665</a>
B9-78	0xB94E	Decoupling control output adjustment coefficient	0.0 to 1.0	1.0	-	Changeable at any time	<a href="#">“ B9-78” on page 665</a>
B9-79	0xB94F	CPC feedforward enable	0: Disabled 1: Enabled	0	-	Changeable at any time	<a href="#">“ B9-79” on page 665</a>
B9-80	0xB950	Current loop auxiliary command word	Bit00: Complex vector angle limiting 0: Disabled 1: Enabled Bit01: Voltage angle limiting 0: Program internal limiting 1: Parameter setting Bit02: 0 by default 0: No lower limit on the excitation current is imposed during the dynamic process. 1: A lower limit on the excitation current is imposed during the dynamic process in ImCsr2 mode. Bit03–Bit15: Reserved (0 by default)	0	-	Changeable at any time	<a href="#">“ B9-80” on page 666</a>
B9-81	0xB951	Voltage angle upper limit	90° to 180°	150	°	Changeable at any time	<a href="#">“ B9-81” on page 666</a>
B9-82	0xB952	Voltage angle lower limit	0° to 90°	30	°	Changeable at any time	<a href="#">“ B9-82” on page 666</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
B9-83	0xB953	Asynchronous motor D axis integral limit	0.500 to 1.000	0.707	-	Changeable at any time	<a href="#">“B9-83” on page 666</a>
B9-84	0xB954	Current loop carrier frequency upper limit	5.0 to 16.0	8.0	-	Changeable at any time	<a href="#">“B9-84” on page 667</a>
B9-85	0xB955	Droop enable	0 to 1	0	-	Changeable only at stop	<a href="#">“B9-85” on page 667</a>
B9-86	0xB956	Droop source	0: Line current 1: Torque reference 2: Speed adjustment output 3: Speed adjustment integral component	1	-	Changeable only at stop	<a href="#">“B9-86” on page 667</a>
B9-87	0xB957	Frequency reference droop coefficient	0.0% to 50.0%	0.0	%	Changeable at any time	<a href="#">“B9-87” on page 667</a>
B9-88	0xB958	FVC-SVC switchover mode	0: No switchover 1: Active switchover 2: Passive switchover (The AC drive switches to SVC mode upon detection of encoder wire breakage, and it switches back to FVC mode when the encoder recovers during stop and does not switch back to FVC mode when the encoder recovers during running.) 3: Passive switchover (The AC drive switches to SVC mode upon detection of encoder wire breakage, and it switches back to FVC mode when the encoder recovers during running or stop.)	0	-	Changeable only at stop	<a href="#">“B9-88” on page 667</a>
B9-89	0xB959	FVC-SVC switchover frequency	10% to 500%	50	%	Changeable only at stop	<a href="#">“B9-89” on page 668</a>
B9-90	0xB95A	FVC-SVC switchover hysteresis	10% to 100%	10	%	Changeable only at stop	<a href="#">“B9-90” on page 668</a>
BA-00	0xBA00	Motor type	0: Common asynchronous motor 1: Variable frequency asynchronous motor 2: Permanent magnet synchronous motor	0	-	Changeable only at stop	<a href="#">“BA-00” on page 668</a>
BA-01	0xBA01	Rated motor power	0.1 kW to 1000.0 kW	3.7	kW	Changeable only at stop	<a href="#">“BA-01” on page 668</a>
BA-02	0xBA02	Rated motor voltage	1 V to 2000 V	380	V	Changeable only at stop	<a href="#">“BA-02” on page 669</a>
BA-03	0xBA03	Rated motor current	0.01 A to 655.35 A	9.00	A	Changeable only at stop	<a href="#">“BA-03” on page 669</a>
BA-04	0xBA04	Rated motor frequency	0.01 Hz to F0-10	50.00	Hz	Changeable only at stop	<a href="#">“BA-04” on page 669</a>
BA-05	0xBA05	Rated motor speed	1 RPM to 65535 RPM	1460	RPM	Changeable only at stop	<a href="#">“BA-05” on page 669</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
BA-06	0xBA06	Number of parallel motors	1 to 200	1	-	Changeable only at stop	<a href="#">“BA-06” on page 669</a>
BA-07	0xBA07	Motor information command word	Bit00: Mutual inductance curve 0: Disabled 1: Enabled Bit01: D- and Q-axis inductance curve 0: Disabled 1: Enabled Bit02: Rotor resistance online auto-tuning 0: Disabled 1: Enabled Bit03: Rotor resistance online auto-tuning method 0: Amplitude 1: Phase Bit04: Motor thermal model 0: Disabled 1: Enabled Bit05: Temperature source of motor thermal model 0: Estimated temperature 1: Temperature detected by sensor Bit06: Torque coefficient calculation of asynchronous motor 0: Torque formula 1: Current distribution Bit07: Torque coefficient calculation of synchronous motor 0: Torque formula 1: Torque matching the rated torque Bit08: Zero speed friction torque calculation 0: Torque linearly decreasing to zero 1: Torque to maintain minimum speed Bit09: Calculation of model parameters based on nameplate parameters 0: Disabled 1: Enabled Bit10: Confirmation of calculating model parameters based on nameplate parameters 0: Default 1: Confirm	0x3	-	Changeable only at stop	<a href="#">“BA-07” on page 670</a>
BA-08	0xBA08	Number of motor pole pairs	0 to 64	0	-	Changeable only at stop	<a href="#">“BA-08” on page 670</a>
BA-09	0xBA09	Motor power factor	0.600 to 1.000	0.860	-	Changeable only at stop	<a href="#">“BA-09” on page 671</a>
BA-10	0xBA0A	Encoder PPR	1 to 65535	1024	-	Changeable only at stop	<a href="#">“BA-10” on page 671</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
BA-11	0xBA0B	Encoder type	0: ABZ incremental encoder 1: 23-bit encoder 2: Resolver 3: External input	0	-	Changeable only at stop	<a href="#">“BA-11” on page 671</a>
BA-12	0xBA0C	Speed feedback PG card	0: Local PG card 1: Extension PG card	0	-	Changeable only at stop	<a href="#">“BA-12” on page 671</a>
BA-13	0xBA0D	Number of resolver pole pairs	1 to 65535	1	-	Changeable only at stop	<a href="#">“BA-13” on page 672</a>
BA-15	0xBA0F	Speed feedback PG wire breakage detection time	0.0s to 10.0s	0.0	s	Changeable only at stop	<a href="#">“BA-15” on page 672</a>
BA-16	0xBA10	A/B phase sequence of encoder	0: Forward 1: Reverse	0	-	Changeable only at stop	<a href="#">“BA-16” on page 672</a>
BA-17	0xBA11	Encoder installation angle	0.0° to 359.9°	0.0	°	Changeable only at stop	<a href="#">“BA-17” on page 672</a>
BA-18	0xBA12	Expansion card	1: Expansion card 1 2: Expansion card 2	1	-	Changeable only at stop	<a href="#">“BA-18” on page 672</a>
BA-19	0xBA13	ABZ encoder speed measurement mode at low speed	0: Maintain 1: Attenuate 2: Optimized solution	2	-	Changeable only at stop	<a href="#">“BA-19” on page 673</a>
BA-20	0xBA14	Encoder speed measurement filter time constant	0.000s to 10.000s	0.004	s	Changeable at any time	<a href="#">“BA-20” on page 673</a>
BA-21	0xBA15	Encoder wire breakage software detection coefficient	0.000 to 8.000	1.000	-	Changeable at any time	<a href="#">“BA-21” on page 673</a>
BA-22	0xBA16	Encoder control word	Bit00: Speed measurement 0: Disabled 1: Enabled Bit01: Software detection of wire breakage 0: Disabled 1: Enabled Bit02: Glitch removal 0: Disabled 1: Enabled Bit03: ABZ encoder speed measurement mode 0: Quadruplicated frequency 1: Single pulse	0	-	Changeable only at stop	<a href="#">“BA-22” on page 673</a>
BA-23	0xBA17	Speed measurement exception count threshold	1 to 100	10	-	Changeable only at stop	<a href="#">“BA-23” on page 674</a>
BA-24	0xBA18	Motor gear ratio (numerator)	1 to 65535	1	-	Changeable only at stop	<a href="#">“BA-24” on page 674</a>



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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
BA-25	0xBA19	Motor gear ratio (denominator)	1 to 65535	1	-	Changeable only at stop	<a href="#">“BA-25” on page 674</a>
BA-26	0xBA1A	External input source of encoder	0: 0 1: AI1 2: AI2 3: AI3 4: Pulse reference 5: Communication 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Unchangeable	<a href="#">“BA-26” on page 674</a>
BA-29	0xBA1D	Auto-tuning	0: No operation 1: Static auto-tuning on partial parameters of asynchronous motor 2: Dynamic auto-tuning on asynchronous motor 3: Static auto-tuning on all parameters of asynchronous motor 4: Inertia auto-tuning 5: Deadzone auto-tuning 11: With-load auto-tuning on synchronous motor (excluding back EMF) 12: No-load dynamic auto-tuning on synchronous motor 13: Static auto-tuning on all parameters of synchronous motor (excluding zero point angle)	0	-	Changeable only at stop	<a href="#">“BA-29” on page 675</a>
BA-30	0xBA1E	Asynchronous motor stator resistance	0.001 $\Omega$ to 65.535 $\Omega$	1.204	$\Omega$	Changeable only at stop	<a href="#">“BA-30” on page 675</a>
BA-31	0xBA1F	Asynchronous motor rotor resistance	0.001 $\Omega$ to 65.535 $\Omega$	0.908	$\Omega$	Changeable only at stop	<a href="#">“BA-31” on page 675</a>
BA-32	0xBA20	Asynchronous motor leakage inductance	0.01 mH to 655.35 mH	5.28	mH	Changeable only at stop	<a href="#">“BA-32” on page 675</a>
BA-33	0xBA21	Asynchronous motor mutual inductance	0.1 mH to 6553.5 mH	156.8	mH	Changeable only at stop	<a href="#">“BA-33” on page 675</a>
BA-34	0xBA22	Asynchronous motor no-load current	0.01 A to BA-03	4.20	A	Changeable only at stop	<a href="#">“BA-34” on page 676</a>
BA-35	0xBA23	Synchronous motor stator resistance	0.001 $\Omega$ to 65.535 $\Omega$	1.204	$\Omega$	Changeable only at stop	<a href="#">“BA-35” on page 676</a>
BA-36	0xBA24	Synchronous motor D axis inductance	0.01 mH to 655.35 mH	5.28	mH	Changeable only at stop	<a href="#">“BA-36” on page 676</a>
BA-37	0xBA25	Synchronous motor Q axis inductance	0.01 mH to 655.35 mH	5.28	mH	Changeable only at stop	<a href="#">“BA-37” on page 676</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
BA-39	0xBA27	Synchronous motor back EMF coefficient	0.0 V to 6553.5 V	300.0	V	Changeable only at stop	<a href="#">“BA-39” on page 676</a>
BA-40	0xBA28	Stator leakage inductance	0.000 mH to 65.535 mH	6.540	mH	Changeable only at stop	<a href="#">“BA-40” on page 677</a>
BA-41	0xBA29	Electromechanical time constant	1 ms to 65535 ms	100	ms	Unchangeable	<a href="#">“BA-41” on page 677</a>
BA-42	0xBA2A	Inertia ratio	0.0% to 6553.5%	120.0	%	Changeable only at stop	<a href="#">“BA-42” on page 677</a>
BA-43	0xBA2B	Friction torque	0.0% to 6553.5%	2.0	%	Changeable only at stop	<a href="#">“BA-43” on page 677</a>
BA-44	0xBA2C	Excitation current coefficient 1 of mutual inductance curve (rated)	5.0% to 100.0%	50.0	%	Changeable only at stop	<a href="#">“BA-44” on page 677</a>
BA-45	0xBA2D	Excitation current coefficient 2 of mutual inductance curve (rated)	5.0% to 100.0%	75.0	%	Changeable only at stop	<a href="#">“BA-45” on page 678</a>
BA-46	0xBA2E	Excitation current coefficient 3 of mutual inductance curve	100.0% to 800.0%	150.0	%	Changeable only at stop	<a href="#">“BA-46” on page 678</a>
BA-47	0xBA2F	Excitation current coefficient 4 of mutual inductance curve	100.0% to 800.0%	210.0	%	Changeable only at stop	<a href="#">“BA-47” on page 678</a>
BA-48	0xBA30	Flux coefficient 1 of mutual inductance curve (rated)	10.0% to 100.0%	50.0	%	Changeable only at stop	<a href="#">“BA-48” on page 678</a>
BA-49	0xBA31	Flux coefficient 2 of mutual inductance curve (rated)	10.0% to 100.0%	85.0	%	Changeable only at stop	<a href="#">“BA-49” on page 678</a>
BA-50	0xBA32	Flux coefficient 3 of mutual inductance curve	100.0% to 300.0%	115.0	%	Changeable only at stop	<a href="#">“BA-50” on page 679</a>
BA-51	0xBA33	Flux coefficient 4 of mutual inductance curve	100.0% to 300.0%	125.0	%	Changeable only at stop	<a href="#">“BA-51” on page 679</a>
BA-52	0xBA34	Speed point 1 of friction curve	0 RPM to 30000 RPM	15	RPM	Changeable only at stop	<a href="#">“BA-52” on page 679</a>
BA-53	0xBA35	Speed point 2 of friction curve	0 RPM to 30000 RPM	30	RPM	Changeable only at stop	<a href="#">“BA-53” on page 679</a>
BA-54	0xBA36	Speed point 3 of friction curve	0 RPM to 30000 RPM	60	RPM	Changeable only at stop	<a href="#">“BA-54” on page 679</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
BA-55	0xBA37	Speed point 4 of friction curve	0 RPM to 30000 RPM	120	RPM	Changeable only at stop	<a href="#">"BA-55" on page 679</a>
BA-56	0xBA38	Speed point 5 of friction curve	0 RPM to 30000 RPM	150	RPM	Changeable only at stop	<a href="#">"BA-56" on page 680</a>
BA-57	0xBA39	Speed point 6 of friction curve	0 RPM to 30000 RPM	300	RPM	Changeable only at stop	<a href="#">"BA-57" on page 680</a>
BA-58	0xBA3A	Speed point 7 of friction curve	0 RPM to 30000 RPM	600	RPM	Changeable only at stop	<a href="#">"BA-58" on page 680</a>
BA-59	0xBA3B	Speed point 8 of friction curve	0 RPM to 30000 RPM	1200	RPM	Changeable only at stop	<a href="#">"BA-59" on page 680</a>
BA-60	0xBA3C	Speed point 9 of friction curve	0 RPM to 30000 RPM	1500	RPM	Changeable only at stop	<a href="#">"BA-60" on page 680</a>
BA-61	0xBA3D	Speed point 10 of friction curve	0 RPM to 30000 RPM	3000	RPM	Changeable only at stop	<a href="#">"BA-61" on page 681</a>
BA-62	0xBA3E	Torque point 1 of friction curve	-320 N·m to +320 N·m	0.00	N·m	Changeable only at stop	<a href="#">"BA-62" on page 681</a>
BA-63	0xBA3F	Torque point 2 of friction curve	-320 N·m to +320 N·m	0.00	N·m	Changeable only at stop	<a href="#">"BA-63" on page 681</a>
BA-64	0xBA40	Torque point 3 of friction curve	-320 N·m to +320 N·m	0.00	N·m	Changeable only at stop	<a href="#">"BA-64" on page 681</a>
BA-65	0xBA41	Torque point 4 of friction curve	-320 N·m to +320 N·m	0.00	N·m	Changeable only at stop	<a href="#">"BA-65" on page 681</a>
BA-66	0xBA42	Torque point 5 of friction curve	-320 N·m to +320 N·m	0.00	N·m	Changeable only at stop	<a href="#">"BA-66" on page 682</a>
BA-67	0xBA43	Torque point 6 of friction curve	-320 N·m to +320 N·m	0.00	N·m	Changeable only at stop	<a href="#">"BA-67" on page 682</a>
BA-68	0xBA44	Torque point 7 of friction curve	-320 N·m to +320 N·m	0.00	N·m	Changeable only at stop	<a href="#">"BA-68" on page 682</a>
BA-69	0xBA45	Torque point 8 of friction curve	-320 N·m to +320 N·m	0.00	N·m	Changeable only at stop	<a href="#">"BA-69" on page 682</a>
BA-70	0xBA46	Torque point 9 of friction curve	-320 N·m to +320 N·m	0.00	N·m	Changeable only at stop	<a href="#">"BA-70" on page 682</a>
BA-71	0xBA47	Torque point 10 of friction curve	-320 N·m to +320 N·m	0.00	N·m	Changeable only at stop	<a href="#">"BA-71" on page 683</a>
BA-72	0xBA48	Current coefficient starting point of D- and Q-axis inductance curve	-800% to +800.0%	-200	%	Changeable only at stop	<a href="#">"BA-72" on page 683</a>
BA-73	0xBA49	Current coefficient end point of D- and Q-axis inductance curve	-800% to +800.0%	200.0	%	Changeable only at stop	<a href="#">"BA-73" on page 683</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
BA-74	0xBA4A	D axis inductance 1 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“BA-74” on page 683</a>
BA-75	0xBA4B	D axis inductance 2 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“BA-75” on page 683</a>
BA-76	0xBA4C	D axis inductance 3 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“BA-76” on page 684</a>
BA-77	0xBA4D	D axis inductance 4 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“BA-77” on page 684</a>
BA-78	0xBA4E	D axis inductance 5 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“BA-78” on page 684</a>
BA-79	0xBA4F	D axis inductance 6 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“BA-79” on page 684</a>
BA-80	0xBA50	D axis inductance 7 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“BA-80” on page 684</a>
BA-81	0xBA51	D axis inductance 8 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“BA-81” on page 684</a>
BA-82	0xBA52	D axis inductance 9 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“BA-82” on page 685</a>
BA-83	0xBA53	D axis inductance 10 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“BA-83” on page 685</a>
BA-84	0xBA54	D axis inductance 11 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“BA-84” on page 685</a>
BA-85	0xBA55	D axis inductance 12 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“BA-85” on page 685</a>
BA-86	0xBA56	Q axis inductance 1 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“BA-86” on page 685</a>
BA-87	0xBA57	Q axis inductance 2 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“BA-87” on page 686</a>
BA-88	0xBA58	Q axis inductance 3 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“BA-88” on page 686</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
BA-89	0xBA59	Q axis inductance 4 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“BA-89” on page 686</a>
BA-90	0xBA5A	Q axis inductance 5 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“BA-90” on page 686</a>
BA-91	0xBA5B	Q axis inductance 6 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“BA-91” on page 686</a>
BA-92	0xBA5C	Q axis inductance 7 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“BA-92” on page 687</a>
BA-93	0xBA5D	Q axis inductance 8 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“BA-93” on page 687</a>
BA-94	0xBA5E	Q axis inductance 9 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“BA-94” on page 687</a>
BA-95	0xBA5F	Q axis inductance 10 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“BA-95” on page 687</a>
BA-96	0xBA60	Q axis inductance 11 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“BA-96” on page 687</a>
BA-97	0xBA61	Q axis inductance 12 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“BA-97” on page 688</a>
BB-00	0xBB00	V/f curve	0: Straight-line V/f curve 1: Multi-point V/f curve 2: Reserved 3: Reserved 4: Reserved 5: Reserved 6: Reserved 7: Reserved 8: Reserved 9: Reserved 10: V/f complete separation mode 11: V/f half separation mode	0	-	Changeable only at stop	<a href="#">“BB-00” on page 688</a>
BB-01	0xBB01	Torque boost	0.0% to 30.0%	3.0	%	Changeable at any time	<a href="#">“BB-01” on page 688</a>
BB-02	0xBB02	Cut-off frequency of torque boost	0.00 Hz to F0-10	50.00	Hz	Changeable only at stop	<a href="#">“BB-02” on page 688</a>
BB-03	0xBB03	Multi-point V/f frequency 1	0.00 Hz to BB-05	0.00	Hz	Changeable only at stop	<a href="#">“BB-03” on page 689</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
BB-04	0xBB04	Multi-point V/f voltage 1	0.0% to +100.0%	0.0	%	Changeable only at stop	<a href="#">“BB-04” on page 689</a>
BB-05	0xBB05	Multi-point V/f frequency 2	BB-03 to BB-07	0.00	Hz	Changeable only at stop	<a href="#">“BB-05” on page 689</a>
BB-06	0xBB06	Multi-point V/f voltage 2	0.0% to +100.0%	0.0	%	Changeable only at stop	<a href="#">“BB-06” on page 689</a>
BB-07	0xBB07	Multi-point V/f frequency 3	BB-05 to BA-04	0.00	Hz	Changeable only at stop	<a href="#">“BB-07” on page 689</a>
BB-08	0xBB08	Multi-point V/f voltage 3	0.0% to +100.0%	0.0	%	Changeable only at stop	<a href="#">“BB-08” on page 690</a>
BB-09	0xBB09	V/f slip compensation gain	0.0 to 200.0	0.0	-	Changeable at any time	<a href="#">“BB-09” on page 690</a>
BB-10	0xBB0A	V/f overexcitation gain	0 to 200	64	-	Changeable at any time	<a href="#">“BB-10” on page 690</a>
BB-11	0xBB0B	V/f oscillation suppression gain	0 to 100	40	-	Changeable at any time	<a href="#">“BB-11” on page 690</a>
BB-12	0xBB0C	V/f oscillation suppression	0: Disabled 1: Enabled	1	-	Changeable at any time	<a href="#">“BB-12” on page 690</a>
BB-13	0xBB0D	Voltage source for V/f separation	0: Digital setting (BB-14) 1: AI1 2: AI2 3: AI3 4: Pulse reference (DI5) 5: Multi-reference 6: Simple PLC 7: PID 8: Communication Others: F connector	0	-	Changeable at any time	<a href="#">“BB-13” on page 691</a>
BB-14	0xBB0E	V/f separation voltage	0 V to BA-02	0	V	Changeable at any time	<a href="#">“BB-14” on page 692</a>
BB-15	0xBB0F	Voltage rise time of V/f separation	0.0s to 1000.0s	0.0	s	Changeable at any time	<a href="#">“BB-15” on page 692</a>
BB-16	0xBB10	Voltage fall time of V/f separation	0.0s to 1000.0s	0.0	s	Changeable at any time	<a href="#">“BB-16” on page 692</a>
BB-17	0xBB11	Stop mode for V/f separation	0: Frequency and voltage decline to 0 independently 1: Frequency declines to 0 after voltage declines to 0 2: Coast to stop (new)	0	-	Changeable at any time	<a href="#">“BB-17” on page 692</a>
BB-18	0xBB12	Overcurrent stall suppression action current	50% to 200%	150	%	Changeable only at stop	<a href="#">“BB-18” on page 693</a>
BB-19	0xBB13	Overcurrent stall suppression	0: Disabled 1: Enabled	1	-	Changeable only at stop	<a href="#">“BB-19” on page 693</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
BB-20	0xBB14	Overcurrent stall suppression gain	1 to 100	20	-	Changeable at any time	<a href="#">“BB-20” on page 693</a>
BB-21	0xBB15	Compensation coefficient of speed multiplying overcurrent stall suppression action current	50% to 200%	100	%	Changeable only at stop	<a href="#">“BB-21” on page 693</a>
BB-22	0xBB16	Overvoltage stall suppression action voltage	330.0 V to 800.0 V	770.0	V	Changeable at any time	<a href="#">“BB-22” on page 693</a>
BB-23	0xBB17	Overvoltage stall suppression	0: Disabled 1: Enabled	1	-	Changeable only at stop	<a href="#">“BB-23” on page 694</a>
BB-24	0xBB18	Overvoltage stall suppression frequency gain	1 to 100	30	-	Changeable at any time	<a href="#">“BB-24” on page 694</a>
BB-25	0xBB19	Overvoltage stall suppression voltage gain	1 to 100	30	-	Changeable at any time	<a href="#">“BB-25” on page 694</a>
BB-26	0xBB1A	Frequency rise threshold for overvoltage stall suppression	0 Hz to 50 Hz	5	Hz	Changeable only at stop	<a href="#">“BB-26” on page 694</a>
BB-27	0xBB1B	Slip compensation filter time	0.1s to 10.0s	0.5	s	Changeable only at stop	<a href="#">“BB-27” on page 694</a>
BB-28	0xBB1C	Multi-point curve source	0: 3-point curve 1: Multi-point curve module A 2: Multi-point curve module B	0	-	Changeable only at stop	<a href="#">“BB-28” on page 695</a>
BB-33	0xBB21	Online torque compensation gain	80 to 150	100	-	Changeable only at stop	<a href="#">“BB-33” on page 695</a>
BB-34	0xBB22	ImaxKi coefficient	10% to 1000%	100	%	Changeable only at stop	<a href="#">“BB-34” on page 695</a>
BB-35	0xBB23	Overcurrent suppression threshold (relative to rated motor current)	80% to 300%	200	%	Changeable only at stop	<a href="#">“BB-35” on page 695</a>
BB-36	0xBB24	Frequency threshold for overcurrent suppression field weakening	100% to 500%	100	%	Changeable only at stop	<a href="#">“BB-36” on page 696</a>
BB-37	0xBB25	IT filter time	10 ms to 1000 ms	100	ms	Changeable only at stop	<a href="#">“BB-37” on page 696</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
BB-38	0xBB26	Slip compensation mode	0: Disabled 1: Slip compensation without PG 2: Slip compensation with PG	1	-	Changeable only at stop	<a href="#">“BB-38” on page 696</a>
BB-39	0xBB27	VdcMaxCtrl allowed runtime	0.0s to 100.0s	0.0	s	Changeable only at stop	<a href="#">“BB-39” on page 696</a>
BB-40	0xBB28	Upper limit of V/f separation voltage	50.0% to 200.0%	100.0	%	Changeable only at stop	<a href="#">“BB-40” on page 696</a>
BB-41	0xBB29	RFG time of V/f separation frequency	0: RFG time forced to 0 1: Preset RFG time	0	-	Changeable only at stop	<a href="#">“BB-41” on page 697</a>
BB-42	0xBB2A	Cut-off frequency of V/f oscillation suppression filter	1.0 Hz to 50.0 Hz	8.0	Hz	Changeable at any time	<a href="#">“BB-42” on page 697</a>
BB-43	0xBB2B	Cut-off frequency threshold for V/f oscillation suppression	10 Hz to 3000 Hz	200	Hz	Changeable at any time	<a href="#">“BB-43” on page 697</a>
BB-44	0xBB2C	VdcMaxCtrl feedforward coefficient	0% to 500%	0	%	Changeable at any time	<a href="#">“BB-44” on page 697</a>
BB-50	0xBB32	PMVVC low-speed IF	0: Disabled 1: Enabled	1	-	Changeable only at stop	<a href="#">“BB-50” on page 697</a>
BB-51	0xBB33	PMVVC low-speed IF current	30 to 250	100	-	Changeable only at stop	<a href="#">“BB-51” on page 698</a>
BB-52	0xBB34	PMVVC low-speed IF speed switching threshold	2.0% to 100.0%	10.0	%	Changeable only at stop	<a href="#">“BB-52” on page 698</a>
BB-53	0xBB35	PMVVC oscillation suppression gain coefficient	0 to 500	100	-	Changeable at any time	<a href="#">“BB-53” on page 698</a>
BB-54	0xBB36	PMVVC filter time coefficient	0 to 500	100	-	Changeable at any time	<a href="#">“BB-54” on page 698</a>
BB-55	0xBB37	PMVVC energy conservation control mode	0: Fixed straight-line V/f curve 1: Fixed 30% reactive current 2: MTPA control	2	-	Changeable only at stop	<a href="#">“BB-55” on page 698</a>
BC-00	0xBC00	Startup mode	0: Direct start 1: Flying start 2: Pre-excitation start (AC asynchronous motor) 3: SVC quick start	0	-	Changeable at any time	<a href="#">“BC-00” on page 699</a>
BC-01	0xBC01	Speed tracking mode	0: From the stop frequency 1: From the power frequency 2: From the maximum frequency 3: Reserved 4: Magnetic field directional speed tracking (MD290)	0	-	Changeable at any time	<a href="#">“BC-01” on page 699</a>



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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
BC-02	0xBC02	Speed of speed tracking	1 to 100	20	-	Changeable at any time	<a href="#">"BC-02" on page 699</a>
BC-03	0xBC03	Startup frequency	0.00 Hz to 10.00 Hz	0.00	Hz	Changeable at any time	<a href="#">"BC-03" on page 699</a>
BC-04	0xBC04	Startup frequency hold time	0.0s to 100.0s	0.0	s	Changeable only at stop	<a href="#">"BC-04" on page 700</a>
BC-05	0xBC05	DC braking current at startup	0% to 100%	50	%	Changeable only at stop	<a href="#">"BC-05" on page 700</a>
BC-06	0xBC06	DC braking time at startup	0.0s to 100.0s	0.0	s	Changeable only at stop	<a href="#">"BC-06" on page 700</a>
BC-07	0xBC07	Stop mode	0: Decelerate to stop 1: Coast to stop 2: Stop at maximum capability	0	-	Changeable at any time	<a href="#">"BC-07" on page 700</a>
BC-08	0xBC08	Start frequency of DC braking at stop	0.00 Hz to F0-10	0.00	Hz	Changeable at any time	<a href="#">"BC-08" on page 701</a>
BC-09	0xBC09	DC braking delay at stop	0.0s to 100.0s	0.0	s	Changeable at any time	<a href="#">"BC-09" on page 701</a>
BC-10	0xBC0A	DC braking current at stop	0% to 100%	50	%	Changeable at any time	<a href="#">"BC-10" on page 701</a>
BC-11	0xBC0B	DC braking time at stop	0.0s to 100.0s	0.0	s	Changeable at any time	<a href="#">"BC-11" on page 701</a>
BC-12	0xBC0C	Speed tracking sweep current limit closed loop Kp	0 to 1000	500	-	Changeable at any time	<a href="#">"BC-12" on page 701</a>
BC-13	0xBC0D	Speed tracking sweep current limit closed loop Ki	0 to 1000	800	-	Changeable at any time	<a href="#">"BC-13" on page 702</a>
BC-14	0xBC0E	Speed tracking current	30% to 200%	80	%	Changeable only at stop	<a href="#">"BC-14" on page 702</a>
BC-15	0xBC0F	Current loop multiple	10% to 600%	100	%	Changeable at any time	<a href="#">"BC-15" on page 702</a>
BC-16	0xBC10	Demagnetization time (valid for asynchronous motors)	0.00s to 5.00s	0.50	s	Changeable at any time	<a href="#">"BC-16" on page 702</a>
BC-17	0xBC11	Overexcitation enable	0: Disabled 2: Enabled during deceleration 3: Enabled always	0	-	Changeable at any time	<a href="#">"BC-17" on page 702</a>
BC-18	0xBC12	Overexcitation suppression current	0% to 150%	100	%	Changeable at any time	<a href="#">"BC-18" on page 703</a>
BC-19	0xBC13	Overexcitation gain	0.01 to 2.50	1.25	-	Changeable at any time	<a href="#">"BC-19" on page 703</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
BC-20	0xBC14	Parameter auto-tuning upon startup	Bit00: Synchronous motor pole position auto-tuning upon startup 0: Disabled 1: Enabled Bit01: Quick stator resistance auto-tuning upon startup 0: Disabled 1: Enabled Bit02–Bit03: HFI pole position auto-tuning 0: Disabled 1: Enabled 2: Adaptive Bit04: IGBT shoot-through self-check upon startup 0: Disabled 1: Enabled Bit05: Short-to-ground self-check upon startup (reserved) 0: Disabled 1: Enabled Bit06: Phase loss self-check upon startup (reserved) 0: Disabled 1: Enabled	1	-	Changeable only at stop	<a href="#">“BC-20” on page 703</a>
BC-21	0xBC15	Auto-tuning direction	0 to 1	1	-	Changeable only at stop	<a href="#">“BC-21” on page 704</a>
BC-22	0xBC16	Oscillation suppression gain of synchronous motor back EMF auto-tuning	0.0 to 30.0	3.2	-	Changeable only at stop	<a href="#">“BC-22” on page 704</a>
BC-23	0xBC17	Target speed of rotation auto-tuning	30.0% to 100.0%	70.0	%	Changeable only at stop	<a href="#">“BC-23” on page 704</a>
BC-24	0xBC18	Target speed 1 of inertia auto-tuning	10.0% to BC-25	40.0	%	Changeable only at stop	<a href="#">“BC-24” on page 705</a>
BC-25	0xBC19	Target speed 2 of inertia auto-tuning	BC-24 to 100.0%	60.0	%	Changeable only at stop	<a href="#">“BC-25” on page 705</a>
BC-26	0xBC1A	Overcurrent prevention of mutual inductance saturation curve	0 to 1	1	-	Changeable only at stop	<a href="#">“BC-26” on page 705</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
BC-27	0xBC1B	Auto-tuning items	Bit00: Speed loop parameter adaptation 0: Disabled 1: Enabled Bit01: Current loop parameter adaptation 0: Disabled 1: Enabled Bit02: Drive nonlinear auto-tuning 0: Disabled 1: Enabled Bit03: Inter-phase deviation coefficient auto-tuning 0: Disabled 1: Enabled Bit04: Auto-tuning of initial pole position of synchronous motor 0: Disabled 1: Enabled Bit05: Auto-tuning of D- and Q-axis inductance model of synchronous motor 0: Disabled 1: Enabled Bit06: System inertia auto-tuning 0: Disabled 1: Enabled Bit07: HFI pole position auto-tuning 0: Disabled 1: Enabled	117	-	Changeable only at stop	<a href="#">"BC-27" on page 705</a>
BC-28	0xBC1C	OFF3 stop mode	0: Quick stop 1: Stop at maximum capability	0	-	Changeable only at stop	<a href="#">"BC-28" on page 706</a>
BC-29	0xBC1D	Stop mode during running	0: OFF1 stop mode 1: OFF2 stop mode 2: OFF3 stop mode	1	-	Changeable only at stop	<a href="#">"BC-29" on page 706</a>
BC-30	0xBC1E	Stop mode for torque control	0: Coast to stop forcibly 1: Switch to speed control mode and then stop 2: Maintain torque control mode until zero speed and then block	1	-	Changeable only at stop	<a href="#">"BC-30" on page 707</a>
BC-32	0xBC20	Proportional gain adjustment coefficient	0.1 to 2.0	1.0	-	Changeable at any time	<a href="#">"BC-32" on page 707</a>
BC-33	0xBC21	Integral gain adjustment coefficient	0.1 to 2.0	1.0	-	Changeable at any time	<a href="#">"BC-33" on page 707</a>
BC-34	0xBC22	Zero-speed threshold	0.1% to 200.0%	2.0	%	Changeable at any time	<a href="#">"BC-34" on page 707</a>
BC-35	0xBC23	Zero-speed stop delay	0.00s to 10.00s	0.10	s	Changeable only at stop	<a href="#">"BC-35" on page 707</a>
BC-36	0xBC24	Reference source execution interval	0 to 20	4	-	Changeable only at stop	<a href="#">"BC-36" on page 708</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
BC-37	0xBC25	Trial current for speed tracking of synchronous motor	5.0% to 50.0%	10.0	%	Changeable only at stop	<a href="#">“BC-37” on page 708</a>
BC-38	0xBC26	Minimum frequency for speed tracking of synchronous motor	0.0 Hz to 100.0 Hz	0.0	Hz	Changeable only at stop	<a href="#">“BC-38” on page 708</a>
BC-39	0xBC27	Angle compensation for speed tracking of synchronous motor	0 to 360	0	-	Changeable only at stop	<a href="#">“BC-39” on page 708</a>
BC-40	0xBC28	Parameter auto-tuning of synchronous motor upon startup	0 to 1	0	-	Changeable at any time	<a href="#">“BC-40” on page 708</a>
BC-41	0xBC29	Current motor angle	0 to 65535	0	-	Unchangeable	<a href="#">“BC-41” on page 709</a>
BC-42	0xBC2A	Forward torque limit 1	0.0 to 400.0	150.0	-	Changeable at any time	<a href="#">“BC-42” on page 709</a>
BC-43	0xBC2B	Reverse torque limit 1	0.0 to 400.0	150.0	-	Changeable at any time	<a href="#">“BC-43” on page 709</a>
BC-44	0xBC2C	Source of forward torque limit 2	0: 400% Others: F connector	0	-	Changeable at any time	<a href="#">“BC-44” on page 709</a>
BC-45	0xBC2D	Source of reverse torque limit 2	0: -400% Others: F connector	0	-	Changeable at any time	<a href="#">“BC-45” on page 709</a>
BC-46	0xBC2E	Ramp (FRG) selection bit0	0: 0 1: 1 2: Terminal function input 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector	0	-	Changeable at any time	<a href="#">“BC-46” on page 710</a>
BC-47	0xBC2F	Ramp (FRG) selection bit1	Same as BC-46	0	-	Changeable at any time	<a href="#">“BC-47” on page 710</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
BC-50	0xBC32	Motor overload protection	0: Disabled 1: Enabled	1	-	Changeable at any time	<a href="#">"BC-50" on page 711</a>
BC-51	0xBC33	Motor overload protection gain	0.20 to 10.00	1.00	-	Changeable at any time	<a href="#">"BC-51" on page 711</a>
BC-52	0xBC34	Motor overload pre-warning coefficient	50% to 100%	80	%	Changeable at any time	<a href="#">"BC-52" on page 711</a>
BC-53	0xBC35	Overvoltage stall suppression gain	1 to 100	30	-	Changeable at any time	<a href="#">"BC-53" on page 712</a>
BC-54	0xBC36	Overvoltage stall protection voltage	330.0 V to 800.0 V	770.0	V	Changeable at any time	<a href="#">"BC-54" on page 712</a>
BC-55	0xBC37	Input phase loss/ Contactor pickup protection	Ones: Input phase loss protection 0: Disabled 1: Protection enabled when both software and hardware input phase loss conditions are met 2: Protection enabled when software input phase loss conditions are met 3: Protection enabled when hardware input phase loss conditions are met Tens: Contactor pickup protection 0: Disabled 1: Enabled	11	-	Changeable at any time	<a href="#">"BC-55" on page 712</a>
BC-56	0xBC38	Output phase loss protection	Ones: Output phase loss protection upon power-on 0: Disabled 1: Enabled Tens: Output phase loss protection before running 0: Disabled 1: Enabled	1	-	Changeable at any time	<a href="#">"BC-56" on page 712</a>
BC-57	0xBC39	Power dip ride-through	0: Disabled 1: Decelerate 2: Decelerate to stop 3: Suppress voltage dip	0	-	Changeable only at stop	<a href="#">"BC-57" on page 713</a>
BC-58	0xBC3A	Voltage threshold for disabling power dip ride-through	80% to 100%	85	%	Changeable only at stop	<a href="#">"BC-58" on page 713</a>
BC-59	0xBC3B	Delay of voltage recovery from power dip	0.0s to 100.0s	0.5	s	Changeable only at stop	<a href="#">"BC-59" on page 713</a>
BC-60	0xBC3C	Voltage threshold for enabling power dip ride-through	60% to 100%	80	%	Changeable only at stop	<a href="#">"BC-60" on page 713</a>
BC-61	0xBC3D	Protection upon load loss	0: Disabled 1: Enabled	0	-	Changeable at any time	<a href="#">"BC-61" on page 714</a>
BC-62	0xBC3E	Load loss detection level	0.0% to +100.0%	10.0	%	Changeable at any time	<a href="#">"BC-62" on page 714</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
BC-63	0xBC3F	Load loss detection time	0.0s to 60.0s	1.0	s	Changeable at any time	<a href="#">"BC-63" on page 714</a>
BC-64	0xBC40	Overspeed detection level	0.0% to 50.0%	20.0	%	Changeable at any time	<a href="#">"BC-64" on page 714</a>
BC-65	0xBC41	Overspeed detection time	0.0s to 60.0s	1.0	s	Changeable at any time	<a href="#">"BC-65" on page 714</a>
BC-66	0xBC42	Detection level of excessive speed deviation	0.0% to 50.0%	20.0	%	Changeable at any time	<a href="#">"BC-66" on page 715</a>
BC-67	0xBC43	Detection time of excessive speed deviation	0.0s to 60.0s	5.0	s	Changeable at any time	<a href="#">"BC-67" on page 715</a>
BC-68	0xBC44	Power dip ride-through gain Kp	1 to 100	40	-	Changeable at any time	<a href="#">"BC-68" on page 715</a>
BC-69	0xBC45	Power dip ride-through integral coefficient Ki	1 to 100	30	-	Changeable at any time	<a href="#">"BC-69" on page 715</a>
BC-70	0xBC46	Deceleration time of power dip ride-through	0.0s to 300.0s	20.0	s	Changeable at any time	<a href="#">"BC-70" on page 715</a>
BC-71	0xBC47	Voltage dip suppression time	0.1s to 600.0s	0.5	s	Changeable at any time	<a href="#">"BC-71" on page 715</a>
BC-72	0xBC48	Motor protection	Bit00: Motor overload determination (reserved) Bit01: Motor overheat detection (reserved) Bit02: PG fault detection (reserved) Bit03: Current control error detection Bit04: Motor stall error detection Bit05: Locked-rotor detection Bit06: Synchronous motor demagnetization protection Bit07: Protection against locked-rotor in SVC speed open-loop control Bit08: Reserved Bit09: Parameter setting error	537	-	Changeable at any time	<a href="#">"BC-72" on page 716</a>
BC-73	0xBC49	Locked-rotor time	0.0s to 65.0s	2.0	s	Changeable at any time	<a href="#">"BC-73" on page 716</a>
BC-74	0xBC4A	Locked-rotor frequency	0.0% to 600.0%	6.0	%	Changeable at any time	<a href="#">"BC-74" on page 716</a>
BC-75	0xBC4B	Motor stall detection time	0.0s to 10.0s	0.5	s	Changeable at any time	<a href="#">"BC-75" on page 716</a>
BC-76	0xBC4C	Stall detection threshold	0.0% to +100.0%	30.0	%	Changeable at any time	<a href="#">"BC-76" on page 717</a>
BC-77	0xBC4D	Current control exception detection time	0.00s to 1.00s	0.05	s	Changeable at any time	<a href="#">"BC-77" on page 717</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
BC-78	0xBC4E	Current control exception detection threshold	0.0% to 200.0%	25.0	%	Changeable at any time	<a href="#">“BC-78” on page 717</a>
BC-79	0xBC4F	Synchronous motor overcurrent threshold	0.0% to 500.0%	300.0	%	Changeable at any time	<a href="#">“BC-79” on page 717</a>
BC-81	0xBC51	Speed deviation detection	0 to 1	1	-	Changeable at any time	<a href="#">“BC-81” on page 717</a>
BC-82	0xBC52	Skip frequency 1	0.00 Hz to F0-10	0.00	Hz	Changeable at any time	<a href="#">“BC-82” on page 718</a>
BC-83	0xBC53	Skip frequency 2	0.00 Hz to F0-10	0.00	Hz	Changeable at any time	<a href="#">“BC-83” on page 718</a>
BC-84	0xBC54	Skip frequency 3	0.00 Hz to F0-10	0.00	Hz	Changeable at any time	<a href="#">“BC-84” on page 718</a>
BC-85	0xBC55	Skip frequency 4	0.00 Hz to F0-10	0.00	Hz	Changeable at any time	<a href="#">“BC-85” on page 718</a>
BC-86	0xBC56	Skip frequency band	0.00 Hz to F0-10	0.00	Hz	Changeable at any time	<a href="#">“BC-86” on page 718</a>
BC-87	0xBC57	Source of frequency upper limit	0: F0-12 1: AI1 2: AI2 3: AI3 4: Pulse reference 5: Communication Others: F connector	0	-	Changeable only at stop	<a href="#">“BC-87” on page 719</a>
BC-88	0xBC58	Frequency upper limit	BC-90 to F0-10	50.00	Hz	Changeable at any time	<a href="#">“BC-88” on page 719</a>
BC-89	0xBC59	Frequency upper limit offset	0.00 Hz to F0-10 (maximum frequency)	0.00	Hz	Changeable at any time	<a href="#">“BC-89” on page 719</a>
BC-90	0xBC5A	Frequency lower limit	0.00 Hz to BC-88	0.00	Hz	Changeable at any time	<a href="#">“BC-90” on page 719</a>
BC-91	0xBC5B	Speed/Torque control mode	0: Speed control 1: Torque control	0	-	Changeable at any time	<a href="#">“BC-91” on page 719</a>
BD-00	0xBD00	Asynchronous motor FVC model switchover frequency	0% to 1000%	20	%	Changeable only at stop	<a href="#">“BD-00” on page 720</a>
BD-01	0xBD01	Asynchronous motor FVC model switchover hysteresis frequency	10% to 50%	20	%	Changeable only at stop	<a href="#">“BD-01” on page 720</a>
BD-02	0xBD02	Asynchronous motor FVC observer filter time	5 ms to 100 ms	15	ms	Changeable only at stop	<a href="#">“BD-02” on page 720</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
BD-03	0xBD03	Asynchronous motor FVC current model mode	0 to 1	0	-	Changeable only at stop	<a href="#">“BD-03” on page 720</a>
BD-04	0xBD04	Asynchronous motor FVC pre-excitation output observation angle mode	0 to 1	0	-	Changeable only at stop	<a href="#">“BD-04” on page 721</a>
BD-05	0xBD05	Asynchronous motor SVC model switchover frequency	10% to 20%	15	%	Changeable only at stop	<a href="#">“BD-05” on page 721</a>
BD-06	0xBD06	Asynchronous motor SVC observer filter time	5 ms to 50 ms	10	ms	Changeable at any time	<a href="#">“BD-06” on page 721</a>
BD-07	0xBD07	Asynchronous motor SVC observer gain 1	10% to 500%	100	%	Changeable at any time	<a href="#">“BD-07” on page 721</a>
BD-08	0xBD08	Asynchronous motor SVC observer gain 2	10% to 100%	20	%	Changeable at any time	<a href="#">“BD-08” on page 721</a>
BD-09	0xBD09	Asynchronous motor SVC observer mode	0 to 3	0	-	Changeable only at stop	<a href="#">“BD-09” on page 721</a>
BD-10	0xBD0A	Asynchronous motor SVC pre-excitation mode	0 to 1	0	-	Changeable only at stop	<a href="#">“BD-10” on page 722</a>
BD-11	0xBD0B	Asynchronous motor SVC speed tracking mode	0 to 1	0	-	Changeable only at stop	<a href="#">“BD-11” on page 722</a>
BD-14	0xBD0E	Synchronous motor 1 model control	Bit00: Low speed processing Bit01: Low speed processing 1 Bit02: Online auto-tuning of resistance Bit03: Online auto-tuning of back EMF Bit04: KS	5	-	Changeable at any time	<a href="#">“BD-14” on page 722</a>
BD-15	0xBD0F	Synchronous motor model K1	10 to 3000	200	-	Changeable at any time	<a href="#">“BD-15” on page 722</a>
BD-16	0xBD10	Synchronous motor model K1Max	100 to 6000	3000	-	Changeable at any time	<a href="#">“BD-16” on page 723</a>
BD-17	0xBD11	Synchronous motor model KsMin	0.0 to 4.0	0.3	-	Changeable at any time	<a href="#">“BD-17” on page 723</a>
BD-18	0xBD12	Synchronous motor model Kspeed	50 to 2000	400	-	Changeable at any time	<a href="#">“BD-18” on page 723</a>
BD-19	0xBD13	Synchronous motor frequency filter time constant	2 ms to 100 ms	10	ms	Changeable at any time	<a href="#">“BD-19” on page 723</a>



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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
BD-20	0xBD14	Frequency upper limit of synchronous motor Rs online auto-tuning	1.0% to 20.0%	3.5	%	Changeable at any time	<a href="#">“BD-20” on page 723</a>
BD-21	0xBD15	Synchronous motor model Kr	0 to 50	10	-	Changeable at any time	<a href="#">“BD-21” on page 723</a>
BD-22	0xBD16	Synchronous motor model Kr1	0 to 50	5	-	Changeable at any time	<a href="#">“BD-22” on page 724</a>
BD-23	0xBD17	Synchronous motor low-speed D axis injection current	0% to 100%	20	%	Changeable at any time	<a href="#">“BD-23” on page 724</a>
BD-24	0xBD18	Synchronous motor model LowFreqTime1	0 to 500	50	-	Changeable at any time	<a href="#">“BD-24” on page 724</a>
BD-27	0xBD1B	Frequency lower limit of back EMF online auto-tuning	10% to 100%	25	%	Changeable at any time	<a href="#">“BD-27” on page 724</a>
BD-28	0xBD1C	Synchronous motor model LowFreq	0.0% to 2.0%	0.3	%	Changeable at any time	<a href="#">“BD-28” on page 724</a>
BD-29	0xBD1D	Synchronous motor model LowFreqTime	0 to 100	10	-	Changeable at any time	<a href="#">“BD-29” on page 725</a>
BD-30	0xBD1E	Percentage of pole auto-tuning current	50% to 200%	100	%	Changeable at any time	<a href="#">“BD-30” on page 725</a>
BD-31	0xBD1F	Percentage of high frequency response current	0% to 100%	25	%	Changeable at any time	<a href="#">“BD-31” on page 725</a>
BD-32	0xBD20	Percentage of HFI and SVC switching frequency	0% to 30%	10	%	Changeable at any time	<a href="#">“BD-32” on page 725</a>
BD-33	0xBD21	Observer parameter	10 to 200	100	-	Changeable at any time	<a href="#">“BD-33” on page 725</a>
BD-34	0xBD22	Speed filter cut-off frequency	1 Hz to 200 Hz	10	Hz	Changeable at any time	<a href="#">“BD-34” on page 726</a>
BD-35	0xBD23	Carrier frequency during NS auto-tuning	2.00 Hz to 16.00 Hz	8.00	Hz	Changeable at any time	<a href="#">“BD-35” on page 726</a>
BD-36	0xBD24	Automatic calculation of NS auto-tuning voltage	0: Disabled 1: Enabled	1	-	Changeable at any time	<a href="#">“BD-36” on page 726</a>
BD-37	0xBD25	Percentage of NS auto-tuning voltage set manually	0% to 100%	10	%	Changeable at any time	<a href="#">“BD-37” on page 726</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
BD-38	0xBD26	Duration of HFI stage 1	50 ms to 500 ms	150	ms	Changeable at any time	<a href="#">“BD-38” on page 726</a>
BD-40	0xBD28	Speed loop proportional gain 1	1 to 100	30	-	Changeable at any time	<a href="#">“BD-40” on page 727</a>
BD-41	0xBD29	Speed loop integral time 1	0.01s to 10.00s	0.50	s	Changeable at any time	<a href="#">“BD-41” on page 727</a>
BD-42	0xBD2A	Switchover frequency 1	0.00 Hz to BD-45	5.00	Hz	Changeable at any time	<a href="#">“BD-42” on page 727</a>
BD-43	0xBD2B	Speed loop proportional gain 2	1 to 100	20	-	Changeable at any time	<a href="#">“BD-43” on page 727</a>
BD-44	0xBD2C	Speed loop integral time 2	0.01s to 10.00s	1.00	s	Changeable at any time	<a href="#">“BD-44” on page 727</a>
BD-45	0xBD2D	Switchover frequency 2	BD-42 to F0-10	10.00	Hz	Changeable at any time	<a href="#">“BD-45” on page 728</a>
BD-46	0xBD2E	Vector control slip gain	50% to 200%	100	%	Changeable at any time	<a href="#">“BD-46” on page 728</a>
BD-47	0xBD2F	Speed feedback filter time in SVC mode	0.000s to 0.100s	0.015	s	Changeable at any time	<a href="#">“BD-47” on page 728</a>
BD-49	0xBD31	Torque upper limit source in speed control mode (motoring)	0: Digital setting (F2-10) 1: AI1 2: AI2 3: AI3 4: Pulse reference 5: Communication 6: MIN (AI1, AI2) 7: MAX (AI1, AI2) Others: F connector	0	-	Changeable at any time	<a href="#">“BD-49” on page 728</a>
BD-50	0xBD32	Torque upper limit in speed control mode	0.0% to 200.0%	150.0	%	Changeable at any time	<a href="#">“BD-50” on page 728</a>
BD-51	0xBD33	Torque upper limit source in speed control mode (generating)	0: Digital setting (F2-10) 1: AI1 2: AI2 3: AI3 4: Pulse reference (DI5) 5: Communication 6: MIN (AI1, AI2) 7: MAX (AI1, AI2) 8: Digital setting (F2-12) Others: F connector	0	-	Changeable at any time	<a href="#">“BD-51” on page 729</a>
BD-52	0xBD34	Torque upper limit in speed control mode (generating)	0.0% to 200.0%	150.0	%	Changeable at any time	<a href="#">“BD-52” on page 729</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
BD-53	0xBD35	Field weakening mode	0: No field weakening 1: Auto adjustment 2: Calculation+Auto adjustment	1	-	Changeable only at stop	<a href="#">“BD-53” on page 729</a>
BD-54	0xBD36	Field weakening gain	1 to 50	5	-	Changeable at any time	<a href="#">“BD-54” on page 730</a>
BD-57	0xBD39	Generating power limiting	0: Disabled 1: Enabled in the whole process 2: Enabled at constant speed 3: Enabled during deceleration	0	-	Changeable at any time	<a href="#">“BD-57” on page 730</a>
BD-58	0xBD3A	Generating power upper limit	0.0% to 200.0%	20.0	%	Changeable at any time	<a href="#">“BD-58” on page 730</a>
BD-59	0xBD3B	Motor 3 control mode	0: SVC 1: FVC 2: V/f	2	-	Changeable only at stop	<a href="#">“BD-59” on page 730</a>
BD-60	0xBD3C	Initial position angle detection current of synchronous motor	50 to 180	80	-	Changeable only at stop	<a href="#">“BD-60” on page 731</a>
BD-61	0xBD3D	Initial position angle detection of synchronous motor	0: Detected upon running 1: Not detected 2: Detected upon initial running after power-on	0	-	Changeable at any time	<a href="#">“BD-61” on page 731</a>
BD-63	0xBD3F	Salient pole rate adjustment gain of synchronous motor	0.20 to 3.00	1.00	-	Changeable at any time	<a href="#">“BD-63” on page 731</a>
BD-64	0xBD40	Maximum torque-to-current ratio control of synchronous motor	0: Disabled 1: Enabled	1	-	Changeable at any time	<a href="#">“BD-64” on page 731</a>
BD-65	0xBD41	Z signal correction	0: Disabled 1: Enabled	1	-	Changeable at any time	<a href="#">“BD-65” on page 732</a>
BD-67	0xBD43	Low speed carrier frequency	0.8 kHz to F0-15	2.0	kHz	Changeable at any time	<a href="#">“BD-67” on page 732</a>
BD-68	0xBD44	Position lock	0 to 1	0	-	Changeable at any time	<a href="#">“BD-68” on page 732</a>
BD-69	0xBD45	Switchover frequency	0.00 Hz to BD-42	0.30	Hz	Changeable at any time	<a href="#">“BD-69” on page 732</a>
BD-70	0xBD46	Position lock speed loop proportional gain	1 to 100	10	-	Changeable at any time	<a href="#">“BD-70” on page 732</a>
BD-71	0xBD47	Position lock speed loop integral time	0.01s to 10.00s	0.50	s	Changeable at any time	<a href="#">“BD-71” on page 733</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
BD-74	0xBD4A	Auto-tuning free mode	0: Disabled 1: Auto-tuning upon initial running after power-on 2: Auto-tuning upon running	0	-	Changeable at any time	<a href="#">“BD-74” on page 733</a>
BD-76	0xBD4C	Initial position compensation angle	0.0 to 359.9	0.0	-	Changeable at any time	<a href="#">“BD-76” on page 733</a>
BD-80	0xBD50	Speed loop command word	Bit00: Speed loop 0: Disabled 1: Enabled Bit01: Integration mode 0: Conventional integration 1: Position integration Bit02: Acceleration torque 0: Disabled 1: Enabled Bit03–Bit04: Acceleration source 0: Function transfer torque 1: Automatic calculation 2: Function transfer acceleration Bit05: Anti-load disturbance 0: Disabled 1: Enabled	11	-	Changeable at any time	<a href="#">“BD-80” on page 733</a>
BD-81	0xBD51	Locked-rotor fast integral cancel coefficient	0.0% to +100.0%	0.0	%	Changeable at any time	<a href="#">“BD-81” on page 734</a>
BD-82	0xBD52	Integral torque	-100% to +100.0%	0.0	%	Changeable at any time	<a href="#">“BD-82” on page 734</a>
BD-83	0xBD53	Speed controller frequency window size	0.00 Hz to 10.00 Hz	0.00	Hz	Changeable only at stop	<a href="#">“BD-83” on page 734</a>
BD-84	0xBD54	Current filter time for torque reference	0.0 ms to 100.0 ms	0.0	ms	Changeable only at stop	<a href="#">“BD-84” on page 735</a>
BD-85	0xBD55	Acceleration torque	0: Inactive 1: AI1 2: AI2 3: AI3 4: Pulse reference 5: Communication 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable at any time	<a href="#">“BD-85” on page 735</a>
BD-87	0xBD57	Reference model bandwidth	0.00 Hz to 300.00 Hz	0.00	Hz	Changeable at any time	<a href="#">“BD-87” on page 735</a>
BD-88	0xBD58	Torque feedforward coefficient	0.0% to 1000.0%	100.0	%	Changeable at any time	<a href="#">“BD-88” on page 735</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
BD-89	0xBD59	Vector control reference frequency filter time	0.0 ms to 100.0 ms	0.0	ms	Changeable only at stop	<a href="#">“BD-89” on page 735</a>
BD-90	0xBD5A	Vector control feedback frequency filter time	0.0 ms to 100.0 ms	0.0	ms	Changeable only at stop	<a href="#">“BD-90” on page 736</a>
BD-91	0xBD5B	Load observation bandwidth	0.00 Hz to 300.00 Hz	0.00	Hz	Changeable at any time	<a href="#">“BD-91” on page 736</a>
BD-92	0xBD5C	Load observation coefficient	0.0% to 1000.0%	100.0	%	Changeable at any time	<a href="#">“BD-92” on page 736</a>
BD-93	0xBD5D	Pseudo integral coefficient	0.000 to 10.000	1.000	-	Changeable at any time	<a href="#">“BD-93” on page 736</a>
BD-94	0xBD5E	Torque coefficient enable	0: Disabled 1: Enabled	0	-	Changeable at any time	<a href="#">“BD-94” on page 736</a>
BD-96	0xBD60	Center frequency of notch filter 1	0.0 to 4000.0	4000.0	-	Changeable at any time	<a href="#">“BD-96” on page 737</a>
BD-97	0xBD61	Center frequency of notch filter 2	0.0 to 4000.0	4000.0	-	Changeable at any time	<a href="#">“BD-97” on page 737</a>
BD-98	0xBD62	Integral setting control word	0: Disabled 1: Enabled Others: B connector	0	-	Changeable at any time	<a href="#">“BD-98” on page 737</a>
BD-99	0xBD63	Integral reference source	0: Digital setting 1: AI1 2: AI2 3: AI3 4: Pulse reference 5: Communication 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable at any time	<a href="#">“BD-99” on page 737</a>
BE-00	0xBE00	Externally transferred acceleration	0: Inactive 1: AI1 2: AI2 3: AI3 4: Pulse reference 5: Communication 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable at any time	<a href="#">“BE-00” on page 738</a>
BE-03	0xBE03	Overturning torque limiting coefficient	0.0% to 400.0%	100.0	%	Changeable at any time	<a href="#">“BE-03” on page 738</a>
BE-04	0xBE04	Motoring power limiting coefficient	0.0% to 400.0%	400.0	%	Changeable at any time	<a href="#">“BE-04” on page 738</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
BE-05	0xBE05	Generating power limiting coefficient	0.0% to 400.0%	400.0	%	Changeable at any time	<a href="#">"BE-05" on page 739</a>
BE-06	0xBE06	Overspeed limiting enable	0 to 1	1	-	Changeable at any time	<a href="#">"BE-06" on page 739</a>
BE-07	0xBE07	Sine wave frequency of bandwidth test	0 Hz to 1000 Hz	0	Hz	Changeable at any time	<a href="#">"BE-07" on page 739</a>
BE-08	0xBE08	Sine wave amplitude of bandwidth test	0% to 100%	0	%	Changeable at any time	<a href="#">"BE-08" on page 739</a>
BE-09	0xBE09	Bandwidth test enable	0 to 4	0	-	Changeable at any time	<a href="#">"BE-09" on page 739</a>
BE-11	0xBE0B	Speed loop parameter calculation mode	0: New solution 1: Compatible solution	1	-	Changeable only at stop	<a href="#">"BE-11" on page 740</a>
BE-12	0xBE0C	Speed loop proportional gain in FVC mode	0.00 Hz to 100.00 Hz	8.00	Hz	Changeable at any time	<a href="#">"BE-12" on page 740</a>
BE-13	0xBE0D	Speed loop integral time in FVC mode	0.000s to 20.000s	0.080	s	Changeable at any time	<a href="#">"BE-13" on page 740</a>
BE-14	0xBE0E	Speed loop proportional gain in SVC mode	0.00 Hz to 100.00 Hz	5.00	Hz	Changeable at any time	<a href="#">"BE-14" on page 740</a>
BE-15	0xBE0F	Speed loop integral time in SVC mode	0.000s to 20.000s	0.127	s	Changeable at any time	<a href="#">"BE-15" on page 740</a>
BE-16	0xBE10	Low frequency proportional correction coefficient	0.0% to 1000.0%	100.0	%	Changeable at any time	<a href="#">"BE-16" on page 741</a>
BE-17	0xBE11	Low frequency integral correction coefficient	0.0% to 1000.0%	100.0	%	Changeable at any time	<a href="#">"BE-17" on page 741</a>
BE-18	0xBE12	Speed loop adaption factor	0.000 to 10.000	0.200	-	Changeable at any time	<a href="#">"BE-18" on page 741</a>
BE-19	0xBE13	Speed loop adaption switchover lower limit	0.000 to 10.000	0.400	-	Changeable at any time	<a href="#">"BE-19" on page 741</a>
BE-20	0xBE14	Speed loop adaption switchover upper limit	0.000 to 10.000	1.000	-	Changeable at any time	<a href="#">"BE-20" on page 741</a>
BE-21	0xBE15	Speed loop adaption correction upper limit	0.0% to 1000.0%	100.0	%	Changeable at any time	<a href="#">"BE-21" on page 742</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
BE-22	0xBE16	Speed loop adaption correction lower limit	0.0% to 1000.0%	100.0	%	Changeable at any time	<a href="#">“BE-22” on page 742</a>
BE-23	0xBE17	Flux adaptation enable	0 to 1	0	-	Changeable at any time	<a href="#">“BE-23” on page 742</a>
BE-24	0xBE18	Overspeed controller correction coefficient	0.0% to 1000.0%	100.0	%	Changeable at any time	<a href="#">“BE-24” on page 742</a>
BE-25	0xBE19	VDC control command word	Bit00: VdcMin 0: Disabled 1: Enabled Bit01: VdcMax 0: Disabled 1: Enabled Bit02: Automatic calculation of VDC trigger voltage 0: Disabled 1: Enabled Bit03: VDC control integral action 0: Disabled 1: Enabled	0	-	Changeable at any time	<a href="#">“BE-25” on page 742</a>
BE-26	0xBE1A	Bus capacitance ratio	50.0% to 1000.0%	100.0	%	Changeable at any time	<a href="#">“BE-26” on page 743</a>
BE-27	0xBE1B	Undervoltage suppression exit hysteresis frequency	0.00 Hz to 10.00 Hz	3.00	Hz	Changeable at any time	<a href="#">“BE-27” on page 743</a>
BE-28	0xBE1C	Minimum VDC failure speed threshold	0.00 Hz to 20.00 Hz	2.00	Hz	Changeable at any time	<a href="#">“BE-28” on page 743</a>
BE-29	0xBE1D	Dynamic adjustment coefficient	0.0% to 1000.0%	100.0	%	Changeable at any time	<a href="#">“BE-29” on page 743</a>
BE-30	0xBE1E	Minimum VDC activation voltage	320.0 V to 540.0 V	430.0	V	Changeable at any time	<a href="#">“BE-30” on page 744</a>
BE-31	0xBE1F	Maximum VDC activation voltage	650.0 V to 800.0 V	770.0	V	Changeable at any time	<a href="#">“BE-31” on page 744</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
BE-32	0xBE20	Flux linkage control command word	Bit00: Output voltage limit calculation filtering mode 0: Symmetric filtering 1: Asymmetric filtering Bit01: Asynchronous motor inverse proportion curve calculation 0: The inverse proportional synchronization frequency decreases. 1: The inverse proportional speed decreases. Bit02: Flux linkage feedforward calculation by using inverse proportional speed 0: Disabled 1: Enabled Bit03: Reserved Bit04: Reserved Bit05: Field weakening adjustment 0: Disabled 1: Enabled Bit06: Flux linkage derivative feedforward 0: Disabled 1: Enabled Bit07: Energy conservation control 0: Disabled 1: Enabled Bit08: Asynchronous motor flux closed loop 0: Disabled 1: Enabled Bit09: Reserved Bit10: Reserved Bit11: Asynchronous motor pre-excitation mode 0: Pre-excitation based on time 1: Pre-excitation based on current Bit12: Asynchronous motor pre-excitation current 0: Reference current 1: Maximum current allowed by the drive	2357	-	Changeable at any time	<a href="#">“BE-32” on page 744</a>
BE-33	0xBE21	Output voltage upper limit margin for field weakening adjustment	1% to 50%	5	%	Changeable at any time	<a href="#">“BE-33” on page 746</a>
BE-34	0xBE22	Output voltage upper limit margin for auto adjustment of field weakening	1% to 20%	3	%	Changeable at any time	<a href="#">“BE-34” on page 746</a>
BE-35	0xBE23	Filter time for calculating maximum output voltage	0 ms to 3000 ms	30	ms	Changeable at any time	<a href="#">“BE-35” on page 746</a>



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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
BE-36	0xBE24	Rated flux adjustment coefficient for calculation	0.5 to 2.0	1.0	-	Changeable at any time	<a href="#">"BE-36" on page 746</a>
BE-37	0xBE25	Field weakening frequency adjustment coefficient for calculation	0.8 to 1.2	1.0	-	Changeable at any time	<a href="#">"BE-37" on page 747</a>
BE-38	0xBE26	Slip filter time for calculating field weakening frequency	0 ms to 3000 ms	62	ms	Changeable at any time	<a href="#">"BE-38" on page 747</a>
BE-39	0xBE27	Feedback speed filtering	0 ms to 8000 ms	50	ms	Changeable at any time	<a href="#">"BE-39" on page 747</a>
BE-40	0xBE28	Flux linkage rising filter time	0 ms to 8000 ms	20	ms	Changeable at any time	<a href="#">"BE-40" on page 747</a>
BE-42	0xBE2A	Feedback voltage filter time	0 ms to 3000 ms	5	ms	Changeable at any time	<a href="#">"BE-42" on page 748</a>
BE-43	0xBE2B	Maximum demagnetization current of synchronous motor	0% to 500%	300	%	Changeable at any time	<a href="#">"BE-43" on page 748</a>
BE-44	0xBE2C	Voltage outer loop lower limit coefficient	0 to 500	50	-	Changeable at any time	<a href="#">"BE-44" on page 748</a>
BE-45	0xBE2D	Flux linkage derivative feedforward coefficient	0.0 to 1.5	1.0	-	Changeable at any time	<a href="#">"BE-45" on page 748</a>
BE-46	0xBE2E	Flux linkage derivative feedforward filter time	0 ms to 3000 ms	6	ms	Changeable at any time	<a href="#">"BE-46" on page 748</a>
BE-47	0xBE2F	Torque current rising filter time under energy conservation control	0 ms to 3000 ms	50	ms	Changeable at any time	<a href="#">"BE-47" on page 749</a>
BE-48	0xBE30	Torque current falling filter time under energy conservation control	0 ms to 3000 ms	100	ms	Changeable at any time	<a href="#">"BE-48" on page 749</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
BE-49	0xBE31	Flux linkage lower limit coefficient under energy conservation control	0.00 to 0.50	0.10	-	Changeable at any time	<a href="#">“BE-49” on page 749</a>
BE-51	0xBE33	Pre-excitation current	1% to 200%	100	%	Changeable at any time	<a href="#">“BE-51” on page 749</a>
BE-52	0xBE34	Pre-excitation time	1 ms to 30000 ms	1000	ms	Changeable at any time	<a href="#">“BE-52” on page 750</a>
BE-53	0xBE35	Flux linkage closed-loop bandwidth frequency	0.0 Hz to 100.0 Hz	2.0	Hz	Changeable at any time	<a href="#">“BE-53” on page 750</a>
BE-54	0xBE36	Feedback flux linkage filter time coefficient	0 to 200	4	-	Changeable at any time	<a href="#">“BE-54” on page 750</a>
BE-55	0xBE37	Static output flux linkage filter time	0 ms to 5000 ms	10	ms	Changeable at any time	<a href="#">“BE-55” on page 750</a>
BE-56	0xBE38	Current loop mode	0: ImCsr2 mode 1: Complex vector mode 2: 880 mode 3: No field weakening	1	-	Changeable only at stop	<a href="#">“BE-56” on page 750</a>
BE-57	0xBE39	PI regulator proportional gain adaptation with load	0: Disabled 1: Enabled	0	-	Changeable only at stop	<a href="#">“BE-57” on page 751</a>
BE-58	0xBE3A	Current loop damping	0.2 to 5.0	0.8	-	Changeable at any time	<a href="#">“BE-58” on page 751</a>
BE-59	0xBE3B	Low-speed current loop Kp adjustment	0.1 to 10.0	1.0	-	Changeable at any time	<a href="#">“BE-59” on page 751</a>
BE-60	0xBE3C	High-speed current loop Kp adjustment	0.1 to 10.0	1.0	-	Changeable at any time	<a href="#">“BE-60” on page 751</a>
BE-61	0xBE3D	Low-speed current loop Ki adjustment	0.1 to 10.0	1.0	-	Changeable at any time	<a href="#">“BE-61” on page 752</a>
BE-62	0xBE3E	High-speed current loop Ki adjustment	0.1 to 10.0	2.0	-	Changeable at any time	<a href="#">“BE-62” on page 752</a>
BE-63	0xBE3F	D-axis current loop complex vector adjustment	0.1 to 10.0	1.0	-	Changeable at any time	<a href="#">“BE-63” on page 752</a>
BE-64	0xBE40	Q-axis current loop complex vector adjustment	0.1 to 10.0	1.0	-	Changeable at any time	<a href="#">“BE-64” on page 752</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
BE-65	0xBE41	Complex vector hysteresis frequency lower limit as a percentage of rated frequency	0% to BE-66	0	%	Changeable at any time	<a href="#">“BE-65” on page 752</a>
BE-66	0xBE42	Complex vector hysteresis frequency upper limit as a percentage of rated frequency	BE-65 to 150%	0	%	Changeable at any time	<a href="#">“BE-66” on page 753</a>
BE-67	0xBE43	ImCsr2 hysteresis switchover voltage upper limit as a percentage of saturation voltage	BE-68 to 95%	89	%	Changeable at any time	<a href="#">“BE-67” on page 753</a>
BE-68	0xBE44	ImCsr2 hysteresis switchover voltage lower limit as a percentage of saturation voltage	60% to BE-67	79	%	Changeable at any time	<a href="#">“BE-68” on page 753</a>
BE-69	0xBE45	ImCsr2 hysteresis switchover frequency hysteresis range as a percentage of rated frequency	1% to 30%	10	%	Changeable at any time	<a href="#">“BE-69” on page 753</a>
BE-70	0xBE46	ImCsr2 hysteresis switchover frequency lower limit (below which the hysteresis condition does not take effect) as a percentage of the rated frequency	40% to 80%	60	%	Changeable at any time	<a href="#">“BE-70” on page 753</a>
BE-71	0xBE47	ImCsr2 current loop Kss adjustment	0.1 to 10.0	1.0	-	Changeable at any time	<a href="#">“BE-71” on page 754</a>
BE-72	0xBE48	Proportional gain adjustment coefficient corresponding to the maximum torque when proportional gain is adjusted with load	0.1 to 1.0	0.5	-	Changeable at any time	<a href="#">“BE-72” on page 754</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
BE-73	0xBE49	Torque upper limit setpoint as a percentage of rated torque when proportional gain is adjusted with load	BE-74 to 300%	200	%	Changeable at any time	<a href="#">“BE-73” on page 754</a>
BE-74	0xBE4A	Torque lower limit setpoint as a percentage of rated torque when proportional gain is adjusted with load	0.0% to BE-73	100	%	Changeable at any time	<a href="#">“BE-74” on page 754</a>
BE-75	0xBE4B	Derivative feedforward adjustment	0.0 to 1.0	0.0	-	Changeable at any time	<a href="#">“BE-75” on page 755</a>
BE-76	0xBE4C	Decoupling control start frequency as a percentage of rated frequency	20% to 150%	40	%	Changeable at any time	<a href="#">“BE-76” on page 755</a>
BE-77	0xBE4D	Decoupling control filter time adjustment coefficient	0.1 to 3.0	1.0	-	Changeable at any time	<a href="#">“BE-77” on page 755</a>
BE-78	0xBE4E	Decoupling control output adjustment coefficient	0.0 to 1.0	1.0	-	Changeable at any time	<a href="#">“BE-78” on page 755</a>
BE-79	0xBE4F	CPC feedforward enable	0: Disabled 1: Enabled	0	-	Changeable at any time	<a href="#">“BE-79” on page 755</a>
BE-80	0xBE50	Current loop auxiliary command word	Bit00: Complex vector angle limiting 0: Disabled 1: Enabled Bit01: Voltage angle limiting 0: Program internal limiting 1: Parameter setting Bit02: 0 by default 0: No lower limit on the excitation current is imposed during the dynamic process. 1: A lower limit on the excitation current is imposed during the dynamic process in ImCsr2 mode. Bit03–Bit15: Reserved (0 by default)	0	-	Changeable at any time	<a href="#">“BE-80” on page 756</a>
BE-81	0xBE51	Voltage angle upper limit	90° to 180°	150	°	Changeable at any time	<a href="#">“BE-81” on page 756</a>
BE-82	0xBE52	Voltage angle lower limit	0° to 90°	30	°	Changeable at any time	<a href="#">“BE-82” on page 756</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
BE-83	0xBE53	Asynchronous motor D axis integral limit	0.500 to 1.000	0.707	-	Changeable at any time	<a href="#">“BE-83” on page 756</a>
BE-84	0xBE54	Current loop carrier frequency upper limit	5.0 to 16.0	8.0	-	Changeable at any time	<a href="#">“BE-84” on page 757</a>
BE-85	0xBE55	Droop enable	0 to 1	0	-	Changeable only at stop	<a href="#">“BE-85” on page 757</a>
BE-86	0xBE56	Droop source	0: Line current 1: Torque reference 2: Speed adjustment output 3: Speed adjustment integral component	1	-	Changeable only at stop	<a href="#">“BE-86” on page 757</a>
BE-87	0xBE57	Frequency reference droop coefficient	0.0% to 50.0%	0.0	%	Changeable at any time	<a href="#">“BE-87” on page 757</a>
BE-88	0xBE58	FVC-SVC switchover mode	0: No switchover 1: Active switchover 2: Passive switchover (The AC drive switches to SVC mode upon detection of encoder wire breakage, and it switches back to FVC mode when the encoder recovers during stop and does not switch back to FVC mode when the encoder recovers during running.) 3: Passive switchover (The AC drive switches to SVC mode upon detection of encoder wire breakage, and it switches back to FVC mode when the encoder recovers during running or stop.)	0	-	Changeable only at stop	<a href="#">“BE-88” on page 757</a>
BE-89	0xBE59	FVC-SVC switchover frequency	10% to 500%	50	%	Changeable only at stop	<a href="#">“BE-89” on page 758</a>
BE-90	0xBE5A	FVC-SVC switchover hysteresis	10% to 100%	10	%	Changeable only at stop	<a href="#">“BE-90” on page 758</a>
BF-00	0xBF00	Minimum speed measurement interval of resolver	0.010s to 10.000s	0.450	s	Changeable only at stop	<a href="#">“BF-00” on page 758</a>
BF-01	0xBF01	Dynamic parameter adaption factor	20.0% to 200.0%	100.0	%	Changeable only at stop	<a href="#">“BF-01” on page 758</a>
BF-02	0xBF02	Saturation model auto-tuning voltage setting mode	0 to 1	1	-	Changeable at any time	<a href="#">“BF-02” on page 759</a>
BF-03	0xBF03	Reserved 2 saturation model auto-tuning carrier frequency reference	0.0 to 10.0	6.0	-	Changeable at any time	<a href="#">“BF-03” on page 759</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
BF-04	0xBF04	Saturation model auto-tuning target rated current multiple	0% to 250%	200	%	Changeable at any time	<a href="#">“BF-04” on page 759</a>
BF-05	0xBF05	Saturation model auto-tuning manual voltage setpoint	0 to 4096	2000	-	Changeable at any time	<a href="#">“BF-05” on page 759</a>
BF-06	0xBF06	Bus voltage filter time	0 ms to 10000 ms	0	ms	Changeable at any time	<a href="#">“BF-06” on page 759</a>
BF-07	0xBF07	Inverter protection	Bit00: Pulse-by-pulse current limit protection (reserved) 0: Disabled 1: Enabled Bit01: Output phase loss (reserved) 0: Disabled 1: Enabled Bit02: Leakage current protection (reserved) 0: Disabled 1: Enabled Bit03: PL signal input phase loss detection (reserved) 0: Disabled 1: Enabled Bit04: Bus input phase loss detection (reserved) 0: Disabled 1: Enabled Bit05: Derating at low frequency 0: Disabled 1: Enabled Bit06: Reporting overvoltage upon shutdown 0: Enabled 1: Disabled Bit07: Zero drift detection fault 0: Disabled 1: Enabled Bit08: Pre-charge fault detection (reserved) 0: Disabled 1: Enabled Bit09: Bus voltage collection and analysis 0: Disabled 1: Enabled	128	-	Changeable at any time	<a href="#">“BF-07” on page 760</a>
BF-09	0xBF09	AC drive pre-overload threshold	0.0% to +100.0%	90.0	%	Changeable at any time	<a href="#">“BF-09” on page 760</a>
BF-12	0xBF0C	Input phase loss detection time	1.0s to 10.0s	2.0	s	Changeable at any time	<a href="#">“BF-12” on page 761</a>
BF-13	0xBF0D	Allowable bus fluctuation range	10.0 V to 500.0 V	65.0	V	Changeable at any time	<a href="#">“BF-13” on page 761</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
BF-14	0xBF0E	Module pre- overtemperature to overtemperature margin	0.0% to 60.0%	5.0	%	Changeable at any time	<a href="#">“BF-14” on page 761</a>
BF-15	0xBF0F	Maximum output current	0.0% to 1000.0%	1000.0	%	Changeable at any time	<a href="#">“BF-15” on page 761</a>
BF-16	0xBF10	PWM setting	Bit00: Carrier frequency adjusted with temperature 0: Disabled 1: Enabled Bit01: Carrier frequency adjusted with sync frequency 0: Disabled 1: Enabled Bit02–Bit03: 0: Asynchronous modulation 1: Pseudo synchronous modulation 2: Synchronous modulation (reserved) Bit04–Bit06: 0: CPWM 1: DPWM0 2: DPWM1 3: DPWM2 4: DPWM3 5: DPWMph Bit07: Deadzone compensation 0: Disabled 1: Enabled Bit08: Overmodulation mode 0: Amplitude 1: Phase	130	-	Changeable at any time	<a href="#">“BF-16” on page 761</a>
BF-17	0xBF11	Hysteresis for adjusting carrier frequency with sync frequency	0.0 Hz to 100.0 Hz	3.0	Hz	Changeable at any time	<a href="#">“BF-17” on page 762</a>
BF-18	0xBF12	Cut-off frequency for deadzone compensation	0.0 Hz to 600.0 Hz	70.0	Hz	Changeable at any time	<a href="#">“BF-18” on page 762</a>
BF-19	0xBF13	Narrow pulse coefficient	0.0% to +100.0%	0.0	%	Changeable at any time	<a href="#">“BF-19” on page 762</a>
BF-20	0xBF14	Start frequency for adjusting carrier frequency with sync frequency	0.0 Hz to 600.0 Hz	5.0	Hz	Changeable at any time	<a href="#">“BF-20” on page 763</a>
BF-21	0xBF15	Modulation ratio limit	A5-05 to 115.5%	105.0	%	Changeable at any time	<a href="#">“BF-21” on page 763</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
BF-22	0xBF16	Drive transistor voltage drop voltage	0.00 V to 5.00 V	0.80	V	Changeable only at stop	<a href="#">“BF-22” on page 763</a>
BF-23	0xBF17	Current 1 of deadzone time curve	0.0% to 150.0%	1.0	%	Changeable only at stop	<a href="#">“BF-23” on page 763</a>
BF-24	0xBF18	Current 2 of deadzone time curve	0.0% to 150.0%	2.0	%	Changeable only at stop	<a href="#">“BF-24” on page 763</a>
BF-25	0xBF19	Current 3 of deadzone time curve	0.0% to 150.0%	5.0	%	Changeable only at stop	<a href="#">“BF-25” on page 764</a>
BF-26	0xBF1A	Current 4 of deadzone time curve	0.0% to 150.0%	10.0	%	Changeable only at stop	<a href="#">“BF-26” on page 764</a>
BF-27	0xBF1B	Current 5 of deadzone time curve	0.0% to 150.0%	20.0	%	Changeable only at stop	<a href="#">“BF-27” on page 764</a>
BF-28	0xBF1C	Current 6 of deadzone time curve	0.0% to 150.0%	40.0	%	Changeable only at stop	<a href="#">“BF-28” on page 764</a>
BF-29	0xBF1D	Current 7 of deadzone time curve	0.0% to 150.0%	60.0	%	Changeable only at stop	<a href="#">“BF-29” on page 764</a>
BF-30	0xBF1E	Current 8 of deadzone time curve	0.0% to 150.0%	80.0	%	Changeable only at stop	<a href="#">“BF-30” on page 765</a>
BF-31	0xBF1F	Time 1 of deadzone time curve	0.0% to 300.0%	10.0	%	Changeable only at stop	<a href="#">“BF-31” on page 765</a>
BF-32	0xBF20	Time 2 of deadzone time curve	0.0% to 300.0%	20.0	%	Changeable only at stop	<a href="#">“BF-32” on page 765</a>
BF-33	0xBF21	Time 3 of deadzone time curve	0.0% to 300.0%	50.0	%	Changeable only at stop	<a href="#">“BF-33” on page 765</a>
BF-34	0xBF22	Time 4 of deadzone time curve	0.0% to 300.0%	80.0	%	Changeable only at stop	<a href="#">“BF-34” on page 765</a>
BF-35	0xBF23	Time 5 of deadzone time curve	0.0% to 300.0%	90.0	%	Changeable only at stop	<a href="#">“BF-35” on page 766</a>
BF-36	0xBF24	Time 6 of deadzone time curve	0.0% to 300.0%	90.0	%	Changeable only at stop	<a href="#">“BF-36” on page 766</a>
BF-37	0xBF25	Time 7 of deadzone time curve	0.0% to 300.0%	90.0	%	Changeable only at stop	<a href="#">“BF-37” on page 766</a>
BF-38	0xBF26	Time 8 of deadzone time curve	0.0% to 300.0%	90.0	%	Changeable only at stop	<a href="#">“BF-38” on page 766</a>



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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
BF-39	0xBF27	Detection of excessive leakage current	0: Disabled 1: Enabled	0	-	Changeable only at stop	<a href="#">“BF-39” on page 766</a>
BF-40	0xBF28	Excessive leakage current fault threshold protection gain	50.0% to 100.0%	100.0	%	Changeable at any time	<a href="#">“BF-40” on page 767</a>
BF-44	0xBF2C	Start voltage for actuating braking unit	200.0 V to 2000.0 V	760.0	V	Changeable at any time	<a href="#">“BF-44” on page 767</a>
BF-45	0xBF2D	Load loss detection level	0.0% to +100.0%	10.0	%	Changeable at any time	<a href="#">“BF-45” on page 767</a>
BF-46	0xBF2E	Load loss detection time	0.0s to 60.0s	1.0	s	Changeable at any time	<a href="#">“BF-46” on page 767</a>
C0-00	0xC000	Communication mapping	0: Disabled 1: Enabled	0	-	Changeable at any time	<a href="#">“C0-00” on page 767</a>
C0-01	0xC001	Automatic address detection	0: Disabled 1: Reset detection (overwriting the index) 2: Incremental detection (without overwriting the index)	0	-	Changeable at any time	<a href="#">“C0-01” on page 768</a>
C0-02	0xC002	Automatic address detection time	0s to 65535s	60	s	Changeable at any time	<a href="#">“C0-02” on page 768</a>
C0-03	0xC003	Confirmation of automatic address detection	0: Cancel 1: Confirm	0	-	Changeable at any time	<a href="#">“C0-03” on page 768</a>
C0-04	0xC004	Data transmission endian mode	Ones: RX data 0: Low-order bytes before high-order bytes 1: High-order bytes before low-order bytes	0	-	Changeable at any time	<a href="#">“C0-04” on page 768</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C0-05	0xC005	Read data type selection 1	<p>Ones: Read index 1</p> <p>0: UInt16</p> <p>1: Int16</p> <p>2: UInt32</p> <p>3: Int32</p> <p>4: Unsigned Float32</p> <p>5: Signed Float32</p> <p>Tens: Read index 2</p> <p>0: UInt16</p> <p>1: Int16</p> <p>2: UInt32</p> <p>3: Int32</p> <p>4: Unsigned Float32</p> <p>5: Signed Float32</p> <p>Hundreds: Read index 3</p> <p>0: UInt16</p> <p>1: Int16</p> <p>2: UInt32</p> <p>3: Int32</p> <p>4: Unsigned Float32</p> <p>5: Signed Float32</p> <p>Thousands: Read index 4</p> <p>0: UInt16</p> <p>1: Int16</p> <p>2: UInt32</p> <p>3: Int32</p> <p>4: Unsigned Float32</p> <p>5: Signed Float32</p> <p>Ten thousands: Read index 5</p> <p>0: UInt16</p> <p>1: Int16</p> <p>2: UInt32</p> <p>3: Int32</p> <p>4: Unsigned Float32</p> <p>5: Signed Float32</p>	0	-	Changeable at any time	<i>"C0-05" on page 768</i>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C0-06	0xC006	Read data type selection 2	<p>Ones: Read index 6</p> <p>0: UInt16</p> <p>1: Int16</p> <p>2: UInt32</p> <p>3: Int32</p> <p>4: Unsigned Float32</p> <p>5: Signed Float32</p> <p>Tens: Read index 7</p> <p>0: UInt16</p> <p>1: Int16</p> <p>2: UInt32</p> <p>3: Int32</p> <p>4: Unsigned Float32</p> <p>5: Signed Float32</p> <p>Hundreds: Read index 8</p> <p>0: UInt16</p> <p>1: Int16</p> <p>2: UInt32</p> <p>3: Int32</p> <p>4: Unsigned Float32</p> <p>5: Signed Float32</p> <p>Thousands: Read index 9</p> <p>0: UInt16</p> <p>1: Int16</p> <p>2: UInt32</p> <p>3: Int32</p> <p>4: Unsigned Float32</p> <p>5: Signed Float32</p> <p>Ten thousands: Read index 10</p> <p>0: UInt16</p> <p>1: Int16</p> <p>2: UInt32</p> <p>3: Int32</p> <p>4: Unsigned Float32</p> <p>5: Signed Float32</p>	0	-	Changeable at any time	<a href="#">"C0-06" on page 769</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C0-07	0xC007	Read data scale factor selection 1	<p>Ones: Read index 1</p> <p>0: x1</p> <p>1: x0.1</p> <p>2: x0.01</p> <p>3: x0.001</p> <p>4: x10</p> <p>5: x100</p> <p>6: x1000</p> <p>7: x0.0001</p> <p>8: x10000</p> <p>Tens: Read index 2</p> <p>0: x1</p> <p>1: x0.1</p> <p>2: x0.01</p> <p>3: x0.001</p> <p>4: x10</p> <p>5: x100</p> <p>6: x1000</p> <p>7: x0.0001</p> <p>8: x10000</p> <p>Hundreds: Read index 3</p> <p>0: x1</p> <p>1: x0.1</p> <p>2: x0.01</p> <p>3: x0.001</p> <p>4: x10</p> <p>5: x100</p> <p>6: x1000</p> <p>7: x0.0001</p> <p>8: x10000</p> <p>Thousands: Read index 4</p> <p>0: x1</p> <p>1: x0.1</p> <p>2: x0.01</p> <p>3: x0.001</p> <p>4: x10</p> <p>5: x100</p> <p>6: x1000</p> <p>7: x0.0001</p> <p>8: x10000</p> <p>Ten thousands: Read index 5</p> <p>0: x1</p> <p>1: x0.1</p> <p>2: x0.01</p> <p>3: x0.001</p> <p>4: x10</p> <p>5: x100</p>	0	-	Changeable at any time	<a href="#">"C0-07" on page 770</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C0-08	0xC008	Read data scale factor selection 2	<p>Ones: Read index 6</p> <p>0: x1</p> <p>1: x0.1</p> <p>2: x0.01</p> <p>3: x0.001</p> <p>4: x10</p> <p>5: x100</p> <p>6: x1000</p> <p>7: x0.0001</p> <p>8: x10000</p> <p>Tens: Read index 7</p> <p>0: x1</p> <p>1: x0.1</p> <p>2: x0.01</p> <p>3: x0.001</p> <p>4: x10</p> <p>5: x100</p> <p>6: x1000</p> <p>7: x0.0001</p> <p>8: x10000</p> <p>Hundreds: Read index 8</p> <p>0: x1</p> <p>1: x0.1</p> <p>2: x0.01</p> <p>3: x0.001</p> <p>4: x10</p> <p>5: x100</p> <p>6: x1000</p> <p>7: x0.0001</p> <p>8: x10000</p> <p>Thousands: Read index 9</p> <p>0: x1</p> <p>1: x0.1</p> <p>2: x0.01</p> <p>3: x0.001</p> <p>4: x10</p> <p>5: x100</p> <p>6: x1000</p> <p>7: x0.0001</p> <p>8: x10000</p> <p>Ten thousands: Read index 10</p> <p>0: x1</p> <p>1: x0.1</p> <p>2: x0.01</p> <p>3: x0.001</p> <p>4: x10</p> <p>5: x100</p>	0	-	Changeable at any time	<a href="#">"C0-08" on page 772</a>
C0-09	0xC009	Write data type	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">"C0-09" on page 774</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C0-10	0xC00A	Address mapping status	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-10” on page 774</a>
C0-18	0xC012	Number of read mapping addresses	0 to 10	10	-	Changeable at any time	<a href="#">“C0-18” on page 774</a>
C0-19	0xC013	Number of write mapping addresses	0 to 10	10	-	Changeable at any time	<a href="#">“C0-19” on page 775</a>
C0-20	0xC014	Read index 1	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-20” on page 775</a>
C0-21	0xC015	Read subindex 1	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-21” on page 775</a>
C0-22	0xC016	Read mapping internal address index 1	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-22” on page 775</a>
C0-23	0xC017	Read mapping internal address subindex 1	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-23” on page 775</a>
C0-24	0xC018	Read index 2	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-24” on page 776</a>
C0-25	0xC019	Read subindex 2	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-25” on page 776</a>
C0-26	0xC01A	Read mapping internal address index 2	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-26” on page 776</a>
C0-27	0xC01B	Read mapping internal address subindex 2	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-27” on page 776</a>
C0-28	0xC01C	Read index 3	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-28” on page 776</a>
C0-29	0xC01D	Read subindex 3	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-29” on page 776</a>
C0-30	0xC01E	Read mapping internal address index 3	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-30” on page 777</a>
C0-31	0xC01F	Read mapping internal address subindex 3	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-31” on page 777</a>
C0-32	0xC020	Read index 4	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-32” on page 777</a>
C0-33	0xC021	Read subindex 4	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-33” on page 777</a>
C0-34	0xC022	Read mapping internal address index 4	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-34” on page 777</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C0-35	0xC023	Read mapping internal address subindex 4	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-35” on page 778</a>
C0-36	0xC024	Read index 5	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-36” on page 778</a>
C0-37	0xC025	Read subindex 5	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-37” on page 778</a>
C0-38	0xC026	Read mapping internal address index 5	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-38” on page 778</a>
C0-39	0xC027	Read mapping internal address subindex 5	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-39” on page 778</a>
C0-40	0xC028	Read index 6	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-40” on page 779</a>
C0-41	0xC029	Read subindex 6	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-41” on page 779</a>
C0-42	0xC02A	Read mapping internal address index 6	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-42” on page 779</a>
C0-43	0xC02B	Read mapping internal address subindex 6	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-43” on page 779</a>
C0-44	0xC02C	Read index 7	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-44” on page 779</a>
C0-45	0xC02D	Read subindex 7	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-45” on page 780</a>
C0-46	0xC02E	Read mapping internal address index 7	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-46” on page 780</a>
C0-47	0xC02F	Read mapping internal address subindex 7	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-47” on page 780</a>
C0-48	0xC030	Read index 8	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-48” on page 780</a>
C0-49	0xC031	Read subindex 8	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-49” on page 780</a>
C0-50	0xC032	Read mapping internal address index 8	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-50” on page 781</a>
C0-51	0xC033	Read mapping internal address subindex 8	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-51” on page 781</a>
C0-52	0xC034	Read index 9	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-52” on page 781</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C0-53	0xC035	Read subindex 9	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-53” on page 781</a>
C0-54	0xC036	Read mapping internal address index 9	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-54” on page 781</a>
C0-55	0xC037	Read mapping internal address subindex 9	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-55” on page 781</a>
C0-56	0xC038	Read index 10	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-56” on page 782</a>
C0-57	0xC039	Read subindex 10	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-57” on page 782</a>
C0-58	0xC03A	Read mapping internal address index 10	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-58” on page 782</a>
C0-59	0xC03B	Read mapping internal address subindex 10	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-59” on page 782</a>
C0-60	0xC03C	Write index 1	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-60” on page 782</a>
C0-61	0xC03D	Write subindex 1	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-61” on page 783</a>
C0-62	0xC03E	Write mapping internal address index 1	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-62” on page 783</a>
C0-63	0xC03F	Write mapping internal address subindex 1	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-63” on page 783</a>
C0-64	0xC040	Write index 2	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-64” on page 783</a>
C0-65	0xC041	Write subindex 2	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-65” on page 783</a>
C0-66	0xC042	Write mapping internal address index 2	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-66” on page 784</a>
C0-67	0xC043	Write mapping internal address subindex 2	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-67” on page 784</a>
C0-68	0xC044	Write index 3	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-68” on page 784</a>
C0-69	0xC045	Write subindex 3	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-69” on page 784</a>
C0-70	0xC046	Write mapping internal address index 3	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-70” on page 784</a>



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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C0-71	0xC047	Write mapping internal address subindex 3	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-71” on page 785</a>
C0-72	0xC048	Write index 4	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-72” on page 785</a>
C0-73	0xC049	Write subindex 4	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-73” on page 785</a>
C0-74	0xC04A	Write mapping internal address index 4	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-74” on page 785</a>
C0-75	0xC04B	Write mapping internal address subindex 4	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-75” on page 785</a>
C0-76	0xC04C	Write index 5	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-76” on page 786</a>
C0-77	0xC04D	Write subindex 5	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-77” on page 786</a>
C0-78	0xC04E	Write mapping internal address index 5	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-78” on page 786</a>
C0-79	0xC04F	Write mapping internal address subindex 5	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-79” on page 786</a>
C0-80	0xC050	Write index 6	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-80” on page 786</a>
C0-81	0xC051	Write subindex 6	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-81” on page 786</a>
C0-82	0xC052	Write mapping internal address index 6	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-82” on page 787</a>
C0-83	0xC053	Write mapping internal address subindex 6	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-83” on page 787</a>
C0-84	0xC054	Write index 7	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-84” on page 787</a>
C0-85	0xC055	Write subindex 7	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-85” on page 787</a>
C0-86	0xC056	Write mapping internal address index 7	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-86” on page 787</a>
C0-87	0xC057	Write mapping internal address subindex 7	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-87” on page 788</a>
C0-88	0xC058	Write index 8	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-88” on page 788</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C0-89	0xC059	Write subindex 8	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-89” on page 788</a>
C0-90	0xC05A	Write mapping internal address index 8	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-90” on page 788</a>
C0-91	0xC05B	Write mapping internal address subindex 8	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-91” on page 788</a>
C0-92	0xC05C	Write index 9	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-92” on page 789</a>
C0-93	0xC05D	Write subindex 9	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-93” on page 789</a>
C0-94	0xC05E	Write mapping internal address index 9	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-94” on page 789</a>
C0-95	0xC05F	Write mapping internal address subindex 9	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-95” on page 789</a>
C0-96	0xC060	Write index 10	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-96” on page 789</a>
C0-97	0xC061	Write subindex 10	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-97” on page 790</a>
C0-98	0xC062	Write mapping internal address index 10	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-98” on page 790</a>
C0-99	0xC063	Write mapping internal address subindex 10	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C0-99” on page 790</a>
C1-00	0xC100	Input of W2B module A	0: 0 Others: K connector	0	-	Changeable at any time	<a href="#">“C1-00” on page 790</a>
C1-01	0xC101	Input of W2B module B	Same as C1-00	0	-	Changeable at any time	<a href="#">“C1-01” on page 791</a>
C1-02	0xC102	Input of W2B module C	Same as C1-00	0	-	Changeable at any time	<a href="#">“C1-02” on page 791</a>
C1-03	0xC103	Input of W2B module D	Same as C1-00	0	-	Changeable at any time	<a href="#">“C1-03” on page 791</a>
C1-04	0xC104	Input of W2B module E	Same as C1-00	0	-	Changeable at any time	<a href="#">“C1-04” on page 791</a>
C1-05	0xC105	Input of W2B module F	Same as C1-00	0	-	Changeable at any time	<a href="#">“C1-05” on page 791</a>
C1-06	0xC106	Input of W2B module G	Same as C1-00	0	-	Changeable at any time	<a href="#">“C1-06” on page 791</a>
C1-07	0xC107	Input of W2B module H	Same as C1-00	0	-	Changeable at any time	<a href="#">“C1-07” on page 792</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C1-12	0xC10C	B2W module A enable	0: Disabled 1: Enabled	0	-	Changeable at any time	<a href="#">“ C1-12” on page 792</a>
C1-13	0xC10D	Bit inversion flag of B2W module A	0 to 65535	0	-	Changeable at any time	<a href="#">“ C1-13” on page 792</a>
C1-14	0xC10E	B2W module A - Bit00	0: 0 1: 1 2: 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector	0	-	Changeable at any time	<a href="#">“ C1-14” on page 792</a>
C1-15	0xC10F	B2W module A - Bit01	Same as C1-14	0	-	Changeable at any time	<a href="#">“ C1-15” on page 793</a>
C1-16	0xC110	B2W module A - Bit02	Same as C1-14	0	-	Changeable at any time	<a href="#">“ C1-16” on page 793</a>
C1-17	0xC111	B2W module A - Bit03	Same as C1-14	0	-	Changeable at any time	<a href="#">“ C1-17” on page 793</a>
C1-18	0xC112	B2W module A - Bit04	Same as C1-14	0	-	Changeable at any time	<a href="#">“ C1-18” on page 794</a>
C1-19	0xC113	B2W module A - Bit05	Same as C1-14	0	-	Changeable at any time	<a href="#">“ C1-19” on page 794</a>
C1-20	0xC114	B2W module A - Bit06	Same as C1-14	0	-	Changeable at any time	<a href="#">“ C1-20” on page 794</a>
C1-21	0xC115	B2W module A - Bit07	Same as C1-14	0	-	Changeable at any time	<a href="#">“ C1-21” on page 794</a>
C1-22	0xC116	B2W module A - Bit08	Same as C1-14	0	-	Changeable at any time	<a href="#">“ C1-22” on page 794</a>
C1-23	0xC117	B2W module A - Bit09	Same as C1-14	0	-	Changeable at any time	<a href="#">“ C1-23” on page 795</a>
C1-24	0xC118	B2W module A - Bit10	Same as C1-14	0	-	Changeable at any time	<a href="#">“ C1-24” on page 795</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C1-25	0xC119	B2W module A - Bit11	Same as C1-14	0	-	Changeable at any time	<a href="#">“ C1-25” on page 795</a>
C1-26	0xC11A	B2W module A - Bit12	Same as C1-14	0	-	Changeable at any time	<a href="#">“ C1-26” on page 795</a>
C1-27	0xC11B	B2W module A - Bit13	Same as C1-14	0	-	Changeable at any time	<a href="#">“ C1-27” on page 795</a>
C1-28	0xC11C	B2W module A - Bit14	Same as C1-14	0	-	Changeable at any time	<a href="#">“ C1-28” on page 796</a>
C1-29	0xC11D	B2W module A - Bit15	Same as C1-14	0	-	Changeable at any time	<a href="#">“ C1-29” on page 796</a>
C1-30	0xC11E	B2W module B enable	Same as C1-12	0	-	Changeable at any time	<a href="#">“ C1-30” on page 796</a>
C1-31	0xC11F	Bit inversion flag of B2W module B	0 to 65535	0	-	Changeable at any time	<a href="#">“ C1-31” on page 796</a>
C1-32	0xC120	B2W module B - Bit00	Same as C1-14	0	-	Changeable at any time	<a href="#">“ C1-32” on page 796</a>
C1-33	0xC121	B2W module B - Bit01	Same as C1-14	0	-	Changeable at any time	<a href="#">“ C1-33” on page 797</a>
C1-34	0xC122	B2W module B - Bit02	Same as C1-14	0	-	Changeable at any time	<a href="#">“ C1-34” on page 797</a>
C1-35	0xC123	B2W module B - Bit03	Same as C1-14	0	-	Changeable at any time	<a href="#">“ C1-35” on page 797</a>
C1-36	0xC124	B2W module B - Bit04	Same as C1-14	0	-	Changeable at any time	<a href="#">“ C1-36” on page 797</a>
C1-37	0xC125	B2W module B - Bit05	Same as C1-14	0	-	Changeable at any time	<a href="#">“ C1-37” on page 797</a>
C1-38	0xC126	B2W module B - Bit06	Same as C1-14	0	-	Changeable at any time	<a href="#">“ C1-38” on page 798</a>
C1-39	0xC127	B2W module B - Bit07	Same as C1-14	0	-	Changeable at any time	<a href="#">“ C1-39” on page 798</a>
C1-40	0xC128	B2W module B - Bit08	Same as C1-14	0	-	Changeable at any time	<a href="#">“ C1-40” on page 798</a>
C1-41	0xC129	B2W module B - Bit09	Same as C1-14	0	-	Changeable at any time	<a href="#">“ C1-41” on page 798</a>
C1-42	0xC12A	B2W module B - Bit10	Same as C1-14	0	-	Changeable at any time	<a href="#">“ C1-42” on page 798</a>
C1-43	0xC12B	B2W module B - Bit11	Same as C1-14	0	-	Changeable at any time	<a href="#">“ C1-43” on page 798</a>
C1-44	0xC12C	B2W module B - Bit12	Same as C1-14	0	-	Changeable at any time	<a href="#">“ C1-44” on page 799</a>
C1-45	0xC12D	B2W module B - Bit13	Same as C1-14	0	-	Changeable at any time	<a href="#">“ C1-45” on page 799</a>

## List of Parameters

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C1-46	0xC12E	B2W module B - Bit14	Same as C1-14	0	-	Changeable at any time	<a href="#">“C1-46” on page 799</a>
C1-47	0xC12F	B2W module B - Bit15	Same as C1-14	0	-	Changeable at any time	<a href="#">“C1-47” on page 799</a>
C1-48	0xC130	B2W module C enable	0: Disabled 1: Enabled	0	-	Changeable at any time	<a href="#">“C1-48” on page 799</a>
C1-49	0xC131	Bit inversion flag of B2W module C	0 to 65535	0	-	Changeable at any time	<a href="#">“C1-49” on page 800</a>
C1-50	0xC132	B2W module C - Bit00	Same as C1-14	0	-	Changeable at any time	<a href="#">“C1-50” on page 800</a>
C1-51	0xC133	B2W module C - Bit01	Same as C1-14	0	-	Changeable at any time	<a href="#">“C1-51” on page 800</a>
C1-52	0xC134	B2W module C - Bit02	Same as C1-14	0	-	Changeable at any time	<a href="#">“C1-52” on page 800</a>
C1-53	0xC135	B2W module C - Bit03	Same as C1-14	0	-	Changeable at any time	<a href="#">“C1-53” on page 800</a>
C1-54	0xC136	B2W module C - Bit04	Same as C1-14	0	-	Changeable at any time	<a href="#">“C1-54” on page 801</a>
C1-55	0xC137	B2W module C - Bit05	Same as C1-14	0	-	Changeable at any time	<a href="#">“C1-55” on page 801</a>
C1-56	0xC138	B2W module C - Bit06	Same as C1-14	0	-	Changeable at any time	<a href="#">“C1-56” on page 801</a>
C1-57	0xC139	B2W module C - Bit07	Same as C1-14	0	-	Changeable at any time	<a href="#">“C1-57” on page 801</a>
C1-58	0xC13A	B2W module C - Bit08	Same as C1-14	0	-	Changeable at any time	<a href="#">“C1-58” on page 801</a>
C1-59	0xC13B	B2W module C - Bit09	Same as C1-14	0	-	Changeable at any time	<a href="#">“C1-59” on page 802</a>
C1-60	0xC13C	B2W module C - Bit10	Same as C1-14	0	-	Changeable at any time	<a href="#">“C1-60” on page 802</a>
C1-61	0xC13D	B2W module C - Bit11	Same as C1-14	0	-	Changeable at any time	<a href="#">“C1-61” on page 802</a>
C1-62	0xC13E	B2W module C - Bit12	Same as C1-14	0	-	Changeable at any time	<a href="#">“C1-62” on page 802</a>
C1-63	0xC13F	B2W module C - Bit13	Same as C1-14	0	-	Changeable at any time	<a href="#">“C1-63” on page 802</a>
C1-64	0xC140	B2W module C - Bit14	Same as C1-14	0	-	Changeable at any time	<a href="#">“C1-64” on page 803</a>
C1-65	0xC141	B2W module C - Bit15	Same as C1-14	0	-	Changeable at any time	<a href="#">“C1-65” on page 803</a>
C1-66	0xC142	B2W module D enable	Same as C1-12	0	-	Changeable at any time	<a href="#">“C1-66” on page 803</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C1-67	0xC143	Bit inversion flag of B2W module D	0 to 65535	0	-	Changeable at any time	<a href="#">“C1-67” on page 803</a>
C1-68	0xC144	B2W module D - Bit00	Same as C1-14	0	-	Changeable at any time	<a href="#">“C1-68” on page 803</a>
C1-69	0xC145	B2W module D - Bit01	Same as C1-14	0	-	Changeable at any time	<a href="#">“C1-69” on page 803</a>
C1-70	0xC146	B2W module D - Bit02	Same as C1-14	0	-	Changeable at any time	<a href="#">“C1-70” on page 804</a>
C1-71	0xC147	B2W module D - Bit03	Same as C1-14	0	-	Changeable at any time	<a href="#">“C1-71” on page 804</a>
C1-72	0xC148	B2W module D - Bit04	Same as C1-14	0	-	Changeable at any time	<a href="#">“C1-72” on page 804</a>
C1-73	0xC149	B2W module D - Bit05	Same as C1-14	0	-	Changeable at any time	<a href="#">“C1-73” on page 804</a>
C1-74	0xC14A	B2W module D - Bit06	Same as C1-14	0	-	Changeable at any time	<a href="#">“C1-74” on page 804</a>
C1-75	0xC14B	B2W module D - Bit07	Same as C1-14	0	-	Changeable at any time	<a href="#">“C1-75” on page 805</a>
C1-76	0xC14C	B2W module D - Bit08	Same as C1-14	0	-	Changeable at any time	<a href="#">“C1-76” on page 805</a>
C1-77	0xC14D	B2W module D - Bit09	Same as C1-14	0	-	Changeable at any time	<a href="#">“C1-77” on page 805</a>
C1-78	0xC14E	B2W module D - Bit10	Same as C1-14	0	-	Changeable at any time	<a href="#">“C1-78” on page 805</a>
C1-79	0xC14F	B2W module D - Bit11	Same as C1-14	0	-	Changeable at any time	<a href="#">“C1-79” on page 805</a>
C1-80	0xC150	B2W module D - Bit12	Same as C1-14	0	-	Changeable at any time	<a href="#">“C1-80” on page 806</a>
C1-81	0xC151	B2W module D - Bit13	Same as C1-14	0	-	Changeable at any time	<a href="#">“C1-81” on page 806</a>
C1-82	0xC152	B2W module D - Bit14	Same as C1-14	0	-	Changeable at any time	<a href="#">“C1-82” on page 806</a>
C1-83	0xC153	B2W module D - Bit15	Same as C1-14	0	-	Changeable at any time	<a href="#">“C1-83” on page 806</a>
C2-00	0xC200	LOWORD of W-DW conversion A	0: 0 Others: K connector	0	-	Changeable at any time	<a href="#">“C2-00” on page 806</a>
C2-01	0xC201	HIWORD of W-DW conversion A	0: Disabled Others: K connector	0	-	Changeable at any time	<a href="#">“C2-01” on page 807</a>
C2-02	0xC202	Low-order bits of base value of W-DW conversion A	0 to 65535	0	-	Changeable at any time	<a href="#">“C2-02” on page 807</a>

## List of Parameters

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C2-03	0xC203	High-order bits of base value of W-DW conversion A	0 to 65535	0	-	Changeable at any time	<a href="#">“ C2-03” on page 807</a>
C2-04	0xC204	LOWORD of W-DW conversion B	0: 0 Others: K connector	0	-	Changeable at any time	<a href="#">“ C2-04” on page 807</a>
C2-05	0xC205	HIWORD of W-DW conversion B	0: Disabled Others: K connector	0	-	Changeable at any time	<a href="#">“ C2-05” on page 808</a>
C2-06	0xC206	Low-order bits of base value of W-DW conversion B	0 to 65535	0	-	Changeable at any time	<a href="#">“ C2-06” on page 808</a>
C2-07	0xC207	High-order bits of base value of W-DW conversion B	0 to 65535	0	-	Changeable at any time	<a href="#">“ C2-07” on page 808</a>
C2-08	0xC208	LOWORD of W-DW conversion C	0: 0 Others: K connector	0	-	Changeable at any time	<a href="#">“ C2-08” on page 808</a>
C2-09	0xC209	HIWORD of W-DW conversion C	0: Disabled Others: K connector	0	-	Changeable at any time	<a href="#">“ C2-09” on page 808</a>
C2-10	0xC20A	Low-order bits of base value of W-DW conversion C	0 to 65535	0	-	Changeable at any time	<a href="#">“ C2-10” on page 809</a>
C2-11	0xC20B	High-order bits of base value of W-DW conversion C	0 to 65535	0	-	Changeable at any time	<a href="#">“ C2-11” on page 809</a>
C2-12	0xC20C	LOWORD of W-DW conversion D	0: 0 Others: K connector	0	-	Changeable at any time	<a href="#">“ C2-12” on page 809</a>
C2-13	0xC20D	HIWORD of W-DW conversion D	0: Disabled Others: K connector	0	-	Changeable at any time	<a href="#">“ C2-13” on page 809</a>
C2-14	0xC20E	Low-order bits of base value of W-DW conversion D	0 to 65535	0	-	Changeable at any time	<a href="#">“ C2-14” on page 809</a>
C2-15	0xC20F	High-order bits of base value of W-DW conversion D	0 to 65535	0	-	Changeable at any time	<a href="#">“ C2-15” on page 810</a>
C2-32	0xC220	DW-W conversion A	0: Disabled Others: K connector	0	-	Changeable at any time	<a href="#">“ C2-32” on page 810</a>
C2-33	0xC221	Low-order bits of base value of DW-W conversion A	0 to 65535	0	-	Changeable at any time	<a href="#">“ C2-33” on page 810</a>
C2-34	0xC222	High-order bits of base value of DW-W conversion A	0 to 65535	0	-	Changeable at any time	<a href="#">“ C2-34” on page 810</a>
C2-35	0xC223	DW-W conversion B	0: Disabled Others: K connector	0	-	Changeable at any time	<a href="#">“ C2-35” on page 811</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C2-36	0xC224	Low-order bits of base value of DW-W conversion B	0 to 65535	0	-	Changeable at any time	<a href="#">“C2-36” on page 811</a>
C2-37	0xC225	High-order bits of base value of DW-W conversion B	0 to 65535	0	-	Changeable at any time	<a href="#">“C2-37” on page 811</a>
C2-38	0xC226	DW-W conversion C	0: Disabled Others: K connector	0	-	Changeable at any time	<a href="#">“C2-38” on page 811</a>
C2-39	0xC227	Low-order bits of base value of DW-W conversion C	0 to 65535	0	-	Changeable at any time	<a href="#">“C2-39” on page 811</a>
C2-40	0xC228	High-order bits of base value of DW-W conversion C	0 to 65535	0	-	Changeable at any time	<a href="#">“C2-40” on page 812</a>
C2-41	0xC229	DW-W conversion D	0: Disabled Others: K connector	0	-	Changeable at any time	<a href="#">“C2-41” on page 812</a>
C2-42	0xC22A	Low-order bits of base value of DW-W conversion D	0 to 65535	0	-	Changeable at any time	<a href="#">“C2-42” on page 812</a>
C2-43	0xC22B	High-order bits of base value of DW-W conversion D	0 to 65535	0	-	Changeable at any time	<a href="#">“C2-43” on page 812</a>
C3-00	0xC300	Function of logic AND-OR module A	0: Disabled 1: AND 2: OR	0	-	Changeable at any time	<a href="#">“C3-00” on page 812</a>
C3-01	0xC301	Input 1 of logic AND-OR module A	0: Logic 0 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector	0	-	Changeable at any time	<a href="#">“C3-01” on page 813</a>
C3-02	0xC302	Input 2 of logic AND-OR module A	Same as C3-01	0	-	Changeable at any time	<a href="#">“C3-02” on page 813</a>



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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C3-03	0xC303	Input 3 of logic AND-OR module A	Same as C3-01	0	-	Changeable at any time	<a href="#">“C3-03” on page 814</a>
C3-04	0xC304	Input 4 of logic AND-OR module A	Same as C3-01	0	-	Changeable at any time	<a href="#">“C3-04” on page 814</a>
C3-05	0xC305	Function of logic AND-OR module B	0: Disabled 1: AND 2: OR	0	-	Changeable at any time	<a href="#">“C3-05” on page 814</a>
C3-06	0xC306	Input 1 of logic AND-OR module B	Same as C3-01	0	-	Changeable at any time	<a href="#">“C3-06” on page 814</a>
C3-07	0xC307	Input 2 of logic AND-OR module B	Same as C3-01	0	-	Changeable at any time	<a href="#">“C3-07” on page 814</a>
C3-08	0xC308	Input 3 of logic AND-OR module B	Same as C3-01	0	-	Changeable at any time	<a href="#">“C3-08” on page 815</a>
C3-09	0xC309	Input 4 of logic AND-OR module B	Same as C3-01	0	-	Changeable at any time	<a href="#">“C3-09” on page 815</a>
C3-10	0xC30A	Function of logic AND-OR module C	Same as C3-05	0	-	Changeable at any time	<a href="#">“C3-10” on page 815</a>
C3-11	0xC30B	Input 1 of logic AND-OR module C	Same as C3-01	0	-	Changeable at any time	<a href="#">“C3-11” on page 815</a>
C3-12	0xC30C	Input 2 of logic AND-OR module C	Same as C3-01	0	-	Changeable at any time	<a href="#">“C3-12” on page 815</a>
C3-13	0xC30D	Input 3 of logic AND-OR module C	Same as C3-01	0	-	Changeable at any time	<a href="#">“C3-13” on page 816</a>
C3-14	0xC30E	Input 4 of logic AND-OR module C	Same as C3-01	0	-	Changeable at any time	<a href="#">“C3-14” on page 816</a>
C3-15	0xC30F	Function of logic AND-OR module D	Same as C3-05	0	-	Changeable at any time	<a href="#">“C3-15” on page 816</a>
C3-16	0xC310	Input 1 of logic AND-OR module D	Same as C3-01	0	-	Changeable at any time	<a href="#">“C3-16” on page 816</a>
C3-17	0xC311	Input 2 of logic AND-OR module D	Same as C3-01	0	-	Changeable at any time	<a href="#">“C3-17” on page 816</a>
C3-18	0xC312	Input 3 of logic AND-OR module D	Same as C3-01	0	-	Changeable at any time	<a href="#">“C3-18” on page 817</a>
C3-19	0xC313	Input 4 of logic AND-OR module D	Same as C3-01	0	-	Changeable at any time	<a href="#">“C3-19” on page 817</a>
C3-20	0xC314	Function of logic AND-OR module E	Same as C3-05	0	-	Changeable at any time	<a href="#">“C3-20” on page 817</a>
C3-21	0xC315	Input 1 of logic AND-OR module E	Same as C3-01	0	-	Changeable at any time	<a href="#">“C3-21” on page 817</a>
C3-22	0xC316	Input 2 of logic AND-OR module E	Same as C3-01	0	-	Changeable at any time	<a href="#">“C3-22” on page 817</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C3-23	0xC317	Input 3 of logic AND-OR module E	Same as C3-01	0	-	Changeable at any time	<a href="#">“ C3-23” on page 818</a>
C3-24	0xC318	Function of logic AND-OR module F	Same as C3-05	0	-	Changeable at any time	<a href="#">“ C3-24” on page 818</a>
C3-25	0xC319	Input 1 of logic AND-OR module F	Same as C3-01	0	-	Changeable at any time	<a href="#">“ C3-25” on page 818</a>
C3-26	0xC31A	Input 2 of logic AND-OR module F	Same as C3-01	0	-	Changeable at any time	<a href="#">“ C3-26” on page 818</a>
C3-27	0xC31B	Input 3 of logic AND-OR module F	Same as C3-01	0	-	Changeable at any time	<a href="#">“ C3-27” on page 818</a>
C3-28	0xC31C	Function of logic AND-OR module G	Same as C3-05	0	-	Changeable at any time	<a href="#">“ C3-28” on page 819</a>
C3-29	0xC31D	Input 1 of logic AND-OR module G	Same as C3-01	0	-	Changeable at any time	<a href="#">“ C3-29” on page 819</a>
C3-30	0xC31E	Input 2 of logic AND-OR module G	Same as C3-01	0	-	Changeable at any time	<a href="#">“ C3-30” on page 819</a>
C3-31	0xC31F	Input 3 of logic AND-OR module G	Same as C3-01	0	-	Changeable at any time	<a href="#">“ C3-31” on page 819</a>
C3-32	0xC320	Function of logic AND-OR module H	Same as C3-05	0	-	Changeable at any time	<a href="#">“ C3-32” on page 819</a>
C3-33	0xC321	Input 1 of logic AND-OR module H	Same as C3-01	0	-	Changeable at any time	<a href="#">“ C3-33” on page 819</a>
C3-34	0xC322	Input 2 of logic AND-OR module H	Same as C3-01	0	-	Changeable at any time	<a href="#">“ C3-34” on page 820</a>
C3-35	0xC323	Input 3 of logic AND-OR module H	Same as C3-01	0	-	Changeable at any time	<a href="#">“ C3-35” on page 820</a>
C3-36	0xC324	Function of logic AND-OR module I	Same as C3-05	0	-	Changeable at any time	<a href="#">“ C3-36” on page 820</a>
C3-37	0xC325	Input 1 of logic AND-OR module I	Same as C3-01	0	-	Changeable at any time	<a href="#">“ C3-37” on page 820</a>
C3-38	0xC326	Input 2 of logic AND-OR module I	Same as C3-01	0	-	Changeable at any time	<a href="#">“ C3-38” on page 820</a>
C3-39	0xC327	Input 3 of logic AND-OR module I	Same as C3-01	0	-	Changeable at any time	<a href="#">“ C3-39” on page 821</a>
C3-40	0xC328	Function of logic AND-OR module J	Same as C3-05	0	-	Changeable at any time	<a href="#">“ C3-40” on page 821</a>
C3-41	0xC329	Input 1 of logic AND-OR module J	Same as C3-01	0	-	Changeable at any time	<a href="#">“ C3-41” on page 821</a>
C3-42	0xC32A	Input 2 of logic AND-OR module J	Same as C3-01	0	-	Changeable at any time	<a href="#">“ C3-42” on page 821</a>
C3-43	0xC32B	Input 3 of logic AND-OR module J	Same as C3-01	0	-	Changeable at any time	<a href="#">“ C3-43” on page 821</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C3-44	0xC32C	Function of logic AND-OR module K	Same as C3-05	0	-	Changeable at any time	<a href="#">“C3-44” on page 822</a>
C3-45	0xC32D	Input 1 of logic AND-OR module K	Same as C3-01	0	-	Changeable at any time	<a href="#">“C3-45” on page 822</a>
C3-46	0xC32E	Input 2 of logic AND-OR module K	Same as C3-01	0	-	Changeable at any time	<a href="#">“C3-46” on page 822</a>
C3-47	0xC32F	Input 3 of logic AND-OR module K	Same as C3-01	0	-	Changeable at any time	<a href="#">“C3-47” on page 822</a>
C3-48	0xC330	Function of logic AND-OR module L	Same as C3-05	0	-	Changeable at any time	<a href="#">“C3-48” on page 822</a>
C3-49	0xC331	Input 1 of logic AND-OR module L	Same as C3-01	0	-	Changeable at any time	<a href="#">“C3-49” on page 823</a>
C3-50	0xC332	Input 2 of logic AND-OR module L	Same as C3-01	0	-	Changeable at any time	<a href="#">“C3-50” on page 823</a>
C3-51	0xC333	Input 3 of logic AND-OR module L	Same as C3-01	0	-	Changeable at any time	<a href="#">“C3-51” on page 823</a>
C3-56	0xC338	Input of logic NOT module A	0: Disabled 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector	0	-	Changeable at any time	<a href="#">“C3-56” on page 823</a>
C3-57	0xC339	Input of logic NOT module B	C3-56	0	-	Changeable at any time	<a href="#">“C3-57” on page 824</a>
C3-58	0xC33A	Input of logic NOT module C	C3-56	0	-	Changeable at any time	<a href="#">“C3-58” on page 824</a>
C3-59	0xC33B	Input of logic NOT module D	C3-56	0	-	Changeable at any time	<a href="#">“C3-59” on page 825</a>
C3-60	0xC33C	Input of logic NOT module E	C3-56	0	-	Changeable at any time	<a href="#">“C3-60” on page 825</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C3-61	0xC33D	Input of logic NOT module F	C3-56	0	-	Changeable at any time	<a href="#">“ C3-61” on page 825</a>
C3-62	0xC33E	Input of logic NOT module G	C3-56	0	-	Changeable at any time	<a href="#">“ C3-62” on page 825</a>
C3-63	0xC33F	Input of logic NOT module H	C3-56	0	-	Changeable at any time	<a href="#">“ C3-63” on page 825</a>
C3-64	0xC340	Input of logic NOT module I	C3-56	0	-	Changeable at any time	<a href="#">“ C3-64” on page 825</a>
C3-65	0xC341	Input of logic NOT module J	C3-56	0	-	Changeable at any time	<a href="#">“ C3-65” on page 826</a>
C3-66	0xC342	Input of logic NOT module K	C3-56	0	-	Changeable at any time	<a href="#">“ C3-66” on page 826</a>
C3-67	0xC343	Input of logic NOT module L	C3-56	0	-	Changeable at any time	<a href="#">“ C3-67” on page 826</a>
C3-68	0xC344	Input of logic NOT module M	C3-56	0	-	Changeable at any time	<a href="#">“ C3-68” on page 826</a>
C3-69	0xC345	Input of logic NOT module N	C3-56	0	-	Changeable at any time	<a href="#">“ C3-69” on page 826</a>
C3-70	0xC346	Input of logic NOT module O	C3-56	0	-	Changeable at any time	<a href="#">“ C3-70” on page 827</a>
C3-71	0xC347	Input of logic NOT module P	C3-56	0	-	Changeable at any time	<a href="#">“ C3-71” on page 827</a>
C3-72	0xC348	Function of logic XOR/XNOR module A	0: Disabled 1: XOR 2: XNOR	0	-	Changeable at any time	<a href="#">“ C3-72” on page 827</a>
C3-73	0xC349	Input 1 of logic XOR/XNOR module A	Same as C3-01	0	-	Changeable at any time	<a href="#">“ C3-73” on page 827</a>
C3-74	0xC34A	Input 2 of logic XOR/XNOR module A	Same as C3-01	0	-	Changeable at any time	<a href="#">“ C3-74” on page 828</a>
C3-75	0xC34B	Function of logic XOR/XNOR module B	0: Disabled 1: XOR 2: XNOR	0	-	Changeable at any time	<a href="#">“ C3-75” on page 828</a>
C3-76	0xC34C	Input 1 of logic XOR/XNOR module B	Same as C3-01	0	-	Changeable at any time	<a href="#">“ C3-76” on page 828</a>
C3-77	0xC34D	Input 2 of logic XOR/XNOR module B	Same as C3-01	0	-	Changeable at any time	<a href="#">“ C3-77” on page 828</a>
C3-78	0xC34E	Function of logic XOR/XNOR module C	0: Disabled 1: XOR 2: XNOR	0	-	Changeable at any time	<a href="#">“ C3-78” on page 828</a>

## List of Parameters

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C3-79	0xC34F	Input 1 of logic XOR/XNOR module C	Same as C3-01	0	-	Changeable at any time	<a href="#">“C3-79” on page 829</a>
C3-80	0xC350	Input 2 of logic XOR/XNOR module C	Same as C3-01	0	-	Changeable at any time	<a href="#">“C3-80” on page 829</a>
C3-81	0xC351	Function of logic XOR/XNOR module D	0: Disabled 1: XOR 2: XNOR	0	-	Changeable at any time	<a href="#">“C3-81” on page 829</a>
C3-82	0xC352	Input 1 of logic XOR/XNOR module D	Same as C3-01	0	-	Changeable at any time	<a href="#">“C3-82” on page 829</a>
C3-83	0xC353	Input 2 of logic XOR/XNOR module D	Same as C3-01	0	-	Changeable at any time	<a href="#">“C3-83” on page 829</a>
C3-84	0xC354	Function of logic XOR/XNOR module E	0: Disabled 1: XOR 2: XNOR	0	-	Changeable at any time	<a href="#">“C3-84” on page 830</a>
C3-85	0xC355	Input 1 of logic XOR/XNOR module E	Same as C3-01	0	-	Changeable at any time	<a href="#">“C3-85” on page 830</a>
C3-86	0xC356	Input 2 of logic XOR/XNOR module E	Same as C3-01	0	-	Changeable at any time	<a href="#">“C3-86” on page 830</a>
C3-87	0xC357	Function of logic XOR/XNOR module F	0: Disabled 1: XOR 2: XNOR	0	-	Changeable at any time	<a href="#">“C3-87” on page 830</a>
C3-88	0xC358	Input 1 of logic XOR/XNOR module F	Same as C3-01	0	-	Changeable at any time	<a href="#">“C3-88” on page 830</a>
C3-89	0xC359	Input 2 of logic XOR/XNOR module F	Same as C3-01	0	-	Changeable at any time	<a href="#">“C3-89” on page 831</a>
C3-90	0xC35A	Function of logic XOR/XNOR module G	0: Disabled 1: XOR 2: XNOR	0	-	Changeable at any time	<a href="#">“C3-90” on page 831</a>
C3-91	0xC35B	Input 1 of logic XOR/XNOR module G	Same as C3-01	0	-	Changeable at any time	<a href="#">“C3-91” on page 831</a>
C3-92	0xC35C	Input 2 of logic XOR/XNOR module G	Same as C3-01	0	-	Changeable at any time	<a href="#">“C3-92” on page 831</a>
C3-93	0xC35D	Function of logic XOR/XNOR module H	0: Disabled 1: XOR 2: XNOR	0	-	Changeable at any time	<a href="#">“C3-93” on page 831</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C3-94	0xC35E	Input 1 of logic XOR/XNOR module H	Same as C3-01	0	-	Changeable at any time	<a href="#">“C3-94” on page 832</a>
C3-95	0xC35F	Input 2 of logic XOR/XNOR module H	Same as C3-01	0	-	Changeable at any time	<a href="#">“C3-95” on page 832</a>
C4-00	0xC400	Input of floating-point absolute value module A	0: Disabled 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable at any time	<a href="#">“C4-00” on page 832</a>
C4-01	0xC401	Input of floating-point absolute value module B	Same as C4-00	0	-	Changeable at any time	<a href="#">“C4-01” on page 833</a>
C4-02	0xC402	Input of floating-point absolute value module C	Same as C4-00	0	-	Changeable at any time	<a href="#">“C4-02” on page 833</a>
C4-03	0xC403	Input of floating-point absolute value module D	Same as C4-00	0	-	Changeable at any time	<a href="#">“C4-03” on page 833</a>
C4-04	0xC404	Input of floating-point absolute value module E	Same as C4-00	0	-	Changeable at any time	<a href="#">“C4-04” on page 833</a>
C4-05	0xC405	Input of fixed-point absolute value module F	0: Disabled Others: K connector	0	-	Changeable at any time	<a href="#">“C4-05” on page 833</a>
C4-06	0xC406	Input of fixed-point absolute value module G	0: Disabled Others: K connector	0	-	Changeable at any time	<a href="#">“C4-06” on page 834</a>
C4-07	0xC407	Input of fixed-point absolute value module H	0: Disabled Others: K connector	0	-	Changeable at any time	<a href="#">“C4-07” on page 834</a>
C4-08	0xC408	Input 1 of floating-point ADD/SUBTRACT module A	0: Disabled 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable at any time	<a href="#">“C4-08” on page 834</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C4-09	0xC409	Input 2 of ADD/ SUBTRACT module A (ADD)	0: 0 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable at any time	<a href="#">“C4-09” on page 834</a>
C4-10	0xC40A	Input 3 of ADD/ SUBTRACT module A (ADD)	Same as C4-09	0	-	Changeable at any time	<a href="#">“C4-10” on page 835</a>
C4-11	0xC40B	Input 4 of ADD/ SUBTRACT module A (SUBTRACT)	Same as C4-09	0	-	Changeable at any time	<a href="#">“C4-11” on page 835</a>
C4-12	0xC40C	Input 1 of floating- point ADD/ SUBTRACT module B	Same as C4-09	0	-	Changeable at any time	<a href="#">“C4-12” on page 835</a>
C4-13	0xC40D	Input 2 of ADD/ SUBTRACT module B (ADD)	Same as C4-09	0	-	Changeable at any time	<a href="#">“C4-13” on page 835</a>
C4-14	0xC40E	Input 3 of ADD/ SUBTRACT module B (ADD)	Same as C4-09	0	-	Changeable at any time	<a href="#">“C4-14” on page 836</a>
C4-15	0xC40F	Input 4 of ADD/ SUBTRACT module B (SUBTRACT)	Same as C4-09	0	-	Changeable at any time	<a href="#">“C4-15” on page 836</a>
C4-16	0xC410	Input 1 of floating- point ADD/ SUBTRACT module C	Same as C4-09	0	-	Changeable at any time	<a href="#">“C4-16” on page 836</a>
C4-17	0xC411	Input 2 of ADD/ SUBTRACT module C (ADD)	Same as C4-09	0	-	Changeable at any time	<a href="#">“C4-17” on page 836</a>
C4-18	0xC412	Input 3 of ADD/ SUBTRACT module C (ADD)	Same as C4-09	0	-	Changeable at any time	<a href="#">“C4-18” on page 836</a>
C4-19	0xC413	Input 4 of ADD/ SUBTRACT module C (SUBTRACT)	Same as C4-09	0	-	Changeable at any time	<a href="#">“C4-19” on page 837</a>
C4-20	0xC414	Input 1 of floating- point ADD/ SUBTRACT module D	Same as C4-09	0	-	Changeable at any time	<a href="#">“C4-20” on page 837</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C4-21	0xC415	Input 2 of ADD/ SUBTRACT module D (ADD)	Same as C4-09	0	-	Changeable at any time	<a href="#">“ C4-21” on page 837</a>
C4-22	0xC416	Input 3 of ADD/ SUBTRACT module D (ADD)	Same as C4-09	0	-	Changeable at any time	<a href="#">“ C4-22” on page 837</a>
C4-23	0xC417	Input 4 of ADD/ SUBTRACT module D (SUBTRACT)	Same as C4-09	0	-	Changeable at any time	<a href="#">“ C4-23” on page 837</a>
C4-24	0xC418	Input 1 of floating- point ADD/ SUBTRACT module E	Same as C4-09	0	-	Changeable at any time	<a href="#">“ C4-24” on page 837</a>
C4-25	0xC419	Input 2 of ADD/ SUBTRACT module E (ADD)	Same as C4-09	0	-	Changeable at any time	<a href="#">“ C4-25” on page 838</a>
C4-26	0xC41A	Input 3 of ADD/ SUBTRACT module E (ADD)	Same as C4-09	0	-	Changeable at any time	<a href="#">“ C4-26” on page 838</a>
C4-27	0xC41B	Input 4 of ADD/ SUBTRACT module E (SUBTRACT)	Same as C4-09	0	-	Changeable at any time	<a href="#">“ C4-27” on page 838</a>
C4-28	0xC41C	Input 1 of fixed- point ADD/ SUBTRACT module F	0: Disabled Others: K connector	0	-	Changeable at any time	<a href="#">“ C4-28” on page 838</a>
C4-29	0xC41D	Input 2 of ADD/ SUBTRACT module F (ADD)	Same as C4-28	0	-	Changeable at any time	<a href="#">“ C4-29” on page 838</a>
C4-30	0xC41E	Input 3 of ADD/ SUBTRACT module F (ADD)	Same as C4-28	0	-	Changeable at any time	<a href="#">“ C4-30” on page 839</a>
C4-31	0xC41F	Input 4 of ADD/ SUBTRACT module F (SUBTRACT)	Same as C4-28	0	-	Changeable at any time	<a href="#">“ C4-31” on page 839</a>
C4-32	0xC420	Input 1 of fixed- point ADD/ SUBTRACT module G	Same as C4-28	0	-	Changeable at any time	<a href="#">“ C4-32” on page 839</a>
C4-33	0xC421	Input 2 of ADD/ SUBTRACT module G (ADD)	Same as C4-28	0	-	Changeable at any time	<a href="#">“ C4-33” on page 839</a>
C4-34	0xC422	Input 3 of ADD/ SUBTRACT module G (ADD)	Same as C4-28	0	-	Changeable at any time	<a href="#">“ C4-34” on page 839</a>



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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C4-35	0xC423	Input 4 of ADD/ SUBTRACT module G (SUBTRACT)	Same as C4-28	0	-	Changeable at any time	<a href="#">“ C4-35” on page 840</a>
C4-36	0xC424	Input 1 of fixed- point ADD/ SUBTRACT module H	Same as C4-28	0	-	Changeable at any time	<a href="#">“ C4-36” on page 840</a>
C4-37	0xC425	Input 2 of ADD/ SUBTRACT module H (ADD)	Same as C4-28	0	-	Changeable at any time	<a href="#">“ C4-37” on page 840</a>
C4-38	0xC426	Input 3 of ADD/ SUBTRACT module H (ADD)	Same as C4-28	0	-	Changeable at any time	<a href="#">“ C4-38” on page 840</a>
C4-39	0xC427	Input 4 of ADD/ SUBTRACT module H (SUBTRACT)	Same as C4-28	0	-	Changeable at any time	<a href="#">“ C4-39” on page 840</a>
C4-40	0xC428	Input 1 of floating- point MULTIPLY/ DIVIDE module A	C4-08	0	-	Changeable at any time	<a href="#">“ C4-40” on page 841</a>
C4-41	0xC429	Input 2 of MULTIPLY/DIVIDE module A (MULTIPLY)	0: 1 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable at any time	<a href="#">“ C4-41” on page 841</a>
C4-42	0xC42A	Input 3 of MULTIPLY/DIVIDE module A (DIVIDE)	Same as C4-41	0	-	Changeable at any time	<a href="#">“ C4-42” on page 841</a>
C4-43	0xC42B	Input 1 of floating- point MULTIPLY/ DIVIDE module B	0: Disabled 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable at any time	<a href="#">“ C4-43” on page 841</a>
C4-44	0xC42C	Input 2 of MULTIPLY/DIVIDE module B (MULTIPLY)	Same as C4-41	0	-	Changeable at any time	<a href="#">“ C4-44” on page 842</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C4-45	0xC42D	Input 3 of MULTIPLY/DIVIDE module B (DIVIDE)	Same as C4-41	0	-	Changeable at any time	<a href="#">“C4-45” on page 842</a>
C4-46	0xC42E	Input 1 of floating-point MULTIPLY/DIVIDE module C	0: Disabled 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable at any time	<a href="#">“C4-46” on page 842</a>
C4-47	0xC42F	Input 2 of MULTIPLY/DIVIDE module C (MULTIPLY)	Same as C4-41	0	-	Changeable at any time	<a href="#">“C4-47” on page 843</a>
C4-48	0xC430	Input 3 of MULTIPLY/DIVIDE module C (DIVIDE)	Same as C4-41	0	-	Changeable at any time	<a href="#">“C4-48” on page 843</a>
C4-49	0xC431	Input 1 of floating-point MULTIPLY/DIVIDE module D	0: Disabled 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable at any time	<a href="#">“C4-49” on page 843</a>
C4-50	0xC432	Input 2 of MULTIPLY/DIVIDE module D (MULTIPLY)	Same as C4-41	0	-	Changeable at any time	<a href="#">“C4-50” on page 843</a>
C4-51	0xC433	Input 3 of MULTIPLY/DIVIDE module D (DIVIDE)	Same as C4-41	0	-	Changeable at any time	<a href="#">“C4-51” on page 844</a>
C4-52	0xC434	Input 1 of floating-point MULTIPLY/DIVIDE module E	0: Disabled 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable at any time	<a href="#">“C4-52” on page 844</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C4-53	0xC435	Input 2 of MULTIPLY/DIVIDE module E (MULTIPLY)	Same as C4-41	0	-	Changeable at any time	<a href="#">“C4-53” on page 844</a>
C4-54	0xC436	Input 3 of MULTIPLY/DIVIDE module E (DIVIDE)	Same as C4-41	0	-	Changeable at any time	<a href="#">“C4-54” on page 844</a>
C4-55	0xC437	Input 1 of fixed-point MULTIPLY/DIVIDE module F	0: Disabled Others: K connector	0	-	Changeable at any time	<a href="#">“C4-55” on page 845</a>
C4-56	0xC438	Input 2 of MULTIPLY/DIVIDE module F (MULTIPLY)	Same as C4-55	0	-	Changeable at any time	<a href="#">“C4-56” on page 845</a>
C4-57	0xC439	Input 3 of MULTIPLY/DIVIDE module F (DIVIDE)	Same as C4-55	0	-	Changeable at any time	<a href="#">“C4-57” on page 845</a>
C4-58	0xC43A	Input 1 of fixed-point MULTIPLY/DIVIDE module G	Same as C4-55	0	-	Changeable at any time	<a href="#">“C4-58” on page 845</a>
C4-59	0xC43B	Input 2 of MULTIPLY/DIVIDE module G (MULTIPLY)	Same as C4-55	0	-	Changeable at any time	<a href="#">“C4-59” on page 845</a>
C4-60	0xC43C	Input 3 of MULTIPLY/DIVIDE module G (DIVIDE)	Same as C4-55	0	-	Changeable at any time	<a href="#">“C4-60” on page 846</a>
C4-61	0xC43D	Input 1 of fixed-point MULTIPLY/DIVIDE module H	Same as C4-55	0	-	Changeable at any time	<a href="#">“C4-61” on page 846</a>
C4-62	0xC43E	Input 2 of MULTIPLY/DIVIDE module H (MULTIPLY)	Same as C4-55	0	-	Changeable at any time	<a href="#">“C4-62” on page 846</a>
C4-63	0xC43F	Input 3 of MULTIPLY/DIVIDE module H (DIVIDE)	Same as C4-55	0	-	Changeable at any time	<a href="#">“C4-63” on page 846</a>
C4-64	0xC440	Function of floating-point comparison module A	0: Module disabled 1: Input 1 > Input 2 2: Input 1 < Input 2 3: Input 1 = Input 2	0	-	Changeable at any time	<a href="#">“C4-64” on page 846</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C4-65	0xC441	Input 1 of floating-point comparison module A	0: 0 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable at any time	<a href="#">“C4-65” on page 847</a>
C4-66	0xC442	Input 2 of floating-point comparison module A	0: 0 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable at any time	<a href="#">“C4-66” on page 847</a>
C4-67	0xC443	Hysteresis input of floating-point comparison module A	0.00% to 655.35%	0.00	%	Changeable at any time	<a href="#">“C4-67” on page 847</a>
C4-68	0xC444	Function of floating-point comparison module B	0: Module disabled 1: Input 1 > Input 2 2: Input 1 < Input 2 3: Input 1 = Input 2	0	-	Changeable at any time	<a href="#">“C4-68” on page 848</a>
C4-69	0xC445	Input 1 of floating-point comparison module B	0: 0 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable at any time	<a href="#">“C4-69” on page 848</a>
C4-70	0xC446	Input 2 of floating-point comparison module B	0: 0 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable at any time	<a href="#">“C4-70” on page 848</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C4-71	0xC447	Hysteresis input of floating-point comparison module B	0.00% to 655.35%	0.00	%	Changeable at any time	<a href="#">“ C4-71” on page 849</a>
C4-72	0xC448	Function of floating-point comparison module C	0: Module disabled 1: Input 1 > Input 2 2: Input 1 < Input 2 3: Input 1 = Input 2	0	-	Changeable at any time	<a href="#">“ C4-72” on page 849</a>
C4-73	0xC449	Input 1 of floating-point comparison module C	0: 0 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable at any time	<a href="#">“ C4-73” on page 849</a>
C4-74	0xC44A	Input 2 of floating-point comparison module C	0: 0 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable at any time	<a href="#">“ C4-74” on page 850</a>
C4-75	0xC44B	Hysteresis input of floating-point comparison module C	0.00% to 655.35%	0.00	%	Changeable at any time	<a href="#">“ C4-75” on page 850</a>
C4-76	0xC44C	Function of floating-point comparison module D	0: Module disabled 1: Input 1 > Input 2 2: Input 1 < Input 2 3: Input 1 = Input 2	0	-	Changeable at any time	<a href="#">“ C4-76” on page 850</a>
C4-77	0xC44D	Input 1 of floating-point comparison module D	0: 0 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable at any time	<a href="#">“ C4-77” on page 851</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C4-78	0xC44E	Input 2 of floating-point comparison module D	0: 0 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable at any time	<a href="#">“ C4-78” on page 851</a>
C4-79	0xC44F	Hysteresis input of floating-point comparison module D	0.00% to 655.35%	0.00	%	Changeable at any time	<a href="#">“ C4-79” on page 851</a>
C4-80	0xC450	Function of fixed-point comparison module E	0: Module disabled 1: Input 1 > Input 2 2: Input 1 < Input 2 3: Input 1 = Input 2	0	-	Changeable at any time	<a href="#">“ C4-80” on page 852</a>
C4-81	0xC451	Input 1 of fixed-point comparison module E	0: 0 Others: K connector	0	-	Changeable at any time	<a href="#">“ C4-81” on page 852</a>
C4-82	0xC452	Input 2 of fixed-point comparison module E	0: 0 Others: K connector	0	-	Changeable at any time	<a href="#">“ C4-82” on page 852</a>
C4-83	0xC453	Hysteresis input of fixed-point comparison module E	0.00% to 655.35%	0.00	%	Changeable at any time	<a href="#">“ C4-83” on page 852</a>
C4-84	0xC454	Function of fixed-point comparison module F	0: Module disabled 1: Input 1 > Input 2 2: Input 1 < Input 2 3: Input 1 = Input 2	0	-	Changeable at any time	<a href="#">“ C4-84” on page 853</a>
C4-85	0xC455	Input 1 of fixed-point comparison module F	0: 0 Others: K connector	0	-	Changeable at any time	<a href="#">“ C4-85” on page 853</a>
C4-86	0xC456	Input 2 of fixed-point comparison module F	0: 0 Others: K connector	0	-	Changeable at any time	<a href="#">“ C4-86” on page 853</a>
C4-87	0xC457	Hysteresis input of fixed-point comparison module F	0.00% to 655.35%	0.00	%	Changeable at any time	<a href="#">“ C4-87” on page 853</a>
C4-88	0xC458	Function of fixed-point comparison module G	0: Module disabled 1: Input 1 > Input 2 2: Input 1 < Input 2 3: Input 1 = Input 2	0	-	Changeable at any time	<a href="#">“ C4-88” on page 853</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C4-89	0xC459	Input 1 of fixed-point comparison module G	0: 0 Others: K connector	0	-	Changeable at any time	<a href="#">“C4-89” on page 854</a>
C4-90	0xC45A	Input 2 of fixed-point comparison module G	0: 0 Others: K connector	0	-	Changeable at any time	<a href="#">“C4-90” on page 854</a>
C4-91	0xC45B	Hysteresis input of fixed-point comparison module G	0.00% to 655.35%	0.00	%	Changeable at any time	<a href="#">“C4-91” on page 854</a>
C4-92	0xC45C	Function of fixed-point comparison module H	0: Module disabled 1: Input 1 > Input 2 2: Input 1 < Input 2 3: Input 1 = Input 2	0	-	Changeable at any time	<a href="#">“C4-92” on page 854</a>
C4-93	0xC45D	Input 1 of fixed-point comparison module H	0: 0 Others: K connector	0	-	Changeable at any time	<a href="#">“C4-93” on page 855</a>
C4-94	0xC45E	Input 2 of fixed-point comparison module H	0: 0 Others: K connector	0	-	Changeable at any time	<a href="#">“C4-94” on page 855</a>
C4-95	0xC45F	Hysteresis input of fixed-point comparison module H	0.00% to 655.35%	0.00	%	Changeable at any time	<a href="#">“C4-95” on page 855</a>
C5-00	0xC500	Input source of binary selector module A	0: Disabled 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector	0	-	Changeable at any time	<a href="#">“C5-00” on page 855</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C5-01	0xC501	Input 1 of binary selector module A	0: Logic 0 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector	0	-	Changeable at any time	<a href="#">“C5-01” on page 856</a>
C5-02	0xC502	Input 2 of binary selector module A	Same as C5-01	0	-	Changeable at any time	<a href="#">“C5-02” on page 857</a>
C5-03	0xC503	Input source of binary selector module B	Same as C5-01	0	-	Changeable at any time	<a href="#">“C5-03” on page 857</a>
C5-04	0xC504	Input 1 of binary selector module B	Same as C5-01	0	-	Changeable at any time	<a href="#">“C5-04” on page 857</a>
C5-05	0xC505	Input 2 of binary selector module B	Same as C5-01	0	-	Changeable at any time	<a href="#">“C5-05” on page 858</a>
C5-06	0xC506	Input source of binary selector module C	0: Disabled 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector	0	-	Changeable at any time	<a href="#">“C5-06” on page 858</a>



List of Parameters

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C5-07	0xC507	Input 1 of binary selector module C	0: Logic 0 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector	0	-	Changeable at any time	<a href="#">“ C5-07” on page 858</a>
C5-08	0xC508	Input 2 of binary selector module C	Same as C5-01	0	-	Changeable at any time	<a href="#">“ C5-08” on page 859</a>
C5-09	0xC509	Input source of binary selector module D	0: Disabled 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector	0	-	Changeable at any time	<a href="#">“ C5-09” on page 859</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C5-10	0xC50A	Input 1 of binary selector module D	0: Logic 0 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector	0	-	Changeable at any time	<a href="#">“C5-10” on page 860</a>
C5-11	0xC50B	Input 2 of binary selector module D	0: Logic 0 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI21 Others: B connector	0	-	Changeable at any time	<a href="#">“C5-11” on page 861</a>

List of Parameters

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C5-12	0xC50C	Input source of binary selector module E	0: Disabled 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector	0	-	Changeable at any time	<a href="#">“ C5-12” on page 862</a>
C5-13	0xC50D	Input 1 of binary selector module E	0: Logic 0 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector	0	-	Changeable at any time	<a href="#">“ C5-13” on page 863</a>
C5-14	0xC50E	Input 2 of binary selector module E	Same as C5-01	0	-	Changeable at any time	<a href="#">“ C5-14” on page 864</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C5-15	0xC50F	Input source of binary selector module F	0: Disabled 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector	0	-	Changeable at any time	<a href="#">"C5-15" on page 864</a>
C5-16	0xC510	Input 1 of binary selector module F	0: Logic 0 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector	0	-	Changeable at any time	<a href="#">"C5-16" on page 865</a>

List of Parameters

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C5-17	0xC511	Input 2 of binary selector module F	0: Logic 0 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI21 Others: B connector	0	-	Changeable at any time	<a href="#">“C5-17” on page 866</a>
C5-18	0xC512	Input source of binary selector module G	0: Disabled 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector	0	-	Changeable at any time	<a href="#">“C5-18” on page 867</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C5-19	0xC513	Input 1 of binary selector module G	0: Logic 0 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector	0	-	Changeable at any time	<a href="#">“C5-19” on page 868</a>
C5-20	0xC514	Input 2 of binary selector module G	0: Logic 0 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI21 Others: B connector	0	-	Changeable at any time	<a href="#">“C5-20” on page 869</a>

List of Parameters

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C5-21	0xC515	Input source of binary selector module H	0: Disabled 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector	0	-	Changeable at any time	<a href="#">“C5-21” on page 870</a>
C5-22	0xC516	Input 1 of binary selector module H	0: Logic 0 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector	0	-	Changeable at any time	<a href="#">“C5-22” on page 871</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C5-23	0xC517	Input 2 of binary selector module H	0: Logic 0 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI21 Others: B connector	0	-	Changeable at any time	<a href="#">“ C5-23” on page 872</a>
C5-24	0xC518	Input source of word selector module A	0: Disabled 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector	0	-	Changeable at any time	<a href="#">“ C5-24” on page 873</a>
C5-25	0xC519	Input 1 of word selector module A	0: 0 Others: K connector	0	-	Changeable at any time	<a href="#">“ C5-25” on page 874</a>
C5-26	0xC51A	Input 2 of word selector module A	0: 0 Others: K connector	0	-	Changeable at any time	<a href="#">“ C5-26” on page 874</a>



List of Parameters

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C5-27	0xC51B	Input source of word selector module B	0: Disabled 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector	0	-	Changeable at any time	<a href="#">“ C5-27” on page 874</a>
C5-28	0xC51C	Input 1 of word selector module B	0: 0 Others: K connector	0	-	Changeable at any time	<a href="#">“ C5-28” on page 875</a>
C5-29	0xC51D	Input 2 of word selector module B	0: 0 Others: K connector	0	-	Changeable at any time	<a href="#">“ C5-29” on page 875</a>
C5-30	0xC51E	Input source of word selector module C	0: Disabled 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector	0	-	Changeable at any time	<a href="#">“ C5-30” on page 875</a>
C5-31	0xC51F	Input 1 of word selector module C	0: 0 Others: K connector	0	-	Changeable at any time	<a href="#">“ C5-31” on page 876</a>
C5-32	0xC520	Input 2 of word selector module C	0: 0 Others: K connector	0	-	Changeable at any time	<a href="#">“ C5-32” on page 876</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C5-33	0xC521	Input source of word selector module D	0: Disabled 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector	0	-	Changeable at any time	<a href="#">“ C5-33” on page 877</a>
C5-34	0xC522	Input 1 of word selector module D	0: 0 Others: K connector	0	-	Changeable at any time	<a href="#">“ C5-34” on page 877</a>
C5-35	0xC523	Input 2 of word selector module D	0: 0 Others: K connector	0	-	Changeable at any time	<a href="#">“ C5-35” on page 877</a>
C5-36	0xC524	Input source of DWord selector module A	0: Disabled 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector	0	-	Changeable at any time	<a href="#">“ C5-36” on page 878</a>
C5-37	0xC525	Input 1 of DWord selector module A	0: 0 Others: K connector	0	-	Changeable at any time	<a href="#">“ C5-37” on page 878</a>
C5-38	0xC526	Input 2 of DWord selector module A	0: 0 Others: K connector	0	-	Changeable at any time	<a href="#">“ C5-38” on page 878</a>

## List of Parameters

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C5-39	0xC527	Input source of DWord selector module B	0: Disabled 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector	0	-	Changeable at any time	<a href="#">“ C5-39” on page 879</a>
C5-40	0xC528	Input 1 of DWord selector module B	0: 0 Others: K connector	0	-	Changeable at any time	<a href="#">“ C5-40” on page 879</a>
C5-41	0xC529	Input 2 of DWord selector module B	0: 0 Others: K connector	0	-	Changeable at any time	<a href="#">“ C5-41” on page 879</a>
C5-42	0xC52A	Input source of DWord selector module C	0: Disabled 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector	0	-	Changeable at any time	<a href="#">“ C5-42” on page 880</a>
C5-43	0xC52B	Input 1 of DWord selector module C	0: 0 Others: K connector	0	-	Changeable at any time	<a href="#">“ C5-43” on page 880</a>
C5-44	0xC52C	Input 2 of DWord selector module C	0: 0 Others: K connector	0	-	Changeable at any time	<a href="#">“ C5-44” on page 880</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C5-45	0xC52D	Input source of DWord selector module D	0: Disabled 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector	0	-	Changeable at any time	<a href="#">“C5-45” on page 881</a>
C5-46	0xC52E	Input 1 of DWord selector module D	0: 0 Others: K connector	0	-	Changeable at any time	<a href="#">“C5-46” on page 881</a>
C5-47	0xC52F	Input 2 of DWord selector module D	0: 0 Others: K connector	0	-	Changeable at any time	<a href="#">“C5-47” on page 882</a>
C5-48	0xC530	Input source of floating-point number selector module A	0: Disabled 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector	0	-	Changeable at any time	<a href="#">“C5-48” on page 882</a>

## List of Parameters

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C5-49	0xC531	Input 1 of floating-point number selector module A	0: 0 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable at any time	<a href="#">“C5-49” on page 882</a>
C5-50	0xC532	Input 2 of floating-point number selector module A	0: 0 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable at any time	<a href="#">“C5-50” on page 883</a>
C5-51	0xC533	Input source of floating-point number selector module B	0: Disabled 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector	0	-	Changeable at any time	<a href="#">“C5-51” on page 883</a>
C5-52	0xC534	Input 1 of floating-point number selector module B	0: 0 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable at any time	<a href="#">“C5-52” on page 884</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C5-53	0xC535	Input 2 of floating-point number selector module B	0: 0 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable at any time	<a href="#">“ C5-53” on page 884</a>
C5-54	0xC536	Input source of floating-point number selector module C	0: Disabled 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector	0	-	Changeable at any time	<a href="#">“ C5-54” on page 885</a>
C5-55	0xC537	Input 1 of floating-point number selector module C	0: 0 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable at any time	<a href="#">“ C5-55” on page 885</a>
C5-56	0xC538	Input 2 of floating-point number selector module C	0: 0 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable at any time	<a href="#">“ C5-56” on page 886</a>

List of Parameters

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C5-57	0xC539	Input source of floating-point number selector module D	0: Disabled 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector	0	-	Changeable at any time	<a href="#">" C5-57" on page 886</a>
C5-58	0xC53A	Input 1 of floating-point number selector module D	0: 0 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable at any time	<a href="#">" C5-58" on page 887</a>
C5-59	0xC53B	Input 2 of floating-point number selector module D	0: 0 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable at any time	<a href="#">" C5-59" on page 887</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C5-60	0xC53C	Input source of floating-point number selector module E	0: Disabled 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector	0	-	Changeable at any time	<a href="#">“C5-60” on page 888</a>
C5-61	0xC53D	Input 1 of floating-point number selector module E	0: 0 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable at any time	<a href="#">“C5-61” on page 888</a>
C5-62	0xC53E	Input 2 of floating-point number selector module E	0: 0 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable at any time	<a href="#">“C5-62” on page 889</a>



## List of Parameters

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C5-63	0xC53F	Input source of floating-point number selector module F	0: Disabled 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector	0	-	Changeable at any time	<a href="#">" C5-63" on page 889</a>
C5-64	0xC540	Input 1 of floating-point number selector module F	0: 0 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable at any time	<a href="#">" C5-64" on page 890</a>
C5-65	0xC541	Input 2 of floating-point number selector module F	0: 0 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable at any time	<a href="#">" C5-65" on page 890</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C5-66	0xC542	Input source of floating-point number selector module G	0: Disabled 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector	0	-	Changeable at any time	<a href="#">"C5-66" on page 891</a>
C5-67	0xC543	Input 1 of floating-point number selector module G	0: 0 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable at any time	<a href="#">"C5-67" on page 891</a>
C5-68	0xC544	Input 2 of floating-point number selector module G	0: 0 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable at any time	<a href="#">"C5-68" on page 892</a>

List of Parameters

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C5-69	0xC545	Input source of floating-point number selector module H	0: Disabled 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector	0	-	Changeable at any time	<a href="#">"C5-69" on page 892</a>
C5-70	0xC546	Input 1 of floating-point number selector module H	0: 0 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable at any time	<a href="#">"C5-70" on page 893</a>
C5-71	0xC547	Input 2 of floating-point number selector module H	0: 0 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable at any time	<a href="#">"C5-71" on page 893</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C6-00	0xC600	Floating-point filter module A enable	0: Module disabled 1: Filter disabled 2: Filter enabled 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector	0	-	Changeable at any time	<a href="#">"C6-00" on page 894</a>
C6-01	0xC601	Input of floating-point filter module A	0: 0 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable at any time	<a href="#">"C6-01" on page 894</a>
C6-02	0xC602	Filter time of filter module A	0.000s to 65.535s	0.000	s	Changeable at any time	<a href="#">"C6-02" on page 895</a>

## List of Parameters

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C6-03	0xC603	Floating-point filter module B enable	0: Module disabled 1: Filter disabled 2: Filter enabled 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector	0	-	Changeable at any time	<a href="#">" C6-03" on page 895</a>
C6-04	0xC604	Input of floating-point filter module B	0: 0 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable at any time	<a href="#">" C6-04" on page 896</a>
C6-05	0xC605	Filter time of filter module B	0.000s to 65.535s	0.000	s	Changeable at any time	<a href="#">" C6-05" on page 896</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C6-06	0xC606	Floating-point filter module C enable	0: Module disabled 1: Filter disabled 2: Filter enabled 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector	0	-	Changeable at any time	<a href="#">"C6-06" on page 897</a>
C6-07	0xC607	Input of floating-point filter module C	0: 0 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable at any time	<a href="#">"C6-07" on page 897</a>
C6-08	0xC608	Filter time of filter module C	0.000s to 65.535s	0.000	s	Changeable at any time	<a href="#">"C6-08" on page 898</a>

## List of Parameters

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C6-09	0xC609	Floating-point filter module D enable	0: Module disabled 1: Filter disabled 2: Filter enabled 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector	0	-	Changeable at any time	<a href="#">“ C6-09” on page 898</a>
C6-10	0xC60A	Input of floating-point filter module D	0: 0 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable at any time	<a href="#">“ C6-10” on page 898</a>
C6-11	0xC60B	Filter time of filter module D	0.000s to 65.535s	0.000	s	Changeable at any time	<a href="#">“ C6-11” on page 899</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C6-12	0xC60C	Fixed-point filter module E enable	0: Module disabled 1: Filter disabled 2: Filter enabled 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector	0	-	Changeable at any time	<a href="#">“C6-12” on page 899</a>
C6-13	0xC60D	Input of fixed-point filter module E	0: 0 Others: K connector	0	-	Changeable at any time	<a href="#">“C6-13” on page 900</a>
C6-14	0xC60E	Filter time of fixed-point filter module E	0.000s to 65.535s	0.000	s	Changeable at any time	<a href="#">“C6-14” on page 900</a>
C6-15	0xC60F	Fixed-point filter module F enable	0: Module disabled 1: Filter disabled 2: Filter enabled 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector	0	-	Changeable at any time	<a href="#">“C6-15” on page 900</a>
C6-16	0xC610	Input of fixed-point filter module F	0: 0 Others: K connector	0	-	Changeable at any time	<a href="#">“C6-16” on page 901</a>



## List of Parameters

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C6-17	0xC611	Filter time of fixed-point filter module F	0.000s to 65.535s	0.000	s	Changeable at any time	<a href="#">“ C6-17” on page 901</a>
C6-24	0xC618	Function of level-to-pulse conversion module A	0: Disabled 1: Conversion from level to pulse 2: Conversion from pulse to level	0	-	Changeable at any time	<a href="#">“ C6-24” on page 901</a>
C6-25	0xC619	Input of level-to-pulse conversion module A	0: Logic 0 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector	0	-	Changeable at any time	<a href="#">“ C6-25” on page 901</a>
C6-26	0xC61A	Pulse width of level-to-pulse conversion module A	0.00s to 655.35s	0.00	s	Changeable at any time	<a href="#">“ C6-26” on page 902</a>
C6-27	0xC61B	Function of level-to-pulse conversion module B	0: Disabled 1: Conversion from level to pulse 2: Conversion from pulse to level	0	-	Changeable at any time	<a href="#">“ C6-27” on page 902</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C6-28	0xC61C	Input of level-to-pulse conversion module B	0: Logic 0 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector	0	-	Changeable at any time	<a href="#">“ C6-28” on page 902</a>
C6-29	0xC61D	Pulse width of level-to-pulse conversion module B	0.00s to 655.35s	0.00	s	Changeable at any time	<a href="#">“ C6-29” on page 903</a>
C6-30	0xC61E	Function of level-to-pulse conversion module C	0: Disabled 1: Conversion from level to pulse 2: Conversion from pulse to level	0	-	Changeable at any time	<a href="#">“ C6-30” on page 903</a>
C6-31	0xC61F	Input of level-to-pulse conversion module C	0: Logic 0 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector	0	-	Changeable at any time	<a href="#">“ C6-31” on page 903</a>
C6-32	0xC620	Pulse width of level-to-pulse conversion module C	0.00s to 655.35s	0.00	s	Changeable at any time	<a href="#">“ C6-32” on page 904</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C6-33	0xC621	Function of level-to-pulse conversion module D	0: Disabled 1: Conversion from level to pulse 2: Conversion from pulse to level	0	-	Changeable at any time	<a href="#">“ C6-33” on page 904</a>
C6-34	0xC622	Input of level-to-pulse conversion module D	0: Logic 0 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector	0	-	Changeable at any time	<a href="#">“ C6-34” on page 905</a>
C6-35	0xC623	Pulse width of level-to-pulse conversion module D	0.00s to 655.35s	0.00	s	Changeable at any time	<a href="#">“ C6-35” on page 905</a>
C6-36	0xC624	Input of floating-point limiting module A	0: Disabled 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable at any time	<a href="#">“ C6-36” on page 905</a>
C6-37	0xC625	Upper limit of floating-point limiting module A	0: Inactive 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable at any time	<a href="#">“ C6-37” on page 906</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C6-38	0xC626	Lower limit of floating-point limiting module A	0: Inactive 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable at any time	<a href="#">“C6-38” on page 906</a>
C6-39	0xC627	Input of floating-point limiting module B	0: Disabled 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable at any time	<a href="#">“C6-39” on page 907</a>
C6-40	0xC628	Upper limit of floating-point limiting module B	0: Inactive 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable at any time	<a href="#">“C6-40” on page 907</a>
C6-41	0xC629	Lower limit of floating-point limiting module B	0: Inactive 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable at any time	<a href="#">“C6-41” on page 907</a>
C6-42	0xC62A	Input of floating-point limiting module C	0: Disabled 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable at any time	<a href="#">“C6-42” on page 908</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C6-43	0xC62B	Upper limit of floating-point limiting module C	0: Inactive 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable at any time	<a href="#">“ C6-43” on page 908</a>
C6-44	0xC62C	Lower limit of floating-point limiting module C	0: Inactive 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable at any time	<a href="#">“ C6-44” on page 909</a>
C6-45	0xC62D	Input of floating-point limiting module D	0: Disabled 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable at any time	<a href="#">“ C6-45” on page 909</a>
C6-46	0xC62E	Upper limit of floating-point limiting module D	0: Inactive 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable at any time	<a href="#">“ C6-46” on page 909</a>
C6-47	0xC62F	Lower limit of floating-point limiting module D	0: Inactive 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable at any time	<a href="#">“ C6-47” on page 910</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C6-48	0xC630	Input of fixed-point limiting module E	0: Disabled Others: K connector	0	-	Changeable at any time	<a href="#">“ C6-48” on page 910</a>
C6-49	0xC631	Upper limit of fixed-point limiting module E	0: Inactive Others: K connector	0	-	Changeable at any time	<a href="#">“ C6-49” on page 910</a>
C6-50	0xC632	Lower limit of fixed-point limiting module E	0: Inactive Others: K connector	0	-	Changeable at any time	<a href="#">“ C6-50” on page 911</a>
C6-51	0xC633	Input of fixed-point limiting module F	0: Disabled Others: K connector	0	-	Changeable at any time	<a href="#">“ C6-51” on page 911</a>
C6-52	0xC634	Upper limit of fixed-point limiting module F	0: Inactive Others: K connector	0	-	Changeable at any time	<a href="#">“ C6-52” on page 911</a>
C6-53	0xC635	Lower limit of fixed-point limiting module F	0: Inactive Others: K connector	0	-	Changeable at any time	<a href="#">“ C6-53” on page 911</a>
C6-54	0xC636	Input of logic delay module A	0: Disabled 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector	0	-	Changeable at any time	<a href="#">“ C6-54” on page 911</a>
C6-55	0xC637	Switch-on delay of logic delay module A	0 to 65535	0	-	Changeable at any time	<a href="#">“ C6-55” on page 912</a>
C6-56	0xC638	Switch-off delay of logic delay module A	0 to 65535	0	-	Changeable at any time	<a href="#">“ C6-56” on page 912</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C6-57	0xC639	Delay time unit of logic delay module A	0: No delay 1: 10 ms 10: 100 ms 100: 1s 1000: 10s 6000: 1 min 12000: 2 min 0: Added at the background	1	-	Changeable at any time	<a href="#">“ C6-57” on page 912</a>
C6-58	0xC63A	Input of logic delay module B	0: Disabled 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector	0	-	Changeable at any time	<a href="#">“ C6-58” on page 913</a>
C6-59	0xC63B	Switch-on delay of logic delay module B	0 to 65535	0	-	Changeable at any time	<a href="#">“ C6-59” on page 913</a>
C6-60	0xC63C	Switch-off delay of logic delay module B	0 to 65535	0	-	Changeable at any time	<a href="#">“ C6-60” on page 914</a>
C6-61	0xC63D	Delay time unit of logic delay module B	0: No delay 1: 10 ms 10: 100 ms 100: 1s 1000: 10s 6000: 1 min 12000: 2 min 0: Added at the background	1	-	Changeable at any time	<a href="#">“ C6-61” on page 914</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C6-62	0xC63E	Input of logic delay module C	0: Disabled 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector	0	-	Changeable at any time	<a href="#">“ C6-62” on page 914</a>
C6-63	0xC63F	Switch-on delay of logic delay module C	0 to 65535	0	-	Changeable at any time	<a href="#">“ C6-63” on page 915</a>
C6-64	0xC640	Switch-off delay of logic delay module C	0 to 65535	0	-	Changeable at any time	<a href="#">“ C6-64” on page 915</a>
C6-65	0xC641	Delay time unit of logic delay module C	0: No delay 1: 10 ms 10: 100 ms 100: 1s 1000: 10s 6000: 1 min 12000: 2 min 0: Added at the background	1	-	Changeable at any time	<a href="#">“ C6-65” on page 915</a>



## List of Parameters

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C6-66	0xC642	Input of logic delay module D	0: Disabled 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector	0	-	Changeable at any time	<a href="#">"C6-66" on page 916</a>
C6-67	0xC643	Switch-on delay of logic delay module D	0 to 65535	0	-	Changeable at any time	<a href="#">"C6-67" on page 916</a>
C6-68	0xC644	Switch-off delay of logic delay module D	0 to 65535	0	-	Changeable at any time	<a href="#">"C6-68" on page 917</a>
C6-69	0xC645	Delay time unit of logic delay module D	0: No delay 1: 10 ms 10: 100 ms 100: 1s 1000: 10s 6000: 1 min 12000: 2 min 0: Added at the background	1	-	Changeable at any time	<a href="#">"C6-69" on page 917</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C6-70	0xC646	Input of logic delay module E	0: Disabled 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector	0	-	Changeable at any time	<a href="#">“C6-70” on page 917</a>
C6-71	0xC647	Switch-on delay of logic delay module E	0 to 65535	0	-	Changeable at any time	<a href="#">“C6-71” on page 918</a>
C6-72	0xC648	Switch-off delay of logic delay module E	0 to 65535	0	-	Changeable at any time	<a href="#">“C6-72” on page 918</a>
C6-73	0xC649	Delay time unit of logic delay module E	0: No delay 1: 10 ms 10: 100 ms 100: 1s 1000: 10s 6000: 1 min 12000: 2 min 0: Added at the background	1	-	Changeable at any time	<a href="#">“C6-73” on page 918</a>

## List of Parameters

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C6-74	0xC64A	Input of logic delay module F	0: Disabled 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector	0	-	Changeable at any time	<a href="#">“ C6-74” on page 919</a>
C6-75	0xC64B	Switch-on delay of logic delay module F	0 to 65535	0	-	Changeable at any time	<a href="#">“ C6-75” on page 919</a>
C6-76	0xC64C	Switch-off delay of logic delay module F	0 to 65535	0	-	Changeable at any time	<a href="#">“ C6-76” on page 920</a>
C6-77	0xC64D	Delay time unit of logic delay module F	0: No delay 1: 10 ms 10: 100 ms 100: 1s 1000: 10s 6000: 1 min 12000: 2 min 0: Added at the background	1	-	Changeable at any time	<a href="#">“ C6-77” on page 920</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C6-78	0xC64E	Input of logic delay module G	0: Disabled 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector	0	-	Changeable at any time	<a href="#">“ C6-78” on page 920</a>
C6-79	0xC64F	Switch-on delay of logic delay module G	0 to 65535	0	-	Changeable at any time	<a href="#">“ C6-79” on page 921</a>
C6-80	0xC650	Switch-off delay of logic delay module G	0 to 65535	0	-	Changeable at any time	<a href="#">“ C6-80” on page 921</a>
C6-81	0xC651	Delay time unit of logic delay module G	0: No delay 1: 10 ms 10: 100 ms 100: 1s 1000: 10s 6000: 1 min 12000: 2 min 0: Added at the background	1	-	Changeable at any time	<a href="#">“ C6-81” on page 921</a>

## List of Parameters

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C6-82	0xC652	Input of logic delay module H	0: Disabled 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector	0	-	Changeable at any time	<a href="#">“ C6-82” on page 922</a>
C6-83	0xC653	Switch-on delay of logic delay module H	0 to 65535	0	-	Changeable at any time	<a href="#">“ C6-83” on page 922</a>
C6-84	0xC654	Switch-off delay of logic delay module H	0 to 65535	0	-	Changeable at any time	<a href="#">“ C6-84” on page 923</a>
C6-85	0xC655	Delay time unit of logic delay module H	0: No delay 1: 10 ms 10: 100 ms 100: 1s 1000: 10s 6000: 1 min 12000: 2 min 0: Added at the background	1	-	Changeable at any time	<a href="#">“ C6-85” on page 923</a>
C7-00	0xC700	Input of multi-point curve module A	0: Disabled Others: F connector	0	-	Changeable at any time	<a href="#">“ C7-00” on page 923</a>
C7-01	0xC701	Setpoint X1 of multi-point curve module A	-600% to +600.0%	0.0	%	Changeable at any time	<a href="#">“ C7-01” on page 923</a>
C7-02	0xC702	Setpoint X2 of multi-point curve module A	-600% to +600.0%	0.0	%	Changeable at any time	<a href="#">“ C7-02” on page 924</a>
C7-03	0xC703	Setpoint X3 of multi-point curve module A	-600% to +600.0%	0.0	%	Changeable at any time	<a href="#">“ C7-03” on page 924</a>
C7-04	0xC704	Setpoint X4 of multi-point curve module A	-600% to +600.0%	0.0	%	Changeable at any time	<a href="#">“ C7-04” on page 924</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C7-05	0xC705	Setpoint X5 of multi-point curve module A	-600% to +600.0%	0.0	%	Changeable at any time	<a href="#">“ C7-05” on page 924</a>
C7-06	0xC706	Setpoint X6 of multi-point curve module A	-600% to +600.0%	0.0	%	Changeable at any time	<a href="#">“ C7-06” on page 924</a>
C7-07	0xC707	Setpoint X7 of multi-point curve module A	-600% to +600.0%	0.0	%	Changeable at any time	<a href="#">“ C7-07” on page 925</a>
C7-08	0xC708	Setpoint X8 of multi-point curve module A	-600% to +600.0%	0.0	%	Changeable at any time	<a href="#">“ C7-08” on page 925</a>
C7-09	0xC709	Setpoint X9 of multi-point curve module A	-600% to +600.0%	0.0	%	Changeable at any time	<a href="#">“ C7-09” on page 925</a>
C7-10	0xC70A	Setpoint X10 of multi-point curve module A	-600% to +600.0%	0.0	%	Changeable at any time	<a href="#">“ C7-10” on page 925</a>
C7-11	0xC70B	Setpoint Y1 of multi-point curve module A	-600% to +600.0%	0.0	%	Changeable at any time	<a href="#">“ C7-11” on page 925</a>
C7-12	0xC70C	Setpoint Y2 of multi-point curve module A	-600% to +600.0%	0.0	%	Changeable at any time	<a href="#">“ C7-12” on page 926</a>
C7-13	0xC70D	Setpoint Y3 of multi-point curve module A	-600% to +600.0%	0.0	%	Changeable at any time	<a href="#">“ C7-13” on page 926</a>
C7-14	0xC70E	Setpoint Y4 of multi-point curve module A	-600% to +600.0%	0.0	%	Changeable at any time	<a href="#">“ C7-14” on page 926</a>
C7-15	0xC70F	Setpoint Y5 of multi-point curve module A	-600% to +600.0%	0.0	%	Changeable at any time	<a href="#">“ C7-15” on page 926</a>
C7-16	0xC710	Setpoint Y6 of multi-point curve module A	-600% to +600.0%	0.0	%	Changeable at any time	<a href="#">“ C7-16” on page 926</a>
C7-17	0xC711	Setpoint Y7 of multi-point curve module A	-600% to +600.0%	0.0	%	Changeable at any time	<a href="#">“ C7-17” on page 926</a>
C7-18	0xC712	Setpoint Y8 of multi-point curve module A	-600% to +600.0%	0.0	%	Changeable at any time	<a href="#">“ C7-18” on page 927</a>
C7-19	0xC713	Setpoint Y9 of multi-point curve module A	-600% to +600.0%	0.0	%	Changeable at any time	<a href="#">“ C7-19” on page 927</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C7-20	0xC714	Setpoint Y10 of multi-point curve module A	-600% to +600.0%	0.0	%	Changeable at any time	<a href="#">“ C7-20” on page 927</a>
C7-21	0xC715	Input of multi-point curve module B	0: Disabled Others: F connector	0	-	Changeable at any time	<a href="#">“ C7-21” on page 927</a>
C7-22	0xC716	Setpoint X1 of multi-point curve module B	-600% to +600.0%	0.0	%	Changeable at any time	<a href="#">“ C7-22” on page 927</a>
C7-23	0xC717	Setpoint X2 of multi-point curve module B	-600% to +600.0%	0.0	%	Changeable at any time	<a href="#">“ C7-23” on page 928</a>
C7-24	0xC718	Setpoint X3 of multi-point curve module B	-600% to +600.0%	0.0	%	Changeable at any time	<a href="#">“ C7-24” on page 928</a>
C7-25	0xC719	Setpoint X4 of multi-point curve module B	-600% to +600.0%	0.0	%	Changeable at any time	<a href="#">“ C7-25” on page 928</a>
C7-26	0xC71A	Setpoint X5 of multi-point curve module B	-600% to +600.0%	0.0	%	Changeable at any time	<a href="#">“ C7-26” on page 928</a>
C7-27	0xC71B	Setpoint X6 of multi-point curve module B	-600% to +600.0%	0.0	%	Changeable at any time	<a href="#">“ C7-27” on page 928</a>
C7-28	0xC71C	Setpoint X7 of multi-point curve module B	-600% to +600.0%	0.0	%	Changeable at any time	<a href="#">“ C7-28” on page 929</a>
C7-29	0xC71D	Setpoint X8 of multi-point curve module B	-600% to +600.0%	0.0	%	Changeable at any time	<a href="#">“ C7-29” on page 929</a>
C7-30	0xC71E	Setpoint X9 of multi-point curve module B	-600% to +600.0%	0.0	%	Changeable at any time	<a href="#">“ C7-30” on page 929</a>
C7-31	0xC71F	Setpoint X10 of multi-point curve module B	-600% to +600.0%	0.0	%	Changeable at any time	<a href="#">“ C7-31” on page 929</a>
C7-32	0xC720	Setpoint Y1 of multi-point curve module B	-600% to +600.0%	0.0	%	Changeable at any time	<a href="#">“ C7-32” on page 929</a>
C7-33	0xC721	Setpoint Y2 of multi-point curve module B	-600% to +600.0%	0.0	%	Changeable at any time	<a href="#">“ C7-33” on page 930</a>
C7-34	0xC722	Setpoint Y3 of multi-point curve module B	-600% to +600.0%	0.0	%	Changeable at any time	<a href="#">“ C7-34” on page 930</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C7-35	0xC723	Setpoint Y4 of multi-point curve module B	-600% to +600.0%	0.0	%	Changeable at any time	<a href="#">“ C7-35” on page 930</a>
C7-36	0xC724	Setpoint Y5 of multi-point curve module B	-600% to +600.0%	0.0	%	Changeable at any time	<a href="#">“ C7-36” on page 930</a>
C7-37	0xC725	Setpoint Y6 of multi-point curve module B	-600% to +600.0%	0.0	%	Changeable at any time	<a href="#">“ C7-37” on page 930</a>
C7-38	0xC726	Setpoint Y7 of multi-point curve module B	-600% to +600.0%	0.0	%	Changeable at any time	<a href="#">“ C7-38” on page 931</a>
C7-39	0xC727	Setpoint Y8 of multi-point curve module B	-600% to +600.0%	0.0	%	Changeable at any time	<a href="#">“ C7-39” on page 931</a>
C7-40	0xC728	Setpoint Y9 of multi-point curve module B	-600% to +600.0%	0.0	%	Changeable at any time	<a href="#">“ C7-40” on page 931</a>
C7-41	0xC729	Setpoint Y10 of multi-point curve module B	-600% to +600.0%	0.0	%	Changeable at any time	<a href="#">“ C7-41” on page 931</a>
C8-00	0xC800	Constant setpoint 1	-300% to +300.00%	0.00	%	Changeable at any time	<a href="#">“ C8-00” on page 931</a>
C8-01	0xC801	Constant setpoint 2	-300% to +300.00%	100.00	%	Changeable at any time	<a href="#">“ C8-01” on page 932</a>
C8-02	0xC802	Constant setpoint 3	-300% to +300.00%	-100	%	Changeable at any time	<a href="#">“ C8-02” on page 932</a>
C8-03	0xC803	Constant setpoint 4	-300% to +300.00%	200.00	%	Changeable at any time	<a href="#">“ C8-03” on page 932</a>
C8-04	0xC804	Constant setpoint 5	-300% to +300.00%	-200	%	Changeable at any time	<a href="#">“ C8-04” on page 932</a>
C8-05	0xC805	Constant setpoint 6	-3000% to +3000.0%	0.0	%	Changeable at any time	<a href="#">“ C8-05” on page 932</a>
C8-06	0xC806	Constant setpoint 7	-3000% to +3000.0%	0.0	%	Changeable at any time	<a href="#">“ C8-06” on page 933</a>
C8-07	0xC807	Constant setpoint 8	-3000% to +3000.0%	0.0	%	Changeable at any time	<a href="#">“ C8-07” on page 933</a>
C8-08	0xC808	Constant setpoint 9	-3000% to +3000.0%	0.0	%	Changeable at any time	<a href="#">“ C8-08” on page 933</a>
C8-09	0xC809	Constant setpoint 10	-3000% to +3000.0%	0.0	%	Changeable at any time	<a href="#">“ C8-09” on page 933</a>
C8-10	0xC80A	Constant setpoint 11	-3000% to +3000.0%	0.0	%	Changeable at any time	<a href="#">“ C8-10” on page 933</a>



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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C8-11	0xC80B	Constant setpoint 12	-3000% to +3000.0%	0.0	%	Changeable at any time	<a href="#">"C8-11" on page 933</a>
C8-12	0xC80C	Constant setpoint 13	-3000% to +3000.0%	0.0	%	Changeable at any time	<a href="#">"C8-12" on page 934</a>
C8-13	0xC80D	Constant setpoint 14	-3000% to +3000.0%	0.0	%	Changeable at any time	<a href="#">"C8-13" on page 934</a>
C8-14	0xC80E	Constant setpoint 15	-3000% to +3000.0%	0.0	%	Changeable at any time	<a href="#">"C8-14" on page 934</a>
C8-15	0xC80F	Constant setpoint 16	-3000% to +3000.0%	0.0	%	Changeable at any time	<a href="#">"C8-15" on page 934</a>
C8-16	0xC810	Constant setpoint 17	-3000% to +3000.0%	0.0	%	Changeable at any time	<a href="#">"C8-16" on page 934</a>
C8-17	0xC811	Constant setpoint 18	-3000% to +3000.0%	0.0	%	Changeable at any time	<a href="#">"C8-17" on page 935</a>
C8-18	0xC812	Constant setpoint 19	-3000% to +3000.0%	0.0	%	Changeable at any time	<a href="#">"C8-18" on page 935</a>
C8-19	0xC813	Constant setpoint 20	-3000% to +3000.0%	0.0	%	Changeable at any time	<a href="#">"C8-19" on page 935</a>
C8-20	0xC814	Constant setpoint 21	-3000% to +3000.0%	0.0	%	Changeable at any time	<a href="#">"C8-20" on page 935</a>
C8-21	0xC815	Constant setpoint 22	-300% to +300.00%	0.00	%	Changeable at any time	<a href="#">"C8-21" on page 935</a>
C8-22	0xC816	Constant setpoint 23	-300% to +300.00%	100.00	%	Changeable at any time	<a href="#">"C8-22" on page 936</a>
C8-23	0xC817	Constant setpoint 24	-300% to +300.00%	-100	%	Changeable at any time	<a href="#">"C8-23" on page 936</a>
C8-24	0xC818	Constant setpoint 25	-300% to +300.00%	200.00	%	Changeable at any time	<a href="#">"C8-24" on page 936</a>
C8-25	0xC819	Constant setpoint 26	-300% to +300.00%	-200	%	Changeable at any time	<a href="#">"C8-25" on page 936</a>
C8-26	0xC81A	Constant setpoint 27	0 to 65535	0	-	Changeable at any time	<a href="#">"C8-26" on page 936</a>
C8-27	0xC81B	Constant setpoint 28	0 to 65535	0	-	Changeable at any time	<a href="#">"C8-27" on page 937</a>
C8-28	0xC81C	Constant setpoint 29	0 to 65535	0	-	Changeable at any time	<a href="#">"C8-28" on page 937</a>
C8-29	0xC81D	Constant setpoint 30	0 to 65535	0	-	Changeable at any time	<a href="#">"C8-29" on page 937</a>
C8-30	0xC81E	Constant setpoint 31	0 to 65535	0	-	Changeable at any time	<a href="#">"C8-30" on page 937</a>
C8-31	0xC81F	Constant setpoint 32	0 to 65535	0	-	Changeable at any time	<a href="#">"C8-31" on page 937</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C8-32	0xC820	Constant setpoint 33	0 to 65535	0	-	Changeable at any time	<a href="#">“C8-32” on page 938</a>
C8-33	0xC821	Constant setpoint 34	0 to 65535	0	-	Changeable at any time	<a href="#">“C8-33” on page 938</a>
C8-34	0xC822	Constant setpoint 35	0 to 65535	0	-	Changeable at any time	<a href="#">“C8-34” on page 938</a>
C8-35	0xC823	Constant setpoint 36	0 to 65535	0	-	Changeable at any time	<a href="#">“C8-35” on page 938</a>
C8-36	0xC824	Constant setpoint 37	0 to 65535	0	-	Changeable at any time	<a href="#">“C8-36” on page 938</a>
C8-37	0xC825	Constant setpoint 38	0 to 65535	0	-	Changeable at any time	<a href="#">“C8-37” on page 938</a>
C8-38	0xC826	Constant setpoint 39	0 to 65535	0	-	Changeable at any time	<a href="#">“C8-38” on page 939</a>
C8-39	0xC827	Constant setpoint 40	0 to 65535	0	-	Changeable at any time	<a href="#">“C8-39” on page 939</a>
C8-40	0xC828	Constant setpoint 41	0 to 65535	0	-	Changeable at any time	<a href="#">“C8-40” on page 939</a>
C8-41	0xC829	Constant setpoint 42	0 to 65535	0	-	Changeable at any time	<a href="#">“C8-41” on page 939</a>
C9-00	0xC900	LOWORD of 16-bit data RAM address 1	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C9-00” on page 940</a>
C9-01	0xC901	HIWORD of 16-bit data RAM address 1	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C9-01” on page 940</a>
C9-02	0xC902	LOWORD of 16-bit data RAM address 2	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C9-02” on page 940</a>
C9-03	0xC903	HIWORD of 16-bit data RAM address 2	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C9-03” on page 940</a>
C9-04	0xC904	LOWORD of 16-bit data RAM address 3	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C9-04” on page 940</a>
C9-05	0xC905	HIWORD of 16-bit data RAM address 3	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C9-05” on page 941</a>
C9-06	0xC906	LOWORD of 16-bit data RAM address 4	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C9-06” on page 941</a>
C9-07	0xC907	HIWORD of 16-bit data RAM address 4	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C9-07” on page 941</a>
C9-08	0xC908	LOWORD of 16-bit data RAM address 5	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C9-08” on page 941</a>
C9-09	0xC909	HIWORD of 16-bit data RAM address 5	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C9-09” on page 941</a>
C9-10	0xC90A	32-bit data type selection 1	0 to 1	0	-	Changeable at any time	<a href="#">“C9-10” on page 942</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C9-11	0xC90B	32-bit data amplification coefficient 1	0 to 10000	0	-	Changeable at any time	<a href="#">“C9-11” on page 942</a>
C9-12	0xC90C	LOWORD of 32-bit data RAM address 1	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C9-12” on page 942</a>
C9-13	0xC90D	HIWORD of 32-bit data RAM address 1	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C9-13” on page 942</a>
C9-14	0xC90E	32-bit data type selection 2	0 to 1	0	-	Changeable at any time	<a href="#">“C9-14” on page 942</a>
C9-15	0xC90F	32-bit data amplification coefficient 2	0 to 10000	0	-	Changeable at any time	<a href="#">“C9-15” on page 943</a>
C9-16	0xC910	LOWORD of 32-bit data RAM address 2	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C9-16” on page 943</a>
C9-17	0xC911	HIWORD of 32-bit data RAM address 2	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C9-17” on page 943</a>
C9-18	0xC912	32-bit data type selection 3	0 to 1	0	-	Changeable at any time	<a href="#">“C9-18” on page 943</a>
C9-19	0xC913	32-bit data amplification coefficient 3	0 to 10000	0	-	Changeable at any time	<a href="#">“C9-19” on page 943</a>
C9-20	0xC914	LOWORD of 32-bit data RAM address 3	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C9-20” on page 944</a>
C9-21	0xC915	HIWORD of 32-bit data RAM address 3	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C9-21” on page 944</a>
C9-22	0xC916	32-bit data type selection 4	0 to 1	0	-	Changeable at any time	<a href="#">“C9-22” on page 944</a>
C9-23	0xC917	32-bit data amplification coefficient 4	0 to 10000	0	-	Changeable at any time	<a href="#">“C9-23” on page 944</a>
C9-24	0xC918	LOWORD of 32-bit data RAM address 4	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C9-24” on page 944</a>
C9-25	0xC919	HIWORD of 32-bit data RAM address 4	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C9-25” on page 945</a>
C9-26	0xC91A	32-bit data type selection 5	0 to 1	0	-	Changeable at any time	<a href="#">“C9-26” on page 945</a>
C9-27	0xC91B	32-bit data amplification coefficient 5	0 to 10000	0	-	Changeable at any time	<a href="#">“C9-27” on page 945</a>
C9-28	0xC91C	LOWORD of 32-bit data RAM address 5	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C9-28” on page 945</a>
C9-29	0xC91D	HIWORD of 32-bit data RAM address 5	0x0 to 0xFFFF	0x0	-	Changeable at any time	<a href="#">“C9-29” on page 945</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C9-30	0xC91E	Internal parameter monitoring input 1	0 to 97	0	-	Changeable at any time	<a href="#">“C9-30” on page 946</a>
C9-31	0xC91F	Internal parameter monitoring input 2	0 to 97	0	-	Changeable at any time	<a href="#">“C9-31” on page 946</a>
C9-32	0xC920	Internal parameter monitoring input 3	0 to 97	0	-	Changeable at any time	<a href="#">“C9-32” on page 946</a>
C9-33	0xC921	Internal parameter monitoring input 4	0 to 97	0	-	Changeable at any time	<a href="#">“C9-33” on page 946</a>
C9-34	0xC922	Internal parameter monitoring input 5	0 to 97	0	-	Changeable at any time	<a href="#">“C9-34” on page 946</a>
C9-35	0xC923	Internal parameter monitoring input 6	0 to 97	0	-	Changeable at any time	<a href="#">“C9-35” on page 946</a>
C9-36	0xC924	Internal parameter monitoring input 7	0 to 97	0	-	Changeable at any time	<a href="#">“C9-36” on page 947</a>
C9-37	0xC925	Internal parameter monitoring input 8	0 to 97	0	-	Changeable at any time	<a href="#">“C9-37” on page 947</a>
C9-40	0xC928	Variable connector value viewing input 1	0 to 65535	0	-	Changeable at any time	<a href="#">“C9-40” on page 947</a>
C9-41	0xC929	Variable connector value viewing input 2	0 to 65535	0	-	Changeable at any time	<a href="#">“C9-41” on page 947</a>
C9-42	0xC92A	Variable connector value viewing input 3	0 to 65535	0	-	Changeable at any time	<a href="#">“C9-42” on page 947</a>
C9-43	0xC92B	Variable connector value viewing input 4	0 to 65535	0	-	Changeable at any time	<a href="#">“C9-43” on page 948</a>
C9-44	0xC92C	Variable connector value viewing input 5	0 to 65535	0	-	Changeable at any time	<a href="#">“C9-44” on page 948</a>
C9-45	0xC92D	Variable connector value viewing input 6	0 to 65535	0	-	Changeable at any time	<a href="#">“C9-45” on page 948</a>
C9-46	0xC92E	Variable connector value viewing input 7	0 to 65535	0	-	Changeable at any time	<a href="#">“C9-46” on page 948</a>
C9-47	0xC92F	Variable connector value viewing input 8	0 to 65535	0	-	Changeable at any time	<a href="#">“C9-47” on page 948</a>
C9-50	0xC932	Monitoring variable 0	-32768 to +32767	0	-	Unchangeable	<a href="#">“C9-50” on page 949</a>
C9-51	0xC933	Monitoring variable 1	-32768 to +32767	0	-	Unchangeable	<a href="#">“C9-51” on page 949</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
C9-52	0xC934	Monitoring variable 2	-32768 to +32767	0	-	Unchangeable	<a href="#">“ C9-52” on page 949</a>
C9-53	0xC935	Monitoring variable 3	-32768 to +32767	0	-	Unchangeable	<a href="#">“ C9-53” on page 949</a>
C9-54	0xC936	Monitoring variable 4	-32768 to +32767	0	-	Unchangeable	<a href="#">“ C9-54” on page 949</a>
C9-55	0xC937	Monitoring variable 5	-32768 to +32767	0	-	Unchangeable	<a href="#">“ C9-55” on page 950</a>
C9-56	0xC938	Monitoring variable 6	-32768 to +32767	0	-	Unchangeable	<a href="#">“ C9-56” on page 950</a>
C9-57	0xC939	Monitoring variable 7	-32768 to +32767	0	-	Unchangeable	<a href="#">“ C9-57” on page 950</a>
C9-58	0xC93A	Monitoring variable 8	-32768 to +32767	0	-	Unchangeable	<a href="#">“ C9-58” on page 950</a>
C9-59	0xC93B	Monitoring variable 9	-32768 to +32767	0	-	Unchangeable	<a href="#">“ C9-59” on page 950</a>
C9-70	0xC946	Commissioning variable 0	-32768 to +32767	0	-	Changeable at any time	<a href="#">“ C9-70” on page 951</a>
C9-71	0xC947	Commissioning variable 1	-32768 to +32767	0	-	Changeable at any time	<a href="#">“ C9-71” on page 951</a>
C9-72	0xC948	Commissioning variable 2	-32768 to +32767	0	-	Changeable at any time	<a href="#">“ C9-72” on page 951</a>
C9-73	0xC949	Commissioning variable 3	-32768 to +32767	0	-	Changeable at any time	<a href="#">“ C9-73” on page 951</a>
C9-74	0xC94A	Commissioning variable 4	-32768 to +32767	0	-	Changeable at any time	<a href="#">“ C9-74” on page 951</a>
C9-75	0xC94B	Commissioning variable 5	-32768 to +32767	0	-	Changeable at any time	<a href="#">“ C9-75” on page 951</a>
C9-76	0xC94C	Commissioning variable 6	-32768 to +32767	0	-	Changeable at any time	<a href="#">“ C9-76” on page 952</a>
C9-77	0xC94D	Commissioning variable 7	-32768 to +32767	0	-	Changeable at any time	<a href="#">“ C9-77” on page 952</a>
C9-78	0xC94E	Commissioning variable 8	-32768 to +32767	0	-	Changeable at any time	<a href="#">“ C9-78” on page 952</a>
C9-79	0xC94F	Commissioning variable 9	-32768 to +32767	0	-	Changeable at any time	<a href="#">“ C9-79” on page 952</a>
CA-00	0xCA00	Motor type	0: Common asynchronous motor 1: Variable frequency asynchronous motor 2: Permanent magnet synchronous motor	0	-	Changeable only at stop	<a href="#">“ CA-00” on page 953</a>
CA-01	0xCA01	Rated motor power	0.1 kW to 1000.0 kW	3.7	kW	Changeable only at stop	<a href="#">“ CA-01” on page 953</a>
CA-02	0xCA02	Rated motor voltage	1 V to 2000 V	380	V	Changeable only at stop	<a href="#">“ CA-02” on page 953</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
CA-03	0xCA03	Rated motor current	0.01 A to 655.35 A	9.00	A	Changeable only at stop	<a href="#">“CA-03” on page 953</a>
CA-04	0xCA04	Rated motor frequency	0.01 Hz to F0-10	50.00	Hz	Changeable only at stop	<a href="#">“CA-04” on page 953</a>
CA-05	0xCA05	Rated motor speed	1 RPM to 65535 RPM	1460	RPM	Changeable only at stop	<a href="#">“CA-05” on page 954</a>
CA-06	0xCA06	Number of parallel motors	1 to 200	1	-	Changeable only at stop	<a href="#">“CA-06” on page 954</a>
CA-07	0xCA07	Motor information command word	Bit00: Mutual inductance curve 0: Disabled 1: Enabled Bit01: D- and Q-axis inductance curve 0: Disabled 1: Enabled Bit02: Rotor resistance online auto-tuning 0: Disabled 1: Enabled Bit03: Rotor resistance online auto-tuning method 0: Amplitude 1: Phase Bit04: Motor thermal model 0: Disabled 1: Enabled Bit05: Temperature source of motor thermal model 0: Estimated temperature 1: Temperature detected by sensor Bit06: Torque coefficient calculation of asynchronous motor 0: Torque formula 1: Current distribution Bit07: Torque coefficient calculation of synchronous motor 0: Torque formula 1: Torque matching the rated torque Bit08: Zero speed friction torque calculation 0: Torque linearly decreasing to zero 1: Torque to maintain minimum speed Bit09: Calculation of model parameters based on nameplate parameters 0: Disabled 1: Enabled Bit10: Confirmation of calculating model parameters based on nameplate parameters 0: Default 1: Confirm	0x3	-	Changeable only at stop	<a href="#">“CA-07” on page 954</a>
CA-08	0xCA08	Number of motor pole pairs	0 to 64	0	-	Changeable only at stop	<a href="#">“CA-08” on page 955</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
CA-09	0xCA09	Motor power factor	0.600 to 1.000	0.860	-	Changeable only at stop	<a href="#">“CA-09” on page 956</a>
CA-10	0xCA0A	Encoder PPR	1 to 65535	1024	-	Changeable only at stop	<a href="#">“CA-10” on page 956</a>
CA-11	0xCA0B	Encoder type	0: ABZ incremental encoder 1: 23-bit encoder 2: Resolver 3: External input	0	-	Changeable only at stop	<a href="#">“CA-11” on page 956</a>
CA-12	0xCA0C	Speed feedback PG card	0: Local PG card 1: Extension PG card	0	-	Changeable only at stop	<a href="#">“CA-12” on page 956</a>
CA-13	0xCA0D	Number of resolver pole pairs	1 to 65535	1	-	Changeable only at stop	<a href="#">“CA-13” on page 956</a>
CA-15	0xCA0F	Speed feedback PG wire breakage detection time	0.0s to 10.0s	0.0	s	Changeable only at stop	<a href="#">“CA-15” on page 957</a>
CA-16	0xCA10	A/B phase sequence of encoder	0: Forward 1: Reverse	0	-	Changeable only at stop	<a href="#">“CA-16” on page 957</a>
CA-17	0xCA11	Encoder installation angle	0.0° to 359.9°	0.0	°	Changeable only at stop	<a href="#">“CA-17” on page 957</a>
CA-18	0xCA12	Expansion card	1: Expansion card 1 2: Expansion card 2	1	-	Changeable only at stop	<a href="#">“CA-18” on page 957</a>
CA-19	0xCA13	ABZ encoder speed measurement mode at low speed	0: Maintain 1: Attenuate 2: Optimized solution	2	-	Changeable only at stop	<a href="#">“CA-19” on page 957</a>
CA-20	0xCA14	Encoder speed measurement filter time constant	0.000s to 10.000s	0.004	s	Changeable at any time	<a href="#">“CA-20” on page 958</a>
CA-21	0xCA15	Encoder wire breakage software detection coefficient	0.000 to 8.000	1.000	-	Changeable at any time	<a href="#">“CA-21” on page 958</a>
CA-22	0xCA16	Encoder control word	Bit00: Speed measurement 0: Disabled 1: Enabled Bit01: Software detection of wire breakage 0: Disabled 1: Enabled Bit02: Glitch removal 0: Disabled 1: Enabled Bit03: ABZ encoder speed measurement mode 0: Quadruplicated frequency 1: Single pulse	0	-	Changeable only at stop	<a href="#">“CA-22” on page 958</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
CA-23	0xCA17	Speed measurement exception count threshold	1 to 100	10	-	Changeable only at stop	<a href="#">“CA-23” on page 958</a>
CA-24	0xCA18	Motor gear ratio (numerator)	1 to 65535	1	-	Changeable only at stop	<a href="#">“CA-24” on page 959</a>
CA-25	0xCA19	Motor gear ratio (denominator)	1 to 65535	1	-	Changeable only at stop	<a href="#">“CA-25” on page 959</a>
CA-26	0xCA1A	External input source of encoder	0: 0 1: AI1 2: AI2 3: AI3 4: Pulse reference 5: Communication 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Unchangeable	<a href="#">“CA-26” on page 959</a>
CA-29	0xCA1D	Auto-tuning	0: No operation 1: Static auto-tuning on partial parameters of asynchronous motor 2: Dynamic auto-tuning on asynchronous motor 3: Static auto-tuning on all parameters of asynchronous motor 4: Inertia auto-tuning 5: Deadzone auto-tuning 11: With-load auto-tuning on synchronous motor (excluding back EMF) 12: No-load dynamic auto-tuning on synchronous motor 13: Static auto-tuning on all parameters of synchronous motor (excluding zero point angle)	0	-	Changeable only at stop	<a href="#">“CA-29” on page 959</a>
CA-30	0xCA1E	Asynchronous motor stator resistance	0.001 $\Omega$ to 65.535 $\Omega$	1.204	$\Omega$	Changeable only at stop	<a href="#">“CA-30” on page 960</a>
CA-31	0xCA1F	Asynchronous motor rotor resistance	0.001 $\Omega$ to 65.535 $\Omega$	0.908	$\Omega$	Changeable only at stop	<a href="#">“CA-31” on page 960</a>
CA-32	0xCA20	Asynchronous motor leakage inductance	0.01 mH to 655.35 mH	5.28	mH	Changeable only at stop	<a href="#">“CA-32” on page 960</a>
CA-33	0xCA21	Asynchronous motor mutual inductance	0.1 mH to 6553.5 mH	156.8	mH	Changeable only at stop	<a href="#">“CA-33” on page 960</a>
CA-34	0xCA22	Asynchronous motor no-load current	0.01 A to CA-03	4.20	A	Changeable only at stop	<a href="#">“CA-34” on page 961</a>



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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
CA-35	0xCA23	Synchronous motor stator resistance	0.001 $\Omega$ to 65.535 $\Omega$	1.204	$\Omega$	Changeable only at stop	<a href="#">"CA-35" on page 961</a>
CA-36	0xCA24	Synchronous motor D axis inductance	0.01 mH to 655.35 mH	5.28	mH	Changeable only at stop	<a href="#">"CA-36" on page 961</a>
CA-37	0xCA25	Synchronous motor Q axis inductance	0.01 mH to 655.35 mH	5.28	mH	Changeable only at stop	<a href="#">"CA-37" on page 961</a>
CA-39	0xCA27	Synchronous motor back EMF coefficient	0.0 V to 6553.5 V	300.0	V	Changeable only at stop	<a href="#">"CA-39" on page 961</a>
CA-40	0xCA28	Stator leakage inductance	0.000 mH to 65.535 mH	6.540	mH	Changeable only at stop	<a href="#">"CA-40" on page 962</a>
CA-41	0xCA29	Electromechanical time constant	1 ms to 65535 ms	100	ms	Unchangeable	<a href="#">"CA-41" on page 962</a>
CA-42	0xCA2A	Inertia ratio	0.0% to 6553.5%	120.0	%	Changeable only at stop	<a href="#">"CA-42" on page 962</a>
CA-43	0xCA2B	Friction torque	0.0% to 6553.5%	2.0	%	Changeable only at stop	<a href="#">"CA-43" on page 962</a>
CA-44	0xCA2C	Excitation current coefficient 1 of mutual inductance curve (rated)	5.0% to 100.0%	50.0	%	Changeable only at stop	<a href="#">"CA-44" on page 962</a>
CA-45	0xCA2D	Excitation current coefficient 2 of mutual inductance curve (rated)	5.0% to 100.0%	75.0	%	Changeable only at stop	<a href="#">"CA-45" on page 962</a>
CA-46	0xCA2E	Excitation current coefficient 3 of mutual inductance curve	100.0% to 800.0%	150.0	%	Changeable only at stop	<a href="#">"CA-46" on page 963</a>
CA-47	0xCA2F	Excitation current coefficient 4 of mutual inductance curve	100.0% to 800.0%	210.0	%	Changeable only at stop	<a href="#">"CA-47" on page 963</a>
CA-48	0xCA30	Flux coefficient 1 of mutual inductance curve (rated)	10.0% to 100.0%	50.0	%	Changeable only at stop	<a href="#">"CA-48" on page 963</a>
CA-49	0xCA31	Flux coefficient 2 of mutual inductance curve (rated)	10.0% to 100.0%	85.0	%	Changeable only at stop	<a href="#">"CA-49" on page 963</a>
CA-50	0xCA32	Flux coefficient 3 of mutual inductance curve	100.0% to 300.0%	115.0	%	Changeable only at stop	<a href="#">"CA-50" on page 963</a>
CA-51	0xCA33	Flux coefficient 4 of mutual inductance curve	100.0% to 300.0%	125.0	%	Changeable only at stop	<a href="#">"CA-51" on page 964</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
CA-52	0xCA34	Speed point 1 of friction curve	0 RPM to 30000 RPM	15	RPM	Changeable only at stop	<a href="#">"CA-52" on page 964</a>
CA-53	0xCA35	Speed point 2 of friction curve	0 RPM to 30000 RPM	30	RPM	Changeable only at stop	<a href="#">"CA-53" on page 964</a>
CA-54	0xCA36	Speed point 3 of friction curve	0 RPM to 30000 RPM	60	RPM	Changeable only at stop	<a href="#">"CA-54" on page 964</a>
CA-55	0xCA37	Speed point 4 of friction curve	0 RPM to 30000 RPM	120	RPM	Changeable only at stop	<a href="#">"CA-55" on page 964</a>
CA-56	0xCA38	Speed point 5 of friction curve	0 RPM to 30000 RPM	150	RPM	Changeable only at stop	<a href="#">"CA-56" on page 965</a>
CA-57	0xCA39	Speed point 6 of friction curve	0 RPM to 30000 RPM	300	RPM	Changeable only at stop	<a href="#">"CA-57" on page 965</a>
CA-58	0xCA3A	Speed point 7 of friction curve	0 RPM to 30000 RPM	600	RPM	Changeable only at stop	<a href="#">"CA-58" on page 965</a>
CA-59	0xCA3B	Speed point 8 of friction curve	0 RPM to 30000 RPM	1200	RPM	Changeable only at stop	<a href="#">"CA-59" on page 965</a>
CA-60	0xCA3C	Speed point 9 of friction curve	0 RPM to 30000 RPM	1500	RPM	Changeable only at stop	<a href="#">"CA-60" on page 965</a>
CA-61	0xCA3D	Speed point 10 of friction curve	0 RPM to 30000 RPM	3000	RPM	Changeable only at stop	<a href="#">"CA-61" on page 966</a>
CA-62	0xCA3E	Torque point 1 of friction curve	-320 N·m to +320 N·m	0.00	N·m	Changeable only at stop	<a href="#">"CA-62" on page 966</a>
CA-63	0xCA3F	Torque point 2 of friction curve	-320 N·m to +320 N·m	0.00	N·m	Changeable only at stop	<a href="#">"CA-63" on page 966</a>
CA-64	0xCA40	Torque point 3 of friction curve	-320 N·m to +320 N·m	0.00	N·m	Changeable only at stop	<a href="#">"CA-64" on page 966</a>
CA-65	0xCA41	Torque point 4 of friction curve	-320 N·m to +320 N·m	0.00	N·m	Changeable only at stop	<a href="#">"CA-65" on page 966</a>
CA-66	0xCA42	Torque point 5 of friction curve	-320 N·m to +320 N·m	0.00	N·m	Changeable only at stop	<a href="#">"CA-66" on page 967</a>
CA-67	0xCA43	Torque point 6 of friction curve	-320 N·m to +320 N·m	0.00	N·m	Changeable only at stop	<a href="#">"CA-67" on page 967</a>
CA-68	0xCA44	Torque point 7 of friction curve	-320 N·m to +320 N·m	0.00	N·m	Changeable only at stop	<a href="#">"CA-68" on page 967</a>
CA-69	0xCA45	Torque point 8 of friction curve	-320 N·m to +320 N·m	0.00	N·m	Changeable only at stop	<a href="#">"CA-69" on page 967</a>
CA-70	0xCA46	Torque point 9 of friction curve	-320 N·m to +320 N·m	0.00	N·m	Changeable only at stop	<a href="#">"CA-70" on page 967</a>
CA-71	0xCA47	Torque point 10 of friction curve	-320 N·m to +320 N·m	0.00	N·m	Changeable only at stop	<a href="#">"CA-71" on page 967</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
CA-72	0xCA48	Current coefficient starting point of D- and Q-axis inductance curve	-800% to +800.0%	-200	%	Changeable only at stop	<a href="#">“ CA-72” on page 968</a>
CA-73	0xCA49	Current coefficient end point of D- and Q-axis inductance curve	-800% to +800.0%	200.0	%	Changeable only at stop	<a href="#">“ CA-73” on page 968</a>
CA-74	0xCA4A	D axis inductance 1 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“ CA-74” on page 968</a>
CA-75	0xCA4B	D axis inductance 2 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“ CA-75” on page 968</a>
CA-76	0xCA4C	D axis inductance 3 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“ CA-76” on page 968</a>
CA-77	0xCA4D	D axis inductance 4 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“ CA-77” on page 969</a>
CA-78	0xCA4E	D axis inductance 5 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“ CA-78” on page 969</a>
CA-79	0xCA4F	D axis inductance 6 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“ CA-79” on page 969</a>
CA-80	0xCA50	D axis inductance 7 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“ CA-80” on page 969</a>
CA-81	0xCA51	D axis inductance 8 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“ CA-81” on page 969</a>
CA-82	0xCA52	D axis inductance 9 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“ CA-82” on page 970</a>
CA-83	0xCA53	D axis inductance 10 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“ CA-83” on page 970</a>
CA-84	0xCA54	D axis inductance 11 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“ CA-84” on page 970</a>
CA-85	0xCA55	D axis inductance 12 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“ CA-85” on page 970</a>
CA-86	0xCA56	Q axis inductance 1 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“ CA-86” on page 970</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
CA-87	0xCA57	Q axis inductance 2 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“CA-87” on page 971</a>
CA-88	0xCA58	Q axis inductance 3 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“CA-88” on page 971</a>
CA-89	0xCA59	Q axis inductance 4 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“CA-89” on page 971</a>
CA-90	0xCA5A	Q axis inductance 5 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“CA-90” on page 971</a>
CA-91	0xCA5B	Q axis inductance 6 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“CA-91” on page 971</a>
CA-92	0xCA5C	Q axis inductance 7 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“CA-92” on page 972</a>
CA-93	0xCA5D	Q axis inductance 8 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“CA-93” on page 972</a>
CA-94	0xCA5E	Q axis inductance 9 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“CA-94” on page 972</a>
CA-95	0xCA5F	Q axis inductance 10 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“CA-95” on page 972</a>
CA-96	0xCA60	Q axis inductance 11 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“CA-96” on page 972</a>
CA-97	0xCA61	Q axis inductance 12 of D- and Q-axis inductance curve	0.0% to 6553.5%	100.0	%	Changeable only at stop	<a href="#">“CA-97” on page 972</a>
CB-00	0xCB00	V/f curve	0: Straight-line V/f curve 1: Multi-point V/f curve 2: Reserved 3: Reserved 4: Reserved 5: Reserved 6: Reserved 7: Reserved 8: Reserved 9: Reserved 10: V/f complete separation mode 11: V/f half separation mode	0	-	Changeable only at stop	<a href="#">“CB-00” on page 973</a>
CB-01	0xCB01	Torque boost	0.0% to 30.0%	3.0	%	Changeable at any time	<a href="#">“CB-01” on page 973</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
CB-02	0xCB02	Cut-off frequency of torque boost	0.00 Hz to F0-10	50.00	Hz	Changeable only at stop	<a href="#">“CB-02” on page 973</a>
CB-03	0xCB03	Multi-point V/f frequency 1	0.00 Hz to CB-05	0.00	Hz	Changeable only at stop	<a href="#">“CB-03” on page 974</a>
CB-04	0xCB04	Multi-point V/f voltage 1	0.0% to +100.0%	0.0	%	Changeable only at stop	<a href="#">“CB-04” on page 974</a>
CB-05	0xCB05	Multi-point V/f frequency 2	CB-03 to CB-07	0.00	Hz	Changeable only at stop	<a href="#">“CB-05” on page 974</a>
CB-06	0xCB06	Multi-point V/f voltage 2	0.0% to +100.0%	0.0	%	Changeable only at stop	<a href="#">“CB-06” on page 974</a>
CB-07	0xCB07	Multi-point V/f frequency 3	CB-05 to CA-04	0.00	Hz	Changeable only at stop	<a href="#">“CB-07” on page 974</a>
CB-08	0xCB08	Multi-point V/f voltage 3	0.0% to +100.0%	0.0	%	Changeable only at stop	<a href="#">“CB-08” on page 975</a>
CB-09	0xCB09	V/f slip compensation gain	0.0 to 200.0	0.0	-	Changeable at any time	<a href="#">“CB-09” on page 975</a>
CB-10	0xCB0A	V/f overexcitation gain	0 to 200	64	-	Changeable at any time	<a href="#">“CB-10” on page 975</a>
CB-11	0xCB0B	V/f oscillation suppression gain	0 to 100	40	-	Changeable at any time	<a href="#">“CB-11” on page 975</a>
CB-12	0xCB0C	V/f oscillation suppression	0: Disabled 1: Enabled	1	-	Changeable at any time	<a href="#">“CB-12” on page 975</a>
CB-13	0xCB0D	Voltage source for V/f separation	0: Digital setting (CB-14) 1: AI1 2: AI2 3: AI3 4: Pulse reference (DI5) 5: Multi-reference 6: Simple PLC 7: PID 8: Communication Others: F connector	0	-	Changeable at any time	<a href="#">“CB-13” on page 976</a>
CB-14	0xCB0E	V/f separation voltage	0 V to CA-02	0	V	Changeable at any time	<a href="#">“CB-14” on page 977</a>
CB-15	0xCB0F	Voltage rise time of V/f separation	0.0s to 1000.0s	0.0	s	Changeable at any time	<a href="#">“CB-15” on page 977</a>
CB-16	0xCB10	Voltage fall time of V/f separation	0.0s to 1000.0s	0.0	s	Changeable at any time	<a href="#">“CB-16” on page 977</a>
CB-17	0xCB11	Stop mode for V/f separation	0: Frequency and voltage decline to 0 independently 1: Frequency declines to 0 after voltage declines to 0 2: Coast to stop (new)	0	-	Changeable at any time	<a href="#">“CB-17” on page 977</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
CB-18	0xCB12	Overcurrent stall suppression action current	50% to 200%	150	%	Changeable only at stop	<a href="#">“CB-18” on page 978</a>
CB-19	0xCB13	Overcurrent stall suppression	0: Disabled 1: Enabled	1	-	Changeable only at stop	<a href="#">“CB-19” on page 978</a>
CB-20	0xCB14	Overcurrent stall suppression gain	1 to 100	20	-	Changeable at any time	<a href="#">“CB-20” on page 978</a>
CB-21	0xCB15	Compensation coefficient of speed multiplying overcurrent stall suppression action current	50% to 200%	100	%	Changeable only at stop	<a href="#">“CB-21” on page 978</a>
CB-22	0xCB16	Overvoltage stall suppression action voltage	330.0 V to 800.0 V	770.0	V	Changeable at any time	<a href="#">“CB-22” on page 978</a>
CB-23	0xCB17	Overvoltage stall suppression	0: Disabled 1: Enabled	1	-	Changeable only at stop	<a href="#">“CB-23” on page 979</a>
CB-24	0xCB18	Overvoltage stall suppression frequency gain	1 to 100	30	-	Changeable at any time	<a href="#">“CB-24” on page 979</a>
CB-25	0xCB19	Overvoltage stall suppression voltage gain	1 to 100	30	-	Changeable at any time	<a href="#">“CB-25” on page 979</a>
CB-26	0xCB1A	Frequency rise threshold for overvoltage stall suppression	0 Hz to 50 Hz	5	Hz	Changeable only at stop	<a href="#">“CB-26” on page 979</a>
CB-27	0xCB1B	Slip compensation filter time	0.1s to 10.0s	0.5	s	Changeable only at stop	<a href="#">“CB-27” on page 979</a>
CB-28	0xCB1C	Multi-point curve source	0: 3-point curve 1: Multi-point curve module A 2: Multi-point curve module B	0	-	Changeable only at stop	<a href="#">“CB-28” on page 980</a>
CB-33	0xCB21	Online torque compensation gain	80 to 150	100	-	Changeable only at stop	<a href="#">“CB-33” on page 980</a>
CB-34	0xCB22	ImaxKi coefficient	10% to 1000%	100	%	Changeable only at stop	<a href="#">“CB-34” on page 980</a>
CB-35	0xCB23	Overcurrent suppression threshold (relative to rated motor current)	80% to 300%	200	%	Changeable only at stop	<a href="#">“CB-35” on page 980</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
CB-36	0xCB24	Frequency threshold for overcurrent suppression field weakening	100% to 500%	100	%	Changeable only at stop	<a href="#">"CB-36" on page 980</a>
CB-37	0xCB25	IT filter time	10 ms to 1000 ms	100	ms	Changeable only at stop	<a href="#">"CB-37" on page 981</a>
CB-38	0xCB26	Slip compensation mode	0: Disabled 1: Slip compensation without PG 2: Slip compensation with PG	1	-	Changeable only at stop	<a href="#">"CB-38" on page 981</a>
CB-39	0xCB27	VdcMaxCtrl allowed runtime	0.0s to 100.0s	0.0	s	Changeable only at stop	<a href="#">"CB-39" on page 981</a>
CB-40	0xCB28	Upper limit of V/f separation voltage	50.0% to 200.0%	100.0	%	Changeable only at stop	<a href="#">"CB-40" on page 981</a>
CB-41	0xCB29	RFG time of V/f separation frequency	0: RFG time forced to 0 1: Preset RFG time	0	-	Changeable only at stop	<a href="#">"CB-41" on page 981</a>
CB-42	0xCB2A	Cut-off frequency of V/f oscillation suppression filter	1.0 Hz to 50.0 Hz	8.0	Hz	Changeable at any time	<a href="#">"CB-42" on page 982</a>
CB-43	0xCB2B	Cut-off frequency threshold for V/f oscillation suppression	10 Hz to 3000 Hz	200	Hz	Changeable at any time	<a href="#">"CB-43" on page 982</a>
CB-44	0xCB2C	VdcMaxCtrl feedforward coefficient	0% to 500%	0	%	Changeable at any time	<a href="#">"CB-44" on page 982</a>
CB-50	0xCB32	PMVVC low-speed IF	0: Disabled 1: Enabled	1	-	Changeable only at stop	<a href="#">"CB-50" on page 982</a>
CB-51	0xCB33	PMVVC low-speed IF current	30 to 250	100	-	Changeable only at stop	<a href="#">"CB-51" on page 983</a>
CB-52	0xCB34	PMVVC low-speed IF speed switching threshold	2.0% to 100.0%	10.0	%	Changeable only at stop	<a href="#">"CB-52" on page 983</a>
CB-53	0xCB35	PMVVC oscillation suppression gain coefficient	0 to 500	100	-	Changeable at any time	<a href="#">"CB-53" on page 983</a>
CB-54	0xCB36	PMVVC filter time coefficient	0 to 500	100	-	Changeable at any time	<a href="#">"CB-54" on page 983</a>
CB-55	0xCB37	PMVVC energy conservation control mode	0: Fixed straight-line V/f curve 1: Fixed 30% reactive current 2: MTPA control	2	-	Changeable only at stop	<a href="#">"CB-55" on page 983</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
CC-00	0xCC00	Startup mode	0: Direct start 1: Flying start 2: Pre-excitation start (AC asynchronous motor) 3: SVC quick start	0	-	Changeable at any time	<a href="#">“CC-00” on page 984</a>
CC-01	0xCC01	Speed tracking mode	0: From the stop frequency 1: From the power frequency 2: From the maximum frequency 3: Reserved 4: Magnetic field directional speed tracking (MD290)	0	-	Changeable at any time	<a href="#">“CC-01” on page 984</a>
CC-02	0xCC02	Speed of speed tracking	1 to 100	20	-	Changeable at any time	<a href="#">“CC-02” on page 984</a>
CC-03	0xCC03	Startup frequency	0.00 Hz to 10.00 Hz	0.00	Hz	Changeable at any time	<a href="#">“CC-03” on page 984</a>
CC-04	0xCC04	Startup frequency hold time	0.0s to 100.0s	0.0	s	Changeable only at stop	<a href="#">“CC-04” on page 985</a>
CC-05	0xCC05	DC braking current at startup	0% to 100%	50	%	Changeable only at stop	<a href="#">“CC-05” on page 985</a>
CC-06	0xCC06	DC braking time at startup	0.0s to 100.0s	0.0	s	Changeable only at stop	<a href="#">“CC-06” on page 985</a>
CC-07	0xCC07	Stop mode	0: Decelerate to stop 1: Coast to stop 2: Stop at maximum capability	0	-	Changeable at any time	<a href="#">“CC-07” on page 985</a>
CC-08	0xCC08	Start frequency of DC braking at stop	0.00 Hz to F0-10	0.00	Hz	Changeable at any time	<a href="#">“CC-08” on page 985</a>
CC-09	0xCC09	DC braking delay at stop	0.0s to 100.0s	0.0	s	Changeable at any time	<a href="#">“CC-09” on page 986</a>
CC-10	0xCC0A	DC braking current at stop	0% to 100%	50	%	Changeable at any time	<a href="#">“CC-10” on page 986</a>
CC-11	0xCC0B	DC braking time at stop	0.0s to 100.0s	0.0	s	Changeable at any time	<a href="#">“CC-11” on page 986</a>
CC-12	0xCC0C	Speed tracking sweep current limit closed loop Kp	0 to 1000	500	-	Changeable at any time	<a href="#">“CC-12” on page 986</a>
CC-13	0xCC0D	Speed tracking sweep current limit closed loop Ki	0 to 1000	800	-	Changeable at any time	<a href="#">“CC-13” on page 986</a>
CC-14	0xCC0E	Speed tracking current	30% to 200%	80	%	Changeable only at stop	<a href="#">“CC-14” on page 987</a>
CC-15	0xCC0F	Current loop multiple	10% to 600%	100	%	Changeable at any time	<a href="#">“CC-15” on page 987</a>



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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
CC-16	0xCC10	Demagnetization time (valid for asynchronous motors)	0.00s to 5.00s	0.50	s	Changeable at any time	<a href="#">“ CC-16” on page 987</a>
CC-17	0xCC11	Overexcitation enable	0: Disabled 2: Enabled during deceleration 3: Enabled always	0	-	Changeable at any time	<a href="#">“ CC-17” on page 987</a>
CC-18	0xCC12	Overexcitation suppression current	0% to 150%	100	%	Changeable at any time	<a href="#">“ CC-18” on page 988</a>
CC-19	0xCC13	Overexcitation gain	0.01 to 2.50	1.25	-	Changeable at any time	<a href="#">“ CC-19” on page 988</a>
CC-20	0xCC14	Parameter auto-tuning upon startup	Bit00: Synchronous motor pole position auto-tuning upon startup 0: Disabled 1: Enabled Bit01: Quick stator resistance auto-tuning upon startup 0: Disabled 1: Enabled Bit02–Bit03: HFI pole position auto-tuning 0: Disabled 1: Enabled 2: Adaptive Bit04: IGBT shoot-through self-check upon startup 0: Disabled 1: Enabled Bit05: Short-to-ground self-check upon startup (reserved) 0: Disabled 1: Enabled Bit06: Phase loss self-check upon startup (reserved) 0: Disabled 1: Enabled	1	-	Changeable only at stop	<a href="#">“ CC-20” on page 988</a>
CC-21	0xCC15	Auto-tuning direction	0 to 1	1	-	Changeable only at stop	<a href="#">“ CC-21” on page 989</a>
CC-22	0xCC16	Oscillation suppression gain of synchronous motor back EMF auto-tuning	0.0 to 30.0	3.2	-	Changeable only at stop	<a href="#">“ CC-22” on page 989</a>
CC-23	0xCC17	Target speed of rotation auto-tuning	30.0% to 100.0%	70.0	%	Changeable only at stop	<a href="#">“ CC-23” on page 989</a>
CC-24	0xCC18	Target speed 1 of inertia auto-tuning	10.0% to CC-25	40.0	%	Changeable only at stop	<a href="#">“ CC-24” on page 989</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
CC-25	0xCC19	Target speed 2 of inertia auto-tuning	CC-24 to 100.0%	60.0	%	Changeable only at stop	<a href="#">“CC-25” on page 989</a>
CC-26	0xCC1A	Overcurrent prevention of mutual inductance saturation curve	0 to 1	1	-	Changeable only at stop	<a href="#">“CC-26” on page 989</a>
CC-27	0xCC1B	Auto-tuning items	Bit00: Speed loop parameter adaptation 0: Disabled 1: Enabled Bit01: Current loop parameter adaptation 0: Disabled 1: Enabled Bit02: Drive nonlinear auto-tuning 0: Disabled 1: Enabled Bit03: Inter-phase deviation coefficient auto-tuning 0: Disabled 1: Enabled Bit04: Auto-tuning of initial pole position of synchronous motor 0: Disabled 1: Enabled Bit05: Auto-tuning of D- and Q-axis inductance model of synchronous motor 0: Disabled 1: Enabled Bit06: System inertia auto-tuning 0: Disabled 1: Enabled Bit07: HFI pole position auto-tuning 0: Disabled 1: Enabled	117	-	Changeable only at stop	<a href="#">“CC-27” on page 990</a>
CC-28	0xCC1C	OFF3 stop mode	0: Quick stop 1: Stop at maximum capability	0	-	Changeable only at stop	<a href="#">“CC-28” on page 990</a>
CC-29	0xCC1D	Stop mode during running	0: OFF1 stop mode 1: OFF2 stop mode 2: OFF3 stop mode	1	-	Changeable only at stop	<a href="#">“CC-29” on page 991</a>
CC-30	0xCC1E	Stop mode for torque control	0: Coast to stop forcibly 1: Switch to speed control mode and then stop 2: Maintain torque control mode until zero speed and then block	1	-	Changeable only at stop	<a href="#">“CC-30” on page 991</a>
CC-32	0xCC20	Proportional gain adjustment coefficient	0.1 to 2.0	1.0	-	Changeable at any time	<a href="#">“CC-32” on page 991</a>
CC-33	0xCC21	Integral gain adjustment coefficient	0.1 to 2.0	1.0	-	Changeable at any time	<a href="#">“CC-33” on page 991</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
CC-34	0xCC22	Zero-speed threshold	0.1% to 200.0%	2.0	%	Changeable at any time	<a href="#">“ CC-34” on page 991</a>
CC-35	0xCC23	Zero-speed stop delay	0.00s to 10.00s	0.10	s	Changeable only at stop	<a href="#">“ CC-35” on page 992</a>
CC-36	0xCC24	Reference source execution interval	0 to 20	4	-	Changeable only at stop	<a href="#">“ CC-36” on page 992</a>
CC-37	0xCC25	Trial current for speed tracking of synchronous motor	5.0% to 50.0%	10.0	%	Changeable only at stop	<a href="#">“ CC-37” on page 992</a>
CC-38	0xCC26	Minimum frequency for speed tracking of synchronous motor	0.0 Hz to 100.0 Hz	0.0	Hz	Changeable only at stop	<a href="#">“ CC-38” on page 992</a>
CC-39	0xCC27	Angle compensation for speed tracking of synchronous motor	0 to 360	0	-	Changeable only at stop	<a href="#">“ CC-39” on page 992</a>
CC-40	0xCC28	Parameter auto-tuning of synchronous motor upon startup	0 to 1	0	-	Changeable at any time	<a href="#">“ CC-40” on page 993</a>
CC-41	0xCC29	Current motor angle	0 to 65535	0	-	Unchangeable	<a href="#">“ CC-41” on page 993</a>
CC-42	0xCC2A	Forward torque limit 1	0.0 to 400.0	150.0	-	Changeable at any time	<a href="#">“ CC-42” on page 993</a>
CC-43	0xCC2B	Reverse torque limit 1	0.0 to 400.0	150.0	-	Changeable at any time	<a href="#">“ CC-43” on page 993</a>
CC-44	0xCC2C	Source of forward torque limit 2	0: 400% Others: F connector	0	-	Changeable at any time	<a href="#">“ CC-44” on page 993</a>
CC-45	0xCC2D	Source of reverse torque limit 2	0: -400% Others: F connector	0	-	Changeable at any time	<a href="#">“ CC-45” on page 994</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
CC-46	0xCC2E	Ramp (FRG) selection bit0	0: 0 1: 1 2: Terminal function input 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector	0	-	Changeable at any time	<a href="#">“CC-46” on page 994</a>
CC-47	0xCC2F	Ramp (FRG) selection bit1	Same as CC-46	0	-	Changeable at any time	<a href="#">“CC-47” on page 994</a>
CC-50	0xCC32	Motor overload protection	0: Disabled 1: Enabled	1	-	Changeable at any time	<a href="#">“CC-50” on page 995</a>
CC-51	0xCC33	Motor overload protection gain	0.20 to 10.00	1.00	-	Changeable at any time	<a href="#">“CC-51” on page 995</a>
CC-52	0xCC34	Motor overload pre-warning coefficient	50% to 100%	80	%	Changeable at any time	<a href="#">“CC-52” on page 995</a>
CC-53	0xCC35	Overvoltage stall suppression gain	1 to 100	30	-	Changeable at any time	<a href="#">“CC-53” on page 995</a>
CC-54	0xCC36	Overvoltage stall protection voltage	330.0 V to 800.0 V	770.0	V	Changeable at any time	<a href="#">“CC-54” on page 995</a>
CC-55	0xCC37	Input phase loss/ Contactor pickup protection	Ones: Input phase loss protection 0: Disabled 1: Protection enabled when both software and hardware input phase loss conditions are met 2: Protection enabled when software input phase loss conditions are met 3: Protection enabled when hardware input phase loss conditions are met Tens: Contactor pickup protection 0: Disabled 1: Enabled	11	-	Changeable at any time	<a href="#">“CC-55” on page 996</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
CC-56	0xCC38	Output phase loss protection	Ones: Output phase loss protection upon power-on 0: Disabled 1: Enabled Tens: Output phase loss protection before running 0: Disabled 1: Enabled	1	-	Changeable at any time	<a href="#">“ CC-56” on page 996</a>
CC-57	0xCC39	Power dip ride-through	0: Disabled 1: Decelerate 2: Decelerate to stop 3: Suppress voltage dip	0	-	Changeable only at stop	<a href="#">“ CC-57” on page 996</a>
CC-58	0xCC3A	Voltage threshold for disabling power dip ride-through	80% to 100%	85	%	Changeable only at stop	<a href="#">“ CC-58” on page 996</a>
CC-59	0xCC3B	Delay of voltage recovery from power dip	0.0s to 100.0s	0.5	s	Changeable only at stop	<a href="#">“ CC-59” on page 997</a>
CC-60	0xCC3C	Voltage threshold for enabling power dip ride-through	60% to 100%	80	%	Changeable only at stop	<a href="#">“ CC-60” on page 997</a>
CC-61	0xCC3D	Protection upon load loss	0: Disabled 1: Enabled	0	-	Changeable at any time	<a href="#">“ CC-61” on page 997</a>
CC-62	0xCC3E	Load loss detection level	0.0% to +100.0%	10.0	%	Changeable at any time	<a href="#">“ CC-62” on page 997</a>
CC-63	0xCC3F	Load loss detection time	0.0s to 60.0s	1.0	s	Changeable at any time	<a href="#">“ CC-63” on page 997</a>
CC-64	0xCC40	Overspeed detection level	0.0% to 50.0%	20.0	%	Changeable at any time	<a href="#">“ CC-64” on page 998</a>
CC-65	0xCC41	Overspeed detection time	0.0s to 60.0s	1.0	s	Changeable at any time	<a href="#">“ CC-65” on page 998</a>
CC-66	0xCC42	Detection level of excessive speed deviation	0.0% to 50.0%	20.0	%	Changeable at any time	<a href="#">“ CC-66” on page 998</a>
CC-67	0xCC43	Detection time of excessive speed deviation	0.0s to 60.0s	5.0	s	Changeable at any time	<a href="#">“ CC-67” on page 998</a>
CC-68	0xCC44	Power dip ride-through gain Kp	1 to 100	40	-	Changeable at any time	<a href="#">“ CC-68” on page 998</a>
CC-69	0xCC45	Power dip ride-through integral coefficient Ki	1 to 100	30	-	Changeable at any time	<a href="#">“ CC-69” on page 999</a>
CC-70	0xCC46	Deceleration time of power dip ride-through	0.0s to 300.0s	20.0	s	Changeable at any time	<a href="#">“ CC-70” on page 999</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
CC-71	0xCC47	Voltage dip suppression time	0.1s to 600.0s	0.5	s	Changeable at any time	<a href="#">“CC-71” on page 999</a>
CC-72	0xCC48	Motor protection	Bit00: Motor overload determination (reserved) Bit01: Motor overheat detection (reserved) Bit02: PG fault detection (reserved) Bit03: Current control error detection Bit04: Motor stall error detection Bit05: Locked-rotor detection Bit06: Synchronous motor demagnetization protection Bit07: Protection against locked-rotor in SVC speed open-loop control Bit08: Reserved Bit09: Parameter setting error	537	-	Changeable at any time	<a href="#">“CC-72” on page 999</a>
CC-73	0xCC49	Locked-rotor time	0.0s to 65.0s	2.0	s	Changeable at any time	<a href="#">“CC-73” on page 1000</a>
CC-74	0xCC4A	Locked-rotor frequency	0.0% to 600.0%	6.0	%	Changeable at any time	<a href="#">“CC-74” on page 1000</a>
CC-75	0xCC4B	Motor stall detection time	0.0s to 10.0s	0.5	s	Changeable at any time	<a href="#">“CC-75” on page 1000</a>
CC-76	0xCC4C	Stall detection threshold	0.0% to +100.0%	30.0	%	Changeable at any time	<a href="#">“CC-76” on page 1000</a>
CC-77	0xCC4D	Current control exception detection time	0.00s to 1.00s	0.05	s	Changeable at any time	<a href="#">“CC-77” on page 1000</a>
CC-78	0xCC4E	Current control exception detection threshold	0.0% to 200.0%	25.0	%	Changeable at any time	<a href="#">“CC-78” on page 1001</a>
CC-79	0xCC4F	Synchronous motor overcurrent threshold	0.0% to 500.0%	300.0	%	Changeable at any time	<a href="#">“CC-79” on page 1001</a>
CC-81	0xCC51	Speed deviation detection	0 to 1	1	-	Changeable at any time	<a href="#">“CC-81” on page 1001</a>
CC-82	0xCC52	Skip frequency 1	0.00 Hz to F0-10	0.00	Hz	Changeable at any time	<a href="#">“CC-82” on page 1001</a>
CC-83	0xCC53	Skip frequency 2	0.00 Hz to F0-10	0.00	Hz	Changeable at any time	<a href="#">“CC-83” on page 1001</a>
CC-84	0xCC54	Skip frequency 3	0.00 Hz to F0-10	0.00	Hz	Changeable at any time	<a href="#">“CC-84” on page 1001</a>
CC-85	0xCC55	Skip frequency 4	0.00 Hz to F0-10	0.00	Hz	Changeable at any time	<a href="#">“CC-85” on page 1002</a>
CC-86	0xCC56	Skip frequency band	0.00 Hz to F0-10	0.00	Hz	Changeable at any time	<a href="#">“CC-86” on page 1002</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
CC-87	0xCC57	Source of frequency upper limit	0: F0-12 1: AI1 2: AI2 3: AI3 4: Pulse reference 5: Communication Others: F connector	0	-	Changeable only at stop	<a href="#">“CC-87” on page 1002</a>
CC-88	0xCC58	Frequency upper limit	CC-90 to F0-10	50.00	Hz	Changeable at any time	<a href="#">“CC-88” on page 1002</a>
CC-89	0xCC59	Frequency upper limit offset	0.00 Hz to F0-10 (maximum frequency)	0.00	Hz	Changeable at any time	<a href="#">“CC-89” on page 1003</a>
CC-90	0xCC5A	Frequency lower limit	0.00 Hz to CC-88	0.00	Hz	Changeable at any time	<a href="#">“CC-90” on page 1003</a>
CC-91	0xCC5B	Speed/Torque control mode	0: Speed control 1: Torque control	0	-	Changeable at any time	<a href="#">“CC-91” on page 1003</a>
CD-00	0xCD00	Asynchronous motor FVC model switchover frequency	0% to 1000%	20	%	Changeable only at stop	<a href="#">“CD-00” on page 1003</a>
CD-01	0xCD01	Asynchronous motor FVC model switchover hysteresis frequency	10% to 50%	20	%	Changeable only at stop	<a href="#">“CD-01” on page 1003</a>
CD-02	0xCD02	Asynchronous motor FVC observer filter time	5 ms to 100 ms	15	ms	Changeable only at stop	<a href="#">“CD-02” on page 1004</a>
CD-03	0xCD03	Asynchronous motor FVC current model mode	0 to 1	0	-	Changeable only at stop	<a href="#">“CD-03” on page 1004</a>
CD-04	0xCD04	Asynchronous motor FVC pre-excitation output observation angle mode	0 to 1	0	-	Changeable only at stop	<a href="#">“CD-04” on page 1004</a>
CD-05	0xCD05	Asynchronous motor SVC model switchover frequency	10% to 20%	15	%	Changeable only at stop	<a href="#">“CD-05” on page 1004</a>
CD-06	0xCD06	Asynchronous motor SVC observer filter time	5 ms to 50 ms	10	ms	Changeable at any time	<a href="#">“CD-06” on page 1004</a>
CD-07	0xCD07	Asynchronous motor SVC observer gain 1	10% to 500%	100	%	Changeable at any time	<a href="#">“CD-07” on page 1005</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
CD-08	0xCD08	Asynchronous motor SVC observer gain 2	10% to 100%	20	%	Changeable at any time	<a href="#">“CD-08” on page 1005</a>
CD-09	0xCD09	Asynchronous motor SVC observer mode	0 to 3	0	-	Changeable only at stop	<a href="#">“CD-09” on page 1005</a>
CD-10	0xCD0A	Asynchronous motor SVC pre-excitation mode	0 to 1	0	-	Changeable only at stop	<a href="#">“CD-10” on page 1005</a>
CD-11	0xCD0B	Asynchronous motor SVC speed tracking mode	0 to 1	0	-	Changeable only at stop	<a href="#">“CD-11” on page 1005</a>
CD-14	0xCD0E	Synchronous motor 1 model control	Bit00: Low speed processing Bit01: Low speed processing 1 Bit02: Online auto-tuning of resistance Bit03: Online auto-tuning of back EMF Bit04: KS	5	-	Changeable at any time	<a href="#">“CD-14” on page 1006</a>
CD-15	0xCD0F	Synchronous motor model K1	10 to 3000	200	-	Changeable at any time	<a href="#">“CD-15” on page 1006</a>
CD-16	0xCD10	Synchronous motor model K1Max	100 to 6000	3000	-	Changeable at any time	<a href="#">“CD-16” on page 1006</a>
CD-17	0xCD11	Synchronous motor model KsMin	0.0 to 4.0	0.3	-	Changeable at any time	<a href="#">“CD-17” on page 1006</a>
CD-18	0xCD12	Synchronous motor model Kspeed	50 to 2000	400	-	Changeable at any time	<a href="#">“CD-18” on page 1006</a>
CD-19	0xCD13	Synchronous motor frequency filter time constant	2 ms to 100 ms	10	ms	Changeable at any time	<a href="#">“CD-19” on page 1007</a>
CD-20	0xCD14	Frequency upper limit of synchronous motor Rs online auto-tuning	1.0% to 20.0%	3.5	%	Changeable at any time	<a href="#">“CD-20” on page 1007</a>
CD-21	0xCD15	Synchronous motor model Kr	0 to 50	10	-	Changeable at any time	<a href="#">“CD-21” on page 1007</a>
CD-22	0xCD16	Synchronous motor model Kr1	0 to 50	5	-	Changeable at any time	<a href="#">“CD-22” on page 1007</a>
CD-23	0xCD17	Synchronous motor low-speed D axis injection current	0% to 100%	20	%	Changeable at any time	<a href="#">“CD-23” on page 1007</a>
CD-24	0xCD18	Synchronous motor model LowFreqTime1	0 to 500	50	-	Changeable at any time	<a href="#">“CD-24” on page 1008</a>



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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
CD-27	0xCD1B	Frequency lower limit of back EMF online auto-tuning	10% to 100%	25	%	Changeable at any time	<a href="#">“ CD-27” on page 1008</a>
CD-28	0xCD1C	Synchronous motor model LowFreq	0.0% to 2.0%	0.3	%	Changeable at any time	<a href="#">“ CD-28” on page 1008</a>
CD-29	0xCD1D	Synchronous motor model LowFreqTime	0 to 100	10	-	Changeable at any time	<a href="#">“ CD-29” on page 1008</a>
CD-30	0xCD1E	Percentage of pole auto-tuning current	50% to 200%	100	%	Changeable at any time	<a href="#">“ CD-30” on page 1008</a>
CD-31	0xCD1F	Percentage of high frequency response current	0% to 100%	25	%	Changeable at any time	<a href="#">“ CD-31” on page 1009</a>
CD-32	0xCD20	Percentage of HFI and SVC switching frequency	0% to 30%	10	%	Changeable at any time	<a href="#">“ CD-32” on page 1009</a>
CD-33	0xCD21	Observer parameter	10 to 200	100	-	Changeable at any time	<a href="#">“ CD-33” on page 1009</a>
CD-34	0xCD22	Speed filter cut-off frequency	1 Hz to 200 Hz	10	Hz	Changeable at any time	<a href="#">“ CD-34” on page 1009</a>
CD-35	0xCD23	Carrier frequency during NS auto-tuning	2.00 Hz to 16.00 Hz	8.00	Hz	Changeable at any time	<a href="#">“ CD-35” on page 1009</a>
CD-36	0xCD24	Automatic calculation of NS auto-tuning voltage	0: Disabled 1: Enabled	1	-	Changeable at any time	<a href="#">“ CD-36” on page 1010</a>
CD-37	0xCD25	Percentage of NS auto-tuning voltage set manually	0% to 100%	10	%	Changeable at any time	<a href="#">“ CD-37” on page 1010</a>
CD-38	0xCD26	Duration of HFI stage 1	50 ms to 500 ms	150	ms	Changeable at any time	<a href="#">“ CD-38” on page 1010</a>
CD-40	0xCD28	Speed loop proportional gain 1	1 to 100	30	-	Changeable at any time	<a href="#">“ CD-40” on page 1010</a>
CD-41	0xCD29	Speed loop integral time 1	0.01s to 10.00s	0.50	s	Changeable at any time	<a href="#">“ CD-41” on page 1010</a>
CD-42	0xCD2A	Switchover frequency 1	0.00 Hz to CD-45	5.00	Hz	Changeable at any time	<a href="#">“ CD-42” on page 1011</a>
CD-43	0xCD2B	Speed loop proportional gain 2	1 to 100	20	-	Changeable at any time	<a href="#">“ CD-43” on page 1011</a>
CD-44	0xCD2C	Speed loop integral time 2	0.01s to 10.00s	1.00	s	Changeable at any time	<a href="#">“ CD-44” on page 1011</a>
CD-45	0xCD2D	Switchover frequency 2	CD-42 to F0-10	10.00	Hz	Changeable at any time	<a href="#">“ CD-45” on page 1011</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
CD-46	0xCD2E	Vector control slip gain	50% to 200%	100	%	Changeable at any time	<a href="#">“CD-46” on page 1011</a>
CD-47	0xCD2F	Speed feedback filter time in SVC mode	0.000s to 0.100s	0.015	s	Changeable at any time	<a href="#">“CD-47” on page 1011</a>
CD-49	0xCD31	Torque upper limit source in speed control mode (motoring)	0: Digital setting (F2-10) 1: AI1 2: AI2 3: AI3 4: Pulse reference 5: Communication 6: MIN (AI1, AI2) 7: MAX (AI1, AI2) Others: F connector	0	-	Changeable at any time	<a href="#">“CD-49” on page 1012</a>
CD-50	0xCD32	Torque upper limit in speed control mode	0.0% to 200.0%	150.0	%	Changeable at any time	<a href="#">“CD-50” on page 1012</a>
CD-51	0xCD33	Torque upper limit source in speed control mode (generating)	0: Digital setting (F2-10) 1: AI1 2: AI2 3: AI3 4: Pulse reference (DI5) 5: Communication 6: MIN (AI1, AI2) 7: MAX (AI1, AI2) 8: Digital setting (F2-12) Others: F connector	0	-	Changeable at any time	<a href="#">“CD-51” on page 1012</a>
CD-52	0xCD34	Torque upper limit in speed control mode (generating)	0.0% to 200.0%	150.0	%	Changeable at any time	<a href="#">“CD-52” on page 1013</a>
CD-53	0xCD35	Field weakening mode	0: No field weakening 1: Auto adjustment 2: Calculation+Auto adjustment	1	-	Changeable only at stop	<a href="#">“CD-53” on page 1013</a>
CD-54	0xCD36	Field weakening gain	1 to 50	5	-	Changeable at any time	<a href="#">“CD-54” on page 1013</a>
CD-57	0xCD39	Generating power limiting	0: Disabled 1: Enabled in the whole process 2: Enabled at constant speed 3: Enabled during deceleration	0	-	Changeable at any time	<a href="#">“CD-57” on page 1014</a>
CD-58	0xCD3A	Generating power upper limit	0.0% to 200.0%	20.0	%	Changeable at any time	<a href="#">“CD-58” on page 1014</a>
CD-59	0xCD3B	Motor 4 control mode	0: SVC 1: FVC 2: V/f	2	-	Changeable only at stop	<a href="#">“CD-59” on page 1014</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
CD-60	0xCD3C	Initial position angle detection current of synchronous motor	50 to 180	80	-	Changeable only at stop	<a href="#">“CD-60” on page 1014</a>
CD-61	0xCD3D	Initial position angle detection of synchronous motor	0: Detected upon running 1: Not detected 2: Detected upon initial running after power-on	0	-	Changeable at any time	<a href="#">“CD-61” on page 1015</a>
CD-63	0xCD3F	Salient pole rate adjustment gain of synchronous motor	0.20 to 3.00	1.00	-	Changeable at any time	<a href="#">“CD-63” on page 1015</a>
CD-64	0xCD40	Maximum torque-to-current ratio control of synchronous motor	0: Disabled 1: Enabled	1	-	Changeable at any time	<a href="#">“CD-64” on page 1015</a>
CD-65	0xCD41	Z signal correction	0: Disabled 1: Enabled	1	-	Changeable at any time	<a href="#">“CD-65” on page 1015</a>
CD-67	0xCD43	Low speed carrier frequency	0.8 kHz to F0-15	2.0	kHz	Changeable at any time	<a href="#">“CD-67” on page 1016</a>
CD-68	0xCD44	Position lock	0 to 1	0	-	Changeable at any time	<a href="#">“CD-68” on page 1016</a>
CD-69	0xCD45	Switchover frequency	0.00 Hz to CD-42	0.30	Hz	Changeable at any time	<a href="#">“CD-69” on page 1016</a>
CD-70	0xCD46	Position lock speed loop proportional gain	1 to 100	10	-	Changeable at any time	<a href="#">“CD-70” on page 1016</a>
CD-71	0xCD47	Position lock speed loop integral time	0.01s to 10.00s	0.50	s	Changeable at any time	<a href="#">“CD-71” on page 1016</a>
CD-74	0xCD4A	Auto-tuning free mode	0: Disabled 1: Auto-tuning upon initial running after power-on 2: Auto-tuning upon running	0	-	Changeable at any time	<a href="#">“CD-74” on page 1017</a>
CD-76	0xCD4C	Initial position compensation angle	0.0 to 359.9	0.0	-	Changeable at any time	<a href="#">“CD-76” on page 1017</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
CD-80	0xCD50	Speed loop command word	Bit00: Speed loop 0: Disabled 1: Enabled Bit01: Integration mode 0: Conventional integration 1: Position integration Bit02: Acceleration torque 0: Disabled 1: Enabled Bit03–Bit04: Acceleration source 0: Function transfer torque 1: Automatic calculation 2: Function transfer acceleration Bit05: Anti-load disturbance 0: Disabled 1: Enabled	11	-	Changeable at any time	<a href="#">“CD-80” on page 1017</a>
CD-81	0xCD51	Locked-rotor fast integral cancel coefficient	0.0% to +100.0%	0.0	%	Changeable at any time	<a href="#">“CD-81” on page 1017</a>
CD-82	0xCD52	Integral torque	-100% to +100.0%	0.0	%	Changeable at any time	<a href="#">“CD-82” on page 1018</a>
CD-83	0xCD53	Speed controller frequency window size	0.00 Hz to 10.00 Hz	0.00	Hz	Changeable only at stop	<a href="#">“CD-83” on page 1018</a>
CD-84	0xCD54	Current filter time for torque reference	0.0 ms to 100.0 ms	0.0	ms	Changeable only at stop	<a href="#">“CD-84” on page 1018</a>
CD-85	0xCD55	Acceleration torque	0: Inactive 1: AI1 2: AI2 3: AI3 4: Pulse reference 5: Communication 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable at any time	<a href="#">“CD-85” on page 1018</a>
CD-87	0xCD57	Reference model bandwidth	0.00 Hz to 300.00 Hz	0.00	Hz	Changeable at any time	<a href="#">“CD-87” on page 1019</a>
CD-88	0xCD58	Torque feedforward coefficient	0.0% to 1000.0%	100.0	%	Changeable at any time	<a href="#">“CD-88” on page 1019</a>
CD-89	0xCD59	Vector control reference frequency filter time	0.0 ms to 100.0 ms	0.0	ms	Changeable only at stop	<a href="#">“CD-89” on page 1019</a>
CD-90	0xCD5A	Vector control feedback frequency filter time	0.0 ms to 100.0 ms	0.0	ms	Changeable only at stop	<a href="#">“CD-90” on page 1019</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
CD-91	0xCD5B	Load observation bandwidth	0.00 Hz to 300.00 Hz	0.00	Hz	Changeable at any time	<a href="#">“CD-91” on page 1020</a>
CD-92	0xCD5C	Load observation coefficient	0.0% to 1000.0%	100.0	%	Changeable at any time	<a href="#">“CD-92” on page 1020</a>
CD-93	0xCD5D	Pseudo integral coefficient	0.000 to 10.000	1.000	-	Changeable at any time	<a href="#">“CD-93” on page 1020</a>
CD-94	0xCD5E	Torque coefficient enable	0: Disabled 1: Enabled	0	-	Changeable at any time	<a href="#">“CD-94” on page 1020</a>
CD-96	0xCD60	Center frequency of notch filter 1	0.0 to 4000.0	4000.0	-	Changeable at any time	<a href="#">“CD-96” on page 1020</a>
CD-97	0xCD61	Center frequency of notch filter 2	0.0 to 4000.0	4000.0	-	Changeable at any time	<a href="#">“CD-97” on page 1021</a>
CD-98	0xCD62	Integral setting control word	0: Disabled 1: Enabled Others: B connector	0	-	Changeable at any time	<a href="#">“CD-98” on page 1021</a>
CD-99	0xCD63	Integral reference source	0: Digital setting 1: AI1 2: AI2 3: AI3 4: Pulse reference 5: Communication 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable at any time	<a href="#">“CD-99” on page 1021</a>
CE-00	0xCE00	Externally transferred acceleration	0: Inactive 1: AI1 2: AI2 3: AI3 4: Pulse reference 5: Communication 6: Multi-reference 7: Motor-driven potentiometer 8: PID Others: F connector	0	-	Changeable at any time	<a href="#">“CE-00” on page 1021</a>
CE-03	0xCE03	Overturning torque limiting coefficient	0.0% to 400.0%	100.0	%	Changeable at any time	<a href="#">“CE-03” on page 1022</a>
CE-04	0xCE04	Motoring power limiting coefficient	0.0% to 400.0%	400.0	%	Changeable at any time	<a href="#">“CE-04” on page 1022</a>
CE-05	0xCE05	Generating power limiting coefficient	0.0% to 400.0%	400.0	%	Changeable at any time	<a href="#">“CE-05” on page 1022</a>
CE-06	0xCE06	Overspeed limiting enable	0 to 1	1	-	Changeable at any time	<a href="#">“CE-06” on page 1022</a>
CE-07	0xCE07	Sine wave frequency of bandwidth test	0 Hz to 1000 Hz	0	Hz	Changeable at any time	<a href="#">“CE-07” on page 1023</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
CE-08	0xCE08	Sine wave amplitude of bandwidth test	0% to 100%	0	%	Changeable at any time	<a href="#">“CE-08” on page 1023</a>
CE-09	0xCE09	Bandwidth test enable	0 to 4	0	-	Changeable at any time	<a href="#">“CE-09” on page 1023</a>
CE-11	0xCE0B	Speed loop parameter calculation mode	0: New solution 1: Compatible solution	1	-	Changeable only at stop	<a href="#">“CE-11” on page 1023</a>
CE-12	0xCE0C	Speed loop proportional gain in FVC mode	0.00 Hz to 100.00 Hz	8.00	Hz	Changeable at any time	<a href="#">“CE-12” on page 1023</a>
CE-13	0xCE0D	Speed loop integral time in FVC mode	0.000s to 20.000s	0.080	s	Changeable at any time	<a href="#">“CE-13” on page 1024</a>
CE-14	0xCE0E	Speed loop proportional gain in SVC mode	0.00 Hz to 100.00 Hz	5.00	Hz	Changeable at any time	<a href="#">“CE-14” on page 1024</a>
CE-15	0xCE0F	Speed loop integral time in SVC mode	0.000s to 20.000s	0.127	s	Changeable at any time	<a href="#">“CE-15” on page 1024</a>
CE-16	0xCE10	Low frequency proportional correction coefficient	0.0% to 1000.0%	100.0	%	Changeable at any time	<a href="#">“CE-16” on page 1024</a>
CE-17	0xCE11	Low frequency integral correction coefficient	0.0% to 1000.0%	100.0	%	Changeable at any time	<a href="#">“CE-17” on page 1024</a>
CE-18	0xCE12	Speed loop adaption factor	0.000 to 10.000	0.200	-	Changeable at any time	<a href="#">“CE-18” on page 1025</a>
CE-19	0xCE13	Speed loop adaption switchover lower limit	0.000 to 10.000	0.400	-	Changeable at any time	<a href="#">“CE-19” on page 1025</a>
CE-20	0xCE14	Speed loop adaption switchover upper limit	0.000 to 10.000	1.000	-	Changeable at any time	<a href="#">“CE-20” on page 1025</a>
CE-21	0xCE15	Speed loop adaption correction upper limit	0.0% to 1000.0%	100.0	%	Changeable at any time	<a href="#">“CE-21” on page 1025</a>
CE-22	0xCE16	Speed loop adaption correction lower limit	0.0% to 1000.0%	100.0	%	Changeable at any time	<a href="#">“CE-22” on page 1025</a>
CE-23	0xCE17	Flux adaptation enable	0 to 1	0	-	Changeable at any time	<a href="#">“CE-23” on page 1026</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
CE-24	0xCE18	Overspeed controller correction coefficient	0.0% to 1000.0%	100.0	%	Changeable at any time	<a href="#">“CE-24” on page 1026</a>
CE-25	0xCE19	VDC control command word	Bit00: VdcMin 0: Disabled 1: Enabled Bit01: VdcMax 0: Disabled 1: Enabled Bit02: Automatic calculation of VDC trigger voltage 0: Disabled 1: Enabled Bit03: VDC control integral action 0: Disabled 1: Enabled	0	-	Changeable at any time	<a href="#">“CE-25” on page 1026</a>
CE-26	0xCE1A	Bus capacitance ratio	50.0% to 1000.0%	100.0	%	Changeable at any time	<a href="#">“CE-26” on page 1026</a>
CE-27	0xCE1B	Undervoltage suppression exit hysteresis frequency	0.00 Hz to 10.00 Hz	3.00	Hz	Changeable at any time	<a href="#">“CE-27” on page 1027</a>
CE-28	0xCE1C	Minimum VDC failure speed threshold	0.00 Hz to 20.00 Hz	2.00	Hz	Changeable at any time	<a href="#">“CE-28” on page 1027</a>
CE-29	0xCE1D	Dynamic adjustment coefficient	0.0% to 1000.0%	100.0	%	Changeable at any time	<a href="#">“CE-29” on page 1027</a>
CE-30	0xCE1E	Minimum VDC activation voltage	320.0 V to 540.0 V	430.0	V	Changeable at any time	<a href="#">“CE-30” on page 1027</a>
CE-31	0xCE1F	Maximum VDC activation voltage	650.0 V to 800.0 V	770.0	V	Changeable at any time	<a href="#">“CE-31” on page 1027</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
CE-32	0xCE20	Flux linkage control command word	Bit00: Output voltage limit calculation filtering mode 0: Symmetric filtering 1: Asymmetric filtering Bit01: Asynchronous motor inverse proportion curve calculation 0: The inverse proportional synchronization frequency decreases. 1: The inverse proportional speed decreases. Bit02: Flux linkage feedforward calculation by using inverse proportional speed 0: Disabled 1: Enabled Bit03: Reserved Bit04: Reserved Bit05: Field weakening adjustment 0: Disabled 1: Enabled Bit06: Flux linkage derivative feedforward 0: Disabled 1: Enabled Bit07: Energy conservation control 0: Disabled 1: Enabled Bit08: Asynchronous motor flux closed loop 0: Disabled 1: Enabled Bit09: Reserved Bit10: Reserved Bit11: Asynchronous motor pre-excitation mode 0: Pre-excitation based on time 1: Pre-excitation based on current Bit12: Asynchronous motor pre-excitation current 0: Reference current 1: Maximum current allowed by the drive	2357	-	Changeable at any time	<a href="#">“CE-32” on page 1027</a>
CE-33	0xCE21	Output voltage upper limit margin for field weakening adjustment	1% to 50%	5	%	Changeable at any time	<a href="#">“CE-33” on page 1029</a>
CE-34	0xCE22	Output voltage upper limit margin for auto adjustment of field weakening	1% to 20%	3	%	Changeable at any time	<a href="#">“CE-34” on page 1029</a>
CE-35	0xCE23	Filter time for calculating maximum output voltage	0 ms to 3000 ms	30	ms	Changeable at any time	<a href="#">“CE-35” on page 1029</a>



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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
CE-36	0xCE24	Rated flux adjustment coefficient for calculation	0.5 to 2.0	1.0	-	Changeable at any time	<a href="#">“CE-36” on page 1029</a>
CE-37	0xCE25	Field weakening frequency adjustment coefficient for calculation	0.8 to 1.2	1.0	-	Changeable at any time	<a href="#">“CE-37” on page 1030</a>
CE-38	0xCE26	Slip filter time for calculating field weakening frequency	0 ms to 3000 ms	62	ms	Changeable at any time	<a href="#">“CE-38” on page 1030</a>
CE-39	0xCE27	Feedback speed filtering	0 ms to 8000 ms	50	ms	Changeable at any time	<a href="#">“CE-39” on page 1030</a>
CE-40	0xCE28	Flux linkage rising filter time	0 ms to 8000 ms	20	ms	Changeable at any time	<a href="#">“CE-40” on page 1030</a>
CE-42	0xCE2A	Feedback voltage filter time	0 ms to 3000 ms	5	ms	Changeable at any time	<a href="#">“CE-42” on page 1031</a>
CE-43	0xCE2B	Maximum demagnetization current of synchronous motor	0% to 500%	300	%	Changeable at any time	<a href="#">“CE-43” on page 1031</a>
CE-44	0xCE2C	Voltage outer loop lower limit coefficient	0 to 500	50	-	Changeable at any time	<a href="#">“CE-44” on page 1031</a>
CE-45	0xCE2D	Flux linkage derivative feedforward coefficient	0.0 to 1.5	1.0	-	Changeable at any time	<a href="#">“CE-45” on page 1031</a>
CE-46	0xCE2E	Flux linkage derivative feedforward filter time	0 ms to 3000 ms	6	ms	Changeable at any time	<a href="#">“CE-46” on page 1032</a>
CE-47	0xCE2F	Torque current rising filter time under energy conservation control	0 ms to 3000 ms	50	ms	Changeable at any time	<a href="#">“CE-47” on page 1032</a>
CE-48	0xCE30	Torque current falling filter time under energy conservation control	0 ms to 3000 ms	100	ms	Changeable at any time	<a href="#">“CE-48” on page 1032</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
CE-49	0xCE31	Flux linkage lower limit coefficient under energy conservation control	0.00 to 0.50	0.10	-	Changeable at any time	<a href="#">“CE-49” on page 1032</a>
CE-51	0xCE33	Pre-excitation current	1% to 200%	100	%	Changeable at any time	<a href="#">“CE-51” on page 1032</a>
CE-52	0xCE34	Pre-excitation time	1 ms to 30000 ms	1000	ms	Changeable at any time	<a href="#">“CE-52” on page 1033</a>
CE-53	0xCE35	Flux linkage closed-loop bandwidth frequency	0.0 Hz to 100.0 Hz	2.0	Hz	Changeable at any time	<a href="#">“CE-53” on page 1033</a>
CE-54	0xCE36	Feedback flux linkage filter time coefficient	0 to 200	4	-	Changeable at any time	<a href="#">“CE-54” on page 1033</a>
CE-55	0xCE37	Static output flux linkage filter time	0 ms to 5000 ms	10	ms	Changeable at any time	<a href="#">“CE-55” on page 1033</a>
CE-56	0xCE38	Current loop mode	0: ImCsr2 mode 1: Complex vector mode 2: 880 mode 3: No field weakening	1	-	Changeable only at stop	<a href="#">“CE-56” on page 1034</a>
CE-57	0xCE39	PI regulator proportional gain adaptation with load	0: Disabled 1: Enabled	0	-	Changeable only at stop	<a href="#">“CE-57” on page 1034</a>
CE-58	0xCE3A	Current loop damping	0.2 to 5.0	0.8	-	Changeable at any time	<a href="#">“CE-58” on page 1034</a>
CE-59	0xCE3B	Low-speed current loop Kp adjustment	0.1 to 10.0	1.0	-	Changeable at any time	<a href="#">“CE-59” on page 1034</a>
CE-60	0xCE3C	High-speed current loop Kp adjustment	0.1 to 10.0	1.0	-	Changeable at any time	<a href="#">“CE-60” on page 1034</a>
CE-61	0xCE3D	Low-speed current loop Ki adjustment	0.1 to 10.0	1.0	-	Changeable at any time	<a href="#">“CE-61” on page 1035</a>
CE-62	0xCE3E	High-speed current loop Ki adjustment	0.1 to 10.0	2.0	-	Changeable at any time	<a href="#">“CE-62” on page 1035</a>
CE-63	0xCE3F	D-axis current loop complex vector adjustment	0.1 to 10.0	1.0	-	Changeable at any time	<a href="#">“CE-63” on page 1035</a>
CE-64	0xCE40	Q-axis current loop complex vector adjustment	0.1 to 10.0	1.0	-	Changeable at any time	<a href="#">“CE-64” on page 1035</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
CE-65	0xCE41	Complex vector hysteresis frequency lower limit as a percentage of rated frequency	0% to CE-66	0	%	Changeable at any time	<a href="#">“CE-65” on page 1036</a>
CE-66	0xCE42	Complex vector hysteresis frequency upper limit as a percentage of rated frequency	CE-65 to 150%	0	%	Changeable at any time	<a href="#">“CE-66” on page 1036</a>
CE-67	0xCE43	ImCsr2 hysteresis switchover voltage upper limit as a percentage of saturation voltage	CE-68 to 95%	89	%	Changeable at any time	<a href="#">“CE-67” on page 1036</a>
CE-68	0xCE44	ImCsr2 hysteresis switchover voltage lower limit as a percentage of saturation voltage	60% to CE-67	79	%	Changeable at any time	<a href="#">“CE-68” on page 1036</a>
CE-69	0xCE45	ImCsr2 hysteresis switchover frequency hysteresis range as a percentage of rated frequency	1% to 30%	10	%	Changeable at any time	<a href="#">“CE-69” on page 1036</a>
CE-70	0xCE46	ImCsr2 hysteresis switchover frequency lower limit (below which the hysteresis condition does not take effect) as a percentage of the rated frequency	40% to 80%	60	%	Changeable at any time	<a href="#">“CE-70” on page 1037</a>
CE-71	0xCE47	ImCsr2 current loop Kss adjustment	0.1 to 10.0	1.0	-	Changeable at any time	<a href="#">“CE-71” on page 1037</a>
CE-72	0xCE48	Proportional gain adjustment coefficient corresponding to the maximum torque when proportional gain is adjusted with load	0.1 to 1.0	0.5	-	Changeable at any time	<a href="#">“CE-72” on page 1037</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
CE-73	0xCE49	Torque upper limit setpoint as a percentage of rated torque when proportional gain is adjusted with load	CE-74 to 300%	200	%	Changeable at any time	<a href="#">“CE-73” on page 1037</a>
CE-74	0xCE4A	Torque lower limit setpoint as a percentage of rated torque when proportional gain is adjusted with load	10% to CE-73	100	%	Changeable at any time	<a href="#">“CE-74” on page 1037</a>
CE-75	0xCE4B	Derivative feedforward adjustment	0.0 to 1.0	0.0	-	Changeable at any time	<a href="#">“CE-75” on page 1038</a>
CE-76	0xCE4C	Decoupling control start frequency as a percentage of rated frequency	20% to 150%	40	%	Changeable at any time	<a href="#">“CE-76” on page 1038</a>
CE-77	0xCE4D	Decoupling control filter time adjustment coefficient	0.1 to 3.0	1.0	-	Changeable at any time	<a href="#">“CE-77” on page 1038</a>
CE-78	0xCE4E	Decoupling control output adjustment coefficient	0.0 to 1.0	1.0	-	Changeable at any time	<a href="#">“CE-78” on page 1038</a>
CE-79	0xCE4F	CPC feedforward enable	0: Disabled 1: Enabled	0	-	Changeable at any time	<a href="#">“CE-79” on page 1038</a>
CE-80	0xCE50	Current loop auxiliary command word	Bit00: Complex vector angle limiting 0: Disabled 1: Enabled Bit01: Voltage angle limiting 0: Program internal limiting 1: Parameter setting Bit02: 0 by default 0: No lower limit on the excitation current is imposed during the dynamic process. 1: A lower limit on the excitation current is imposed during the dynamic process in ImCsr2 mode. Bit03–Bit15: Reserved (0 by default)	0	-	Changeable at any time	<a href="#">“CE-80” on page 1039</a>
CE-81	0xCE51	Voltage angle upper limit	90° to 180°	150	°	Changeable at any time	<a href="#">“CE-81” on page 1039</a>
CE-82	0xCE52	Voltage angle lower limit	0° to 90°	30	°	Changeable at any time	<a href="#">“CE-82” on page 1039</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
CE-83	0xCE53	Asynchronous motor D axis integral limit	0.500 to 1.000	0.707	-	Changeable at any time	<a href="#">“CE-83” on page 1039</a>
CE-84	0xCE54	Current loop carrier frequency upper limit	5.0 to 16.0	8.0	-	Changeable at any time	<a href="#">“CE-84” on page 1040</a>
CE-85	0xCE55	Droop enable	0 to 1	0	-	Changeable only at stop	<a href="#">“CE-85” on page 1040</a>
CE-86	0xCE56	Droop source	0: Line current 1: Torque reference 2: Speed adjustment output 3: Speed adjustment integral component	1	-	Changeable only at stop	<a href="#">“CE-86” on page 1040</a>
CE-87	0xCE57	Frequency reference droop coefficient	0.0% to 50.0%	0.0	%	Changeable at any time	<a href="#">“CE-87” on page 1040</a>
CE-88	0xCE58	FVC-SVC switchover mode	0: No switchover 1: Active switchover 2: Passive switchover (The AC drive switches to SVC mode upon detection of encoder wire breakage, and it switches back to FVC mode when the encoder recovers during stop and does not switch back to FVC mode when the encoder recovers during running.) 3: Passive switchover (The AC drive switches to SVC mode upon detection of encoder wire breakage, and it switches back to FVC mode when the encoder recovers during running or stop.)	0	-	Changeable only at stop	<a href="#">“CE-88” on page 1040</a>
CE-89	0xCE59	FVC-SVC switchover frequency	10% to 500%	50	%	Changeable only at stop	<a href="#">“CE-89” on page 1041</a>
CE-90	0xCE5A	FVC-SVC switchover hysteresis	10% to 100%	10	%	Changeable only at stop	<a href="#">“CE-90” on page 1041</a>
H0-00	0x8000	Code of active fault 1	0 to 65535	0	-	Unchangeable	<a href="#">“H0-00” on page 1041</a>
H0-01	0x8001	Subcode of active fault 1	0 to 65535	0	-	Unchangeable	<a href="#">“H0-01” on page 1041</a>
H0-02	0x8002	Information of active fault 1	0 to 65535	0	-	Unchangeable	<a href="#">“H0-02” on page 1042</a>
H0-03	0x8003	Code of active fault 2	0 to 65535	0	-	Unchangeable	<a href="#">“H0-03” on page 1042</a>
H0-04	0x8004	Subcode of active fault 2	0 to 65535	0	-	Unchangeable	<a href="#">“H0-04” on page 1042</a>
H0-05	0x8005	Information of active fault 2	0 to 65535	0	-	Unchangeable	<a href="#">“H0-05” on page 1042</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
H0-06	0x8006	Code of active fault 3	0 to 65535	0	-	Unchangeable	<a href="#">"H0-06" on page 1042</a>
H0-07	0x8007	Subcode of active fault 3	0 to 65535	0	-	Unchangeable	<a href="#">"H0-07" on page 1043</a>
H0-08	0x8008	Information of active fault 3	0 to 65535	0	-	Unchangeable	<a href="#">"H0-08" on page 1043</a>
H0-09	0x8009	Code of active fault 4	0 to 65535	0	-	Unchangeable	<a href="#">"H0-09" on page 1043</a>
H0-10	0x800A	Subcode of active fault 4	0 to 65535	0	-	Unchangeable	<a href="#">"H0-10" on page 1043</a>
H0-11	0x800B	Information of active fault 4	0 to 65535	0	-	Unchangeable	<a href="#">"H0-11" on page 1043</a>
H0-12	0x800C	Code of active fault 5	0 to 65535	0	-	Unchangeable	<a href="#">"H0-12" on page 1044</a>
H0-13	0x800D	Subcode of active fault 5	0 to 65535	0	-	Unchangeable	<a href="#">"H0-13" on page 1044</a>
H0-14	0x800E	Information of active fault 5	0 to 65535	0	-	Unchangeable	<a href="#">"H0-14" on page 1044</a>
H0-15	0x800F	Code of active fault 6	0 to 65535	0	-	Unchangeable	<a href="#">"H0-15" on page 1044</a>
H0-16	0x8010	Subcode of active fault 6	0 to 65535	0	-	Unchangeable	<a href="#">"H0-16" on page 1044</a>
H0-17	0x8011	Information of active fault 6	0 to 65535	0	-	Unchangeable	<a href="#">"H0-17" on page 1044</a>
H0-18	0x8012	Code of active limit 1	0 to 65535	0	-	Unchangeable	<a href="#">"H0-18" on page 1045</a>
H0-19	0x8013	Subcode of active limit 1	0 to 65535	0	-	Unchangeable	<a href="#">"H0-19" on page 1045</a>
H0-20	0x8014	Information of active limit 1	0 to 65535	0	-	Unchangeable	<a href="#">"H0-20" on page 1045</a>
H0-21	0x8015	Code of active limit 2	0 to 65535	0	-	Unchangeable	<a href="#">"H0-21" on page 1045</a>
H0-22	0x8016	Subcode of active limit 2	0 to 65535	0	-	Unchangeable	<a href="#">"H0-22" on page 1045</a>
H0-23	0x8017	Information of active limit 2	0 to 65535	0	-	Unchangeable	<a href="#">"H0-23" on page 1046</a>
H0-24	0x8018	Code of active limit 3	0 to 65535	0	-	Unchangeable	<a href="#">"H0-24" on page 1046</a>
H0-25	0x8019	Subcode of active limit 3	0 to 65535	0	-	Unchangeable	<a href="#">"H0-25" on page 1046</a>
H0-26	0x801A	Information of active limit 3	0 to 65535	0	-	Unchangeable	<a href="#">"H0-26" on page 1046</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
H0-27	0x801B	Code of active limit 4	0 to 65535	0	-	Unchangeable	<a href="#">“H0-27” on page 1046</a>
H0-28	0x801C	Subcode of active limit 4	0 to 65535	0	-	Unchangeable	<a href="#">“H0-28” on page 1047</a>
H0-29	0x801D	Information of active limit 4	0 to 65535	0	-	Unchangeable	<a href="#">“H0-29” on page 1047</a>
H0-30	0x801E	Code of active limit 5	0 to 65535	0	-	Unchangeable	<a href="#">“H0-30” on page 1047</a>
H0-31	0x801F	Subcode of active limit 5	0 to 65535	0	-	Unchangeable	<a href="#">“H0-31” on page 1047</a>
H0-32	0x8020	Information of active limit 5	0 to 65535	0	-	Unchangeable	<a href="#">“H0-32” on page 1047</a>
H0-33	0x8021	Code of active limit 6	0 to 65535	0	-	Unchangeable	<a href="#">“H0-33” on page 1048</a>
H0-34	0x8022	Subcode of active limit 6	0 to 65535	0	-	Unchangeable	<a href="#">“H0-34” on page 1048</a>
H0-35	0x8023	Information of active limit 6	0 to 65535	0	-	Unchangeable	<a href="#">“H0-35” on page 1048</a>
H0-36	0x8024	Code of active alarm 1	0 to 65535	0	-	Unchangeable	<a href="#">“H0-36” on page 1048</a>
H0-37	0x8025	Subcode of active alarm 1	0 to 65535	0	-	Unchangeable	<a href="#">“H0-37” on page 1048</a>
H0-38	0x8026	Information of active alarm 1	0 to 65535	0	-	Unchangeable	<a href="#">“H0-38” on page 1049</a>
H0-39	0x8027	Code of active alarm 2	0 to 65535	0	-	Unchangeable	<a href="#">“H0-39” on page 1049</a>
H0-40	0x8028	Subcode of active alarm 2	0 to 65535	0	-	Unchangeable	<a href="#">“H0-40” on page 1049</a>
H0-41	0x8029	Information of active alarm 2	0 to 65535	0	-	Unchangeable	<a href="#">“H0-41” on page 1049</a>
H0-42	0x802A	Code of active alarm 3	0 to 65535	0	-	Unchangeable	<a href="#">“H0-42” on page 1049</a>
H0-43	0x802B	Subcode of active alarm 3	0 to 65535	0	-	Unchangeable	<a href="#">“H0-43” on page 1049</a>
H0-44	0x802C	Information of active alarm 3	0 to 65535	0	-	Unchangeable	<a href="#">“H0-44” on page 1050</a>
H0-45	0x802D	Code of active alarm 4	0 to 65535	0	-	Unchangeable	<a href="#">“H0-45” on page 1050</a>
H0-46	0x802E	Subcode of active alarm 4	0 to 65535	0	-	Unchangeable	<a href="#">“H0-46” on page 1050</a>
H0-47	0x802F	Information of active alarm 4	0 to 65535	0	-	Unchangeable	<a href="#">“H0-47” on page 1050</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
H0-48	0x8030	Code of active alarm 5	0 to 65535	0	-	Unchangeable	<a href="#">“H0-48” on page 1050</a>
H0-49	0x8031	Subcode of active alarm 5	0 to 65535	0	-	Unchangeable	<a href="#">“H0-49” on page 1051</a>
H0-50	0x8032	Information of active alarm 5	0 to 65535	0	-	Unchangeable	<a href="#">“H0-50” on page 1051</a>
H0-51	0x8033	Code of active alarm 6	0 to 65535	0	-	Unchangeable	<a href="#">“H0-51” on page 1051</a>
H0-52	0x8034	Subcode of active alarm 6	0 to 65535	0	-	Unchangeable	<a href="#">“H0-52” on page 1051</a>
H0-53	0x8035	Information of active alarm 6	0 to 65535	0	-	Unchangeable	<a href="#">“H0-53” on page 1051</a>
H1-00	0x8100	Fault code of exceptions in group 1	0.0 to 199.9	0.0	-	Changeable only at stop	<a href="#">“H1-00” on page 1052</a>
H1-01	0x8101	Handling of exceptions in group 1	0: Coast to stop 1: Stop according to the stop mode 2: Continue to run 3: Run with power limit 4: Run with current limit 5: Ignore 6: No action	6	-	Changeable only at stop	<a href="#">“H1-01” on page 1052</a>
H1-02	0x8102	Fault code of exceptions in group 2	0.0 to 199.9	0.0	-	Changeable only at stop	<a href="#">“H1-02” on page 1052</a>
H1-03	0x8103	Handling of exceptions in group 2	Same as H1-01	6	-	Changeable only at stop	<a href="#">“H1-03” on page 1052</a>
H1-04	0x8104	Fault code of exceptions in group 3	0.0 to 199.9	0.0	-	Changeable only at stop	<a href="#">“H1-04” on page 1053</a>
H1-05	0x8105	Handling of exceptions in group 3	Same as H1-01	6	-	Changeable only at stop	<a href="#">“H1-05” on page 1053</a>
H1-06	0x8106	Fault code of exceptions in group 4	0.0 to 199.9	0.0	-	Changeable only at stop	<a href="#">“H1-06” on page 1053</a>
H1-07	0x8107	Handling of exceptions in group 4	Same as H1-01	6	-	Changeable only at stop	<a href="#">“H1-07” on page 1053</a>
H1-08	0x8108	Fault code of exceptions in group 5	0.0 to 199.9	0.0	-	Changeable only at stop	<a href="#">“H1-08” on page 1053</a>
H1-09	0x8109	Handling of exceptions in group 5	Same as H1-01	6	-	Changeable only at stop	<a href="#">“H1-09” on page 1054</a>



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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
H1-10	0x810A	Fault code of exceptions in group 6	0.0 to 199.9	0.0	-	Changeable only at stop	<a href="#">“H1-10” on page 1054</a>
H1-11	0x810B	Handling of exceptions in group 6	Same as H1-01	6	-	Changeable only at stop	<a href="#">“H1-11” on page 1054</a>
H1-12	0x810C	Fault code of exceptions in group 7	0.0 to 199.9	0.0	-	Changeable only at stop	<a href="#">“H1-12” on page 1054</a>
H1-13	0x810D	Handling of exceptions in group 7	Same as H1-01	6	-	Changeable only at stop	<a href="#">“H1-13” on page 1054</a>
H1-14	0x810E	Fault code of exceptions in group 8	0.0 to 199.9	0.0	-	Changeable only at stop	<a href="#">“H1-14” on page 1054</a>
H1-15	0x810F	Handling of exceptions in group 8	Same as H1-01	6	-	Changeable only at stop	<a href="#">“H1-15” on page 1055</a>
H1-16	0x8110	Fault code of exceptions in group 9	0.0 to 199.9	0.0	-	Changeable only at stop	<a href="#">“H1-16” on page 1055</a>
H1-17	0x8111	Handling of exceptions in group 9	Same as H1-01	6	-	Changeable only at stop	<a href="#">“H1-17” on page 1055</a>
H1-18	0x8112	Fault code of exceptions in group 10	0.0 to 199.9	0.0	-	Changeable only at stop	<a href="#">“H1-18” on page 1055</a>
H1-19	0x8113	Handling of exceptions in group 10	Same as H1-01	6	-	Changeable only at stop	<a href="#">“H1-19” on page 1055</a>
H2-00	0x8200	Source of external fault 1 (NO)	0: Inactive 1: Active Others: B connector	0	-	Changeable at any time	<a href="#">“H2-00” on page 1056</a>
H2-01	0x8201	Source of external fault 2 (NC)	Same as H2-00	1	-	Changeable at any time	<a href="#">“H2-01” on page 1056</a>
H2-02	0x8202	Source of external alarm 1	0: Reserved Others: B connector	0	-	Changeable at any time	<a href="#">“H2-02” on page 1056</a>
H2-03	0x8203	Source of external alarm 2	Same as H2-02	0	-	Changeable at any time	<a href="#">“H2-03” on page 1056</a>
H2-04	0x8204	Source of custom fault 1	0: Inactive 1: Active Others: B connector	0	-	Changeable at any time	<a href="#">“H2-04” on page 1057</a>
H2-05	0x8205	Source of custom fault 2	Same as H2-04	0	-	Changeable at any time	<a href="#">“H2-05” on page 1057</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
H2-06	0x8206	Source of custom fault 3	0: Reserved Others: B connector	0	-	Changeable at any time	<a href="#">“ H2-06” on page 1057</a>
H2-07	0x8207	Source of custom fault 4	0: Reserved Others: B connector	0	-	Changeable at any time	<a href="#">“ H2-07” on page 1057</a>
H2-08	0x8208	Source of custom alarm 1	Same as H2-07	0	-	Changeable at any time	<a href="#">“ H2-08” on page 1057</a>
H2-09	0x8209	Source of custom alarm 2	Same as H2-07	0	-	Changeable at any time	<a href="#">“ H2-09” on page 1058</a>
H2-10	0x820A	Source of custom alarm 3	Same as H2-07	0	-	Changeable at any time	<a href="#">“ H2-10” on page 1058</a>
H2-11	0x820B	Source of custom alarm 4	Same as H2-07	0	-	Changeable at any time	<a href="#">“ H2-11” on page 1058</a>
H2-12	0x820C	Auto reset enable	0 to 1	1	-	Changeable at any time	<a href="#">“ H2-12” on page 1058</a>
H2-15	0x820F	Auto reset disabled upon manual reset	0: Yes 1: No	1	-	Changeable at any time	<a href="#">“ H2-15” on page 1058</a>
H2-16	0x8210	Interval for clearing auto reset count	0 min to 6000 min	10	min	Changeable at any time	<a href="#">“ H2-16” on page 1059</a>
H2-17	0x8211	Active fault reset attempt count	0 to 65535	0	-	Unchangeable	<a href="#">“ H2-17” on page 1059</a>
H2-18	0x8212	Clearing upon fault reset count reach	0: Cleared 1: Not cleared	0	-	Changeable at any time	<a href="#">“ H2-18” on page 1059</a>
H2-20	0x8214	Code of non-resettable exception 1	0 to 200	0	-	Changeable at any time	<a href="#">“ H2-20” on page 1059</a>
H2-21	0x8215	Subcode of non-resettable exception 1	0 to 9	0	-	Changeable at any time	<a href="#">“ H2-21” on page 1059</a>
H2-22	0x8216	Code of non-resettable exception 2	0 to 200	0	-	Changeable at any time	<a href="#">“ H2-22” on page 1060</a>
H2-23	0x8217	Subcode of non-resettable exception 2	0 to 9	0	-	Changeable at any time	<a href="#">“ H2-23” on page 1060</a>
H2-24	0x8218	Code of non-resettable exception 3	0 to 200	0	-	Changeable at any time	<a href="#">“ H2-24” on page 1060</a>
H2-25	0x8219	Subcode of non-resettable exception 3	0 to 9	0	-	Changeable at any time	<a href="#">“ H2-25” on page 1060</a>
H2-26	0x821A	Code of non-resettable exception 4	0 to 200	0	-	Changeable at any time	<a href="#">“ H2-26” on page 1060</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
H2-27	0x821B	Subcode of non-resettable exception 4	0 to 9	0	-	Changeable at any time	<a href="#">“ H2-27” on page 1061</a>
H2-28	0x821C	Code of non-resettable exception 5	0 to 200	0	-	Changeable at any time	<a href="#">“ H2-28” on page 1061</a>
H2-29	0x821D	Subcode of non-resettable exception 5	0 to 9	0	-	Changeable at any time	<a href="#">“ H2-29” on page 1061</a>
H2-30	0x821E	Code of non-resettable exception 6	0 to 200	0	-	Changeable at any time	<a href="#">“ H2-30” on page 1061</a>
H2-31	0x821F	Subcode of non-resettable exception 6	0 to 9	0	-	Changeable at any time	<a href="#">“ H2-31” on page 1061</a>
H2-32	0x8220	Code of non-resettable exception 7	0 to 200	0	-	Changeable at any time	<a href="#">“ H2-32” on page 1061</a>
H2-33	0x8221	Subcode of non-resettable exception 7	0 to 9	0	-	Changeable at any time	<a href="#">“ H2-33” on page 1062</a>
H2-34	0x8222	Code of non-resettable exception 8	0 to 200	0	-	Changeable at any time	<a href="#">“ H2-34” on page 1062</a>
H2-35	0x8223	Subcode of non-resettable exception 8	0 to 9	0	-	Changeable at any time	<a href="#">“ H2-35” on page 1062</a>
H2-36	0x8224	Code of non-resettable exception 9	0 to 200	0	-	Changeable at any time	<a href="#">“ H2-36” on page 1062</a>
H2-37	0x8225	Subcode of non-resettable exception 9	0 to 9	0	-	Changeable at any time	<a href="#">“ H2-37” on page 1062</a>
H2-38	0x8226	Code of non-resettable exception 10	0 to 200	0	-	Changeable at any time	<a href="#">“ H2-38” on page 1063</a>
H2-39	0x8227	Subcode of non-resettable exception 10	0 to 9	0	-	Changeable at any time	<a href="#">“ H2-39” on page 1063</a>
H2-42	0x822A	Restart after auto reset	0 to 1	0	-	Changeable at any time	<a href="#">“ H2-42” on page 1063</a>
H2-43	0x822B	Waiting time of restart after auto reset	0.0s to 600.0s	0.5	s	Changeable at any time	<a href="#">“ H2-43” on page 1063</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
H2-44	0x822C	Forced flying start during auto restart	0 to 1	0	-	Changeable at any time	<a href="#">“ H2-44” on page 1063</a>
H2-45	0x822D	Source of exceptions that allow restart	0: Whitelist 1: Blacklist	1	-	Changeable at any time	<a href="#">“ H2-45” on page 1064</a>
H2-46	0x822E	Code of specified exception 1	0 to 200	0	-	Changeable at any time	<a href="#">“ H2-46” on page 1064</a>
H2-47	0x822F	Subcode of specified exception 1	0 to 9	0	-	Changeable at any time	<a href="#">“ H2-47” on page 1064</a>
H2-48	0x8230	Code of specified exception 2	0 to 200	0	-	Changeable at any time	<a href="#">“ H2-48” on page 1064</a>
H2-49	0x8231	Subcode of specified exception 2	0 to 9	0	-	Changeable at any time	<a href="#">“ H2-49” on page 1064</a>
H2-50	0x8232	Code of specified exception 3	0 to 200	0	-	Changeable at any time	<a href="#">“ H2-50” on page 1065</a>
H2-51	0x8233	Subcode of specified exception 3	0 to 9	0	-	Changeable at any time	<a href="#">“ H2-51” on page 1065</a>
H2-52	0x8234	Code of specified exception 4	0 to 200	0	-	Changeable at any time	<a href="#">“ H2-52” on page 1065</a>
H2-53	0x8235	Subcode of specified exception 4	0 to 9	0	-	Changeable at any time	<a href="#">“ H2-53” on page 1065</a>
H2-54	0x8236	Code of specified exception 5	0 to 200	0	-	Changeable at any time	<a href="#">“ H2-54” on page 1065</a>
H2-55	0x8237	Subcode of specified exception 5	0 to 9	0	-	Changeable at any time	<a href="#">“ H2-55” on page 1066</a>
H2-56	0x8238	Code of specified exception 6	0 to 200	0	-	Changeable at any time	<a href="#">“ H2-56” on page 1066</a>
H2-57	0x8239	Subcode of specified exception 6	0 to 9	0	-	Changeable at any time	<a href="#">“ H2-57” on page 1066</a>
H3-00	0x8300	Code of active fault 1	0 to 65535	0	-	Unchangeable	<a href="#">“ H3-00” on page 1066</a>
H3-01	0x8301	Subcode of active fault 1	0 to 65535	0	-	Unchangeable	<a href="#">“ H3-01” on page 1066</a>
H3-02	0x8302	Information of active fault 1	0 to 65535	0	-	Unchangeable	<a href="#">“ H3-02” on page 1067</a>
H3-03	0x8303	Self diagnosis information 1	0 to 65535	0	-	Unchangeable	<a href="#">“ H3-03” on page 1067</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
H3-04	0x8304	Self diagnosis information 2	0 to 65535	0	-	Unchangeable	<a href="#">“H3-04” on page 1067</a>
H3-05	0x8305	Self diagnosis information 3	0 to 65535	0	-	Unchangeable	<a href="#">“H3-05” on page 1067</a>
H3-06	0x8306	Self diagnosis information 4	0 to 65535	0	-	Unchangeable	<a href="#">“H3-06” on page 1067</a>
H3-07	0x8307	Code of active fault 2	0 to 65535	0	-	Unchangeable	<a href="#">“H3-07” on page 1068</a>
H3-08	0x8308	Subcode of active fault 2	0 to 65535	0	-	Unchangeable	<a href="#">“H3-08” on page 1068</a>
H3-09	0x8309	Information of active fault 2	0 to 65535	0	-	Unchangeable	<a href="#">“H3-09” on page 1068</a>
H3-10	0x830A	Self diagnosis information 1	0 to 65535	0	-	Unchangeable	<a href="#">“H3-10” on page 1068</a>
H3-11	0x830B	Self diagnosis information 2	0 to 65535	0	-	Unchangeable	<a href="#">“H3-11” on page 1068</a>
H3-12	0x830C	Self diagnosis information 3	0 to 65535	0	-	Unchangeable	<a href="#">“H3-12” on page 1068</a>
H3-13	0x830D	Self diagnosis information 4	0 to 65535	0	-	Unchangeable	<a href="#">“H3-13” on page 1069</a>
H3-14	0x830E	Code of active fault 3	0 to 65535	0	-	Unchangeable	<a href="#">“H3-14” on page 1069</a>
H3-15	0x830F	Subcode of active fault 3	0 to 65535	0	-	Unchangeable	<a href="#">“H3-15” on page 1069</a>
H3-16	0x8310	Information of active fault 3	0 to 65535	0	-	Unchangeable	<a href="#">“H3-16” on page 1069</a>
H3-17	0x8311	Self diagnosis information 1	0 to 65535	0	-	Unchangeable	<a href="#">“H3-17” on page 1069</a>
H3-18	0x8312	Self diagnosis information 2	0 to 65535	0	-	Unchangeable	<a href="#">“H3-18” on page 1070</a>
H3-19	0x8313	Self diagnosis information 3	0 to 65535	0	-	Unchangeable	<a href="#">“H3-19” on page 1070</a>
H3-20	0x8314	Self diagnosis information 4	0 to 65535	0	-	Unchangeable	<a href="#">“H3-20” on page 1070</a>
H3-21	0x8315	Code of active fault 4	0 to 65535	0	-	Unchangeable	<a href="#">“H3-21” on page 1070</a>
H3-22	0x8316	Subcode of active fault 4	0 to 65535	0	-	Unchangeable	<a href="#">“H3-22” on page 1070</a>
H3-23	0x8317	Information of active fault 4	0 to 65535	0	-	Unchangeable	<a href="#">“H3-23” on page 1071</a>
H3-24	0x8318	Self diagnosis information 1	0 to 65535	0	-	Unchangeable	<a href="#">“H3-24” on page 1071</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
H3-25	0x8319	Self diagnosis information 2	0 to 65535	0	-	Unchangeable	<a href="#">“H3-25” on page 1071</a>
H3-26	0x831A	Self diagnosis information 3	0 to 65535	0	-	Unchangeable	<a href="#">“H3-26” on page 1071</a>
H3-27	0x831B	Self diagnosis information 4	0 to 65535	0	-	Unchangeable	<a href="#">“H3-27” on page 1071</a>
H3-28	0x831C	Code of active fault 5	0 to 65535	0	-	Unchangeable	<a href="#">“H3-28” on page 1072</a>
H3-29	0x831D	Subcode of active fault 5	0 to 65535	0	-	Unchangeable	<a href="#">“H3-29” on page 1072</a>
H3-30	0x831E	Information of active fault 5	0 to 65535	0	-	Unchangeable	<a href="#">“H3-30” on page 1072</a>
H3-31	0x831F	Self diagnosis information 1	0 to 65535	0	-	Unchangeable	<a href="#">“H3-31” on page 1072</a>
H3-32	0x8320	Self diagnosis information 2	0 to 65535	0	-	Unchangeable	<a href="#">“H3-32” on page 1072</a>
H3-33	0x8321	Self diagnosis information 3	0 to 65535	0	-	Unchangeable	<a href="#">“H3-33” on page 1073</a>
H3-34	0x8322	Self diagnosis information 4	0 to 65535	0	-	Unchangeable	<a href="#">“H3-34” on page 1073</a>
H3-35	0x8323	Code of active fault 6	0 to 65535	0	-	Unchangeable	<a href="#">“H3-35” on page 1073</a>
H3-36	0x8324	Subcode of active fault 6	0 to 65535	0	-	Unchangeable	<a href="#">“H3-36” on page 1073</a>
H3-37	0x8325	Information of active fault 6	0 to 65535	0	-	Unchangeable	<a href="#">“H3-37” on page 1073</a>
H3-38	0x8326	Self diagnosis information 1	0 to 65535	0	-	Unchangeable	<a href="#">“H3-38” on page 1073</a>
H3-39	0x8327	Self diagnosis information 2	0 to 65535	0	-	Unchangeable	<a href="#">“H3-39” on page 1074</a>
H3-40	0x8328	Self diagnosis information 3	0 to 65535	0	-	Unchangeable	<a href="#">“H3-40” on page 1074</a>
H3-41	0x8329	Self diagnosis information 4	0 to 65535	0	-	Unchangeable	<a href="#">“H3-41” on page 1074</a>
H3-42	0x832A	Frequency upon the active fault	0.00 Hz to 655.35 Hz	0.00	Hz	Unchangeable	<a href="#">“H3-42” on page 1074</a>
H3-43	0x832B	Current upon the active fault	0.00 A to 655.35 A	0.00	A	Unchangeable	<a href="#">“H3-43” on page 1074</a>
H3-44	0x832C	Bus voltage upon the active fault	0.0 V to 6553.5 V	0.0	V	Unchangeable	<a href="#">“H3-44” on page 1075</a>
H3-45	0x832D	Input terminal state upon the active fault	0x0 to 0xFFFF	0x0	-	Unchangeable	<a href="#">“H3-45” on page 1075</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
H3-46	0x832E	Output terminal state upon the active fault	0x0 to 0xFFFF	0x0	-	Unchangeable	<a href="#">“ H3-46” on page 1075</a>
H3-47	0x832F	AC drive state upon the active fault	0 to 65535	0	-	Unchangeable	<a href="#">“ H3-47” on page 1075</a>
H3-48	0x8330	Power-on duration upon the active fault	0 min to 65535 min	0	min	Unchangeable	<a href="#">“ H3-48” on page 1075</a>
H3-49	0x8331	Running duration upon the active fault	0.0 min to 6553.5 min	0.0	min	Unchangeable	<a href="#">“ H3-49” on page 1076</a>
H3-50	0x8332	Status word A upon the active fault	0x0 to 0xFFFF	0x0	-	Unchangeable	<a href="#">“ H3-50” on page 1076</a>
H3-51	0x8333	Status word B upon the active fault	0x0 to 0xFFFF	0x0	-	Unchangeable	<a href="#">“ H3-51” on page 1076</a>
H3-52	0x8334	Command word upon the active fault	0x0 to 0xFFFF	0x0	-	Unchangeable	<a href="#">“ H3-52” on page 1076</a>
H4-00	0x8400	Code of the latest fault 1	0 to 65535	0	-	Unchangeable	<a href="#">“ H4-00” on page 1076</a>
H4-01	0x8401	Subcode of the latest fault 1	0 to 65535	0	-	Unchangeable	<a href="#">“ H4-01” on page 1077</a>
H4-02	0x8402	Information of the latest fault 1	0 to 65535	0	-	Unchangeable	<a href="#">“ H4-02” on page 1077</a>
H4-03	0x8403	Self diagnosis information 1	0 to 65535	0	-	Unchangeable	<a href="#">“ H4-03” on page 1077</a>
H4-04	0x8404	Self diagnosis information 2	0 to 65535	0	-	Unchangeable	<a href="#">“ H4-04” on page 1077</a>
H4-05	0x8405	Self diagnosis information 3	0 to 65535	0	-	Unchangeable	<a href="#">“ H4-05” on page 1077</a>
H4-06	0x8406	Self diagnosis information 4	0 to 65535	0	-	Unchangeable	<a href="#">“ H4-06” on page 1078</a>
H4-07	0x8407	Code of the latest fault 2	0 to 65535	0	-	Unchangeable	<a href="#">“ H4-07” on page 1078</a>
H4-08	0x8408	Subcode of the latest fault 2	0 to 65535	0	-	Unchangeable	<a href="#">“ H4-08” on page 1078</a>
H4-09	0x8409	Information of the latest fault 2	0 to 65535	0	-	Unchangeable	<a href="#">“ H4-09” on page 1078</a>
H4-10	0x840A	Self diagnosis information 1	0 to 65535	0	-	Unchangeable	<a href="#">“ H4-10” on page 1078</a>
H4-11	0x840B	Self diagnosis information 2	0 to 65535	0	-	Unchangeable	<a href="#">“ H4-11” on page 1079</a>
H4-12	0x840C	Self diagnosis information 3	0 to 65535	0	-	Unchangeable	<a href="#">“ H4-12” on page 1079</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
H4-13	0x840D	Self diagnosis information 4	0 to 65535	0	-	Unchangeable	<a href="#">“ H4-13” on page 1079</a>
H4-14	0x840E	Code of the latest fault 3	0 to 65535	0	-	Unchangeable	<a href="#">“ H4-14” on page 1079</a>
H4-15	0x840F	Subcode of the latest fault 3	0 to 65535	0	-	Unchangeable	<a href="#">“ H4-15” on page 1079</a>
H4-16	0x8410	Information of the latest fault 3	0 to 65535	0	-	Unchangeable	<a href="#">“ H4-16” on page 1080</a>
H4-17	0x8411	Self diagnosis information 1	0 to 65535	0	-	Unchangeable	<a href="#">“ H4-17” on page 1080</a>
H4-18	0x8412	Self diagnosis information 2	0 to 65535	0	-	Unchangeable	<a href="#">“ H4-18” on page 1080</a>
H4-19	0x8413	Self diagnosis information 3	0 to 65535	0	-	Unchangeable	<a href="#">“ H4-19” on page 1080</a>
H4-20	0x8414	Self diagnosis information 4	0 to 65535	0	-	Unchangeable	<a href="#">“ H4-20” on page 1080</a>
H4-21	0x8415	Code of the latest fault 4	0 to 65535	0	-	Unchangeable	<a href="#">“ H4-21” on page 1080</a>
H4-22	0x8416	Subcode of the latest fault 4	0 to 65535	0	-	Unchangeable	<a href="#">“ H4-22” on page 1081</a>
H4-23	0x8417	Information of the latest fault 4	0 to 65535	0	-	Unchangeable	<a href="#">“ H4-23” on page 1081</a>
H4-24	0x8418	Self diagnosis information 1	0 to 65535	0	-	Unchangeable	<a href="#">“ H4-24” on page 1081</a>
H4-25	0x8419	Self diagnosis information 2	0 to 65535	0	-	Unchangeable	<a href="#">“ H4-25” on page 1081</a>
H4-26	0x841A	Self diagnosis information 3	0 to 65535	0	-	Unchangeable	<a href="#">“ H4-26” on page 1081</a>
H4-27	0x841B	Self diagnosis information 4	0 to 65535	0	-	Unchangeable	<a href="#">“ H4-27” on page 1082</a>
H4-28	0x841C	Code of the latest fault 5	0 to 65535	0	-	Unchangeable	<a href="#">“ H4-28” on page 1082</a>
H4-29	0x841D	Subcode of the latest fault 5	0 to 65535	0	-	Unchangeable	<a href="#">“ H4-29” on page 1082</a>
H4-30	0x841E	Information of the latest fault 5	0 to 65535	0	-	Unchangeable	<a href="#">“ H4-30” on page 1082</a>
H4-31	0x841F	Self diagnosis information 1	0 to 65535	0	-	Unchangeable	<a href="#">“ H4-31” on page 1082</a>
H4-32	0x8420	Self diagnosis information 2	0 to 65535	0	-	Unchangeable	<a href="#">“ H4-32” on page 1083</a>
H4-33	0x8421	Self diagnosis information 3	0 to 65535	0	-	Unchangeable	<a href="#">“ H4-33” on page 1083</a>



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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
H4-34	0x8422	Self diagnosis information 4	0 to 65535	0	-	Unchangeable	<a href="#">“H4-34” on page 1083</a>
H4-35	0x8423	Code of the latest fault 6	0 to 65535	0	-	Unchangeable	<a href="#">“H4-35” on page 1083</a>
H4-36	0x8424	Subcode of the latest fault 6	0 to 65535	0	-	Unchangeable	<a href="#">“H4-36” on page 1083</a>
H4-37	0x8425	Information of the latest fault 6	0 to 65535	0	-	Unchangeable	<a href="#">“H4-37” on page 1084</a>
H4-38	0x8426	Self diagnosis information 1	0 to 65535	0	-	Unchangeable	<a href="#">“H4-38” on page 1084</a>
H4-39	0x8427	Self diagnosis information 2	0 to 65535	0	-	Unchangeable	<a href="#">“H4-39” on page 1084</a>
H4-40	0x8428	Self diagnosis information 3	0 to 65535	0	-	Unchangeable	<a href="#">“H4-40” on page 1084</a>
H4-41	0x8429	Self diagnosis information 4	0 to 65535	0	-	Unchangeable	<a href="#">“H4-41” on page 1084</a>
H4-42	0x842A	Frequency upon the latest fault	0.00 Hz to 655.35 Hz	0.00	Hz	Unchangeable	<a href="#">“H4-42” on page 1085</a>
H4-43	0x842B	Current upon the latest fault	0.00 A to 655.35 A	0.00	A	Unchangeable	<a href="#">“H4-43” on page 1085</a>
H4-44	0x842C	Bus voltage upon the latest fault	0.0 V to 6553.5 V	0.0	V	Unchangeable	<a href="#">“H4-44” on page 1085</a>
H4-45	0x842D	Input terminal state upon the latest fault	0x0 to 0xFFFF	0x0	-	Unchangeable	<a href="#">“H4-45” on page 1085</a>
H4-46	0x842E	Output terminal state upon the latest fault	0x0 to 0xFFFF	0x0	-	Unchangeable	<a href="#">“H4-46” on page 1085</a>
H4-47	0x842F	AC drive state upon the latest fault	0 to 65535	0	-	Unchangeable	<a href="#">“H4-47” on page 1085</a>
H4-48	0x8430	Power-on duration upon the latest fault	0 min to 65535 min	0	min	Unchangeable	<a href="#">“H4-48” on page 1086</a>
H4-49	0x8431	Running duration upon the latest fault	0.0 min to 6553.5 min	0.0	min	Unchangeable	<a href="#">“H4-49” on page 1086</a>
H4-50	0x8432	Status word A upon the latest fault	0x0 to 0xFFFF	0x0	-	Unchangeable	<a href="#">“H4-50” on page 1086</a>
H4-51	0x8433	Status word B upon the latest fault	0x0 to 0xFFFF	0x0	-	Unchangeable	<a href="#">“H4-51” on page 1086</a>
H4-52	0x8434	Command word upon the latest fault	0x0 to 0xFFFF	0x0	-	Unchangeable	<a href="#">“H4-52” on page 1086</a>
H5-00	0x8500	Code of the second latest fault 1	0 to 65535	0	-	Unchangeable	<a href="#">“H5-00” on page 1087</a>
H5-01	0x8501	Subcode of the second latest fault 1	0 to 65535	0	-	Unchangeable	<a href="#">“H5-01” on page 1087</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
H5-02	0x8502	Information of the second latest fault 1	0 to 65535	0	-	Unchangeable	<a href="#">“H5-02” on page 1087</a>
H5-03	0x8503	Self diagnosis information 1	0 to 65535	0	-	Unchangeable	<a href="#">“H5-03” on page 1087</a>
H5-04	0x8504	Self diagnosis information 2	0 to 65535	0	-	Unchangeable	<a href="#">“H5-04” on page 1087</a>
H5-05	0x8505	Self diagnosis information 3	0 to 65535	0	-	Unchangeable	<a href="#">“H5-05” on page 1088</a>
H5-06	0x8506	Self diagnosis information 4	0 to 65535	0	-	Unchangeable	<a href="#">“H5-06” on page 1088</a>
H5-07	0x8507	Code of the second latest fault 2	0 to 65535	0	-	Unchangeable	<a href="#">“H5-07” on page 1088</a>
H5-08	0x8508	Subcode of the second latest fault 2	0 to 65535	0	-	Unchangeable	<a href="#">“H5-08” on page 1088</a>
H5-09	0x8509	Information of the second latest fault 2	0 to 65535	0	-	Unchangeable	<a href="#">“H5-09” on page 1088</a>
H5-10	0x850A	Self diagnosis information 1	0 to 65535	0	-	Unchangeable	<a href="#">“H5-10” on page 1089</a>
H5-11	0x850B	Self diagnosis information 2	0 to 65535	0	-	Unchangeable	<a href="#">“H5-11” on page 1089</a>
H5-12	0x850C	Self diagnosis information 3	0 to 65535	0	-	Unchangeable	<a href="#">“H5-12” on page 1089</a>
H5-13	0x850D	Self diagnosis information 4	0 to 65535	0	-	Unchangeable	<a href="#">“H5-13” on page 1089</a>
H5-14	0x850E	Code of the second latest fault 3	0 to 65535	0	-	Unchangeable	<a href="#">“H5-14” on page 1089</a>
H5-15	0x850F	Subcode of the second latest fault 3	0 to 65535	0	-	Unchangeable	<a href="#">“H5-15” on page 1090</a>
H5-16	0x8510	Information of the second latest fault 3	0 to 65535	0	-	Unchangeable	<a href="#">“H5-16” on page 1090</a>
H5-17	0x8511	Self diagnosis information 1	0 to 65535	0	-	Unchangeable	<a href="#">“H5-17” on page 1090</a>
H5-18	0x8512	Self diagnosis information 2	0 to 65535	0	-	Unchangeable	<a href="#">“H5-18” on page 1090</a>
H5-19	0x8513	Self diagnosis information 3	0 to 65535	0	-	Unchangeable	<a href="#">“H5-19” on page 1090</a>
H5-20	0x8514	Self diagnosis information 4	0 to 65535	0	-	Unchangeable	<a href="#">“H5-20” on page 1091</a>
H5-21	0x8515	Code of the second latest fault 4	0 to 65535	0	-	Unchangeable	<a href="#">“H5-21” on page 1091</a>
H5-22	0x8516	Subcode of the second latest fault 4	0 to 65535	0	-	Unchangeable	<a href="#">“H5-22” on page 1091</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
H5-23	0x8517	Information of the second latest fault 4	0 to 65535	0	-	Unchangeable	<a href="#">“ H5-23” on page 1091</a>
H5-24	0x8518	Self diagnosis information 1	0 to 65535	0	-	Unchangeable	<a href="#">“ H5-24” on page 1091</a>
H5-25	0x8519	Self diagnosis information 2	0 to 65535	0	-	Unchangeable	<a href="#">“ H5-25” on page 1092</a>
H5-26	0x851A	Self diagnosis information 3	0 to 65535	0	-	Unchangeable	<a href="#">“ H5-26” on page 1092</a>
H5-27	0x851B	Self diagnosis information 4	0 to 65535	0	-	Unchangeable	<a href="#">“ H5-27” on page 1092</a>
H5-28	0x851C	Code of the second latest fault 5	0 to 65535	0	-	Unchangeable	<a href="#">“ H5-28” on page 1092</a>
H5-29	0x851D	Subcode of the second latest fault 5	0 to 65535	0	-	Unchangeable	<a href="#">“ H5-29” on page 1092</a>
H5-30	0x851E	Information of the second latest fault 5	0 to 65535	0	-	Unchangeable	<a href="#">“ H5-30” on page 1092</a>
H5-31	0x851F	Self diagnosis information 1	0 to 65535	0	-	Unchangeable	<a href="#">“ H5-31” on page 1093</a>
H5-32	0x8520	Self diagnosis information 2	0 to 65535	0	-	Unchangeable	<a href="#">“ H5-32” on page 1093</a>
H5-33	0x8521	Self diagnosis information 3	0 to 65535	0	-	Unchangeable	<a href="#">“ H5-33” on page 1093</a>
H5-34	0x8522	Self diagnosis information 4	0 to 65535	0	-	Unchangeable	<a href="#">“ H5-34” on page 1093</a>
H5-35	0x8523	Code of the second latest fault 6	0 to 65535	0	-	Unchangeable	<a href="#">“ H5-35” on page 1093</a>
H5-36	0x8524	Subcode of the second latest fault 6	0 to 65535	0	-	Unchangeable	<a href="#">“ H5-36” on page 1094</a>
H5-37	0x8525	Information of the second latest fault 6	0 to 65535	0	-	Unchangeable	<a href="#">“ H5-37” on page 1094</a>
H5-38	0x8526	Self diagnosis information 1	0 to 65535	0	-	Unchangeable	<a href="#">“ H5-38” on page 1094</a>
H5-39	0x8527	Self diagnosis information 2	0 to 65535	0	-	Unchangeable	<a href="#">“ H5-39” on page 1094</a>
H5-40	0x8528	Self diagnosis information 3	0 to 65535	0	-	Unchangeable	<a href="#">“ H5-40” on page 1094</a>
H5-41	0x8529	Self diagnosis information 4	0 to 65535	0	-	Unchangeable	<a href="#">“ H5-41” on page 1095</a>
H5-42	0x852A	Frequency upon the second latest fault	0.00 Hz to 655.35 Hz	0.00	Hz	Unchangeable	<a href="#">“ H5-42” on page 1095</a>
H5-43	0x852B	Current upon the second latest fault	0.00 A to 655.35 A	0.00	A	Unchangeable	<a href="#">“ H5-43” on page 1095</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
H5-44	0x852C	Bus voltage upon the second latest fault	0.0 V to 6553.5 V	0.0	V	Unchangeable	<a href="#">“H5-44” on page 1095</a>
H5-45	0x852D	Input terminal state upon the second latest fault	0x0 to 0xFFFF	0x0	-	Unchangeable	<a href="#">“H5-45” on page 1095</a>
H5-46	0x852E	Output terminal state upon the second latest fault	0x0 to 0xFFFF	0x0	-	Unchangeable	<a href="#">“H5-46” on page 1096</a>
H5-47	0x852F	AC drive state upon the second latest fault	0 to 65535	0	-	Unchangeable	<a href="#">“H5-47” on page 1096</a>
H5-48	0x8530	Power-on duration upon the second latest fault	0 min to 65535 min	0	min	Unchangeable	<a href="#">“H5-48” on page 1096</a>
H5-49	0x8531	Running duration upon the second latest fault	0.0 min to 6553.5 min	0.0	min	Unchangeable	<a href="#">“H5-49” on page 1096</a>
H5-50	0x8532	Status word A upon the second latest fault	0x0 to 0xFFFF	0x0	-	Unchangeable	<a href="#">“H5-50” on page 1096</a>
H5-51	0x8533	Status word B upon the second latest fault	0x0 to 0xFFFF	0x0	-	Unchangeable	<a href="#">“H5-51” on page 1097</a>
H5-52	0x8534	Command word upon the second latest fault	0x0 to 0xFFFF	0x0	-	Unchangeable	<a href="#">“H5-52” on page 1097</a>
H6-00	0x8600	Code of the third latest fault 1	0 to 65535	0	-	Unchangeable	<a href="#">“H6-00” on page 1097</a>
H6-01	0x8601	Subcode of the third latest fault 1	0 to 65535	0	-	Unchangeable	<a href="#">“H6-01” on page 1097</a>
H6-02	0x8602	Information of the third latest fault 1	0 to 65535	0	-	Unchangeable	<a href="#">“H6-02” on page 1097</a>
H6-03	0x8603	Self diagnosis information 1	0 to 65535	0	-	Unchangeable	<a href="#">“H6-03” on page 1098</a>
H6-04	0x8604	Self diagnosis information 2	0 to 65535	0	-	Unchangeable	<a href="#">“H6-04” on page 1098</a>
H6-05	0x8605	Self diagnosis information 3	0 to 65535	0	-	Unchangeable	<a href="#">“H6-05” on page 1098</a>
H6-06	0x8606	Self diagnosis information 4	0 to 65535	0	-	Unchangeable	<a href="#">“H6-06” on page 1098</a>
H6-07	0x8607	Code of the third latest fault 2	0 to 65535	0	-	Unchangeable	<a href="#">“H6-07” on page 1098</a>
H6-08	0x8608	Subcode of the third latest fault 2	0 to 65535	0	-	Unchangeable	<a href="#">“H6-08” on page 1099</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
H6-09	0x8609	Information of the third latest fault 2	0 to 65535	0	-	Unchangeable	<a href="#">“ H6-09” on page 1099</a>
H6-10	0x860A	Self diagnosis information 1	0 to 65535	0	-	Unchangeable	<a href="#">“ H6-10” on page 1099</a>
H6-11	0x860B	Self diagnosis information 2	0 to 65535	0	-	Unchangeable	<a href="#">“ H6-11” on page 1099</a>
H6-12	0x860C	Self diagnosis information 3	0 to 65535	0	-	Unchangeable	<a href="#">“ H6-12” on page 1099</a>
H6-13	0x860D	Self diagnosis information 4	0 to 65535	0	-	Unchangeable	<a href="#">“ H6-13” on page 1099</a>
H6-14	0x860E	Code of the third latest fault 3	0 to 65535	0	-	Unchangeable	<a href="#">“ H6-14” on page 1100</a>
H6-15	0x860F	Subcode of the third latest fault 3	0 to 65535	0	-	Unchangeable	<a href="#">“ H6-15” on page 1100</a>
H6-16	0x8610	Information of the third latest fault 3	0 to 65535	0	-	Unchangeable	<a href="#">“ H6-16” on page 1100</a>
H6-17	0x8611	Self diagnosis information 1	0 to 65535	0	-	Unchangeable	<a href="#">“ H6-17” on page 1100</a>
H6-18	0x8612	Self diagnosis information 2	0 to 65535	0	-	Unchangeable	<a href="#">“ H6-18” on page 1100</a>
H6-19	0x8613	Self diagnosis information 3	0 to 65535	0	-	Unchangeable	<a href="#">“ H6-19” on page 1101</a>
H6-20	0x8614	Self diagnosis information 4	0 to 65535	0	-	Unchangeable	<a href="#">“ H6-20” on page 1101</a>
H6-21	0x8615	Code of the third latest fault 4	0 to 65535	0	-	Unchangeable	<a href="#">“ H6-21” on page 1101</a>
H6-22	0x8616	Subcode of the third latest fault 4	0 to 65535	0	-	Unchangeable	<a href="#">“ H6-22” on page 1101</a>
H6-23	0x8617	Information of the third latest fault 4	0 to 65535	0	-	Unchangeable	<a href="#">“ H6-23” on page 1101</a>
H6-24	0x8618	Self diagnosis information 1	0 to 65535	0	-	Unchangeable	<a href="#">“ H6-24” on page 1102</a>
H6-25	0x8619	Self diagnosis information 2	0 to 65535	0	-	Unchangeable	<a href="#">“ H6-25” on page 1102</a>
H6-26	0x861A	Self diagnosis information 3	0 to 65535	0	-	Unchangeable	<a href="#">“ H6-26” on page 1102</a>
H6-27	0x861B	Self diagnosis information 4	0 to 65535	0	-	Unchangeable	<a href="#">“ H6-27” on page 1102</a>
H6-28	0x861C	Code of the third latest fault 5	0 to 65535	0	-	Unchangeable	<a href="#">“ H6-28” on page 1102</a>
H6-29	0x861D	Subcode of the third latest fault 5	0 to 65535	0	-	Unchangeable	<a href="#">“ H6-29” on page 1103</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
H6-30	0x861E	Information of the third latest fault 5	0 to 65535	0	-	Unchangeable	<a href="#">“H6-30” on page 1103</a>
H6-31	0x861F	Self diagnosis information 1	0 to 65535	0	-	Unchangeable	<a href="#">“H6-31” on page 1103</a>
H6-32	0x8620	Self diagnosis information 2	0 to 65535	0	-	Unchangeable	<a href="#">“H6-32” on page 1103</a>
H6-33	0x8621	Self diagnosis information 3	0 to 65535	0	-	Unchangeable	<a href="#">“H6-33” on page 1103</a>
H6-34	0x8622	Self diagnosis information 4	0 to 65535	0	-	Unchangeable	<a href="#">“H6-34” on page 1104</a>
H6-35	0x8623	Code of the third latest fault 6	0 to 65535	0	-	Unchangeable	<a href="#">“H6-35” on page 1104</a>
H6-36	0x8624	Subcode of the third latest fault 6	0 to 65535	0	-	Unchangeable	<a href="#">“H6-36” on page 1104</a>
H6-37	0x8625	Information of the third latest fault 6	0 to 65535	0	-	Unchangeable	<a href="#">“H6-37” on page 1104</a>
H6-38	0x8626	Self diagnosis information 1	0 to 65535	0	-	Unchangeable	<a href="#">“H6-38” on page 1104</a>
H6-39	0x8627	Self diagnosis information 2	0 to 65535	0	-	Unchangeable	<a href="#">“H6-39” on page 1104</a>
H6-40	0x8628	Self diagnosis information 3	0 to 65535	0	-	Unchangeable	<a href="#">“H6-40” on page 1105</a>
H6-41	0x8629	Self diagnosis information 4	0 to 65535	0	-	Unchangeable	<a href="#">“H6-41” on page 1105</a>
H6-42	0x862A	Frequency upon the third latest fault	0.00 Hz to 655.35 Hz	0.00	Hz	Unchangeable	<a href="#">“H6-42” on page 1105</a>
H6-43	0x862B	Current upon the third latest fault	0.00 A to 655.35 A	0.00	A	Unchangeable	<a href="#">“H6-43” on page 1105</a>
H6-44	0x862C	Bus voltage upon the third latest fault	0.0 V to 6553.5 V	0.0	V	Unchangeable	<a href="#">“H6-44” on page 1105</a>
H6-45	0x862D	Input terminal state upon the third latest fault	0x0 to 0xFFFF	0x0	-	Unchangeable	<a href="#">“H6-45” on page 1106</a>
H6-46	0x862E	Output terminal state upon the third latest fault	0x0 to 0xFFFF	0x0	-	Unchangeable	<a href="#">“H6-46” on page 1106</a>
H6-47	0x862F	AC drive state upon the third latest fault	0 to 65535	0	-	Unchangeable	<a href="#">“H6-47” on page 1106</a>
H6-48	0x8630	Power-on duration upon the third latest fault	0 min to 65535 min	0	min	Unchangeable	<a href="#">“H6-48” on page 1106</a>
H6-49	0x8631	Running duration upon the third latest fault	0.0 min to 6553.5 min	0.0	min	Unchangeable	<a href="#">“H6-49” on page 1106</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
H6-50	0x8632	Status word A upon the third latest fault	0x0 to 0xFFFF	0x0	-	Unchangeable	<a href="#">“ H6-50” on page 1107</a>
H6-51	0x8633	Status word B upon the third latest fault	0x0 to 0xFFFF	0x0	-	Unchangeable	<a href="#">“ H6-51” on page 1107</a>
H6-52	0x8634	Command word upon the third latest fault	0x0 to 0xFFFF	0x0	-	Unchangeable	<a href="#">“ H6-52” on page 1107</a>
H7-00	0x8700	Code of the fourth latest fault 1	0 to 65535	0	-	Unchangeable	<a href="#">“ H7-00” on page 1107</a>
H7-01	0x8701	Subcode of the fourth latest fault 1	0 to 65535	0	-	Unchangeable	<a href="#">“ H7-01” on page 1107</a>
H7-02	0x8702	Information of the fourth latest fault 1	0 to 65535	0	-	Unchangeable	<a href="#">“ H7-02” on page 1108</a>
H7-03	0x8703	Self diagnosis information 1	0 to 65535	0	-	Unchangeable	<a href="#">“ H7-03” on page 1108</a>
H7-04	0x8704	Self diagnosis information 2	0 to 65535	0	-	Unchangeable	<a href="#">“ H7-04” on page 1108</a>
H7-05	0x8705	Self diagnosis information 3	0 to 65535	0	-	Unchangeable	<a href="#">“ H7-05” on page 1108</a>
H7-06	0x8706	Self diagnosis information 4	0 to 65535	0	-	Unchangeable	<a href="#">“ H7-06” on page 1108</a>
H7-07	0x8707	Code of the fourth latest fault 2	0 to 65535	0	-	Unchangeable	<a href="#">“ H7-07” on page 1109</a>
H7-08	0x8708	Subcode of the fourth latest fault 2	0 to 65535	0	-	Unchangeable	<a href="#">“ H7-08” on page 1109</a>
H7-09	0x8709	Information of the fourth latest fault 2	0 to 65535	0	-	Unchangeable	<a href="#">“ H7-09” on page 1109</a>
H7-10	0x870A	Self diagnosis information 1	0 to 65535	0	-	Unchangeable	<a href="#">“ H7-10” on page 1109</a>
H7-11	0x870B	Self diagnosis information 2	0 to 65535	0	-	Unchangeable	<a href="#">“ H7-11” on page 1109</a>
H7-12	0x870C	Self diagnosis information 3	0 to 65535	0	-	Unchangeable	<a href="#">“ H7-12” on page 1110</a>
H7-13	0x870D	Self diagnosis information 4	0 to 65535	0	-	Unchangeable	<a href="#">“ H7-13” on page 1110</a>
H7-14	0x870E	Code of the third latest fault 3	0 to 65535	0	-	Unchangeable	<a href="#">“ H7-14” on page 1110</a>
H7-15	0x870F	Subcode of the third latest fault 3	0 to 65535	0	-	Unchangeable	<a href="#">“ H7-15” on page 1110</a>
H7-16	0x8710	Information of the third latest fault 3	0 to 65535	0	-	Unchangeable	<a href="#">“ H7-16” on page 1110</a>
H7-17	0x8711	Self diagnosis information 1	0 to 65535	0	-	Unchangeable	<a href="#">“ H7-17” on page 1111</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
H7-18	0x8712	Self diagnosis information 2	0 to 65535	0	-	Unchangeable	<a href="#">“ H7-18” on page 1111</a>
H7-19	0x8713	Self diagnosis information 3	0 to 65535	0	-	Unchangeable	<a href="#">“ H7-19” on page 1111</a>
H7-20	0x8714	Self diagnosis information 4	0 to 65535	0	-	Unchangeable	<a href="#">“ H7-20” on page 1111</a>
H7-21	0x8715	Code of the fourth latest fault 4	0 to 65535	0	-	Unchangeable	<a href="#">“ H7-21” on page 1111</a>
H7-22	0x8716	Subcode of the fourth latest fault 4	0 to 65535	0	-	Unchangeable	<a href="#">“ H7-22” on page 1111</a>
H7-23	0x8717	Information of the fourth latest fault 4	0 to 65535	0	-	Unchangeable	<a href="#">“ H7-23” on page 1112</a>
H7-24	0x8718	Self diagnosis information 1	0 to 65535	0	-	Unchangeable	<a href="#">“ H7-24” on page 1112</a>
H7-25	0x8719	Self diagnosis information 2	0 to 65535	0	-	Unchangeable	<a href="#">“ H7-25” on page 1112</a>
H7-26	0x871A	Self diagnosis information 3	0 to 65535	0	-	Unchangeable	<a href="#">“ H7-26” on page 1112</a>
H7-27	0x871B	Self diagnosis information 4	0 to 65535	0	-	Unchangeable	<a href="#">“ H7-27” on page 1112</a>
H7-28	0x871C	Code of the fourth latest fault 5	0 to 65535	0	-	Unchangeable	<a href="#">“ H7-28” on page 1113</a>
H7-29	0x871D	Subcode of the fourth latest fault 5	0 to 65535	0	-	Unchangeable	<a href="#">“ H7-29” on page 1113</a>
H7-30	0x871E	Information of the fourth latest fault 5	0 to 65535	0	-	Unchangeable	<a href="#">“ H7-30” on page 1113</a>
H7-31	0x871F	Self diagnosis information 1	0 to 65535	0	-	Unchangeable	<a href="#">“ H7-31” on page 1113</a>
H7-32	0x8720	Self diagnosis information 2	0 to 65535	0	-	Unchangeable	<a href="#">“ H7-32” on page 1113</a>
H7-33	0x8721	Self diagnosis information 3	0 to 65535	0	-	Unchangeable	<a href="#">“ H7-33” on page 1114</a>
H7-34	0x8722	Self diagnosis information 4	0 to 65535	0	-	Unchangeable	<a href="#">“ H7-34” on page 1114</a>
H7-35	0x8723	Code of the fourth latest fault 6	0 to 65535	0	-	Unchangeable	<a href="#">“ H7-35” on page 1114</a>
H7-36	0x8724	Subcode of the fourth latest fault 6	0 to 65535	0	-	Unchangeable	<a href="#">“ H7-36” on page 1114</a>
H7-37	0x8725	Information of the fourth latest fault 6	0 to 65535	0	-	Unchangeable	<a href="#">“ H7-37” on page 1114</a>
H7-38	0x8726	Self diagnosis information 1	0 to 65535	0	-	Unchangeable	<a href="#">“ H7-38” on page 1115</a>



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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
H7-39	0x8727	Self diagnosis information 2	0 to 65535	0	-	Unchangeable	<a href="#">“ H7-39” on page 1115</a>
H7-40	0x8728	Self diagnosis information 3	0 to 65535	0	-	Unchangeable	<a href="#">“ H7-40” on page 1115</a>
H7-41	0x8729	Self diagnosis information 4	0 to 65535	0	-	Unchangeable	<a href="#">“ H7-41” on page 1115</a>
H7-42	0x872A	Frequency upon the fourth latest fault	0.00 Hz to 655.35 Hz	0.00	Hz	Unchangeable	<a href="#">“ H7-42” on page 1115</a>
H7-43	0x872B	Current upon the fourth latest fault	0.00 A to 655.35 A	0.00	A	Unchangeable	<a href="#">“ H7-43” on page 1116</a>
H7-44	0x872C	Bus voltage upon the fourth latest fault	0.0 V to 6553.5 V	0.0	V	Unchangeable	<a href="#">“ H7-44” on page 1116</a>
H7-45	0x872D	Input terminal state upon the fourth latest fault	0x0 to 0xFFFF	0x0	-	Unchangeable	<a href="#">“ H7-45” on page 1116</a>
H7-46	0x872E	Output terminal state upon the fourth latest fault	0x0 to 0xFFFF	0x0	-	Unchangeable	<a href="#">“ H7-46” on page 1116</a>
H7-47	0x872F	AC drive state upon the fourth latest fault	0 to 65535	0	-	Unchangeable	<a href="#">“ H7-47” on page 1116</a>
H7-48	0x8730	Power-on duration upon the fourth latest fault	0 min to 65535 min	0	min	Unchangeable	<a href="#">“ H7-48” on page 1116</a>
H7-49	0x8731	Running duration upon the fourth latest fault	0.0 min to 6553.5 min	0.0	min	Unchangeable	<a href="#">“ H7-49” on page 1117</a>
H7-50	0x8732	Status word A upon the fourth latest fault	0x0 to 0xFFFF	0x0	-	Unchangeable	<a href="#">“ H7-50” on page 1117</a>
H7-51	0x8733	Status word B upon the fourth latest fault	0x0 to 0xFFFF	0x0	-	Unchangeable	<a href="#">“ H7-51” on page 1117</a>
H7-52	0x8734	Command word upon the fourth latest fault	0x0 to 0xFFFF	0x0	-	Unchangeable	<a href="#">“ H7-52” on page 1117</a>
H8-00	0x8800	Code of the fifth latest fault 1	0 to 65535	0	-	Unchangeable	<a href="#">“ H8-00” on page 1118</a>
H8-01	0x8801	Subcode of the fifth latest fault 1	0 to 65535	0	-	Unchangeable	<a href="#">“ H8-01” on page 1118</a>
H8-02	0x8802	Information of the fifth latest fault 1	0 to 65535	0	-	Unchangeable	<a href="#">“ H8-02” on page 1118</a>
H8-03	0x8803	Self diagnosis information 1	0 to 65535	0	-	Unchangeable	<a href="#">“ H8-03” on page 1118</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
H8-04	0x8804	Self diagnosis information 2	0 to 65535	0	-	Unchangeable	<a href="#">“H8-04” on page 1118</a>
H8-05	0x8805	Self diagnosis information 3	0 to 65535	0	-	Unchangeable	<a href="#">“H8-05” on page 1119</a>
H8-06	0x8806	Self diagnosis information 4	0 to 65535	0	-	Unchangeable	<a href="#">“H8-06” on page 1119</a>
H8-07	0x8807	Code of the fifth latest fault 2	0 to 65535	0	-	Unchangeable	<a href="#">“H8-07” on page 1119</a>
H8-08	0x8808	Subcode of the fifth latest fault 2	0 to 65535	0	-	Unchangeable	<a href="#">“H8-08” on page 1119</a>
H8-09	0x8809	Information of the fifth latest fault 2	0 to 65535	0	-	Unchangeable	<a href="#">“H8-09” on page 1119</a>
H8-10	0x880A	Self diagnosis information 1	0 to 65535	0	-	Unchangeable	<a href="#">“H8-10” on page 1119</a>
H8-11	0x880B	Self diagnosis information 2	0 to 65535	0	-	Unchangeable	<a href="#">“H8-11” on page 1120</a>
H8-12	0x880C	Self diagnosis information 3	0 to 65535	0	-	Unchangeable	<a href="#">“H8-12” on page 1120</a>
H8-13	0x880D	Self diagnosis information 4	0 to 65535	0	-	Unchangeable	<a href="#">“H8-13” on page 1120</a>
H8-14	0x880E	Code of the fifth latest fault 3	0 to 65535	0	-	Unchangeable	<a href="#">“H8-14” on page 1120</a>
H8-15	0x880F	Subcode of the fifth latest fault 3	0 to 65535	0	-	Unchangeable	<a href="#">“H8-15” on page 1120</a>
H8-16	0x8810	Information of the fifth latest fault 3	0 to 65535	0	-	Unchangeable	<a href="#">“H8-16” on page 1121</a>
H8-17	0x8811	Self diagnosis information 1	0 to 65535	0	-	Unchangeable	<a href="#">“H8-17” on page 1121</a>
H8-18	0x8812	Self diagnosis information 2	0 to 65535	0	-	Unchangeable	<a href="#">“H8-18” on page 1121</a>
H8-19	0x8813	Self diagnosis information 3	0 to 65535	0	-	Unchangeable	<a href="#">“H8-19” on page 1121</a>
H8-20	0x8814	Self diagnosis information 4	0 to 65535	0	-	Unchangeable	<a href="#">“H8-20” on page 1121</a>
H8-21	0x8815	Code of the fifth latest fault 4	0 to 65535	0	-	Unchangeable	<a href="#">“H8-21” on page 1122</a>
H8-22	0x8816	Subcode of the fifth latest fault 4	0 to 65535	0	-	Unchangeable	<a href="#">“H8-22” on page 1122</a>
H8-23	0x8817	Information of the fifth latest fault 4	0 to 65535	0	-	Unchangeable	<a href="#">“H8-23” on page 1122</a>
H8-24	0x8818	Self diagnosis information 1	0 to 65535	0	-	Unchangeable	<a href="#">“H8-24” on page 1122</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
H8-25	0x8819	Self diagnosis information 2	0 to 65535	0	-	Unchangeable	<a href="#">“ H8-25” on page 1122</a>
H8-26	0x881A	Self diagnosis information 3	0 to 65535	0	-	Unchangeable	<a href="#">“ H8-26” on page 1123</a>
H8-27	0x881B	Self diagnosis information 4	0 to 65535	0	-	Unchangeable	<a href="#">“ H8-27” on page 1123</a>
H8-28	0x881C	Code of the fifth latest fault 5	0 to 65535	0	-	Unchangeable	<a href="#">“ H8-28” on page 1123</a>
H8-29	0x881D	Subcode of the fifth latest fault 5	0 to 65535	0	-	Unchangeable	<a href="#">“ H8-29” on page 1123</a>
H8-30	0x881E	Information of the fifth latest fault 5	0 to 65535	0	-	Unchangeable	<a href="#">“ H8-30” on page 1123</a>
H8-31	0x881F	Self diagnosis information 1	0 to 65535	0	-	Unchangeable	<a href="#">“ H8-31” on page 1124</a>
H8-32	0x8820	Self diagnosis information 2	0 to 65535	0	-	Unchangeable	<a href="#">“ H8-32” on page 1124</a>
H8-33	0x8821	Self diagnosis information 3	0 to 65535	0	-	Unchangeable	<a href="#">“ H8-33” on page 1124</a>
H8-34	0x8822	Self diagnosis information 4	0 to 65535	0	-	Unchangeable	<a href="#">“ H8-34” on page 1124</a>
H8-35	0x8823	Code of the fifth latest fault 6	0 to 65535	0	-	Unchangeable	<a href="#">“ H8-35” on page 1124</a>
H8-36	0x8824	Subcode of the fifth latest fault 6	0 to 65535	0	-	Unchangeable	<a href="#">“ H8-36” on page 1124</a>
H8-37	0x8825	Information of the fifth latest fault 6	0 to 65535	0	-	Unchangeable	<a href="#">“ H8-37” on page 1125</a>
H8-38	0x8826	Self diagnosis information 1	0 to 65535	0	-	Unchangeable	<a href="#">“ H8-38” on page 1125</a>
H8-39	0x8827	Self diagnosis information 2	0 to 65535	0	-	Unchangeable	<a href="#">“ H8-39” on page 1125</a>
H8-40	0x8828	Self diagnosis information 3	0 to 65535	0	-	Unchangeable	<a href="#">“ H8-40” on page 1125</a>
H8-41	0x8829	Self diagnosis information 4	0 to 65535	0	-	Unchangeable	<a href="#">“ H8-41” on page 1125</a>
H8-42	0x882A	Frequency upon the fifth latest fault	0.00 Hz to 655.35 Hz	0.00	Hz	Unchangeable	<a href="#">“ H8-42” on page 1126</a>
H8-43	0x882B	Current upon the fifth latest fault	0.00 A to 655.35 A	0.00	A	Unchangeable	<a href="#">“ H8-43” on page 1126</a>
H8-44	0x882C	Bus voltage upon the fifth latest fault	0.0 V to 6553.5 V	0.0	V	Unchangeable	<a href="#">“ H8-44” on page 1126</a>
H8-45	0x882D	Input terminal state upon the fifth latest fault	0x0 to 0xFFFF	0x0	-	Unchangeable	<a href="#">“ H8-45” on page 1126</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
H8-46	0x882E	Output terminal state upon the fifth latest fault	0x0 to 0xFFFF	0x0	-	Unchangeable	<a href="#">“H8-46” on page 1126</a>
H8-47	0x882F	AC drive state upon the fifth latest fault	0 to 65535	0	-	Unchangeable	<a href="#">“H8-47” on page 1127</a>
H8-48	0x8830	Power-on duration upon the fifth latest fault	0 min to 65535 min	0	min	Unchangeable	<a href="#">“H8-48” on page 1127</a>
H8-49	0x8831	Running duration upon the fifth latest fault	0.0 min to 6553.5 min	0.0	min	Unchangeable	<a href="#">“H8-49” on page 1127</a>
H8-50	0x8832	Status word A upon the fifth latest fault	0x0 to 0xFFFF	0x0	-	Unchangeable	<a href="#">“H8-50” on page 1127</a>
H8-51	0x8833	Status word B upon the fifth latest fault	0x0 to 0xFFFF	0x0	-	Unchangeable	<a href="#">“H8-51” on page 1127</a>
H8-52	0x8834	Command word upon the fifth latest fault	0x0 to 0xFFFF	0x0	-	Unchangeable	<a href="#">“H8-52” on page 1128</a>
U0-00	0x7000	Running frequency	0.00 Hz to 500.00 Hz	0.00	Hz	Unchangeable	<a href="#">“U0-00” on page 1128</a>
U0-01	0x7001	Frequency reference	0.00 Hz to 500.00 Hz	0.00	Hz	Unchangeable	<a href="#">“U0-01” on page 1128</a>
U0-02	0x7002	Bus voltage	0.0 V to 6553.5 V	0.0	V	Unchangeable	<a href="#">“U0-02” on page 1128</a>
U0-03	0x7003	Output voltage	0 V to 65535 V	0	V	Unchangeable	<a href="#">“U0-03” on page 1128</a>
U0-04	0x7004	Output current	0.00 A to 655.35 A	0.00	A	Unchangeable	<a href="#">“U0-04” on page 1129</a>
U0-05	0x7005	Output power	-3276.8 kW to +3276.7 kW	0.0	kW	Unchangeable	<a href="#">“U0-05” on page 1129</a>
U0-06	0x7006	Output torque	-3276.8% to +3276.7%	0.0	%	Unchangeable	<a href="#">“U0-06” on page 1129</a>
U0-07	0x7007	DI state	0x0 to 0xFFFF	0x0	-	Unchangeable	<a href="#">“U0-07” on page 1129</a>
U0-08	0x7008	DO state	0x0 to 0xFFFF	0x0	-	Unchangeable	<a href="#">“U0-08” on page 1129</a>
U0-09	0x7009	AI1 voltage	-10.57 V to +10.57 V	0.00	V	Unchangeable	<a href="#">“U0-09” on page 1130</a>
U0-10	0x700A	AI2 voltage	-10.57 V to +10.57 V	0.00	V	Unchangeable	<a href="#">“U0-10” on page 1130</a>
U0-11	0x700B	AI3 voltage	-10.57 V to +10.57 V	0.00	V	Unchangeable	<a href="#">“U0-11” on page 1130</a>
U0-12	0x700C	Count value	0 to 65535	0	-	Unchangeable	<a href="#">“U0-12” on page 1130</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
U0-13	0x700D	Length value	0 to 65535	0	-	Unchangeable	<a href="#">"U0-13" on page 1130</a>
U0-14	0x700E	Load speed	0 RPM to 65535 RPM	0	RPM	Unchangeable	<a href="#">"U0-14" on page 1131</a>
U0-15	0x700F	PID reference	0 to 65535	0	-	Unchangeable	<a href="#">"U0-15" on page 1131</a>
U0-16	0x7010	PID feedback	0 to 65535	0	-	Unchangeable	<a href="#">"U0-16" on page 1131</a>
U0-17	0x7011	PLC stage	0 to 65535	0	-	Unchangeable	<a href="#">"U0-17" on page 1131</a>
U0-18	0x7012	Pulse input frequency	0.00 kHz to 100.00 kHz	0.00	kHz	Unchangeable	<a href="#">"U0-18" on page 1131</a>
U0-19	0x7013	Feedback speed	-500 Hz to +500.00 Hz	0.00	Hz	Unchangeable	<a href="#">"U0-19" on page 1131</a>
U0-20	0x7014	Remaining running duration	0.0 min to 65535.0 min	0.0	min	Unchangeable	<a href="#">"U0-20" on page 1132</a>
U0-21	0x7015	AI1 voltage before correction	-10.57 V to +10.570 V	0.000	V	Unchangeable	<a href="#">"U0-21" on page 1132</a>
U0-22	0x7016	AI2 voltage before correction	-10.57 V to +10.570 V	0.000	V	Unchangeable	<a href="#">"U0-22" on page 1132</a>
U0-23	0x7017	AI3 voltage before correction	-10.57 V to +10.570 V	0.000	V	Unchangeable	<a href="#">"U0-23" on page 1132</a>
U0-24	0x7018	Motor speed	0 RPM to 65535 RPM	0	RPM	Unchangeable	<a href="#">"U0-24" on page 1132</a>
U0-25	0x7019	Current power-on duration	0 min to 65535 min	0	min	Unchangeable	<a href="#">"U0-25" on page 1133</a>
U0-26	0x701A	Current running duration	0.0 min to 6553.5 min	0.0	min	Unchangeable	<a href="#">"U0-26" on page 1133</a>
U0-27	0x701B	Pulse input frequency	0 Hz to 65535 Hz	0	Hz	Unchangeable	<a href="#">"U0-27" on page 1133</a>
U0-28	0x701C	Communication reference	-100% to +100.00%	0.00	%	Unchangeable	<a href="#">"U0-28" on page 1133</a>
U0-29	0x701D	Encoder feedback speed	-500 Hz to +500.00 Hz	0.00	Hz	Unchangeable	<a href="#">"U0-29" on page 1133</a>
U0-30	0x701E	Main frequency X	-500 Hz to +500.00 Hz	0.00	Hz	Unchangeable	<a href="#">"U0-30" on page 1134</a>
U0-31	0x701F	Auxiliary frequency Y	-500 Hz to +500.00 Hz	0.00	Hz	Unchangeable	<a href="#">"U0-31" on page 1134</a>
U0-32	0x7020	Any memory address	0 to 65535	0	-	Unchangeable	<a href="#">"U0-32" on page 1134</a>
U0-33	0x7021	Synchronous motor rotor position	0.0° to 6553.5°	0.0	°	Unchangeable	<a href="#">"U0-33" on page 1134</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
U0-34	0x7022	AI3 temperature mode - motor temperature	0°C to 200°C	0	°C	Unchangeable	<a href="#">"U0-34" on page 1134</a>
U0-35	0x7023	Target torque	-200% to +200.0%	0.0	%	Unchangeable	<a href="#">"U0-35" on page 1135</a>
U0-36	0x7024	Resolver position	0 to 65535	0	-	Unchangeable	<a href="#">"U0-36" on page 1135</a>
U0-37	0x7025	Power factor angle	0.0° to 6553.5°	0.0	°	Unchangeable	<a href="#">"U0-37" on page 1135</a>
U0-38	0x7026	ABZ position	0 to 65535	0	-	Unchangeable	<a href="#">"U0-38" on page 1135</a>
U0-39	0x7027	Target voltage upon V/f separation	0 V to 65535 V	0	V	Unchangeable	<a href="#">"U0-39" on page 1135</a>
U0-40	0x7028	Output voltage upon V/f separation	0 V to 65535 V	0	V	Unchangeable	<a href="#">"U0-40" on page 1136</a>
U0-45	0x702D	Fault subcode	0 to 65535	0	-	Unchangeable	<a href="#">"U0-45" on page 1136</a>
U0-46	0x702E	Limit code	0.0 to 6553.5	0.0	-	Unchangeable	<a href="#">"U0-46" on page 1136</a>
U0-50	0x7032	0.5 ms A hold-up time	0.0 ms to 6553.5 ms	0.0	ms	Unchangeable	<a href="#">"U0-50" on page 1136</a>
U0-51	0x7033	0.5 ms B hold-up time	0.0 ms to 6553.5 ms	0.0	ms	Unchangeable	<a href="#">"U0-51" on page 1136</a>
U0-52	0x7034	0.5 ms C hold-up time	0.0 ms to 6553.5 ms	0.0	ms	Unchangeable	<a href="#">"U0-52" on page 1136</a>
U0-53	0x7035	0.5 ms D hold-up time	0.0 ms to 6553.5 ms	0.0	ms	Unchangeable	<a href="#">"U0-53" on page 1137</a>
U0-54	0x7036	0.5 ms A execution time	0.0 ms to 6553.5 ms	0.0	ms	Unchangeable	<a href="#">"U0-54" on page 1137</a>
U0-55	0x7037	0.5 ms B execution time	0.0 ms to 6553.5 ms	0.0	ms	Unchangeable	<a href="#">"U0-55" on page 1137</a>
U0-56	0x7038	0.5 ms C execution time	0.0 ms to 6553.5 ms	0.0	ms	Unchangeable	<a href="#">"U0-56" on page 1137</a>
U0-57	0x7039	0.5 ms D execution time	0.0 ms to 6553.5 ms	0.0	ms	Unchangeable	<a href="#">"U0-57" on page 1137</a>
U0-58	0x703A	Motor running revolution count	0 to 65535	0	-	Unchangeable	<a href="#">"U0-58" on page 1138</a>
U0-59	0x703B	Frequency reference	-100% to +100.00%	0.00	%	Unchangeable	<a href="#">"U0-59" on page 1138</a>
U0-60	0x703C	Running frequency	-100% to +100.00%	0.00	%	Unchangeable	<a href="#">"U0-60" on page 1138</a>
U0-61	0x703D	AC drive state	0 to 65535	0	-	Unchangeable	<a href="#">"U0-61" on page 1138</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
U0-62	0x703E	Code of active fault	0 to 65535	0	-	Unchangeable	<a href="#">"U0-62" on page 1138</a>
U0-63	0x703F	Torque sent in point-to-point communication	0.00% to 6553.50%	0.00	%	Unchangeable	<a href="#">"U0-63" on page 1139</a>
U0-64	0x7040	Number of slaves in master-slave control	0 to 65535	0	-	Unchangeable	<a href="#">"U0-64" on page 1139</a>
U0-65	0x7041	Torque upper limit	-2000% to +2000.0%	0.0	%	Unchangeable	<a href="#">"U0-65" on page 1139</a>
U0-66	0x7042	Model of communication expansion card	0 to 65535	0	-	Unchangeable	<a href="#">"U0-66" on page 1139</a>
U0-67	0x7043	Software version of communication expansion card	0 to 65535	0	-	Unchangeable	<a href="#">"U0-67" on page 1139</a>
U0-68	0x7044	AC drive state on PROFIBUS DP card	0 to 65535	0	-	Unchangeable	<a href="#">"U0-68" on page 1140</a>
U0-69	0x7045	Frequency sent to PROFIBUS DP card/ 0.01 Hz	0.00 Hz to 655.35 Hz	0.00	Hz	Unchangeable	<a href="#">"U0-69" on page 1140</a>
U0-70	0x7046	Motor speed sent to PROFIBUS DP card/ RPM	0 RPM to 65535 RPM	0	RPM	Unchangeable	<a href="#">"U0-70" on page 1140</a>
U0-71	0x7047	Communication card-specific current	0.0 A to 6553.5 A	0.0	A	Unchangeable	<a href="#">"U0-71" on page 1140</a>
U0-72	0x7048	Communication card error state	0 to 65535	0	-	Unchangeable	<a href="#">"U0-72" on page 1140</a>
U0-73	0x7049	Motor SN	0 to 65535	0	-	Unchangeable	<a href="#">"U0-73" on page 1141</a>
U0-74	0x704A	AC drive output torque	-200% to +200.0%	0.0	%	Unchangeable	<a href="#">"U0-74" on page 1141</a>
U0-76	0x704C	Low-order bits of accumulative power consumption	0.0 kW·h to 6553.5 kW·h	0.0	kW·h	Unchangeable	<a href="#">"U0-76" on page 1141</a>
U0-77	0x704D	High-order bits of accumulative power consumption	0 kW·h to 65535 kW·h	0	kW·h	Unchangeable	<a href="#">"U0-77" on page 1141</a>
U0-78	0x704E	Linear speed	0 m/min to 65535 m/min	0	m/min	Unchangeable	<a href="#">"U0-78" on page 1141</a>
U0-80	0x7050	EtherCAT slave name	0 to 65535	0	-	Unchangeable	<a href="#">"U0-80" on page 1141</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
U0-81	0x7051	EtherCAT slave alias	0 to 65535	0	-	Unchangeable	<a href="#">"U0-81" on page 1142</a>
U0-82	0x7052	EtherCAT ESM transmission error code	0 to 65535	0	-	Unchangeable	<a href="#">"U0-82" on page 1142</a>
U0-83	0x7053	EtherCAT XML file version	0 to 65535	0	-	Unchangeable	<a href="#">"U0-83" on page 1142</a>
U0-84	0x7054	EtherCAT synchronization loss count	0 to 65535	0	-	Unchangeable	<a href="#">"U0-84" on page 1142</a>
U0-85	0x7055	Maximum errors and invalid frames of EtherCAT port 0 per unit time	0 to 65535	0	-	Unchangeable	<a href="#">"U0-85" on page 1142</a>
U0-86	0x7056	Maximum errors and invalid frames of EtherCAT port 1 per unit time	0 to 65535	0	-	Unchangeable	<a href="#">"U0-86" on page 1143</a>
U0-87	0x7057	Maximum forwarding errors of EtherCAT port per unit time	0 to 65535	0	-	Unchangeable	<a href="#">"U0-87" on page 1143</a>
U0-88	0x7058	Maximum error count of EtherCAT data frame processing unit per unit time	0 to 65535	0	-	Unchangeable	<a href="#">"U0-88" on page 1143</a>
U0-89	0x7059	Maximum link loss of EtherCAT port per unit time	0 to 65535	0	-	Unchangeable	<a href="#">"U0-89" on page 1143</a>
U0-90	0x705A	DI function selection display 1	0 to 65535	0	-	Unchangeable	<a href="#">"U0-90" on page 1143</a>
U0-91	0x705B	DI function selection display 2	0 to 65535	0	-	Unchangeable	<a href="#">"U0-91" on page 1144</a>
U0-92	0x705C	DI function selection display 3	0 to 65535	0	-	Unchangeable	<a href="#">"U0-92" on page 1144</a>
U0-93	0x705D	DI function selection display 4	0 to 65535	0	-	Unchangeable	<a href="#">"U0-93" on page 1144</a>
U0-94	0x705E	DI function selection display 5	0 to 65535	0	-	Unchangeable	<a href="#">"U0-94" on page 1144</a>
U0-95	0x705F	STO initialization flag	0 to 65535	0	-	Unchangeable	<a href="#">"U0-95" on page 1144</a>
U0-96	0x7060	STO status word monitoring	0 to 65535	0	-	Unchangeable	<a href="#">"U0-96" on page 1145</a>



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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
U0-97	0x7061	STO model	0x0 to 0xFFFF	0x0	-	Unchangeable	<a href="#">“U0-97” on page 1145</a>
U0-98	0x7062	STO 1.2 V AD sampling value	0 to 65535	0	-	Unchangeable	<a href="#">“U0-98” on page 1145</a>
U0-99	0x7063	STO 5 V AD sampling value	0 to 65535	0	-	Unchangeable	<a href="#">“U0-99” on page 1145</a>
U2-00	0x7200	Current motor parameter group	0 to 65535	0	-	Unchangeable	<a href="#">“U2-00” on page 1145</a>
U2-01	0x7201	Current control channel	0 to 65535	0	-	Unchangeable	<a href="#">“U2-01” on page 1146</a>
U2-02	0x7202	Current reference channel	0 to 65535	0	-	Unchangeable	<a href="#">“U2-02” on page 1146</a>
U2-03	0x7203	Skip frequency flag	0 to 65535	0	-	Unchangeable	<a href="#">“U2-03” on page 1146</a>
U2-04	0x7204	Local or remote	0 to 65535	0	-	Unchangeable	<a href="#">“U2-04” on page 1146</a>
U2-05	0x7205	Current multi-speed reference	0 to 65535	0	-	Unchangeable	<a href="#">“U2-05” on page 1146</a>
U2-06	0x7206	Current multi-speed reference effective value	0 to 65535	0	-	Unchangeable	<a href="#">“U2-06” on page 1147</a>
U2-07	0x7207	Key value	0 to 65535	0	-	Unchangeable	<a href="#">“U2-07” on page 1147</a>
U2-08	0x7208	Power-off time	0 to 65535	0	-	Unchangeable	<a href="#">“U2-08” on page 1147</a>
U2-09	0x7209	16-bit parameter error index menu address	0x0 to 0xFFFF	0x0	-	Unchangeable	<a href="#">“U2-09” on page 1147</a>
U2-10	0x720A	16-bit parameter error type	0 to 65535	0	-	Unchangeable	<a href="#">“U2-10” on page 1147</a>
U2-11	0x720B	32-bit parameter error internal index address	0 to 65535	0	-	Unchangeable	<a href="#">“U2-11” on page 1148</a>
U2-12	0x720C	32-bit parameter error internal index address	0 to 65535	0	-	Unchangeable	<a href="#">“U2-12” on page 1148</a>
U2-13	0x720D	Fault and limit severity	0 to 65535	0	-	Unchangeable	<a href="#">“U2-13” on page 1148</a>
U2-14	0x720E	Fault auto reset and restart steps	0 to 65535	0	-	Unchangeable	<a href="#">“U2-14” on page 1148</a>
U2-23	0x7217	Parameter backup exception	0 to 65535	0	-	Unchangeable	<a href="#">“U2-23” on page 1148</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
U2-24	0x7218	Macro parameter backup and restoration exception	0 to 65535	0	-	Unchangeable	<a href="#">"U2-24" on page 1148</a>
U2-25	0x7219	Remaining running duration during timed running	0.0 min to 6553.5 min	0.0	min	Unchangeable	<a href="#">"U2-25" on page 1149</a>
U2-26	0x721A	Parameter record information 0	0 to 65535	0	-	Unchangeable	<a href="#">"U2-26" on page 1149</a>
U2-27	0x721B	Parameter record information 1	0 to 65535	0	-	Unchangeable	<a href="#">"U2-27" on page 1149</a>
U2-28	0x721C	Parameter record information 2	0 to 65535	0	-	Unchangeable	<a href="#">"U2-28" on page 1149</a>
U2-29	0x721D	Parameter record information 3	0 to 65535	0	-	Unchangeable	<a href="#">"U2-29" on page 1149</a>
U2-30	0x721E	Parameter record information 4	0 to 65535	0	-	Unchangeable	<a href="#">"U2-30" on page 1150</a>
U2-31	0x721F	Parameter record information 5	0 to 65535	0	-	Unchangeable	<a href="#">"U2-31" on page 1150</a>
U2-32	0x7220	Parameter record information 6	0 to 65535	0	-	Unchangeable	<a href="#">"U2-32" on page 1150</a>
U2-33	0x7221	Parameter record information 7	0 to 65535	0	-	Unchangeable	<a href="#">"U2-33" on page 1150</a>
U2-34	0x7222	Parameter record information 8	0 to 65535	0	-	Unchangeable	<a href="#">"U2-34" on page 1150</a>
U2-35	0x7223	Parameter record information 9	0 to 65535	0	-	Unchangeable	<a href="#">"U2-35" on page 1151</a>
U2-36	0x7224	Parameter record information 10	0 to 65535	0	-	Unchangeable	<a href="#">"U2-36" on page 1151</a>
U2-37	0x7225	Parameter record information 11	0 to 65535	0	-	Unchangeable	<a href="#">"U2-37" on page 1151</a>
U2-38	0x7226	Parameter record information 12	0 to 65535	0	-	Unchangeable	<a href="#">"U2-38" on page 1151</a>
U2-39	0x7227	Parameter record information 13	0 to 65535	0	-	Unchangeable	<a href="#">"U2-39" on page 1151</a>
U2-40	0x7228	Parameter record information 14	0 to 65535	0	-	Unchangeable	<a href="#">"U2-40" on page 1152</a>
U2-41	0x7229	Parameter record information 15	0 to 65535	0	-	Unchangeable	<a href="#">"U2-41" on page 1152</a>
U2-42	0x722A	Parameter record information 16	0 to 65535	0	-	Unchangeable	<a href="#">"U2-42" on page 1152</a>
U2-43	0x722B	Parameter record information 17	0 to 65535	0	-	Unchangeable	<a href="#">"U2-43" on page 1152</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
U2-44	0x722C	Parameter record information 18	0 to 65535	0	-	Unchangeable	<a href="#">"U2-44" on page 1152</a>
U2-45	0x722D	Parameter record information 19	0 to 65535	0	-	Unchangeable	<a href="#">"U2-45" on page 1153</a>
U2-46	0x722E	Parameter record information 20	0 to 65535	0	-	Unchangeable	<a href="#">"U2-46" on page 1153</a>
U2-47	0x722F	Parameter record information 21	0 to 65535	0	-	Unchangeable	<a href="#">"U2-47" on page 1153</a>
U2-48	0x7230	Parameter record information 22	0 to 65535	0	-	Unchangeable	<a href="#">"U2-48" on page 1153</a>
U2-49	0x7231	Parameter record information 23	0 to 65535	0	-	Unchangeable	<a href="#">"U2-49" on page 1153</a>
U2-50	0x7232	Parameter record information 24	0 to 65535	0	-	Unchangeable	<a href="#">"U2-50" on page 1153</a>
U2-51	0x7233	Parameter record information 25	0 to 65535	0	-	Unchangeable	<a href="#">"U2-51" on page 1154</a>
U2-52	0x7234	Parameter record information 26	0 to 65535	0	-	Unchangeable	<a href="#">"U2-52" on page 1154</a>
U2-60	0x723C	Address mapping enable state	0 to 65535	0	-	Unchangeable	<a href="#">"U2-60" on page 1154</a>
U2-61	0x723D	Expansion card communication fault state	0 to 65535	0	-	Unchangeable	<a href="#">"U2-61" on page 1154</a>
U2-62	0x723E	Communication fault reset command	0 to 65535	0	-	Unchangeable	<a href="#">"U2-62" on page 1154</a>
U2-63	0x723F	Communication warning flag	0 to 65535	0	-	Unchangeable	<a href="#">"U2-63" on page 1155</a>
U2-64	0x7240	16-bit parameter error internal index address	0 to 65535	0	-	Unchangeable	<a href="#">"U2-64" on page 1155</a>
U2-65	0x7241	Power-on initialization completion flag	0 to 65535	0	-	Unchangeable	<a href="#">"U2-65" on page 1155</a>
U2-66	0x7242	Model-related parameter update flag	0 to 65535	0	-	Unchangeable	<a href="#">"U2-66" on page 1155</a>
U3-12	0x730C	Master state	0 to 65535	0	-	Unchangeable	<a href="#">"U3-12" on page 1155</a>
U3-13	0x730D	Master frequency	0 to 65535	0	-	Unchangeable	<a href="#">"U3-13" on page 1156</a>
U3-14	0x730E	Master torque	0 to 65535	0	-	Unchangeable	<a href="#">"U3-14" on page 1156</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
U3-15	0x730F	Master phase sequence	0 to 65535	0	-	Unchangeable	<a href="#">“U3-15” on page 1156</a>
U3-16	0x7310	Communication frequency reference	0.00 Hz to 655.35 Hz	0.00	Hz	Unchangeable	<a href="#">“U3-16” on page 1156</a>
U3-17	0x7311	Communication reference control word	0 to 65535	0	-	Unchangeable	<a href="#">“U3-17” on page 1156</a>
U3-18	0x7312	DO state (terminal function defined by parameters in group F5: communication control)	0 to 65535	0	-	Unchangeable	<a href="#">“U3-18” on page 1157</a>
U3-19	0x7313	AO1 output reference (terminal function defined by parameters in group F5: communication control)	0% to 65535%	0	%	Unchangeable	<a href="#">“U3-19” on page 1157</a>
U3-20	0x7314	AO2 output reference (terminal function defined by parameters in group F5: communication control)	0% to 65535%	0	%	Unchangeable	<a href="#">“U3-20” on page 1157</a>
U3-21	0x7315	HDO output reference (terminal function defined by parameters in group F5: communication control)	0% to 65535%	0	%	Unchangeable	<a href="#">“U3-21” on page 1157</a>
U3-22	0x7316	Command input through communication	0 to 65535	0	-	Unchangeable	<a href="#">“U3-22” on page 1157</a>
U3-23	0x7317	Speed reference input through communication	0 RPM to 65535 RPM	0	RPM	Unchangeable	<a href="#">“U3-23” on page 1158</a>
U3-24	0x7318	Communication card type	0 to 65535	0	-	Unchangeable	<a href="#">“U3-24” on page 1158</a>
U3-25	0x7319	Communication card version	0 to 65535	0	-	Unchangeable	<a href="#">“U3-25” on page 1158</a>
U3-28	0x731C	EtherCAT station alias	0 to 65535	0	-	Changeable at any time	<a href="#">“U3-28” on page 1158</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
U3-35	0x7323	EtherCAT card information 1	0 to 65535	0	-	Unchangeable	<a href="#">"U3-35" on page 1158</a>
U3-36	0x7324	EtherCAT card information 2	0 to 65535	0	-	Unchangeable	<a href="#">"U3-36" on page 1159</a>
U3-37	0x7325	EtherCAT card information 3	0 to 65535	0	-	Unchangeable	<a href="#">"U3-37" on page 1159</a>
U3-38	0x7326	EtherCAT card information 4	0 to 65535	0	-	Unchangeable	<a href="#">"U3-38" on page 1159</a>
U3-39	0x7327	EtherCAT card information 5	0 to 65535	0	-	Unchangeable	<a href="#">"U3-39" on page 1159</a>
U3-40	0x7328	EtherCAT card information 6	0 to 65535	0	-	Unchangeable	<a href="#">"U3-40" on page 1159</a>
U3-41	0x7329	EtherCAT card information 7	0 to 65535	0	-	Unchangeable	<a href="#">"U3-41" on page 1160</a>
U3-42	0x732A	EtherCAT card information 8	0 to 65535	0	-	Unchangeable	<a href="#">"U3-42" on page 1160</a>
U3-43	0x732B	EtherCAT card information 9	0 to 65535	0	-	Unchangeable	<a href="#">"U3-43" on page 1160</a>
U3-44	0x732C	EtherNet/IP error	0 to 65535	0	-	Unchangeable	<a href="#">"U3-44" on page 1160</a>
U3-50	0x7332	LED control word	0 to 65535	0	-	Unchangeable	<a href="#">"U3-50" on page 1160</a>
U3-51	0x7333	Background control word	0 to 65535	0	-	Unchangeable	<a href="#">"U3-51" on page 1161</a>
U3-52	0x7334	SOP control word	0 to 65535	0	-	Unchangeable	<a href="#">"U3-52" on page 1161</a>
U3-53	0x7335	Remote call	0 to 65535	0	-	Unchangeable	<a href="#">"U3-53" on page 1161</a>
U3-54	0x7336	Control word set through communication	0 to 65535	0	-	Unchangeable	<a href="#">"U3-54" on page 1161</a>
U3-55	0x7337	Target speed set through communication	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">"U3-55" on page 1161</a>
U3-56	0x7338	MD500 compatible status word	0 to 65535	0	-	Unchangeable	<a href="#">"U3-56" on page 1162</a>
U3-57	0x7339	MD500 compatible LCD command word	0 to 65535	0	-	Unchangeable	<a href="#">"U3-57" on page 1162</a>
U3-58	0x733A	MD500 compatible IDS command word	0 to 65535	0	-	Unchangeable	<a href="#">"U3-58" on page 1162</a>
U3-59	0x733B	MD500 compatible 1000H speed reference	0.00% to 655.35%	0.00	%	Unchangeable	<a href="#">"U3-59" on page 1162</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
L0-00	0x9000	DI1 drive sampling state	0 to 65535	0	-	Unchangeable	<a href="#">"L0-00" on page 1162</a>
L0-01	0x9001	DI2 drive sampling state	0 to 65535	0	-	Unchangeable	<a href="#">"L0-01" on page 1163</a>
L0-02	0x9002	DI3 drive sampling state	0 to 65535	0	-	Unchangeable	<a href="#">"L0-02" on page 1163</a>
L0-03	0x9003	DI4 drive sampling state	0 to 65535	0	-	Unchangeable	<a href="#">"L0-03" on page 1163</a>
L0-04	0x9004	DI5 drive sampling state	0 to 65535	0	-	Unchangeable	<a href="#">"L0-04" on page 1163</a>
L0-05	0x9005	DI6 drive sampling state	0 to 65535	0	-	Unchangeable	<a href="#">"L0-05" on page 1163</a>
L0-06	0x9006	DI7 drive sampling state	0 to 65535	0	-	Unchangeable	<a href="#">"L0-06" on page 1164</a>
L0-07	0x9007	DI8 drive sampling state	0 to 65535	0	-	Unchangeable	<a href="#">"L0-07" on page 1164</a>
L0-08	0x9008	DI9 drive sampling state	0 to 65535	0	-	Unchangeable	<a href="#">"L0-08" on page 1164</a>
L0-09	0x9009	DI10 drive sampling state	0 to 65535	0	-	Unchangeable	<a href="#">"L0-09" on page 1164</a>
L0-10	0x900A	AI1AsDI final output state	0 to 65535	0	-	Unchangeable	<a href="#">"L0-10" on page 1164</a>
L0-11	0x900B	AI2AsDI final output state	0 to 65535	0	-	Unchangeable	<a href="#">"L0-11" on page 1164</a>
L0-12	0x900C	AI3AsDI final output state	0 to 65535	0	-	Unchangeable	<a href="#">"L0-12" on page 1165</a>
L0-13	0x900D	AI1AsDI inversion state	0 to 65535	0	-	Unchangeable	<a href="#">"L0-13" on page 1165</a>
L0-14	0x900E	AI2AsDI inversion state	0 to 65535	0	-	Unchangeable	<a href="#">"L0-14" on page 1165</a>
L0-15	0x900F	AI3AsDI inversion state	0 to 65535	0	-	Unchangeable	<a href="#">"L0-15" on page 1165</a>
L0-16	0x9010	DI1 drive output state	0 to 65535	0	-	Unchangeable	<a href="#">"L0-16" on page 1165</a>
L0-17	0x9011	DI2 drive output state	0 to 65535	0	-	Unchangeable	<a href="#">"L0-17" on page 1166</a>
L0-18	0x9012	DI3 drive output state	0 to 65535	0	-	Unchangeable	<a href="#">"L0-18" on page 1166</a>
L0-19	0x9013	DI4 drive output state	0 to 65535	0	-	Unchangeable	<a href="#">"L0-19" on page 1166</a>
L0-20	0x9014	DI5 drive output state	0 to 65535	0	-	Unchangeable	<a href="#">"L0-20" on page 1166</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
L0-21	0x9015	DI6 drive output state	0 to 65535	0	-	Unchangeable	<a href="#">"L0-21" on page 1166</a>
L0-22	0x9016	DI7 drive output state	0 to 65535	0	-	Unchangeable	<a href="#">"L0-22" on page 1167</a>
L0-23	0x9017	DI8 drive output state	0 to 65535	0	-	Unchangeable	<a href="#">"L0-23" on page 1167</a>
L0-24	0x9018	DI9 drive output state	0 to 65535	0	-	Unchangeable	<a href="#">"L0-24" on page 1167</a>
L0-25	0x9019	DI10 drive output state	0 to 65535	0	-	Unchangeable	<a href="#">"L0-25" on page 1167</a>
L0-26	0x901A	VDI1 drive output state	0 to 65535	0	-	Unchangeable	<a href="#">"L0-26" on page 1167</a>
L0-27	0x901B	VDI2 drive output state	0 to 65535	0	-	Unchangeable	<a href="#">"L0-27" on page 1168</a>
L0-28	0x901C	VDI3 drive output state	0 to 65535	0	-	Unchangeable	<a href="#">"L0-28" on page 1168</a>
L0-29	0x901D	VDI4 drive output state	0 to 65535	0	-	Unchangeable	<a href="#">"L0-29" on page 1168</a>
L0-30	0x901E	VDI5 drive output state	0 to 65535	0	-	Unchangeable	<a href="#">"L0-30" on page 1168</a>
L0-31	0x901F	VDI6 drive output state	0 to 65535	0	-	Unchangeable	<a href="#">"L0-31" on page 1168</a>
L0-32	0x9020	DI1 final output state	0 to 65535	0	-	Unchangeable	<a href="#">"L0-32" on page 1169</a>
L0-33	0x9021	DI2 final output state	0 to 65535	0	-	Unchangeable	<a href="#">"L0-33" on page 1169</a>
L0-34	0x9022	DI3 final output state	0 to 65535	0	-	Unchangeable	<a href="#">"L0-34" on page 1169</a>
L0-35	0x9023	DI4 final output state	0 to 65535	0	-	Unchangeable	<a href="#">"L0-35" on page 1169</a>
L0-36	0x9024	DI5 final output state	0 to 65535	0	-	Unchangeable	<a href="#">"L0-36" on page 1169</a>
L0-37	0x9025	DI6 final output state	0 to 65535	0	-	Unchangeable	<a href="#">"L0-37" on page 1169</a>
L0-38	0x9026	DI7 final output state	0 to 65535	0	-	Unchangeable	<a href="#">"L0-38" on page 1170</a>
L0-39	0x9027	DI8 final output state	0 to 65535	0	-	Unchangeable	<a href="#">"L0-39" on page 1170</a>
L0-40	0x9028	DI9 final output state	0 to 65535	0	-	Unchangeable	<a href="#">"L0-40" on page 1170</a>
L0-41	0x9029	DI10 final output state	0 to 65535	0	-	Unchangeable	<a href="#">"L0-41" on page 1170</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
L0-42	0x902A	VDI1 final output state	0 to 65535	0	-	Unchangeable	<a href="#">"L0-42" on page 1170</a>
L0-43	0x902B	VDI2 final output state	0 to 65535	0	-	Unchangeable	<a href="#">"L0-43" on page 1171</a>
L0-44	0x902C	VDI3 final output state	0 to 65535	0	-	Unchangeable	<a href="#">"L0-44" on page 1171</a>
L0-45	0x902D	VDI4 final output state	0 to 65535	0	-	Unchangeable	<a href="#">"L0-45" on page 1171</a>
L0-46	0x902E	VDI5 final output state	0 to 65535	0	-	Unchangeable	<a href="#">"L0-46" on page 1171</a>
L0-47	0x902F	VDI6 final output state	0 to 65535	0	-	Unchangeable	<a href="#">"L0-47" on page 1171</a>
L0-48	0x9030	DI1 inversion state	0 to 65535	0	-	Unchangeable	<a href="#">"L0-48" on page 1172</a>
L0-49	0x9031	DI2 inversion state	0 to 65535	0	-	Unchangeable	<a href="#">"L0-49" on page 1172</a>
L0-50	0x9032	DI3 inversion state	0 to 65535	0	-	Unchangeable	<a href="#">"L0-50" on page 1172</a>
L0-51	0x9033	DI4 inversion state	0 to 65535	0	-	Unchangeable	<a href="#">"L0-51" on page 1172</a>
L0-52	0x9034	DI5 inversion state	0 to 65535	0	-	Unchangeable	<a href="#">"L0-52" on page 1172</a>
L0-53	0x9035	DI6 inversion state	0 to 65535	0	-	Unchangeable	<a href="#">"L0-53" on page 1173</a>
L0-54	0x9036	DI7 inversion state	0 to 65535	0	-	Unchangeable	<a href="#">"L0-54" on page 1173</a>
L0-55	0x9037	DI8 inversion state	0 to 65535	0	-	Unchangeable	<a href="#">"L0-55" on page 1173</a>
L0-56	0x9038	DI9 inversion state	0 to 65535	0	-	Unchangeable	<a href="#">"L0-56" on page 1173</a>
L0-57	0x9039	DI10 inversion state	0 to 65535	0	-	Unchangeable	<a href="#">"L0-57" on page 1173</a>
L0-58	0x903A	VDI1 inversion state	0 to 65535	0	-	Unchangeable	<a href="#">"L0-58" on page 1174</a>
L0-59	0x903B	VDI2 inversion state	0 to 65535	0	-	Unchangeable	<a href="#">"L0-59" on page 1174</a>
L0-60	0x903C	VDI3 inversion state	0 to 65535	0	-	Unchangeable	<a href="#">"L0-60" on page 1174</a>
L0-61	0x903D	VDI4 inversion state	0 to 65535	0	-	Unchangeable	<a href="#">"L0-61" on page 1174</a>
L0-62	0x903E	VDI5 inversion state	0 to 65535	0	-	Unchangeable	<a href="#">"L0-62" on page 1174</a>



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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
L0-63	0x903F	VDI6 inversion state	0 to 65535	0	-	Unchangeable	<a href="#">“L0-63” on page 1174</a>
L0-64	0x9040	Relay 1 (DO3) state before filtering	0 to 65535	0	-	Unchangeable	<a href="#">“L0-64” on page 1175</a>
L0-65	0x9041	FMR state before filtering	0 to 65535	0	-	Unchangeable	<a href="#">“L0-65” on page 1175</a>
L0-66	0x9042	DO1 state before filtering	0 to 65535	0	-	Unchangeable	<a href="#">“L0-66” on page 1175</a>
L0-67	0x9043	Relay 2 (DO4) state before filtering	0 to 65535	0	-	Unchangeable	<a href="#">“L0-67” on page 1175</a>
L0-68	0x9044	DO2 state before filtering	0 to 65535	0	-	Unchangeable	<a href="#">“L0-68” on page 1175</a>
L0-69	0x9045	VDO1 state before filtering	0 to 65535	0	-	Unchangeable	<a href="#">“L0-69” on page 1176</a>
L0-70	0x9046	VDO2 state before filtering	0 to 65535	0	-	Unchangeable	<a href="#">“L0-70” on page 1176</a>
L0-71	0x9047	VDO3 state before filtering	0 to 65535	0	-	Unchangeable	<a href="#">“L0-71” on page 1176</a>
L0-72	0x9048	VDO4 state before filtering	0 to 65535	0	-	Unchangeable	<a href="#">“L0-72” on page 1176</a>
L0-73	0x9049	VDO5 state before filtering	0 to 65535	0	-	Unchangeable	<a href="#">“L0-73” on page 1176</a>
L0-74	0x904A	VDO6 state before filtering	0 to 65535	0	-	Unchangeable	<a href="#">“L0-74” on page 1177</a>
L0-75	0x904B	VDO7 state before filtering	0 to 65535	0	-	Unchangeable	<a href="#">“L0-75” on page 1177</a>
L0-76	0x904C	VDO8 state before filtering	0 to 65535	0	-	Unchangeable	<a href="#">“L0-76” on page 1177</a>
L0-77	0x904D	VDO9 state before filtering	0 to 65535	0	-	Unchangeable	<a href="#">“L0-77” on page 1177</a>
L0-78	0x904E	VDO10 state before filtering	0 to 65535	0	-	Unchangeable	<a href="#">“L0-78” on page 1177</a>
L0-79	0x904F	VDO11 state before filtering	0 to 65535	0	-	Unchangeable	<a href="#">“L0-79” on page 1178</a>
L0-80	0x9050	Relay 1 (DO3) final output state	0 to 65535	0	-	Unchangeable	<a href="#">“L0-80” on page 1178</a>
L0-81	0x9051	FMR final output state	0 to 65535	0	-	Unchangeable	<a href="#">“L0-81” on page 1178</a>
L0-82	0x9052	DO1 final output state	0 to 65535	0	-	Unchangeable	<a href="#">“L0-82” on page 1178</a>
L0-83	0x9053	Relay 2 (DO4) final output state	0 to 65535	0	-	Unchangeable	<a href="#">“L0-83” on page 1178</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
L0-84	0x9054	DO2 final output state	0 to 65535	0	-	Unchangeable	<a href="#">“L0-84” on page 1179</a>
L0-85	0x9055	VDO1 final output state	0 to 65535	0	-	Unchangeable	<a href="#">“L0-85” on page 1179</a>
L0-86	0x9056	VDO2 final output state	0 to 65535	0	-	Unchangeable	<a href="#">“L0-86” on page 1179</a>
L0-87	0x9057	VDO3 final output state	0 to 65535	0	-	Unchangeable	<a href="#">“L0-87” on page 1179</a>
L0-88	0x9058	VDO4 final output state	0 to 65535	0	-	Unchangeable	<a href="#">“L0-88” on page 1179</a>
L0-89	0x9059	VDO5 final output state	0 to 65535	0	-	Unchangeable	<a href="#">“L0-89” on page 1179</a>
L0-90	0x905A	VDO6 final output state	0 to 65535	0	-	Unchangeable	<a href="#">“L0-90” on page 1180</a>
L0-91	0x905B	VDO7 final output state	0 to 65535	0	-	Unchangeable	<a href="#">“L0-91” on page 1180</a>
L0-92	0x905C	VDO8 final output state	0 to 65535	0	-	Unchangeable	<a href="#">“L0-92” on page 1180</a>
L0-93	0x905D	VDO9 final output state	0 to 65535	0	-	Unchangeable	<a href="#">“L0-93” on page 1180</a>
L0-94	0x905E	VDO10 final output state	0 to 65535	0	-	Unchangeable	<a href="#">“L0-94” on page 1180</a>
L0-95	0x905F	VDO11 final output state	0 to 65535	0	-	Unchangeable	<a href="#">“L0-95” on page 1181</a>
L0-96	0x9060	AI1 input overlimit	0 to 65535	0	-	Unchangeable	<a href="#">“L0-96” on page 1181</a>
L0-97	0x9061	AI2 input overlimit	0 to 65535	0	-	Unchangeable	<a href="#">“L0-97” on page 1181</a>
L0-98	0x9062	AI3 input overlimit	0 to 65535	0	-	Unchangeable	<a href="#">“L0-98” on page 1181</a>
L0-99	0x9063	HDI input wire breakage	0 to 65535	0	-	Unchangeable	<a href="#">“L0-99” on page 1181</a>
L1-00	0x9100	Reference count value reach	0 to 65535	0	-	Unchangeable	<a href="#">“L1-00” on page 1182</a>
L1-01	0x9101	Designated count value reach	0 to 65535	0	-	Unchangeable	<a href="#">“L1-01” on page 1182</a>
L1-02	0x9102	Length comparison value reach	0 to 65535	0	-	Unchangeable	<a href="#">“L1-02” on page 1182</a>
L1-03	0x9103	Comparison result of DIO edge counting module 1	0 to 65535	0	-	Unchangeable	<a href="#">“L1-03” on page 1182</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
L1-04	0x9104	Comparison result of DIO edge counting module 2	0 to 65535	0	-	Unchangeable	<a href="#">“L1-04” on page 1182</a>
L1-05	0x9105	Comparison result of DIO edge counting module 3	0 to 65535	0	-	Unchangeable	<a href="#">“L1-05” on page 1183</a>
L1-06	0x9106	Comparison result of DIO edge counting module 4	0 to 65535	0	-	Unchangeable	<a href="#">“L1-06” on page 1183</a>
L1-07	0x9107	AI2 or AI3 temperature mode - motor temperature reach	0 to 65535	0	-	Unchangeable	<a href="#">“L1-07” on page 1183</a>
L1-08	0x9108	AI2 or AI3 temperature mode - motor overtemperature	0 to 65535	0	-	Unchangeable	<a href="#">“L1-08” on page 1183</a>
L1-09	0x9109	AI2 temperature mode - motor overtemperature	0 to 65535	0	-	Unchangeable	<a href="#">“L1-09” on page 1183</a>
L1-10	0x910A	AI3 temperature mode - motor overtemperature	0 to 65535	0	-	Unchangeable	<a href="#">“L1-10” on page 1184</a>
L1-11	0x910B	IGBT temperature reach (flag)	0 to 65535	0	-	Unchangeable	<a href="#">“L1-11” on page 1184</a>
L1-12	0x910C	Ready to switch on	0 to 65535	0	-	Unchangeable	<a href="#">“L1-12” on page 1184</a>
L1-13	0x910D	Ready to run	0 to 65535	0	-	Unchangeable	<a href="#">“L1-13” on page 1184</a>
L1-14	0x910E	Running	0 to 65535	0	-	Unchangeable	<a href="#">“L1-14” on page 1184</a>
L1-15	0x910F	Faulty	0: Not faulty 1: Faulty	0	-	Unchangeable	<a href="#">“L1-15” on page 1185</a>
L1-16	0x9110	OFF2 inactive	0: Active (OFF2 = 0) 1: Inactive (OFF2 = 1)	0	-	Unchangeable	<a href="#">“L1-16” on page 1185</a>
L1-17	0x9111	OFF3 inactive	0: Active (OFF3 = 0) 1: Inactive (OFF3 = 1)	0	-	Unchangeable	<a href="#">“L1-17” on page 1185</a>
L1-18	0x9112	Switch-on blocking	0 to 65535	0	-	Unchangeable	<a href="#">“L1-18” on page 1185</a>
L1-19	0x9113	Alarm/Limit activation	0 to 65535	0	-	Unchangeable	<a href="#">“L1-19” on page 1185</a>
L1-20	0x9114	Actual speed following speed reference	0 to 65535	0	-	Unchangeable	<a href="#">“L1-20” on page 1186</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
L1-21	0x9115	Local or remote	0: Local 1: Remote	0	-	Unchangeable	<a href="#">“L1-21” on page 1186</a>
L1-22	0x9116	Target speed reach	0 to 65535	0	-	Unchangeable	<a href="#">“L1-22” on page 1186</a>
L1-23	0x9117	Torque limit reach	0 to 65535	0	-	Unchangeable	<a href="#">“L1-23” on page 1186</a>
L1-24	0x9118	Forward speed	0 to 65535	0	-	Unchangeable	<a href="#">“L1-24” on page 1186</a>
L1-25	0x9119	Reverse speed	0 to 65535	0	-	Unchangeable	<a href="#">“L1-25” on page 1187</a>
L1-26	0x911A	Motor running flag	0: Stopped 1: Running (pulse output)	0	-	Unchangeable	<a href="#">“L1-26” on page 1187</a>
L1-27	0x911B	User setting 0	0 to 65535	0	-	Unchangeable	<a href="#">“L1-27” on page 1187</a>
L1-28	0x911C	Self-check	0 to 65535	0	-	Unchangeable	<a href="#">“L1-28” on page 1187</a>
L1-29	0x911D	Auto-tuning	0 to 65535	0	-	Unchangeable	<a href="#">“L1-29” on page 1187</a>
L1-30	0x911E	Limit (running with limits) activation	0 to 65535	0	-	Unchangeable	<a href="#">“L1-30” on page 1188</a>
L1-31	0x911F	Alarm activation	0 to 65535	0	-	Unchangeable	<a href="#">“L1-31” on page 1188</a>
L1-32	0x9120	Speed mode	0 to 65535	0	-	Unchangeable	<a href="#">“L1-32” on page 1188</a>
L1-33	0x9121	Torque mode	0 to 65535	0	-	Unchangeable	<a href="#">“L1-33” on page 1188</a>
L1-34	0x9122	Position mode	0 to 65535	0	-	Unchangeable	<a href="#">“L1-34” on page 1188</a>
L1-35	0x9123	RFG enable	0 to 65535	0	-	Unchangeable	<a href="#">“L1-35” on page 1189</a>
L1-36	0x9124	RFG running	0 to 65535	0	-	Unchangeable	<a href="#">“L1-36” on page 1189</a>
L1-37	0x9125	Stop upon fault	0 to 65535	0	-	Unchangeable	<a href="#">“L1-37” on page 1189</a>
L1-38	0x9126	Normal running	0 to 65535	0	-	Unchangeable	<a href="#">“L1-38” on page 1189</a>
L1-39	0x9127	Jogging	0 to 65535	0	-	Unchangeable	<a href="#">“L1-39” on page 1189</a>
L1-42	0x912A	Terminal control flag	0 to 65535	0	-	Unchangeable	<a href="#">“L1-42” on page 1190</a>
L1-43	0x912B	User setting 1	0 to 65535	0	-	Unchangeable	<a href="#">“L1-43” on page 1190</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
L1-44	0x912C	Control channel	0: Control channel 1 1: Control channel 2	0	-	Unchangeable	<a href="#">“L1-44” on page 1190</a>
L1-45	0x912D	Reference channel	0: Reference channel 1 1: Reference channel 2	0	-	Unchangeable	<a href="#">“L1-45” on page 1190</a>
L1-60	0x913C	Excessive speed deviation	0 to 65535	0	-	Unchangeable	<a href="#">“L1-60” on page 1190</a>
L1-61	0x913D	Overspeed	0 to 65535	0	-	Unchangeable	<a href="#">“L1-61” on page 1191</a>
L1-62	0x913E	Target speed reach	0 to 65535	0	-	Unchangeable	<a href="#">“L1-62” on page 1191</a>
L1-63	0x913F	Speed comparison reach 0	0 to 65535	0	-	Unchangeable	<a href="#">“L1-63” on page 1191</a>
L1-64	0x9140	Speed comparison reach 1	0 to 65535	0	-	Unchangeable	<a href="#">“L1-64” on page 1191</a>
L1-65	0x9141	Motor speed positive	0 to 65535	0	-	Unchangeable	<a href="#">“L1-65” on page 1191</a>
L1-66	0x9142	Motor speed negative	0 to 65535	0	-	Unchangeable	<a href="#">“L1-66” on page 1191</a>
L1-76	0x914C	Bit0 of W2B module A	0 to 65535	0	-	Unchangeable	<a href="#">“L1-76” on page 1192</a>
L1-77	0x914D	Bit1 of W2B module A	0 to 65535	0	-	Unchangeable	<a href="#">“L1-77” on page 1192</a>
L1-78	0x914E	Bit2 of W2B module A	0 to 65535	0	-	Unchangeable	<a href="#">“L1-78” on page 1192</a>
L1-79	0x914F	Bit3 of W2B module A	0 to 65535	0	-	Unchangeable	<a href="#">“L1-79” on page 1192</a>
L1-80	0x9150	Bit4 of W2B module A	0 to 65535	0	-	Unchangeable	<a href="#">“L1-80” on page 1192</a>
L1-81	0x9151	Bit5 of W2B module A	0 to 65535	0	-	Unchangeable	<a href="#">“L1-81” on page 1193</a>
L1-82	0x9152	Bit6 of W2B module A	0 to 65535	0	-	Unchangeable	<a href="#">“L1-82” on page 1193</a>
L1-83	0x9153	Bit7 of W2B module A	0 to 65535	0	-	Unchangeable	<a href="#">“L1-83” on page 1193</a>
L1-84	0x9154	Bit8 of W2B module A	0 to 65535	0	-	Unchangeable	<a href="#">“L1-84” on page 1193</a>
L1-85	0x9155	Bit9 of W2B module A	0 to 65535	0	-	Unchangeable	<a href="#">“L1-85” on page 1193</a>
L1-86	0x9156	Bit10 of W2B module A	0 to 65535	0	-	Unchangeable	<a href="#">“L1-86” on page 1194</a>
L1-87	0x9157	Bit11 of W2B module A	0 to 65535	0	-	Unchangeable	<a href="#">“L1-87” on page 1194</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
L1-88	0x9158	Bit12 of W2B module A	0 to 65535	0	-	Unchangeable	<a href="#">“L1-88” on page 1194</a>
L1-89	0x9159	Bit13 of W2B module A	0 to 65535	0	-	Unchangeable	<a href="#">“L1-89” on page 1194</a>
L1-90	0x915A	Bit14 of W2B module A	0 to 65535	0	-	Unchangeable	<a href="#">“L1-90” on page 1194</a>
L1-91	0x915B	Bit15 of W2B module A	0 to 65535	0	-	Unchangeable	<a href="#">“L1-91” on page 1195</a>
L1-92	0x915C	Bit0 of W2B module B	0 to 65535	0	-	Unchangeable	<a href="#">“L1-92” on page 1195</a>
L1-93	0x915D	Bit1 of W2B module B	0 to 65535	0	-	Unchangeable	<a href="#">“L1-93” on page 1195</a>
L1-94	0x915E	Bit2 of W2B module B	0 to 65535	0	-	Unchangeable	<a href="#">“L1-94” on page 1195</a>
L1-95	0x915F	Bit3 of W2B module B	0 to 65535	0	-	Unchangeable	<a href="#">“L1-95” on page 1195</a>
L1-96	0x9160	Bit4 of W2B module B	0 to 65535	0	-	Unchangeable	<a href="#">“L1-96” on page 1196</a>
L1-97	0x9161	Bit5 of W2B module B	0 to 65535	0	-	Unchangeable	<a href="#">“L1-97” on page 1196</a>
L1-98	0x9162	Bit6 of W2B module B	0 to 65535	0	-	Unchangeable	<a href="#">“L1-98” on page 1196</a>
L1-99	0x9163	Bit7 of W2B module B	0 to 65535	0	-	Unchangeable	<a href="#">“L1-99” on page 1196</a>
L2-00	0x9200	Bit8 of W2B module B	0 to 65535	0	-	Unchangeable	<a href="#">“L2-00” on page 1196</a>
L2-01	0x9201	Bit9 of W2B module B	0 to 65535	0	-	Unchangeable	<a href="#">“L2-01” on page 1197</a>
L2-02	0x9202	Bit10 of W2B module B	0 to 65535	0	-	Unchangeable	<a href="#">“L2-02” on page 1197</a>
L2-03	0x9203	Bit11 of W2B module B	0 to 65535	0	-	Unchangeable	<a href="#">“L2-03” on page 1197</a>
L2-04	0x9204	Bit12 of W2B module B	0 to 65535	0	-	Unchangeable	<a href="#">“L2-04” on page 1197</a>
L2-05	0x9205	Bit13 of W2B module B	0 to 65535	0	-	Unchangeable	<a href="#">“L2-05” on page 1197</a>
L2-06	0x9206	Bit14 of W2B module B	0 to 65535	0	-	Unchangeable	<a href="#">“L2-06” on page 1198</a>
L2-07	0x9207	Bit15 of W2B module B	0 to 65535	0	-	Unchangeable	<a href="#">“L2-07” on page 1198</a>
L2-08	0x9208	Bit0 of W2B module C	0 to 65535	0	-	Unchangeable	<a href="#">“L2-08” on page 1198</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
L2-09	0x9209	Bit1 of W2B module C	0 to 65535	0	-	Unchangeable	<a href="#">“L2-09” on page 1198</a>
L2-10	0x920A	Bit2 of W2B module C	0 to 65535	0	-	Unchangeable	<a href="#">“L2-10” on page 1198</a>
L2-11	0x920B	Bit3 of W2B module C	0 to 65535	0	-	Unchangeable	<a href="#">“L2-11” on page 1198</a>
L2-12	0x920C	Bit4 of W2B module C	0 to 65535	0	-	Unchangeable	<a href="#">“L2-12” on page 1199</a>
L2-13	0x920D	Bit5 of W2B module C	0 to 65535	0	-	Unchangeable	<a href="#">“L2-13” on page 1199</a>
L2-14	0x920E	Bit6 of W2B module C	0 to 65535	0	-	Unchangeable	<a href="#">“L2-14” on page 1199</a>
L2-15	0x920F	Bit7 of W2B module C	0 to 65535	0	-	Unchangeable	<a href="#">“L2-15” on page 1199</a>
L2-16	0x9210	Bit8 of W2B module C	0 to 65535	0	-	Unchangeable	<a href="#">“L2-16” on page 1199</a>
L2-17	0x9211	Bit9 of W2B module C	0 to 65535	0	-	Unchangeable	<a href="#">“L2-17” on page 1200</a>
L2-18	0x9212	Bit10 of W2B module C	0 to 65535	0	-	Unchangeable	<a href="#">“L2-18” on page 1200</a>
L2-19	0x9213	Bit11 of W2B module C	0 to 65535	0	-	Unchangeable	<a href="#">“L2-19” on page 1200</a>
L2-20	0x9214	Bit12 of W2B module C	0 to 65535	0	-	Unchangeable	<a href="#">“L2-20” on page 1200</a>
L2-21	0x9215	Bit13 of W2B module C	0 to 65535	0	-	Unchangeable	<a href="#">“L2-21” on page 1200</a>
L2-22	0x9216	Bit14 of W2B module C	0 to 65535	0	-	Unchangeable	<a href="#">“L2-22” on page 1201</a>
L2-23	0x9217	Bit15 of W2B module C	0 to 65535	0	-	Unchangeable	<a href="#">“L2-23” on page 1201</a>
L2-24	0x9218	Bit0 of W2B module D	0 to 65535	0	-	Unchangeable	<a href="#">“L2-24” on page 1201</a>
L2-25	0x9219	Bit1 of W2B module D	0 to 65535	0	-	Unchangeable	<a href="#">“L2-25” on page 1201</a>
L2-26	0x921A	Bit2 of W2B module D	0 to 65535	0	-	Unchangeable	<a href="#">“L2-26” on page 1201</a>
L2-27	0x921B	Bit3 of W2B module D	0 to 65535	0	-	Unchangeable	<a href="#">“L2-27” on page 1202</a>
L2-28	0x921C	Bit4 of W2B module D	0 to 65535	0	-	Unchangeable	<a href="#">“L2-28” on page 1202</a>
L2-29	0x921D	Bit5 of W2B module D	0 to 65535	0	-	Unchangeable	<a href="#">“L2-29” on page 1202</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
L2-30	0x921E	Bit6 of W2B module D	0 to 65535	0	-	Unchangeable	<a href="#">“L2-30” on page 1202</a>
L2-31	0x921F	Bit7 of W2B module D	0 to 65535	0	-	Unchangeable	<a href="#">“L2-31” on page 1202</a>
L2-32	0x9220	Bit8 of W2B module D	0 to 65535	0	-	Unchangeable	<a href="#">“L2-32” on page 1203</a>
L2-33	0x9221	Bit9 of W2B module D	0 to 65535	0	-	Unchangeable	<a href="#">“L2-33” on page 1203</a>
L2-34	0x9222	Bit10 of W2B module D	0 to 65535	0	-	Unchangeable	<a href="#">“L2-34” on page 1203</a>
L2-35	0x9223	Bit11 of W2B module D	0 to 65535	0	-	Unchangeable	<a href="#">“L2-35” on page 1203</a>
L2-36	0x9224	Bit12 of W2B module D	0 to 65535	0	-	Unchangeable	<a href="#">“L2-36” on page 1203</a>
L2-37	0x9225	Bit13 of W2B module D	0 to 65535	0	-	Unchangeable	<a href="#">“L2-37” on page 1203</a>
L2-38	0x9226	Bit14 of W2B module D	0 to 65535	0	-	Unchangeable	<a href="#">“L2-38” on page 1204</a>
L2-39	0x9227	Bit15 of W2B module D	0 to 65535	0	-	Unchangeable	<a href="#">“L2-39” on page 1204</a>
L2-40	0x9228	Bit0 of W2B module E	0 to 65535	0	-	Unchangeable	<a href="#">“L2-40” on page 1204</a>
L2-41	0x9229	Bit1 of W2B module E	0 to 65535	0	-	Unchangeable	<a href="#">“L2-41” on page 1204</a>
L2-42	0x922A	Bit2 of W2B module E	0 to 65535	0	-	Unchangeable	<a href="#">“L2-42” on page 1204</a>
L2-43	0x922B	Bit3 of W2B module E	0 to 65535	0	-	Unchangeable	<a href="#">“L2-43” on page 1205</a>
L2-44	0x922C	Bit4 of W2B module E	0 to 65535	0	-	Unchangeable	<a href="#">“L2-44” on page 1205</a>
L2-45	0x922D	Bit5 of W2B module E	0 to 65535	0	-	Unchangeable	<a href="#">“L2-45” on page 1205</a>
L2-46	0x922E	Bit6 of W2B module E	0 to 65535	0	-	Unchangeable	<a href="#">“L2-46” on page 1205</a>
L2-47	0x922F	Bit7 of W2B module E	0 to 65535	0	-	Unchangeable	<a href="#">“L2-47” on page 1205</a>
L2-48	0x9230	Bit8 of W2B module E	0 to 65535	0	-	Unchangeable	<a href="#">“L2-48” on page 1206</a>
L2-49	0x9231	Bit9 of W2B module E	0 to 65535	0	-	Unchangeable	<a href="#">“L2-49” on page 1206</a>
L2-50	0x9232	Bit10 of W2B module E	0 to 65535	0	-	Unchangeable	<a href="#">“L2-50” on page 1206</a>



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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
L2-51	0x9233	Bit11 of W2B module E	0 to 65535	0	-	Unchangeable	<a href="#">“L2-51” on page 1206</a>
L2-52	0x9234	Bit12 of W2B module E	0 to 65535	0	-	Unchangeable	<a href="#">“L2-52” on page 1206</a>
L2-53	0x9235	Bit13 of W2B module E	0 to 65535	0	-	Unchangeable	<a href="#">“L2-53” on page 1207</a>
L2-54	0x9236	Bit14 of W2B module E	0 to 65535	0	-	Unchangeable	<a href="#">“L2-54” on page 1207</a>
L2-55	0x9237	Bit15 of W2B module E	0 to 65535	0	-	Unchangeable	<a href="#">“L2-55” on page 1207</a>
L2-56	0x9238	Bit0 of W2B module F	0 to 65535	0	-	Unchangeable	<a href="#">“L2-56” on page 1207</a>
L2-57	0x9239	Bit1 of W2B module F	0 to 65535	0	-	Unchangeable	<a href="#">“L2-57” on page 1207</a>
L2-58	0x923A	Bit2 of W2B module F	0 to 65535	0	-	Unchangeable	<a href="#">“L2-58” on page 1208</a>
L2-59	0x923B	Bit3 of W2B module F	0 to 65535	0	-	Unchangeable	<a href="#">“L2-59” on page 1208</a>
L2-60	0x923C	Bit4 of W2B module F	0 to 65535	0	-	Unchangeable	<a href="#">“L2-60” on page 1208</a>
L2-61	0x923D	Bit5 of W2B module F	0 to 65535	0	-	Unchangeable	<a href="#">“L2-61” on page 1208</a>
L2-62	0x923E	Bit6 of W2B module F	0 to 65535	0	-	Unchangeable	<a href="#">“L2-62” on page 1208</a>
L2-63	0x923F	Bit7 of W2B module F	0 to 65535	0	-	Unchangeable	<a href="#">“L2-63” on page 1208</a>
L2-64	0x9240	Bit8 of W2B module F	0 to 65535	0	-	Unchangeable	<a href="#">“L2-64” on page 1209</a>
L2-65	0x9241	Bit9 of W2B module F	0 to 65535	0	-	Unchangeable	<a href="#">“L2-65” on page 1209</a>
L2-66	0x9242	Bit10 of W2B module F	0 to 65535	0	-	Unchangeable	<a href="#">“L2-66” on page 1209</a>
L2-67	0x9243	Bit11 of W2B module F	0 to 65535	0	-	Unchangeable	<a href="#">“L2-67” on page 1209</a>
L2-68	0x9244	Bit12 of W2B module F	0 to 65535	0	-	Unchangeable	<a href="#">“L2-68” on page 1209</a>
L2-69	0x9245	Bit13 of W2B module F	0 to 65535	0	-	Unchangeable	<a href="#">“L2-69” on page 1210</a>
L2-70	0x9246	Bit14 of W2B module F	0 to 65535	0	-	Unchangeable	<a href="#">“L2-70” on page 1210</a>
L2-71	0x9247	Bit15 of W2B module F	0 to 65535	0	-	Unchangeable	<a href="#">“L2-71” on page 1210</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
L2-72	0x9248	Bit0 of W2B module G	0 to 65535	0	-	Unchangeable	<a href="#">“L2-72” on page 1210</a>
L2-73	0x9249	Bit1 of W2B module G	0 to 65535	0	-	Unchangeable	<a href="#">“L2-73” on page 1210</a>
L2-74	0x924A	Bit2 of W2B module G	0 to 65535	0	-	Unchangeable	<a href="#">“L2-74” on page 1211</a>
L2-75	0x924B	Bit3 of W2B module G	0 to 65535	0	-	Unchangeable	<a href="#">“L2-75” on page 1211</a>
L2-76	0x924C	Bit4 of W2B module G	0 to 65535	0	-	Unchangeable	<a href="#">“L2-76” on page 1211</a>
L2-77	0x924D	Bit5 of W2B module G	0 to 65535	0	-	Unchangeable	<a href="#">“L2-77” on page 1211</a>
L2-78	0x924E	Bit6 of W2B module G	0 to 65535	0	-	Unchangeable	<a href="#">“L2-78” on page 1211</a>
L2-79	0x924F	Bit7 of W2B module G	0 to 65535	0	-	Unchangeable	<a href="#">“L2-79” on page 1212</a>
L2-80	0x9250	Bit8 of W2B module G	0 to 65535	0	-	Unchangeable	<a href="#">“L2-80” on page 1212</a>
L2-81	0x9251	Bit9 of W2B module G	0 to 65535	0	-	Unchangeable	<a href="#">“L2-81” on page 1212</a>
L2-82	0x9252	Bit10 of W2B module G	0 to 65535	0	-	Unchangeable	<a href="#">“L2-82” on page 1212</a>
L2-83	0x9253	Bit11 of W2B module G	0 to 65535	0	-	Unchangeable	<a href="#">“L2-83” on page 1212</a>
L2-84	0x9254	Bit12 of W2B module G	0 to 65535	0	-	Unchangeable	<a href="#">“L2-84” on page 1213</a>
L2-85	0x9255	Bit13 of W2B module G	0 to 65535	0	-	Unchangeable	<a href="#">“L2-85” on page 1213</a>
L2-86	0x9256	Bit14 of W2B module G	0 to 65535	0	-	Unchangeable	<a href="#">“L2-86” on page 1213</a>
L2-87	0x9257	Bit15 of W2B module G	0 to 65535	0	-	Unchangeable	<a href="#">“L2-87” on page 1213</a>
L2-88	0x9258	Bit0 of W2B module H	0 to 65535	0	-	Unchangeable	<a href="#">“L2-88” on page 1213</a>
L2-89	0x9259	Bit1 of W2B module H	0 to 65535	0	-	Unchangeable	<a href="#">“L2-89” on page 1213</a>
L2-90	0x925A	Bit2 of W2B module H	0 to 65535	0	-	Unchangeable	<a href="#">“L2-90” on page 1214</a>
L2-91	0x925B	Bit3 of W2B module H	0 to 65535	0	-	Unchangeable	<a href="#">“L2-91” on page 1214</a>
L2-92	0x925C	Bit4 of W2B module H	0 to 65535	0	-	Unchangeable	<a href="#">“L2-92” on page 1214</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
L2-93	0x925D	Bit5 of W2B module H	0 to 65535	0	-	Unchangeable	<a href="#">“L2-93” on page 1214</a>
L2-94	0x925E	Bit6 of W2B module H	0 to 65535	0	-	Unchangeable	<a href="#">“L2-94” on page 1214</a>
L2-95	0x925F	Bit7 of W2B module H	0 to 65535	0	-	Unchangeable	<a href="#">“L2-95” on page 1215</a>
L2-96	0x9260	Bit8 of W2B module H	0 to 65535	0	-	Unchangeable	<a href="#">“L2-96” on page 1215</a>
L2-97	0x9261	Bit9 of W2B module H	0 to 65535	0	-	Unchangeable	<a href="#">“L2-97” on page 1215</a>
L2-98	0x9262	Bit10 of W2B module H	0 to 65535	0	-	Unchangeable	<a href="#">“L2-98” on page 1215</a>
L2-99	0x9263	Bit11 of W2B module H	0 to 65535	0	-	Unchangeable	<a href="#">“L2-99” on page 1215</a>
L3-00	0x9300	Bit12 of W2B module H	0 to 65535	0	-	Unchangeable	<a href="#">“L3-00” on page 1216</a>
L3-01	0x9301	Bit13 of W2B module H	0 to 65535	0	-	Unchangeable	<a href="#">“L3-01” on page 1216</a>
L3-02	0x9302	Bit14 of W2B module H	0 to 65535	0	-	Unchangeable	<a href="#">“L3-02” on page 1216</a>
L3-03	0x9303	Bit15 of W2B module H	0 to 65535	0	-	Unchangeable	<a href="#">“L3-03” on page 1216</a>
L3-04	0x9304	Output of binary selector module A	0 to 65535	0	-	Unchangeable	<a href="#">“L3-04” on page 1216</a>
L3-05	0x9305	Output of binary selector module B	0 to 65535	0	-	Unchangeable	<a href="#">“L3-05” on page 1217</a>
L3-06	0x9306	Output of binary selector module C	0 to 65535	0	-	Unchangeable	<a href="#">“L3-06” on page 1217</a>
L3-07	0x9307	Output of binary selector module D	0 to 65535	0	-	Unchangeable	<a href="#">“L3-07” on page 1217</a>
L3-08	0x9308	Output of binary selector module E	0 to 65535	0	-	Unchangeable	<a href="#">“L3-08” on page 1217</a>
L3-09	0x9309	Output of binary selector module F	0 to 65535	0	-	Unchangeable	<a href="#">“L3-09” on page 1217</a>
L3-10	0x930A	Output of binary selector module G	0 to 65535	0	-	Unchangeable	<a href="#">“L3-10” on page 1218</a>
L3-11	0x930B	Output of binary selector module H	0 to 65535	0	-	Unchangeable	<a href="#">“L3-11” on page 1218</a>
L3-20	0x9314	Output of logic delay module A	0 to 65535	0	-	Unchangeable	<a href="#">“L3-20” on page 1218</a>
L3-21	0x9315	Output of logic delay module B	0 to 65535	0	-	Unchangeable	<a href="#">“L3-21” on page 1218</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
L3-22	0x9316	Output of logic delay module C	0 to 65535	0	-	Unchangeable	<a href="#">“L3-22” on page 1218</a>
L3-23	0x9317	Output of logic delay module D	0 to 65535	0	-	Unchangeable	<a href="#">“L3-23” on page 1219</a>
L3-24	0x9318	Output of logic delay module E	0 to 65535	0	-	Unchangeable	<a href="#">“L3-24” on page 1219</a>
L3-25	0x9319	Output of logic delay module F	0 to 65535	0	-	Unchangeable	<a href="#">“L3-25” on page 1219</a>
L3-26	0x931A	Output of logic delay module G	0 to 65535	0	-	Unchangeable	<a href="#">“L3-26” on page 1219</a>
L3-27	0x931B	Output of logic delay module H	0 to 65535	0	-	Unchangeable	<a href="#">“L3-27” on page 1219</a>
L3-36	0x9324	Output of logic AND-OR module A	0 to 65535	0	-	Unchangeable	<a href="#">“L3-36” on page 1220</a>
L3-37	0x9325	Output of logic AND-OR module B	0 to 65535	0	-	Unchangeable	<a href="#">“L3-37” on page 1220</a>
L3-38	0x9326	Output of logic AND-OR module C	0 to 65535	0	-	Unchangeable	<a href="#">“L3-38” on page 1220</a>
L3-39	0x9327	Output of logic AND-OR module D	0 to 65535	0	-	Unchangeable	<a href="#">“L3-39” on page 1220</a>
L3-40	0x9328	Output of logic AND-OR module E	0 to 65535	0	-	Unchangeable	<a href="#">“L3-40” on page 1220</a>
L3-41	0x9329	Output of logic AND-OR module F	0 to 65535	0	-	Unchangeable	<a href="#">“L3-41” on page 1220</a>
L3-42	0x932A	Output of logic AND-OR module G	0 to 65535	0	-	Unchangeable	<a href="#">“L3-42” on page 1221</a>
L3-43	0x932B	Output of logic AND-OR module H	0 to 65535	0	-	Unchangeable	<a href="#">“L3-43” on page 1221</a>
L3-44	0x932C	Output of logic AND-OR module I	0 to 65535	0	-	Unchangeable	<a href="#">“L3-44” on page 1221</a>
L3-45	0x932D	Output of logic AND-OR module J	0 to 65535	0	-	Unchangeable	<a href="#">“L3-45” on page 1221</a>
L3-46	0x932E	Output of logic AND-OR module K	0 to 65535	0	-	Unchangeable	<a href="#">“L3-46” on page 1221</a>
L3-47	0x932F	Output of logic AND-OR module L	0 to 65535	0	-	Unchangeable	<a href="#">“L3-47” on page 1222</a>
L3-52	0x9334	Output of logic NOT module A	0 to 65535	0	-	Unchangeable	<a href="#">“L3-52” on page 1222</a>
L3-53	0x9335	Output of logic NOT module B	0 to 65535	0	-	Unchangeable	<a href="#">“L3-53” on page 1222</a>
L3-54	0x9336	Output of logic NOT module C	0 to 65535	0	-	Unchangeable	<a href="#">“L3-54” on page 1222</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
L3-55	0x9337	Output of logic NOT module D	0 to 65535	0	-	Unchangeable	<a href="#">“L3-55” on page 1222</a>
L3-56	0x9338	Output of logic NOT module E	0 to 65535	0	-	Unchangeable	<a href="#">“L3-56” on page 1223</a>
L3-57	0x9339	Output of logic NOT module F	0 to 65535	0	-	Unchangeable	<a href="#">“L3-57” on page 1223</a>
L3-58	0x933A	Output of logic NOT module G	0 to 65535	0	-	Unchangeable	<a href="#">“L3-58” on page 1223</a>
L3-59	0x933B	Output of logic NOT module H	0 to 65535	0	-	Unchangeable	<a href="#">“L3-59” on page 1223</a>
L3-60	0x933C	Output of logic NOT module I	0 to 65535	0	-	Unchangeable	<a href="#">“L3-60” on page 1223</a>
L3-61	0x933D	Output of logic NOT module J	0 to 65535	0	-	Unchangeable	<a href="#">“L3-61” on page 1224</a>
L3-62	0x933E	Output of logic NOT module K	0 to 65535	0	-	Unchangeable	<a href="#">“L3-62” on page 1224</a>
L3-63	0x933F	Output of logic NOT module L	0 to 65535	0	-	Unchangeable	<a href="#">“L3-63” on page 1224</a>
L3-64	0x9340	Output of logic NOT module M	0 to 65535	0	-	Unchangeable	<a href="#">“L3-64” on page 1224</a>
L3-65	0x9341	Output of logic NOT module N	0 to 65535	0	-	Unchangeable	<a href="#">“L3-65” on page 1224</a>
L3-66	0x9342	Output of logic NOT module O	0 to 65535	0	-	Unchangeable	<a href="#">“L3-66” on page 1225</a>
L3-67	0x9343	Output of logic NOT module P	0 to 65535	0	-	Unchangeable	<a href="#">“L3-67” on page 1225</a>
L3-68	0x9344	Output of logic XOR/XNOR module A	0 to 65535	0	-	Unchangeable	<a href="#">“L3-68” on page 1225</a>
L3-69	0x9345	Output of logic XOR/XNOR module B	0 to 65535	0	-	Unchangeable	<a href="#">“L3-69” on page 1225</a>
L3-70	0x9346	Output of logic XOR/XNOR module C	0 to 65535	0	-	Unchangeable	<a href="#">“L3-70” on page 1225</a>
L3-71	0x9347	Output of logic XOR/XNOR module D	0 to 65535	0	-	Unchangeable	<a href="#">“L3-71” on page 1225</a>
L3-72	0x9348	Output of logic XOR/XNOR module E	0 to 65535	0	-	Unchangeable	<a href="#">“L3-72” on page 1226</a>
L3-73	0x9349	Output of logic XOR/XNOR module F	0 to 65535	0	-	Unchangeable	<a href="#">“L3-73” on page 1226</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
L3-74	0x934A	Output of logic XOR/XNOR module G	0 to 65535	0	-	Unchangeable	<a href="#">“L3-74” on page 1226</a>
L3-75	0x934B	Output of logic XOR/XNOR module H	0 to 65535	0	-	Unchangeable	<a href="#">“L3-75” on page 1226</a>
L3-84	0x9354	Output of level-to-pulse conversion module A	0 to 65535	0	-	Unchangeable	<a href="#">“L3-84” on page 1226</a>
L3-85	0x9355	Output of level-to-pulse conversion module B	0 to 65535	0	-	Unchangeable	<a href="#">“L3-85” on page 1227</a>
L3-86	0x9356	Output of level-to-pulse conversion module C	0 to 65535	0	-	Unchangeable	<a href="#">“L3-86” on page 1227</a>
L3-87	0x9357	Output of level-to-pulse conversion module D	0 to 65535	0	-	Unchangeable	<a href="#">“L3-87” on page 1227</a>
L4-00	0x9400	Output of floating-point comparison module A	0 to 65535	0	-	Unchangeable	<a href="#">“L4-00” on page 1227</a>
L4-01	0x9401	Output of floating-point comparison module B	0 to 65535	0	-	Unchangeable	<a href="#">“L4-01” on page 1227</a>
L4-02	0x9402	Output of floating-point comparison module C	0 to 65535	0	-	Unchangeable	<a href="#">“L4-02” on page 1228</a>
L4-03	0x9403	Output of floating-point comparison module D	0 to 65535	0	-	Unchangeable	<a href="#">“L4-03” on page 1228</a>
L4-04	0x9404	Output of fixed-point comparison module E	0 to 65535	0	-	Unchangeable	<a href="#">“L4-04” on page 1228</a>
L4-05	0x9405	Output of fixed-point comparison module F	0 to 65535	0	-	Unchangeable	<a href="#">“L4-05” on page 1228</a>
L4-06	0x9406	Output of fixed-point comparison module G	0 to 65535	0	-	Unchangeable	<a href="#">“L4-06” on page 1228</a>
L4-07	0x9407	Output of fixed-point comparison module H	0 to 65535	0	-	Unchangeable	<a href="#">“L4-07” on page 1229</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
L4-16	0x9410	Flag indicating whether input of floating-point absolute value module A is negative	0: Not negative 1: Negative	0	-	Unchangeable	<a href="#">“L4-16” on page 1229</a>
L4-17	0x9411	Flag indicating whether input of floating-point absolute value module B is negative	0: Not negative 1: Negative	0	-	Unchangeable	<a href="#">“L4-17” on page 1229</a>
L4-18	0x9412	Flag indicating whether input of floating-point absolute value module C is negative	0: Not negative 1: Negative	0	-	Unchangeable	<a href="#">“L4-18” on page 1229</a>
L4-19	0x9413	Flag indicating whether input of floating-point absolute value module D is negative	0: Not negative 1: Negative	0	-	Unchangeable	<a href="#">“L4-19” on page 1229</a>
L4-20	0x9414	Flag indicating whether input of floating-point absolute value module E is negative	0: Not negative 1: Negative	0	-	Unchangeable	<a href="#">“L4-20” on page 1230</a>
L4-21	0x9415	Flag indicating whether input of fixed-point absolute value module F is negative	0: Not negative 1: Negative	0	-	Unchangeable	<a href="#">“L4-21” on page 1230</a>
L4-22	0x9416	Flag indicating whether input of fixed-point absolute value module G is negative	0: Not negative 1: Negative	0	-	Unchangeable	<a href="#">“L4-22” on page 1230</a>
L4-23	0x9417	Flag indicating whether input of fixed-point absolute value module H is negative	0: Not negative 1: Negative	0	-	Unchangeable	<a href="#">“L4-23” on page 1230</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
L4-32	0x9420	Flag indicating whether divisor of MULTIPLY/DIVIDE module A is 0	0: Not 0 1: 0	0	-	Unchangeable	<a href="#">“L4-32” on page 1231</a>
L4-33	0x9421	Flag indicating whether divisor of MULTIPLY/DIVIDE module B is 0	0: Not 0 1: 0	0	-	Unchangeable	<a href="#">“L4-33” on page 1231</a>
L4-34	0x9422	Flag indicating whether divisor of MULTIPLY/DIVIDE module C is 0	0: Not 0 1: 0	0	-	Unchangeable	<a href="#">“L4-34” on page 1231</a>
L4-35	0x9423	Flag indicating whether divisor of MULTIPLY/DIVIDE module D is 0	0: Not 0 1: 0	0	-	Unchangeable	<a href="#">“L4-35” on page 1231</a>
L4-36	0x9424	Flag indicating whether divisor of MULTIPLY/DIVIDE module E is 0	0: Not 0 1: 0	0	-	Unchangeable	<a href="#">“L4-36” on page 1231</a>
L4-37	0x9425	Flag indicating whether divisor of MULTIPLY/DIVIDE module F is 0	0: Not 0 1: 0	0	-	Unchangeable	<a href="#">“L4-37” on page 1232</a>
L4-38	0x9426	Flag indicating whether divisor of MULTIPLY/DIVIDE module G is 0	0: Not 0 1: 0	0	-	Unchangeable	<a href="#">“L4-38” on page 1232</a>
L4-39	0x9427	Flag indicating whether divisor of MULTIPLY/DIVIDE module H is 0	0: Not 0 1: 0	0	-	Unchangeable	<a href="#">“L4-39” on page 1232</a>
L4-48	0x9430	Upper limit flag of limiting module A	0 to 65535	0	-	Unchangeable	<a href="#">“L4-48” on page 1232</a>
L4-49	0x9431	Lower limit flag of limiting module A	0 to 65535	0	-	Unchangeable	<a href="#">“L4-49” on page 1232</a>
L4-50	0x9432	Upper limit flag of limiting module B	0 to 65535	0	-	Unchangeable	<a href="#">“L4-50” on page 1233</a>
L4-51	0x9433	Lower limit flag of limiting module B	0 to 65535	0	-	Unchangeable	<a href="#">“L4-51” on page 1233</a>
L4-52	0x9434	Upper limit flag of limiting module C	0 to 65535	0	-	Unchangeable	<a href="#">“L4-52” on page 1233</a>
L4-53	0x9435	Lower limit flag of limiting module C	0 to 65535	0	-	Unchangeable	<a href="#">“L4-53” on page 1233</a>
L4-54	0x9436	Upper limit flag of limiting module D	0 to 65535	0	-	Unchangeable	<a href="#">“L4-54” on page 1233</a>



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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
L4-55	0x9437	Lower limit flag of limiting module D	0 to 65535	0	-	Unchangeable	<a href="#">“L4-55” on page 1234</a>
L4-56	0x9438	Upper limit flag of limiting module E	0 to 65535	0	-	Unchangeable	<a href="#">“L4-56” on page 1234</a>
L4-57	0x9439	Lower limit flag of limiting module E	0 to 65535	0	-	Unchangeable	<a href="#">“L4-57” on page 1234</a>
L4-58	0x943A	Upper limit flag of limiting module F	0 to 65535	0	-	Unchangeable	<a href="#">“L4-58” on page 1234</a>
L4-59	0x943B	Lower limit flag of limiting module F	0 to 65535	0	-	Unchangeable	<a href="#">“L4-59” on page 1234</a>
L4-64	0x9440	Hibernation enable flag	0 to 65535	0	-	Unchangeable	<a href="#">“L4-64” on page 1235</a>
L4-66	0x9442	Startup frequency RFG forcing	0 to 65535	0	-	Unchangeable	<a href="#">“L4-66” on page 1235</a>
L4-67	0x9443	Startup frequency stop flag	0 to 65535	0	-	Unchangeable	<a href="#">“L4-67” on page 1235</a>
L4-72	0x9448	Power-on duration reach	0 to 65535	0	-	Unchangeable	<a href="#">“L4-72” on page 1235</a>
L4-73	0x9449	Running duration reach	0 to 65535	0	-	Unchangeable	<a href="#">“L4-73” on page 1235</a>
L4-74	0x944A	Timing duration reach	0 to 65535	0	-	Unchangeable	<a href="#">“L4-74” on page 1236</a>
L4-75	0x944B	Current running duration reach	0 to 65535	0	-	Unchangeable	<a href="#">“L4-75” on page 1236</a>
L5-00	0x9500	System status word 1	Bit00: Ready to switch on Bit01: Ready to run Bit02: Running Bit03: Faulty Bit04: OFF2 Bit05: OFF3 Bit06: Switch-on blocking Bit07: Running with limits Bit08: No speed deviation Bit09: Local or remote Bit10: Target speed reach Bit11: Torque limiting Bit12: Positive speed Bit13: Negative speed Bit14: Running (pulse output) Bit15: User-defined state 0	0	-	Unchangeable	<a href="#">“L5-00” on page 1236</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
L5-01	0x9501	System status word 2	Bit00: Self-check Bit01: Auto-tuning Bit02: Limit state Bit03: Alarm state Bit04: Speed mode Bit05: Torque mode Bit06: Position mode Bit07: RFG enable Bit08: RFG running Bit09: Stop upon fault Bit10: Normal running Bit11: Jogging Bit12: Decelerate to stop Bit13: Reserved Bit14: Terminal control Bit15: User-defined state 1	0	-	Unchangeable	<a href="#">“L5-01” on page 1237</a>
L5-02	0x9502	Main status word of drive	0 to 65535	0	-	Unchangeable	<a href="#">“L5-02” on page 1237</a>
L5-03	0x9503	Auxiliary status word of drive	0 to 65535	0	-	Unchangeable	<a href="#">“L5-03” on page 1237</a>
L5-04	0x9504	Main status word of motor	0 to 65535	0	-	Unchangeable	<a href="#">“L5-04” on page 1237</a>
L5-05	0x9505	Auxiliary status word of motor	0 to 65535	0	-	Unchangeable	<a href="#">“L5-05” on page 1238</a>
L5-06	0x9506	Current state of system state machine	0: Initializing 1: Switch-on prohibited 2: Switch-on allowed 3: Running allowed 4: Started 5: Running 6: Stopped 7: Self-check 8: Auto-tuning	0	-	Unchangeable	<a href="#">“L5-06” on page 1238</a>
L5-07	0x9507	System state machine switchover command	Bit00: Startup active Bit01: Stop active Bit02: OFF2 stop active Bit03: OFF3 stop active Bit04: Running permission active Bit05: Running prohibition active Bit06: Stop upon fault active	0	-	Unchangeable	<a href="#">“L5-07” on page 1238</a>
L5-08	0x9508	System running state	0 to 65535	0	-	Unchangeable	<a href="#">“L5-08” on page 1239</a>
L5-09	0x9509	Current stop mode	0: Coast to stop 1: Stop at maximum capability 2: Quick stop 3: Decelerate to stop	0	-	Unchangeable	<a href="#">“L5-09” on page 1239</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
L5-10	0x950A	DC braking state during deceleration to stop	0 to 65535	0	-	Unchangeable	<a href="#">“L5-10” on page 1239</a>
L5-17	0x9511	Bus voltage	0.0 V to 6553.5 V	0.0	V	Unchangeable	<a href="#">“L5-17” on page 1239</a>
L5-20	0x9514	IGBT temperature	0.0 to 6553.5	0.0	-	Unchangeable	<a href="#">“L5-20” on page 1239</a>
L5-21	0x9515	LED control word	0 to 65535	0	-	Unchangeable	<a href="#">“L5-21” on page 1240</a>
L5-22	0x9516	IDS control word	0 to 65535	0	-	Unchangeable	<a href="#">“L5-22” on page 1240</a>
L5-23	0x9517	SOP control word	0 to 65535	0	-	Unchangeable	<a href="#">“L5-23” on page 1240</a>
L5-24	0x9518	Command channel system command	0 to 65535	0	-	Unchangeable	<a href="#">“L5-24” on page 1240</a>
L5-25	0x9519	LED command clear flag	0 to 65535	0	-	Unchangeable	<a href="#">“L5-25” on page 1240</a>
L5-26	0x951A	SOP command clear flag	0 to 65535	0	-	Unchangeable	<a href="#">“L5-26” on page 1241</a>
L5-27	0x951B	IDS command clear flag	0 to 65535	0	-	Unchangeable	<a href="#">“L5-27” on page 1241</a>
L5-28	0x951C	Terminal module command	0 to 65535	0	-	Unchangeable	<a href="#">“L5-28” on page 1241</a>
L5-29	0x951D	Input state of terminal module A	0 to 65535	0	-	Unchangeable	<a href="#">“L5-29” on page 1241</a>
L5-30	0x951E	Input state of terminal module B	0 to 65535	0	-	Unchangeable	<a href="#">“L5-30” on page 1241</a>
L5-31	0x951F	Running mode (normal jogging)	0 to 65535	0	-	Unchangeable	<a href="#">“L5-31” on page 1241</a>
L5-32	0x9520	Jogging source 12	0 to 65535	0	-	Unchangeable	<a href="#">“L5-32” on page 1242</a>
L5-33	0x9521	Control target	0: Speed control 1: Torque control 1: Position control	0	-	Unchangeable	<a href="#">“L5-33” on page 1242</a>
L5-34	0x9522	RFG status word	0 to 65535	0	-	Unchangeable	<a href="#">“L5-34” on page 1242</a>
L5-35	0x9523	RFG command word	0 to 65535	0	-	Unchangeable	<a href="#">“L5-35” on page 1242</a>
L5-38	0x9526	V/f separation time set to 0	0 to 65535	0	-	Unchangeable	<a href="#">“L5-38” on page 1243</a>
L5-40	0x9528	All raw sampling value	-32.767 V to +32.767 V	0.000	V	Unchangeable	<a href="#">“L5-40” on page 1243</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
L5-41	0x9529	AI2 raw sampling value	-32.767 V to +32.767 V	0.000	V	Unchangeable	<a href="#">“L5-41” on page 1243</a>
L5-42	0x952A	AI3 raw sampling value	-32.767 V to +32.767 V	0.000	V	Unchangeable	<a href="#">“L5-42” on page 1243</a>
L5-43	0x952B	AI1 sampling value after correction	-327.67 V to +327.67 V	0.00	V	Unchangeable	<a href="#">“L5-43” on page 1243</a>
L5-44	0x952C	AI2 sampling value after correction	-327.67 V to +327.67 V	0.00	V	Unchangeable	<a href="#">“L5-44” on page 1243</a>
L5-45	0x952D	AI3 sampling value after correction	-327.67 V to +327.67 V	0.00	V	Unchangeable	<a href="#">“L5-45” on page 1244</a>
L5-46	0x952E	Input value of AI1 curve	-327.67 V to +327.67 V	0.00	V	Unchangeable	<a href="#">“L5-46” on page 1244</a>
L5-47	0x952F	Input value of AI2 curve	-327.67 V to +327.67 V	0.00	V	Unchangeable	<a href="#">“L5-47” on page 1244</a>
L5-48	0x9530	Input value of AI3 curve	-327.67 V to +327.67 V	0.00	V	Unchangeable	<a href="#">“L5-48” on page 1244</a>
L5-49	0x9531	AO1 output (before correction)	-327.67 V to +327.67 V	0.00	V	Unchangeable	<a href="#">“L5-49” on page 1244</a>
L5-50	0x9532	AO2 output (before correction)	-327.67 V to +327.67 V	0.00	V	Unchangeable	<a href="#">“L5-50” on page 1245</a>
L5-51	0x9533	AO1 output (after correction)	-32.767 V to +32.767 V	0.000	V	Unchangeable	<a href="#">“L5-51” on page 1245</a>
L5-52	0x9534	AO2 output (after correction)	-32.767 V to +32.767 V	0.000	V	Unchangeable	<a href="#">“L5-52” on page 1245</a>
L5-53	0x9535	HDI input frequency	0.00 kHz to 655.35 kHz	0.00	kHz	Unchangeable	<a href="#">“L5-53” on page 1245</a>
L5-54	0x9536	Counter output	0 to 65535	0	-	Unchangeable	<a href="#">“L5-54” on page 1245</a>
L5-55	0x9537	Length count	0 to 65535	0	-	Unchangeable	<a href="#">“L5-55” on page 1246</a>
L5-56	0x9538	Command word set through communication	Bit00: OFF1 Bit01: OFF2 Bit02: OFF3 Bit03: Running permission Bit04: Reset Bit05: JOG1 Bit06: JOG2 Bit07: Speed negation	0	-	Unchangeable	<a href="#">“L5-56” on page 1246</a>
L5-57	0x9539	Communication setpoint	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“L5-57” on page 1246</a>
L5-58	0x953A	Communication command clear flag	0 to 65535	0	-	Unchangeable	<a href="#">“L5-58” on page 1246</a>
L5-59	0x953B	RFG performance forcing enable	0 to 65535	0	-	Unchangeable	<a href="#">“L5-59” on page 1247</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
L5-60	0x953C	Pre-auto-tuning command	0 to 65535	0	-	Unchangeable	<a href="#">“L5-60” on page 1247</a>
L5-62	0x953E	DI immediate DC braking command	0 to 65535	0	-	Unchangeable	<a href="#">“L5-62” on page 1247</a>
L5-63	0x953F	Drive sampling DI state	0 to 65535	0	-	Unchangeable	<a href="#">“L5-63” on page 1247</a>
L5-64	0x9540	Drive output DI state	0 to 65535	0	-	Unchangeable	<a href="#">“L5-64” on page 1247</a>
L5-65	0x9541	Final output DI state	0 to 65535	0	-	Unchangeable	<a href="#">“L5-65” on page 1247</a>
L5-66	0x9542	DI state inversion	0 to 65535	0	-	Unchangeable	<a href="#">“L5-66” on page 1248</a>
L5-67	0x9543	DO state before filtering	0 to 65535	0	-	Unchangeable	<a href="#">“L5-67” on page 1248</a>
L5-68	0x9544	Final output DO state	0 to 65535	0	-	Unchangeable	<a href="#">“L5-68” on page 1248</a>
L5-69	0x9545	I/O monitoring state	0 to 65535	0	-	Unchangeable	<a href="#">“L5-69” on page 1248</a>
L5-70	0x9546	Main speed	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“L5-70” on page 1248</a>
L5-71	0x9547	Auxiliary speed	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“L5-71” on page 1249</a>
L5-73	0x9549	AI2 sampling current 1 after correction (impedance: 500 Ω)	-327.67 mA to +327.67 mA	0.00	mA	Unchangeable	<a href="#">“L5-73” on page 1249</a>
L5-75	0x954B	AO1 output current (before correction)	-327.67 mA to +327.67 mA	0.00	mA	Unchangeable	<a href="#">“L5-75” on page 1249</a>
L5-76	0x954C	AO2 output current (before correction)	-327.67 mA to +327.67 mA	0.00	mA	Unchangeable	<a href="#">“L5-76” on page 1249</a>
L5-77	0x954D	AI2 sampling current 2 after correction (impedance: 250 Ω)	-327.67 mA to +327.67 mA	0.00	mA	Unchangeable	<a href="#">“L5-77” on page 1249</a>
L5-78	0x954E	Flag indicating whether mapping write data is 32-bit	0 to 65535	0	-	Unchangeable	<a href="#">“L5-78” on page 1250</a>
L5-79	0x954F	External communication data low-order 16 bits 1	0 to 65535	0	-	Unchangeable	<a href="#">“L5-79” on page 1250</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
L5-80	0x9550	External communication data low-order 16 bits 2	0 to 65535	0	-	Unchangeable	<a href="#">“L5-80” on page 1250</a>
L5-81	0x9551	External communication data low-order 16 bits 3	0 to 65535	0	-	Unchangeable	<a href="#">“L5-81” on page 1250</a>
L5-82	0x9552	External communication data low-order 16 bits 4	0 to 65535	0	-	Unchangeable	<a href="#">“L5-82” on page 1250</a>
L5-83	0x9553	External communication data low-order 16 bits 5	0 to 65535	0	-	Unchangeable	<a href="#">“L5-83” on page 1251</a>
L5-84	0x9554	External communication data low-order 16 bits 6	0 to 65535	0	-	Unchangeable	<a href="#">“L5-84” on page 1251</a>
L5-85	0x9555	External communication data low-order 16 bits 7	0 to 65535	0	-	Unchangeable	<a href="#">“L5-85” on page 1251</a>
L5-86	0x9556	External communication data low-order 16 bits 8	0 to 65535	0	-	Unchangeable	<a href="#">“L5-86” on page 1251</a>
L5-87	0x9557	External communication data low-order 16 bits 9	0 to 65535	0	-	Unchangeable	<a href="#">“L5-87” on page 1251</a>
L5-88	0x9558	External communication data low-order 16 bits 10	0 to 65535	0	-	Unchangeable	<a href="#">“L5-88” on page 1252</a>
L5-89	0x9559	External communication data high-order 16 bits 1	0 to 65535	0	-	Unchangeable	<a href="#">“L5-89” on page 1252</a>
L5-90	0x955A	External communication data high-order 16 bits 2	0 to 65535	0	-	Unchangeable	<a href="#">“L5-90” on page 1252</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
L5-91	0x955B	External communication data high-order 16 bits 3	0 to 65535	0	-	Unchangeable	<a href="#">“L5-91” on page 1252</a>
L5-92	0x955C	External communication data high-order 16 bits 4	0 to 65535	0	-	Unchangeable	<a href="#">“L5-92” on page 1252</a>
L5-93	0x955D	External communication data high-order 16 bits 5	0 to 65535	0	-	Unchangeable	<a href="#">“L5-93” on page 1252</a>
L5-94	0x955E	External communication data high-order 16 bits 6	0 to 65535	0	-	Unchangeable	<a href="#">“L5-94” on page 1253</a>
L5-95	0x955F	External communication data high-order 16 bits 7	0 to 65535	0	-	Unchangeable	<a href="#">“L5-95” on page 1253</a>
L5-96	0x9560	External communication data high-order 16 bits 8	0 to 65535	0	-	Unchangeable	<a href="#">“L5-96” on page 1253</a>
L5-97	0x9561	External communication data high-order 16 bits 9	0 to 65535	0	-	Unchangeable	<a href="#">“L5-97” on page 1253</a>
L5-98	0x9562	External communication data high-order 16 bits 10	0 to 65535	0	-	Unchangeable	<a href="#">“L5-98” on page 1253</a>
L6-00	0x9600	Rated motor speed	0 RPM to 65535 RPM	0	RPM	Unchangeable	<a href="#">“L6-00” on page 1254</a>
L6-01	0x9601	Rated motor frequency	0.0 Hz to 6553.5 Hz	0.0	Hz	Unchangeable	<a href="#">“L6-01” on page 1254</a>
L6-02	0x9602	Rated voltage	0.0 V to 6553.5 V	0.0	V	Unchangeable	<a href="#">“L6-02” on page 1254</a>
L6-03	0x9603	Rated current	0.0 A to 6553.5 A	0.0	A	Unchangeable	<a href="#">“L6-03” on page 1254</a>
L6-04	0x9604	Rated power	0.0 kW to 6553.5 kW	0.0	kW	Unchangeable	<a href="#">“L6-04” on page 1254</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
L6-05	0x9605	System main status word C	Bit00: Control channel Bit01: Reference channel Bit02: Motor selection bit 0 Bit03: Motor selection bit 1 Bit04: Exception (fault and alarm) Bit05: EEPROM idle	0	-	Unchangeable	<a href="#">“L6-05” on page 1255</a>
L6-06	0x9606	Motor object auxiliary status word 2	0 to 65535	0	-	Unchangeable	<a href="#">“L6-06” on page 1255</a>
L6-07	0x9607	V/f separation stop frequency control	0 to 65535	0	-	Unchangeable	<a href="#">“L6-07” on page 1255</a>
L6-08	0x9608	Torque control frequency offset mode	0 to 65535	0	-	Unchangeable	<a href="#">“L6-08” on page 1255</a>
L6-09	0x9609	RFG acceleration/ deceleration state	0 to 65535	0	-	Unchangeable	<a href="#">“L6-09” on page 1256</a>
L6-10	0x960A	RFG rounding state	0 to 65535	0	-	Unchangeable	<a href="#">“L6-10” on page 1256</a>
L6-11	0x960B	Inverter protection state monitoring	Bit00: Pulse-by-pulse current limit protection Bit01: Pulse-by-pulse current limit inhibition Bit02: Input phase loss Bit03: Output phase loss Bit04: Pre-charge resistor exception Bit05: Drive overload Bit06: Drive pre-overload Bit07: Bus overvoltage Bit08: Bus undervoltage Bit09: Output overcurrent Bit10: Drive overtemperature Bit11: Drive pre-temperature Bit12: Leakage current protection Bit13: Current control exception Bit14: Software overcurrent Bit15: Short-to-ground (reserved)	0	-	Unchangeable	<a href="#">“L6-11” on page 1256</a>
L6-12	0x960C	Modulation module status word	0 to 65535	0	-	Unchangeable	<a href="#">“L6-12” on page 1256</a>
L6-13	0x960D	Body sampling status word	0 to 65535	0	-	Unchangeable	<a href="#">“L6-13” on page 1257</a>
L6-14	0x960E	AI2 temperature mode - motor temperature sampling value	-32767°C to +32767°C	0	°C	Unchangeable	<a href="#">“L6-14” on page 1257</a>
L6-15	0x960F	AI3 temperature mode - motor temperature sampling value	0°C to 65535°C	0	°C	Unchangeable	<a href="#">“L6-15” on page 1257</a>



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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
L6-16	0x9610	Motor protection status word	Bit00: Motor overload Bit01: Motor pre-overload Bit02: Output load loss (reserved) Bit03: PG-detected fault (reserved) Bit04: Current control error Bit05: Locked-rotor Bit06: Motor wire breakage, two- or three-phase loss (reserved) Bit07: Excessive motor load at constant current (reserved) Bit08: VC out-of-step due to magnetic flux exception Bit09: Abnormal speed fluctuation (reserved) Bit10: Motor parameter setting error (reserved) Bit11: HSVM sampling card wire breakage and misphase (reserved) Bit12: Synchronous motor overcurrent (reserved)	0	-	Unchangeable	<a href="#">“L6-16” on page 1257</a>
L6-17	0x9611	Speed controller status word	Bit00: Speed loop enable Bit01: Actual state of integral mode Bit02: Integral forcing enable Bit03: Feedforward torque enable Bit04: Positive limit reach Bit05: Negative limit reach Bit06: Integral hold enable Bit07: Fast integral cancel enable Bit08: Anti-load disturbance enable Bit09: Reserved Bit10: Reserved Bit11: Reserved Bit12: Reserved Bit13: Reserved Bit14: Reserved Bit15: Reserved	0	-	Unchangeable	<a href="#">“L6-17” on page 1258</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
L6-18	0x9612	VDC control status word	Bit00: Undervoltage suppression enable Bit01: Overvoltage suppression enable Bit02: Low frequency lower limit for enabling undervoltage suppression Bit03: Reserved Bit04: Reserved Bit05: Reserved Bit06: Reserved Bit07: Reserved Bit08: Reserved Bit09: Reserved Bit10: Reserved Bit11: Reserved Bit12: Reserved Bit13: Reserved Bit14: Reserved Bit15: Reserved	0	-	Unchangeable	<a href="#">“L6-18” on page 1258</a>
L6-19	0x9613	Excitation module status word	0 to 65535	0	-	Unchangeable	<a href="#">“L6-19” on page 1259</a>
L6-20	0x9614	Motor model status word	0 to 65535	0	-	Unchangeable	<a href="#">“L6-20” on page 1259</a>
L6-21	0x9615	Motor current loop status word	0 to 65535	0	-	Unchangeable	<a href="#">“L6-21” on page 1259</a>
L6-22	0x9616	Motor V/f control status word	0 to 65535	0	-	Unchangeable	<a href="#">“L6-22” on page 1260</a>
L6-23	0x9617	Per-unit frequency after HDO function source selection	0.00% to 655.35%	0.00	%	Unchangeable	<a href="#">“L6-23” on page 1260</a>
L6-24	0x9618	Per-unit frequency before HDO curve correction	0.00% to 655.35%	0.00	%	Unchangeable	<a href="#">“L6-24” on page 1260</a>
L6-25	0x9619	Per-unit value of HDO final output frequency	0.00% to 655.35%	0.00	%	Unchangeable	<a href="#">“L6-25” on page 1260</a>
L6-26	0x961A	Actual value of HDO final output frequency	0.00 kHz to 655.35 kHz	0.00	kHz	Unchangeable	<a href="#">“L6-26” on page 1260</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
L6-35	0x9623	System main status word D	Bit0: Zero-speed running (inactive at stop) Bit1: Zero-speed running (active at stop) Bit2: Frequency-level detection 1 Bit3: Frequency-level detection 2 Bit4: AI1 > AI2 Bit5: Simple PLC cycle completion Bit6: Communication setpoint Bit7: STO state Bit8: Current 1 reach Bit9: Current 2 reach Bit10: Zero current state Bit11: Output overcurrent Bit12: Motor overload pre-warning Bit13: AC drive overload pre-warning Bit14: Undervoltage Bit15: Load loss	0	-	Unchangeable	<a href="#">“L6-35” on page 1260</a>
L7-00	0x9700	Per-unit constant value 22	0 to 65535	0	-	Unchangeable	<a href="#">“L7-00” on page 1261</a>
L7-01	0x9701	Per-unit constant value 23	0 to 65535	0	-	Unchangeable	<a href="#">“L7-01” on page 1261</a>
L7-02	0x9702	Per-unit constant value 24	0 to 65535	0	-	Unchangeable	<a href="#">“L7-02” on page 1261</a>
L7-03	0x9703	Per-unit constant value 25	0 to 65535	0	-	Unchangeable	<a href="#">“L7-03” on page 1262</a>
L7-04	0x9704	Per-unit constant value 26	0 to 65535	0	-	Unchangeable	<a href="#">“L7-04” on page 1262</a>
L7-05	0x9705	Per-unit constant value 27	0 to 65535	0	-	Unchangeable	<a href="#">“L7-05” on page 1262</a>
L7-06	0x9706	Per-unit constant value 28	0 to 65535	0	-	Unchangeable	<a href="#">“L7-06” on page 1262</a>
L7-07	0x9707	Per-unit constant value 29	0 to 65535	0	-	Unchangeable	<a href="#">“L7-07” on page 1262</a>
L7-08	0x9708	Per-unit constant value 30	0 to 65535	0	-	Unchangeable	<a href="#">“L7-08” on page 1263</a>
L7-09	0x9709	Per-unit constant value 31	0 to 65535	0	-	Unchangeable	<a href="#">“L7-09” on page 1263</a>
L7-10	0x970A	Per-unit constant value 32	0 to 65535	0	-	Unchangeable	<a href="#">“L7-10” on page 1263</a>
L7-11	0x970B	Per-unit constant value 33	0 to 65535	0	-	Unchangeable	<a href="#">“L7-11” on page 1263</a>
L7-12	0x970C	Per-unit constant value 34	0 to 65535	0	-	Unchangeable	<a href="#">“L7-12” on page 1263</a>
L7-13	0x970D	Per-unit constant value 35	0 to 65535	0	-	Unchangeable	<a href="#">“L7-13” on page 1264</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
L7-14	0x970E	Per-unit constant value 36	0 to 65535	0	-	Unchangeable	<a href="#">“L7-14” on page 1264</a>
L7-15	0x970F	Per-unit constant value 37	0 to 65535	0	-	Unchangeable	<a href="#">“L7-15” on page 1264</a>
L7-16	0x9710	Per-unit constant value 38	0 to 65535	0	-	Unchangeable	<a href="#">“L7-16” on page 1264</a>
L7-17	0x9711	Per-unit constant value 39	0 to 65535	0	-	Unchangeable	<a href="#">“L7-17” on page 1264</a>
L7-18	0x9712	Per-unit constant value 40	0 to 65535	0	-	Unchangeable	<a href="#">“L7-18” on page 1265</a>
L7-19	0x9713	Per-unit constant value 41	0 to 65535	0	-	Unchangeable	<a href="#">“L7-19” on page 1265</a>
L7-20	0x9714	Per-unit constant value 42	0 to 65535	0	-	Unchangeable	<a href="#">“L7-20” on page 1265</a>
L7-21	0x9715	B2W module A	0 to 65535	0	-	Unchangeable	<a href="#">“L7-21” on page 1265</a>
L7-22	0x9716	B2W module B	0 to 65535	0	-	Unchangeable	<a href="#">“L7-22” on page 1265</a>
L7-23	0x9717	B2W module C	0 to 65535	0	-	Unchangeable	<a href="#">“L7-23” on page 1265</a>
L7-24	0x9718	B2W module D	0 to 65535	0	-	Unchangeable	<a href="#">“L7-24” on page 1266</a>
L7-25	0x9719	DW-W HIWORD A	0 to 65535	0	-	Unchangeable	<a href="#">“L7-25” on page 1266</a>
L7-26	0x971A	DW-W LOWORD A	0 to 65535	0	-	Unchangeable	<a href="#">“L7-26” on page 1266</a>
L7-27	0x971B	DW-W HIWORD B	0 to 65535	0	-	Unchangeable	<a href="#">“L7-27” on page 1266</a>
L7-28	0x971C	DW-W LOWORD B	0 to 65535	0	-	Unchangeable	<a href="#">“L7-28” on page 1266</a>
L7-29	0x971D	DW-W HIWORD C	0 to 65535	0	-	Unchangeable	<a href="#">“L7-29” on page 1267</a>
L7-30	0x971E	DW-W LOWORD C	0 to 65535	0	-	Unchangeable	<a href="#">“L7-30” on page 1267</a>
L7-31	0x971F	DW-W HIWORD D	0 to 65535	0	-	Unchangeable	<a href="#">“L7-31” on page 1267</a>
L7-32	0x9720	DW-W LOWORD D	0 to 65535	0	-	Unchangeable	<a href="#">“L7-32” on page 1267</a>
L7-36	0x9724	16-bit parameter monitoring 1	0 to 65535	0	-	Unchangeable	<a href="#">“L7-36” on page 1267</a>
L7-37	0x9725	16-bit parameter monitoring 2	0 to 65535	0	-	Unchangeable	<a href="#">“L7-37” on page 1268</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
L7-38	0x9726	16-bit parameter monitoring 3	0 to 65535	0	-	Unchangeable	<a href="#">“L7-38” on page 1268</a>
L7-39	0x9727	16-bit parameter monitoring 4	0 to 65535	0	-	Unchangeable	<a href="#">“L7-39” on page 1268</a>
L7-40	0x9728	16-bit parameter monitoring 5	0 to 65535	0	-	Unchangeable	<a href="#">“L7-40” on page 1268</a>
L7-41	0x9729	Output of word selector A	0 to 65535	0	-	Unchangeable	<a href="#">“L7-41” on page 1268</a>
L7-42	0x972A	Output of word selector B	0 to 65535	0	-	Unchangeable	<a href="#">“L7-42” on page 1269</a>
L7-43	0x972B	Output of word selector C	0 to 65535	0	-	Unchangeable	<a href="#">“L7-43” on page 1269</a>
L7-44	0x972C	Output of word selector D	0 to 65535	0	-	Unchangeable	<a href="#">“L7-44” on page 1269</a>
L7-50	0x9732	Internal parameter monitoring output 1	-32767 to +32767	0	-	Unchangeable	<a href="#">“L7-50” on page 1269</a>
L7-51	0x9733	Internal parameter monitoring output 2	-32767 to +32767	0	-	Unchangeable	<a href="#">“L7-51” on page 1269</a>
L7-52	0x9734	Internal parameter monitoring output 3	-32767 to +32767	0	-	Unchangeable	<a href="#">“L7-52” on page 1270</a>
L7-53	0x9735	Internal parameter monitoring output 4	-32767 to +32767	0	-	Unchangeable	<a href="#">“L7-53” on page 1270</a>
L7-54	0x9736	Internal parameter monitoring output 5	-32767 to +32767	0	-	Unchangeable	<a href="#">“L7-54” on page 1270</a>
L7-55	0x9737	Internal parameter monitoring output 6	-32767 to +32767	0	-	Unchangeable	<a href="#">“L7-55” on page 1270</a>
L7-56	0x9738	Internal parameter monitoring output 7	-32767 to +32767	0	-	Unchangeable	<a href="#">“L7-56” on page 1270</a>
L7-57	0x9739	Internal parameter monitoring output 8	-32767 to +32767	0	-	Unchangeable	<a href="#">“L7-57” on page 1270</a>
L9-00	0x9900	Output of W-DW module A	0 to 65535	0	-	Unchangeable	<a href="#">“L9-00” on page 1271</a>
L9-01	0x9901	Output of W-DW module B	0 to 65535	0	-	Unchangeable	<a href="#">“L9-01” on page 1271</a>
L9-02	0x9902	Output of W-DW module C	0 to 65535	0	-	Unchangeable	<a href="#">“L9-02” on page 1271</a>
L9-03	0x9903	Output of W-DW module D	0 to 65535	0	-	Unchangeable	<a href="#">“L9-03” on page 1271</a>
L9-04	0x9904	Output of DWord selector module A	0 to 65535	0	-	Unchangeable	<a href="#">“L9-04” on page 1272</a>
L9-05	0x9905	Output of DWord selector module B	0 to 65535	0	-	Unchangeable	<a href="#">“L9-05” on page 1272</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
L9-06	0x9906	Output of DWord selector module C	0 to 65535	0	-	Unchangeable	<a href="#">“L9-06” on page 1272</a>
L9-07	0x9907	Output of DWord selector module D	0 to 65535	0	-	Unchangeable	<a href="#">“L9-07” on page 1272</a>
L9-08	0x9908	Output of fixed-point absolute value module F	0 to 65535	0	-	Unchangeable	<a href="#">“L9-08” on page 1272</a>
L9-09	0x9909	Output of fixed-point absolute value module G	0 to 65535	0	-	Unchangeable	<a href="#">“L9-09” on page 1272</a>
L9-10	0x990A	Output of fixed-point absolute value module H	0 to 65535	0	-	Unchangeable	<a href="#">“L9-10” on page 1273</a>
L9-11	0x990B	Output of fixed-point ADD/SUBTRACT module F	0 to 65535	0	-	Unchangeable	<a href="#">“L9-11” on page 1273</a>
L9-12	0x990C	Output of fixed-point ADD/SUBTRACT module G	0 to 65535	0	-	Unchangeable	<a href="#">“L9-12” on page 1273</a>
L9-13	0x990D	Output of fixed-point ADD/SUBTRACT module H	0 to 65535	0	-	Unchangeable	<a href="#">“L9-13” on page 1273</a>
L9-14	0x990E	Output of fixed-point MULTIPLY/DIVIDE module F	0 to 65535	0	-	Unchangeable	<a href="#">“L9-14” on page 1273</a>
L9-15	0x990F	Output of fixed-point MULTIPLY/DIVIDE module G	0 to 65535	0	-	Unchangeable	<a href="#">“L9-15” on page 1274</a>
L9-16	0x9910	Output of fixed-point MULTIPLY/DIVIDE module H	0 to 65535	0	-	Unchangeable	<a href="#">“L9-16” on page 1274</a>
L9-17	0x9911	Output of fixed-point filter module E	0 to 65535	0	-	Unchangeable	<a href="#">“L9-17” on page 1274</a>
L9-18	0x9912	Output of fixed-point filter module F	0 to 65535	0	-	Unchangeable	<a href="#">“L9-18” on page 1274</a>
L9-19	0x9913	Output of fixed-point limiting module E	0 to 65535	0	-	Unchangeable	<a href="#">“L9-19” on page 1274</a>
L9-20	0x9914	Output of fixed-point limiting module F	0 to 65535	0	-	Unchangeable	<a href="#">“L9-20” on page 1275</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
L9-21	0x9915	32-bit parameter monitoring 1	0 to 65535	0	-	Unchangeable	<a href="#">“L9-21” on page 1275</a>
L9-22	0x9916	32-bit parameter monitoring 2	0 to 65535	0	-	Unchangeable	<a href="#">“L9-22” on page 1275</a>
L9-23	0x9917	32-bit parameter monitoring 3	0 to 65535	0	-	Unchangeable	<a href="#">“L9-23” on page 1275</a>
L9-24	0x9918	32-bit parameter monitoring 4	0 to 65535	0	-	Unchangeable	<a href="#">“L9-24” on page 1275</a>
L9-25	0x9919	32-bit parameter monitoring 5	0 to 65535	0	-	Unchangeable	<a href="#">“L9-25” on page 1276</a>
L9-30	0x991E	Variable connector viewing output 1	0 to 65535	0	-	Unchangeable	<a href="#">“L9-30” on page 1276</a>
L9-31	0x991F	Variable connector viewing output 2	0 to 65535	0	-	Unchangeable	<a href="#">“L9-31” on page 1276</a>
L9-32	0x9920	Variable connector viewing output 3	0 to 65535	0	-	Unchangeable	<a href="#">“L9-32” on page 1276</a>
L9-33	0x9921	Variable connector viewing output 4	0 to 65535	0	-	Unchangeable	<a href="#">“L9-33” on page 1276</a>
L9-34	0x9922	Variable connector viewing output 5	0 to 65535	0	-	Unchangeable	<a href="#">“L9-34” on page 1277</a>
L9-35	0x9923	Variable connector viewing output 6	0 to 65535	0	-	Unchangeable	<a href="#">“L9-35” on page 1277</a>
L9-36	0x9924	Variable connector viewing output 7	0 to 65535	0	-	Unchangeable	<a href="#">“L9-36” on page 1277</a>
L9-37	0x9925	Variable connector viewing output 8	0 to 65535	0	-	Unchangeable	<a href="#">“L9-37” on page 1277</a>
LB-00	0x9B00	AI1 input per-unit value	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LB-00” on page 1277</a>
LB-01	0x9B01	AI2 input per-unit value	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LB-01” on page 1278</a>
LB-02	0x9B02	AI3 input per-unit value	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LB-02” on page 1278</a>
LB-03	0x9B03	HDI input per-unit value	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LB-03” on page 1278</a>
LB-04	0x9B04	Per-unit value of speed reference set through communication	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LB-04” on page 1278</a>
LB-05	0x9B05	Main speed reference	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LB-05” on page 1278</a>
LB-06	0x9B06	Auxiliary speed reference	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LB-06” on page 1279</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
LB-07	0x9B07	Channel target speed	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LB-07” on page 1279</a>
LB-08	0x9B08	Channel supplementary speed	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LB-08” on page 1279</a>
LB-09	0x9B09	Supplementary speed setpoint	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LB-09” on page 1279</a>
LB-10	0x9B0A	Maximum forward speed	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LB-10” on page 1279</a>
LB-11	0x9B0B	Minimum forward speed	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LB-11” on page 1279</a>
LB-12	0x9B0C	Maximum reverse speed	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LB-12” on page 1280</a>
LB-13	0x9B0D	Minimum reverse speed	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LB-13” on page 1280</a>
LB-14	0x9B0E	Forward limit	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LB-14” on page 1280</a>
LB-15	0x9B0F	Reverse limit	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LB-15” on page 1280</a>
LB-16	0x9B10	Speed reference - raw	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LB-16” on page 1280</a>
LB-17	0x9B11	Speed reference - direction limit	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LB-17” on page 1281</a>
LB-18	0x9B12	Speed reference - after limiting	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LB-18” on page 1281</a>
LB-19	0x9B13	Speed reference - after skip frequency	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LB-19” on page 1281</a>
LB-20	0x9B14	Speed reference - after ramp shift	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LB-20” on page 1281</a>
LB-21	0x9B15	Torque reference	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LB-21” on page 1281</a>
LB-22	0x9B16	Supplementary torque	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LB-22” on page 1282</a>
LB-23	0x9B17	Torque reference after filtering	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LB-23” on page 1282</a>
LB-24	0x9B18	Target torque reference	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LB-24” on page 1282</a>
LB-25	0x9B19	Maximum torque	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LB-25” on page 1282</a>
LB-26	0x9B1A	Minimum torque	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LB-26” on page 1282</a>
LB-27	0x9B1B	RFG reference input	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LB-27” on page 1283</a>



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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
LB-28	0x9B1C	RFG calculation input	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LB-28” on page 1283</a>
LB-29	0x9B1D	RFG actual target	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LB-29” on page 1283</a>
LB-30	0x9B1E	RFG calculation output	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LB-30” on page 1283</a>
LB-31	0x9B1F	RFG final output (maximum per-unit value)	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LB-31” on page 1283</a>
LB-32	0x9B20	RFG final output (rated per-unit value)	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LB-32” on page 1284</a>
LB-33	0x9B21	Updown upper limit	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LB-33” on page 1284</a>
LB-34	0x9B22	Updown lower limit	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LB-34” on page 1284</a>
LB-35	0x9B23	RFG acceleration	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LB-35” on page 1284</a>
LB-36	0x9B24	V/f separation voltage output	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LB-36” on page 1284</a>
LB-37	0x9B25	RFG force value of startup frequency function	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LB-37” on page 1284</a>
LB-38	0x9B26	Speed limit in torque control mode	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LB-38” on page 1285</a>
LB-39	0x9B27	Frequency offset in torque control mode	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LB-39” on page 1285</a>
LB-40	0x9B28	Running frequency	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LB-40” on page 1285</a>
LB-41	0x9B29	Frequency reference	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LB-41” on page 1285</a>
LB-42	0x9B2A	Speed reference - after UpDn	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LB-42” on page 1285</a>
LC-00	0x9C00	Final frequency reference	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LC-00” on page 1286</a>
LC-01	0x9C01	Final voltage reference	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LC-01” on page 1286</a>
LC-02	0x9C02	Output voltage without limit	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LC-02” on page 1286</a>
LC-03	0x9C03	Voltage phase angle	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LC-03” on page 1286</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
LC-04	0x9C04	Maximum output voltage	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">"LC-04" on page 1286</a>
LC-05	0x9C05	Current loop saturation voltage	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">"LC-05" on page 1287</a>
LC-06	0x9C06	Torque reference	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">"LC-06" on page 1287</a>
LC-07	0x9C07	Final flux reference	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">"LC-07" on page 1287</a>
LC-08	0x9C08	Excitation current reference	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">"LC-08" on page 1287</a>
LC-09	0x9C09	Torque current reference	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">"LC-09" on page 1287</a>
LC-10	0x9C0A	Rotor speed	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">"LC-10" on page 1288</a>
LC-11	0x9C0B	Encoder speed	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">"LC-11" on page 1288</a>
LC-12	0x9C0C	Output torque	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">"LC-12" on page 1288</a>
LC-13	0x9C0D	Flux amplitude	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">"LC-13" on page 1288</a>
LC-14	0x9C0E	Flux angle	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">"LC-14" on page 1288</a>
LC-15	0x9C0F	Synchronization frequency	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">"LC-15" on page 1289</a>
LC-16	0x9C10	Synchronous rotation angle	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">"LC-16" on page 1289</a>
LC-17	0x9C11	Motor object output power	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">"LC-17" on page 1289</a>
LC-18	0x9C12	Output voltage amplitude	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">"LC-18" on page 1289</a>
LC-19	0x9C13	Output current amplitude	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">"LC-19" on page 1289</a>
LC-20	0x9C14	Actual excitation current of motor	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">"LC-20" on page 1290</a>
LC-21	0x9C15	Actual torque current of motor	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">"LC-21" on page 1290</a>
LC-22	0x9C16	Output power	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">"LC-22" on page 1290</a>
LC-23	0x9C17	PWMU	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">"LC-23" on page 1290</a>
LC-24	0x9C18	PWMV	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">"LC-24" on page 1290</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
LC-25	0x9C19	PWMW	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">"LC-25" on page 1291</a>
LC-26	0x9C1A	IU	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">"LC-26" on page 1291</a>
LC-27	0x9C1B	IV	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">"LC-27" on page 1291</a>
LC-28	0x9C1C	IW	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">"LC-28" on page 1291</a>
LC-31	0x9C1F	Drive bus voltage	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">"LC-31" on page 1291</a>
LC-32	0x9C20	Accumulative drive overload	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">"LC-32" on page 1291</a>
LC-33	0x9C21	Accumulative motor overload	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">"LC-33" on page 1292</a>
LC-34	0x9C22	Output voltage phase	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">"LC-34" on page 1292</a>
LC-35	0x9C23	Output current phase	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">"LC-35" on page 1292</a>
LC-36	0x9C24	General PID output	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">"LC-36" on page 1292</a>
LC-37	0x9C25	General PID error	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">"LC-37" on page 1292</a>
LC-38	0x9C26	General PID reference	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">"LC-38" on page 1293</a>
LC-39	0x9C27	General PID feedback	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">"LC-39" on page 1293</a>
LC-40	0x9C28	General PID proportional output	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">"LC-40" on page 1293</a>
LC-41	0x9C29	General PID integral output	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">"LC-41" on page 1293</a>
LC-42	0x9C2A	General PID derivative output	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">"LC-42" on page 1293</a>
LC-92	0x9C5C	Variable connector viewing output 1	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">"LC-92" on page 1294</a>
LC-93	0x9C5D	Variable connector viewing output 2	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">"LC-93" on page 1294</a>
LC-94	0x9C5E	Variable connector viewing output 3	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">"LC-94" on page 1294</a>
LC-95	0x9C5F	Variable connector viewing output 4	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">"LD-00" on page 1295</a>
LC-96	0x9C60	Variable connector viewing output 5	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">"LC-96" on page 1294</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
LC-97	0x9C61	Variable connector viewing output 6	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LC-97” on page 1295</a>
LC-98	0x9C62	Variable connector viewing output 7	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LC-98” on page 1295</a>
LC-99	0x9C63	Variable connector viewing output 8	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LC-99” on page 1295</a>
LD-00	0x9D00	Output of floating-point selector module A	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-00” on page 1295</a>
LD-01	0x9D01	Output of floating-point selector module B	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-01” on page 1295</a>
LD-02	0x9D02	Output of floating-point selector module C	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-02” on page 1296</a>
LD-03	0x9D03	Output of floating-point selector module D	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-03” on page 1296</a>
LD-04	0x9D04	Output of floating-point selector module E	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-04” on page 1296</a>
LD-05	0x9D05	Output of floating-point selector module F	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-05” on page 1296</a>
LD-06	0x9D06	Output of floating-point selector module G	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-06” on page 1296</a>
LD-07	0x9D07	Output of floating-point selector module H	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-07” on page 1297</a>
LD-08	0x9D08	Output of floating-point absolute value module A	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-08” on page 1297</a>
LD-09	0x9D09	Output of floating-point absolute value module B	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-09” on page 1297</a>
LD-10	0x9D0A	Output of floating-point absolute value module C	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-10” on page 1297</a>
LD-11	0x9D0B	Output of floating-point absolute value module D	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-11” on page 1297</a>
LD-12	0x9D0C	Output of floating-point absolute value module E	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-12” on page 1298</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
LD-13	0x9D0D	Output of floating-point ADD/ SUBTRACT module A	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-13” on page 1298</a>
LD-14	0x9D0E	Output of floating-point ADD/ SUBTRACT module B	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-14” on page 1298</a>
LD-15	0x9D0F	Output of floating-point ADD/ SUBTRACT module C	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-15” on page 1298</a>
LD-16	0x9D10	Output of floating-point ADD/ SUBTRACT module D	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-16” on page 1298</a>
LD-17	0x9D11	Output of floating-point ADD/ SUBTRACT module E	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-17” on page 1298</a>
LD-18	0x9D12	Output of floating-point MULTIPLY/ DIVIDE module A	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-18” on page 1299</a>
LD-19	0x9D13	Output of floating-point MULTIPLY/ DIVIDE module B	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-19” on page 1299</a>
LD-20	0x9D14	Output of floating-point MULTIPLY/ DIVIDE module C	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-20” on page 1299</a>
LD-21	0x9D15	Output of floating-point MULTIPLY/ DIVIDE module D	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-21” on page 1299</a>
LD-22	0x9D16	Output of floating-point MULTIPLY/ DIVIDE module E	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-22” on page 1299</a>
LD-23	0x9D17	Output of floating-point filter module A	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-23” on page 1300</a>
LD-24	0x9D18	Output of floating-point filter module B	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-24” on page 1300</a>
LD-25	0x9D19	Output of floating-point filter module C	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-25” on page 1300</a>
LD-26	0x9D1A	Output of floating-point filter module D	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-26” on page 1300</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
LD-27	0x9D1B	Output of floating-point limiting module A	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-27” on page 1300</a>
LD-28	0x9D1C	Output of floating-point limiting module B	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-28” on page 1301</a>
LD-29	0x9D1D	Output of floating-point limiting module C	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-29” on page 1301</a>
LD-30	0x9D1E	Output of floating-point limiting module D	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-30” on page 1301</a>
LD-31	0x9D1F	Output of word-to-floating point module A	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-31” on page 1301</a>
LD-32	0x9D20	Output of word-to-floating point module B	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-32” on page 1301</a>
LD-33	0x9D21	Output of word-to-floating point module C	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-33” on page 1302</a>
LD-34	0x9D22	Output of word-to-floating point module D	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-34” on page 1302</a>
LD-35	0x9D23	Output of DWord-to-floating point module A	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-35” on page 1302</a>
LD-36	0x9D24	Output of DWord-to-floating point module B	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-36” on page 1302</a>
LD-37	0x9D25	Output of DWord-to-floating point module C	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-37” on page 1302</a>
LD-38	0x9D26	Output of DWord-to-floating point module D	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-38” on page 1303</a>
LD-39	0x9D27	Force value of motor-driven potentiometer	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-39” on page 1303</a>
LD-40	0x9D28	Reset value of motor-driven potentiometer	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-40” on page 1303</a>
LD-41	0x9D29	Maximum value of motor-driven potentiometer	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-41” on page 1303</a>

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Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
LD-42	0x9D2A	Minimum value of motor-driven potentiometer	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-42” on page 1303</a>
LD-43	0x9D2B	Initial value of motor-driven potentiometer	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-43” on page 1303</a>
LD-44	0x9D2C	Process operation output value of motor-driven potentiometer	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-44” on page 1304</a>
LD-45	0x9D2D	Final output value of motor-driven potentiometer	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-45” on page 1304</a>
LD-46	0x9D2E	Output of multi-point curve module A	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-46” on page 1304</a>
LD-47	0x9D2F	Output of multi-point curve module B	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-47” on page 1304</a>
LD-48	0x9D30	Multi-reference selection output	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-48” on page 1304</a>
LD-49	0x9D31	Multi-reference 1 output	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-49” on page 1305</a>
LD-50	0x9D32	Multi-reference 2 output	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-50” on page 1305</a>
LD-51	0x9D33	Multi-reference 3 output	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-51” on page 1305</a>
LD-52	0x9D34	Multi-reference 4 output	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-52” on page 1305</a>
LD-53	0x9D35	Multi-reference 5 output	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-53” on page 1305</a>
LD-54	0x9D36	Multi-reference 6 output	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-54” on page 1306</a>
LD-55	0x9D37	Multi-reference 7 output	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-55” on page 1306</a>
LD-56	0x9D38	Multi-reference 8 output	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-56” on page 1306</a>
LD-57	0x9D39	Multi-reference 9 output	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-57” on page 1306</a>
LD-58	0x9D3A	Multi-reference 10 output	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-58” on page 1306</a>
LD-59	0x9D3B	Multi-reference 11 output	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-59” on page 1307</a>

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
LD-60	0x9D3C	Multi-reference 12 output	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-60” on page 1307</a>
LD-61	0x9D3D	Multi-reference 13 output	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-61” on page 1307</a>
LD-62	0x9D3E	Multi-reference 14 output	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-62” on page 1307</a>
LD-63	0x9D3F	Multi-reference 15 output	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-63” on page 1307</a>
LD-64	0x9D40	Multi-reference 16 output	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-64” on page 1308</a>
LD-65	0x9D41	Per-unit constant value 1	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-65” on page 1308</a>
LD-66	0x9D42	Per-unit constant value 2	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-66” on page 1308</a>
LD-67	0x9D43	Per-unit constant value 3	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-67” on page 1308</a>
LD-68	0x9D44	Per-unit constant value 4	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-68” on page 1308</a>
LD-69	0x9D45	Per-unit constant value 5	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-69” on page 1308</a>
LD-70	0x9D46	Per-unit constant value 6	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-70” on page 1309</a>
LD-71	0x9D47	Per-unit constant value 7	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-71” on page 1309</a>
LD-72	0x9D48	Per-unit constant value 8	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-72” on page 1309</a>
LD-73	0x9D49	Per-unit constant value 9	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-73” on page 1309</a>
LD-74	0x9D4A	Per-unit constant value 10	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-74” on page 1309</a>
LD-75	0x9D4B	Per-unit constant value 11	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-75” on page 1310</a>
LD-76	0x9D4C	Per-unit constant value 12	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-76” on page 1310</a>
LD-77	0x9D4D	Per-unit constant value 13	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-77” on page 1310</a>
LD-78	0x9D4E	Per-unit constant value 14	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-78” on page 1310</a>
LD-79	0x9D4F	Per-unit constant value 15	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-79” on page 1310</a>
LD-80	0x9D50	Per-unit constant value 16	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-80” on page 1311</a>



## List of Parameters

Para.	Comm. Addr.	Name	Reference	De fault	Unit	Change	Page
LD-81	0x9D51	Per-unit constant value 17	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-81” on page 1311</a>
LD-82	0x9D52	Per-unit constant value 18	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-82” on page 1311</a>
LD-83	0x9D53	Per-unit constant value 19	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-83” on page 1311</a>
LD-84	0x9D54	Per-unit constant value 20	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-84” on page 1311</a>
LD-85	0x9D55	Per-unit constant value 21	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-85” on page 1312</a>
LD-86	0x9D56	Updown offset	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-86” on page 1312</a>
LD-87	0x9D57	Percentage of current length relative to target length	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-87” on page 1312</a>
LD-88	0x9D58	Percentage of current count value relative to target count value	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-88” on page 1312</a>
LD-89	0x9D59	Percentage of AO1 value written through communication	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-89” on page 1312</a>
LD-90	0x9D5A	Percentage of AO2 value written through communication	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-90” on page 1313</a>
LD-91	0x9D5B	Percentage of HDO value written through communication	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-91” on page 1313</a>
LD-92	0x9D5C	Current value based on the maximum 1000 A per-unit value	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-92” on page 1313</a>
LD-93	0x9D5D	Voltage value based on the maximum 1000 V per-unit value	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-93” on page 1313</a>
LD-94	0x9D5E	AO output torque absolute value output	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-94” on page 1313</a>
LD-95	0x9D5F	AO output torque (-200.0% to +200.0%)	0.0% to 6553.5%	0.0	%	Unchangeable	<a href="#">“LD-95” on page 1313</a>



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