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PS00011314A04

GL20-3200END
Digital Input Module
User Guide

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Preface

■ Introduction

GL20-3200END series 32-channel digital input expansion module supports input of source and sink types, and can be used with GL20 series communication interface modules and Easy series PLC products.

This guide describes the product information, mechanical installation, electrical installation, programming, and commissioning of the product.

■ Standard

The following table lists the certifications, directives, and standards that the product may comply with. For details about the acquired certificates, see the certification marks on the product nameplate.

Certification	Directive		Standard
CE Certification	EMC Directive	2014/30/EU	**24 VDC products:** EN 61131-2 **220 VAC products:** EN 61131-2 EN 61000-3-2 EN 61000-3-3
	LVD Directive	2014/35/EU	EN 61010-1 EN 61010-2-201
	RoHS Directive	2011/65/EU amended by (EU)2015/863	EN IEC 63000
UL/cUL Certification	-		UL 61010-1 UL 61010-2-201 CAN/CSA-C22.2 No. 61010-1 CSA C22.2 NO. 61010-2-201
KCC Certification	-		-
EAC certification	-		-

Certification	Directive		Standard
UKCA Certification	Safety Regulations	Electrical Equipment (Safety) Regulations 2016	EN 61010-1 EN 61010-2-201
	EMC Regulations	Electromagnetic Compatibility Regulations 2016	**24 VDC products:** EN 61131-2 **220 VAC products:** EN 61131-2 EN 61000-3-2 EN 61000-3-3
	RoHS Regulations	Directive (RoHS) Regulations 2012	EN IEC 63000

■ More Documents

Document Name	Document Coding	Description
GL20-RTU-ECT Communication Interface Module User Guide	PS00004985	This guide describes the installation, wiring and more of the product.
GL20-RTU-PN Communication Interface Module User Guide	PS00007594	This guide describes the installation, wiring and more of the product.
GL20-RTU-ECT32 Communication Interface Module User Guide	PS00013434	This guide describes the product information, mechanical installation, electrical installation, commissioning, and troubleshooting of the product.
GL20-3200END Series Digital Input Module User Guide (This guide)	PS00011314	The guide describes the product information, mechanical installation, electrical installation, programming, and commissioning of the product.

■ Revision History

Revision date	Version	Description
March 2025	A04	**Added the following content:** Added *" Fault Diagnosis" on page 34*. **Updated the following content:** • Modified *"1.4 Environmental Specifications" on page 15*. • Modified *"3.3 Terminal Wiring" on page 24*.
July 2024	A03	Modified *"2.1 Installation Precautions" on page 16*.
June 2024	A02	• Modified the "Rated current of bus input power supply" of power supply specifications in *"1.3 Technical Specifications" on page 13*. • Modified *"1.4 Environmental Specifications" on page 15*. • Modified the matching version in *" Appendix: Version Matching Information" on page 36*.
January 2024	A01	• Modified the naming rules in *"1.1 Naming Rules and Nameplate" on page 9*. • Modified the terminal wiring diagrams in *"3.3 Terminal Wiring" on page 24*. • Modified the operation steps in *" Program Commissioning" on page 26*. • Modified the matching version in *" Appendix: Version Matching Information" on page 36*.
May 2023	A00	Initial release.

■ Access to the Guide

This guide is not delivered with the product. You can obtain the PDF version by the following methods:

- Do keyword search under Service and Support at *www.inovance.com*.
- Scan the QR code on the product with your smart phone.
- Scan the QR code below to install My Inovance app, where you can search for and download user guides.

■ Warranty Disclaimer

Inovance provides warranty service within the warranty period (as specified in your order) for any fault or damage that is not caused by improper operation of the user. Maintenance will be charged after the warranty expires.

Within the warranty period, maintenance will be charged for the following damage:

- Damage caused by operations not following the instructions in the user guide
- Damage caused by fire, flood, or unusual voltage
- Damage caused by unintended use of the product
- Damage caused by use beyond the specified scope of application of the product
- Damage or secondary damage caused by force majeure (natural disaster, earthquake, and lightning strike)

The maintenance is charged according to the latest Price List of Inovance. If otherwise agreed upon, the terms and conditions in the agreement shall prevail.

For details, see the Product Warranty Card.

Fundamental Safety Instructions

■ Safety Disclaimer

1. Read and comply with the safety instructions during installation, operation, and maintenance of the equipment.
2. To ensure your safety and prevent damage to the equipment, follow the marks on the equipment and all the safety instructions in this guide.
3. "CAUTION", "WARNING", and "DANGER" items in the guide do not indicate all safety precautions that need to be followed; instead, they just supplement the safety precautions.
4. Use this equipment according to the designated environment requirements; otherwise, a fault may occur. Malfunction or damage caused by improper use is not covered by warranty.
5. Inovance shall take no responsibility for any personal injury or property damage caused by improper use.

■ Safety Levels and Definitions

"DANGER" indicates that failure to comply with the notice can result in severe personal injury or even death.

"WARNING" indicates that failure to comply with the notice may result in severe personal injury or even death.

"CAUTION" indicates that failure to comply with the notice may result in minor or moderate personal injury or equipment damage. Keep this guide properly for future use and deliver it to the end user.

Control System Design

• Provide a safety circuit outside the PLC so that the control system can still work safely once external power failure or PLC fault occurs. • Add a fuse or circuit breaker because the module may smoke or catch fire due to long-time overcurrent caused by operation above rated current or load short-circuit.

WARNING

- An emergency stop circuit, a protection circuit, a forward/reverse operation interlocked circuit, and an upper position limit and lower position limit interlocked circuit must be set in the external circuits of PLC to prevent damage to the equipment.
- To ensure safe operation, for the output signals that may cause critical accidents, use external protection circuits and safety mechanism.
- Once the CPU of the PLC detects an exception in the system, all outputs may be closed; however, when a fault occurs in the controller circuit, the output may not be under control. Therefore, it is necessary to design an appropriate external control circuit to ensure normal operation.
- If the PLC output units such as relays or transistors are damaged, the output may fail to switch between ON and OFF states according to the commands.
- The PLC is designed to be used in an indoor electrical environment (overvoltage category II). The power supply must have a system-level surge protector, assuring that overvoltage due to lightning shock cannot be applied to the PLC's power supply input terminals, signal input terminals and output terminals, preventing damage to the equipment.

Installation

WARNING

- Installation must be carried out by skilled personnel who have undergone specialized electrical training and possess comprehensive electrical expertise.
- Disconnect all external power supplies of the system before removing/installing the module. Failure to do so may result in electric shock, module fault or malfunction.
- Do not use the PLC in environments with dust, greasy smoke, conductive dust, corrosive or combustible gases, exposed to high temperature, condensation, wind & rain, or subject to vibration and shock. Electric shock, fire and malfunction may also result in damage or deterioration to the equipment.
- The controller is open-type equipment that must be installed in a control cabinet with lock (IP rating of the control cabinet enclosure > IP20). Only qualified professionals can open the cabinet.

CAUTION

- Prevent metal filings and wire ends from dropping into ventilation holes of the PLC during installation. Failure to comply may result in fire, fault and malfunction.
- Ensure there are no foreign matters on ventilation surface. Failure to comply may result in poor ventilation, which may cause fire, fault and malfunction.
- Ensure the module is connected to the respective connector securely and hook the module firmly. Improper installation may result in malfunction, fault or fall-off.

Wiring

- Wiring must be carried out by skilled personnel who have undergone specialized electrical training and possess comprehensive electrical expertise.
- Disconnect all external power supplies of the system before wiring. Failure to comply may result in electric shock, module fault or malfunction.
- Insulate the cable terminals properly to ensure the insulation distance between cables will not be shortened after cables are connected to the terminal block. Failure to comply may result in electric shock or damage to the equipment.

- To avoid electric shock, cut off the power supply before connecting the equipment to the power supply.
- The input power of the product must meet the specifications listed in this guide. If the power input does not meet the specifications, the equipment may be damaged. Thus, check regularly that the DC power provided by the switching-mode power supply unit is stable.

Operation and Maintenance

- Operation and maintenance must be carried out by skilled personnel who have undergone specialized electrical training and possess comprehensive electrical expertise.
- Do not touch the terminals while the power is on. Failure to comply may result in electric shock or malfunction.
- Disconnect all external power supplies of the system before cleaning the module. Failure to comply may result in electric shock.
- Disconnect all external power supplies of the system before assembling/disassembling the module or connecting/removing the communication cables. Failure to comply may result in electric shock or malfunction.

Safety Recommendations

- In the position where the operator directly touches the machinery part, for example, where a machinery tool is loaded/unloaded, or where a machine runs automatically, the on-site manual operating devices and any other alternative means must be carefully arranged and designed so that they are independent of the programmable controller and can start or terminate the automatic running of the system.
- If you need to modify the program while the system is running, use the lock function or other protective measures. Ensure that only authorized personnel can make the necessary modifications.

Disposal

- Treat the scrapped equipment as industrial waste. Dispose of the battery according to local laws and regulations.
- Recycle retired equipment by observing industry waste disposal standards to avoid environmental pollution.

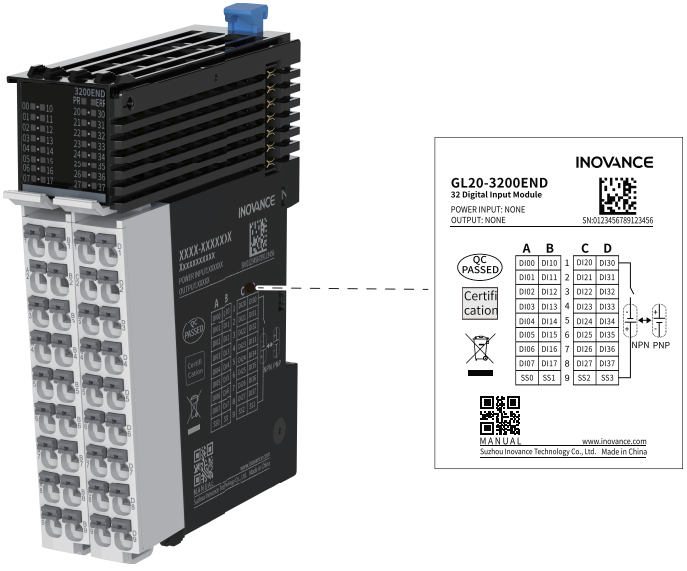
1 Product Information

1.1 Naming Rules and Nameplate

GL 20 - 32 00 E N D

① ② ③ ④ ⑤ ⑥ ⑦

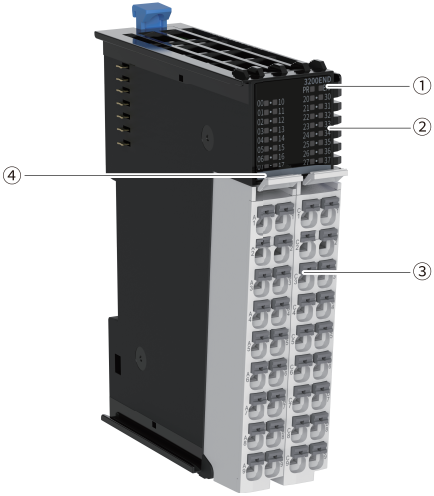
①	**Product Information** GL: Inovance general local module	③	**Number of I/O Channels** 32: 32-channel input	⑤	**Module Type** E: Logic I/O expansion module	⑦	**Voltage Type** D: 24 VDC
②	**Series Number** 20: 20 series module	④	**Number of I/O Channels** 00: Zero output	⑥	**Output Type** N: No output	-	



The data for ordering the product is shown below.

Model	Description	Product Code	Applicable Model
GL20-3200END	GL20 series 32-channel digital input module	01440466	It is applicable to GL20 series communication interface modules and Easy series PLC products.

1.2 Components



No.	Name	Description			
①	Signal indicator	PR (POWER +RUN)	Power/Run indicator	Yellow-green	• Steady ON: Module in normal operation • Quick flashing: Module addressed successfully • Slow flashing: Module powered on but not addressed • OFF: Module not powered on or abnormal
		ERR	Error indicator	Red	ON when the module is faulty.
②	I/O signal indicator	00 to 37	I/O signal indicator	Yellow-green	Steady ON: Input/ output active OFF: Input/Output inactive
③	User terminal	/	32 inputs and 0 outputs	/	See detailed definition in *"3.2 Terminal Definition" on page 22*.
④	Color identification		Red: Digital output		Orange: Analog output
			Gray: Digital input		Green: Analog input
			White: Communication		Blue: Other module

Note

- Quick flashing: 200 ms ON followed by 200 ms OFF.
- Slow flashing: 200 ms ON followed by 1s OFF.

1.3 Technical Specifications

■ General Specifications

Item	Specification
IP rating	IP20
Dimensions (W x H x D)	24 mm x 100 mm x 75 mm
Weight (g)	Approx. 112 g

■ Power supply specifications

Item	Specification
Rated voltage of bus input power supply	5 VDC (4.75 VDC to 5.25 VDC)
Rated current of bus input power supply	85 mA (typical@5 V)
Rated voltage of terminal input power supply	/
Rated current of terminal input power supply	/
Rated voltage of terminal output power supply	/
Rated current of terminal output power supply	/
Hot swap	Not supported

■ Input specifications

Item	Specification
Input type	Digital input
Input mode	Source/sink
Maximum number of input channels	32
Input voltage class	24 VDC ± 10% (21.6 VDC to 26.4 VDC)
Input current (typical)	4 mA (typical@24 V)

Item	Specification
ON voltage	> 15 VDC
OFF voltage	< 5 VDC
Hardware response time ON/OFF	100 µs/100 µs
Software RC filter time	Supported
Input impedance	Reference value: 5.3 k to 5.6 k
Isolation	Supported
Input action display	The input indicator turns on (controlled by software) when the input is in drive state.
Input derating	The module works at full load at 45°C (with the number of simultaneously ON input channels not exceeding 32) and works at 50% of full load at 55°C (with the number of simultaneously ON input channels not exceeding 16).

■ Software specifications

Item	Specification
Input PDO data volume	Max. 4 bytes
Software input filter time	No filter, 0.25 ms, 0.5 ms, 1 ms (default), 2 ms, 4 ms, 8 ms, 16 ms, and 32 ms. You can set two groups of filter parameters, with each group covers sixteen channels. One filter parameter is needed for one group.
Input port anomaly detection and indication	/
Input channel logic level configuration	Not supported
Independent channel enable configuration	Not supported
Diagnostic report configuration	Not supported

Item	Specification
Stop mode	Outputs are not refreshed, inputs can be refreshed when in state SAFE-OPERATIONAL.
I/O mapping	Supports bitwise, bytewise and wordwise addressing

1.4 Environmental Specifications

Item	Specification
Installation/ application environment	Free from conductive dust, conductive fibers, explosive dust, flammable gases, water mist/greasy dirt, corrosive dusts/gases, strong vibration, and repetitive shock
Altitude	⩽ 2,000 m
Pollution degree	2
Immunity	2 kV on power supply cable (compliant with IEC 61000-4-4)
Overvoltage category	I
EMC immunity level	Zone B, IEC61131-2
Anti-static rating	Contact discharge +/-6 kV and air discharge +/-8 kV
Vibration resistance	• Application scenario: Tested according to IEC60068-2-6, 3.5 mm amplitude from 5 Hz to 8.4 Hz; 1 g acceleration from 8.4 Hz to 200 Hz; 10 cycles per axial direction • Transportation scenario: Tested according to IEC60068-2-64, 0.01 g^2/Hz power spectral density from 5 Hz to 100 Hz; 0.001 g^2/Hz power spectral density at 200 Hz; 1.14 g Grms
Shock resistance	Application/Transportation scenario: Tested according to IEC60068-2-27; 15 g peak acceleration, 11 ms pulse width, 18 cycles in total in X, Y and Z axial directions
Operating temperature/humidity	• Temperature: -20°C to +55°C • Humidity: < 95% RH (30°C), without condensation
Storage temperature/ humidity	• Temperature: -20°C to +60°C • Humidity: < 95% RH (30°C), without condensation
Transportation temperature/humidity	• Temperature: -40°C to +70°C • Humidity: < 95% RH (40°C), without condensation

2 Mechanical Installation

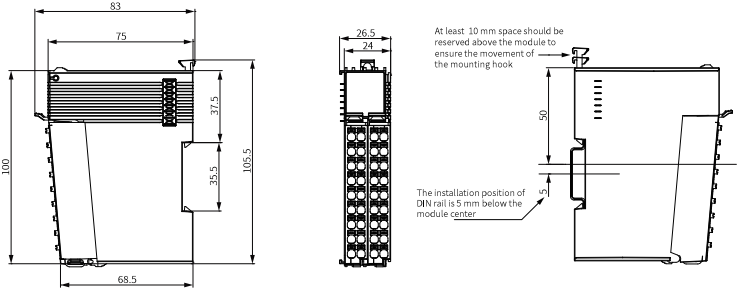
2.1 Installation Precautions

- Make sure the module is powered off before installing or removing.
- Do not hot swap the modules. Otherwise, the modules may be damaged by overcurrent or overvoltage, and the communication interface module or PLC may be subject to restart, user data loss or corruption.
- Do not drop or shock the housing or terminals of the module to avoid damage.

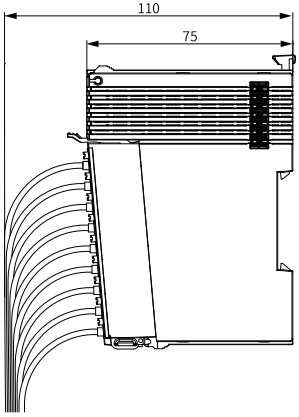
2.2 Installation Dimensions

■ Module

The installation dimensions (in mm) are shown in the figure below.



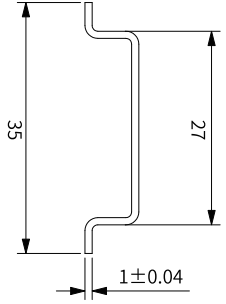
■ Cable connection



2.3 Installation Method

■ Installing the modules to each other

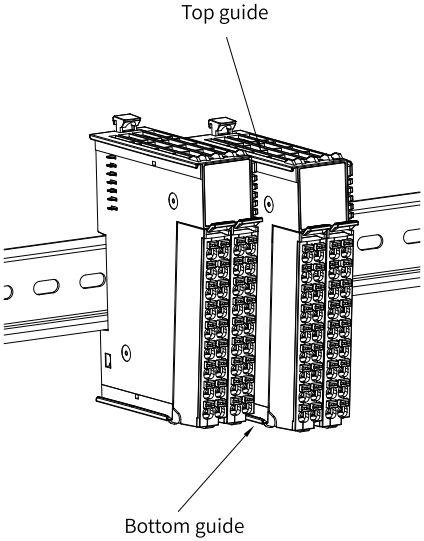
The module is mounted onto a DIN rail in conformity with IEC 60715 (width: 35 mm, thickness: 1 mm). The dimensions (in mm) are shown below.



Caution

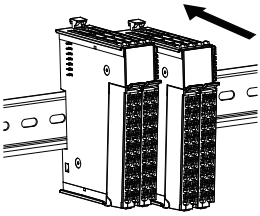
When installed on a DIN rail other than the recommended one (especially the one whose thickness is not 1.0 mm), the module will not fit in place as the mounting hook does not work.

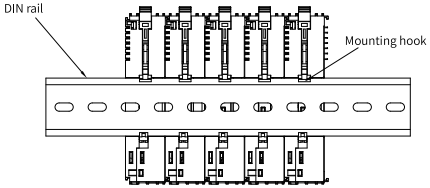
Install the modules to each other through top and bottom guide rails, as shown below.



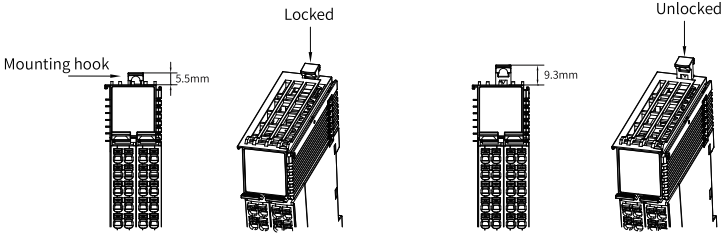
■ Installing the module onto DIN rail

1. Align the module with the DIN rail and push it in the direction indicated by the arrow until you hear a click. See the following figure.





2. Make sure the DIN rail mounting hook of the module is locked. The locked and unlocked states of the mounting hook are shown below.



- If the mounting hook is pressed down, it is locked.
- If the mounting hook is lifted up, it is unlocked.

To lock the PLC to the DIN rail, press down the mounting hook.

Caution

When the module is not installed on the rail, keep the mounting hook in the locked state. Keeping the mounting hook unlocked for a prolonged time may cause the hook to fail.

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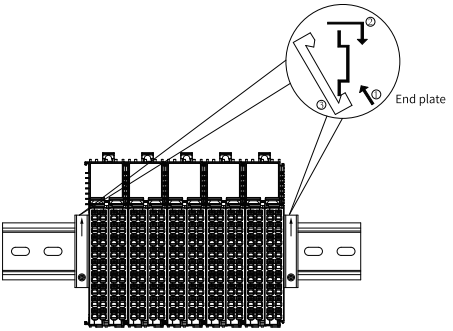
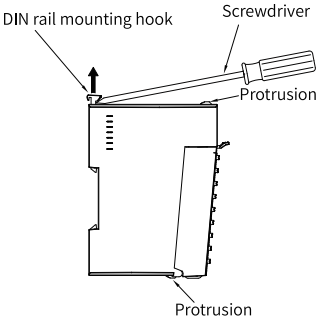
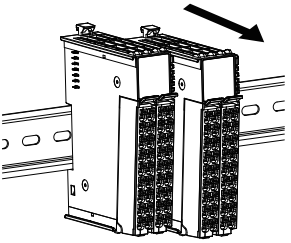
3. Mount a DIN rail end plate on both sides of the PLC or expansion module. To install the end plate, hook the bottom of it to the bottom of the DIN rail, rotate the end plate to hook the top of it to the top of the DIN rail, and then tighten the screw to lock the end plate in place. See the following figure.



■ Removal

Pry the DIN rail mounting hook upwards with a tool such as a slotted screwdriver, hold the protrusions and pull the module out straight forward. Then, press down the top of the mounting hook.





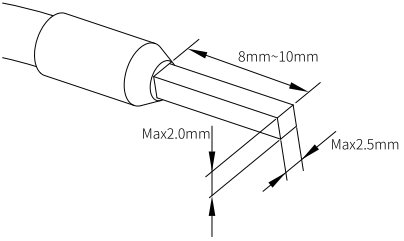
3 Electrical Installation

3.1 Cable Selection

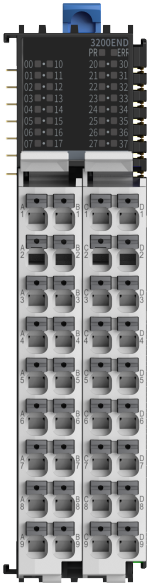
The cable lugs and diameters in the following table are only for reference.

Material Name	Applicable Cable Diameter		KST		Suzhou Yuanli	
	mm^2	AWG	Model	Crimping Tool	Model	Crimping Tool
Tubular lug	0.3	22	E0308	KST2000L	0308	YAC-5
	0.5	20	E0508		0508	
	0.75	18	E7508		7508	
	1.0	18	E1008		1008	
	1.5	16	E1508		1508	

To use other types of tubular lugs, crimp the lug to the cables according to the shape and dimension requirements shown below.



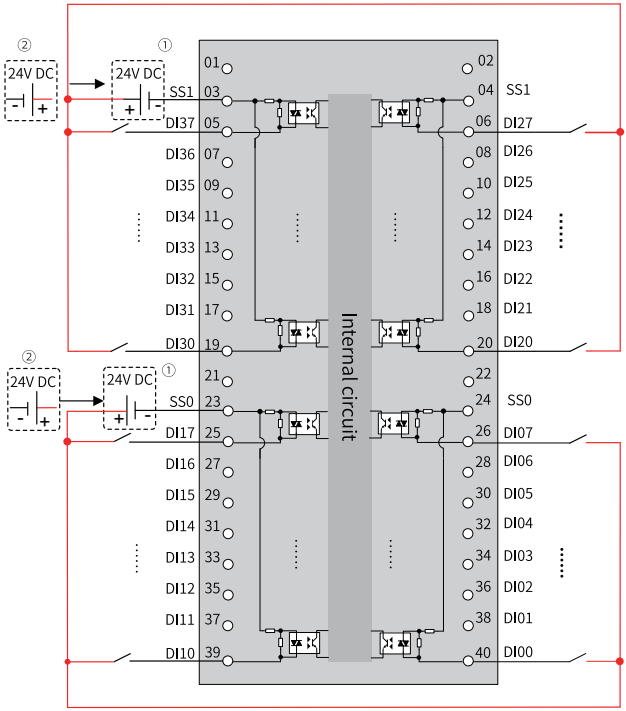
3.2 Terminal Definition



Left Indicator (1st Column from Left)	Left Signal (1st Column from Left)	Left Terminal (1st Column from Left)	Left Terminal (2nd Column from Left)	Left Signal (2nd Column from Left)	Left Indicator (2nd Column from Left)
00	DI00	A1	B1	DI10	10
01	DI01	A2	B2	DI11	11
02	DI02	A3	B3	DI12	12
03	DI03	A4	B4	DI13	13
04	DI04	A5	B5	DI14	14
05	DI05	A6	B6	DI15	15
06	DI06	A7	B7	DI16	16
07	DI07	A8	B8	DI17	17
/	SS0	A9	B9	SS1	/

Right Indicator (2nd Column from Right)	Right Signal (2nd Column from Right)	Right Terminal (2nd Column from Right)	Right Terminal (1st Column from Right)	Right Signal (1st Column from Right)	Right Indicator (1st Column from Right)
20	DI20	C1	D1	DI30	30
21	DI21	C2	D2	DI31	31
22	DI22	C3	D3	DI32	32
23	DI23	C4	D4	DI33	33
24	DI24	C5	D5	DI34	34
25	DI25	C6	D6	DI35	35
26	DI26	C7	D7	DI36	36
27	DI27	C8	D8	DI37	37
/	SS2	C9	D9	SS3	/

3.3 Terminal Wiring



No.	Description
①	Source type signal input mode
②	Sink type signal input mode

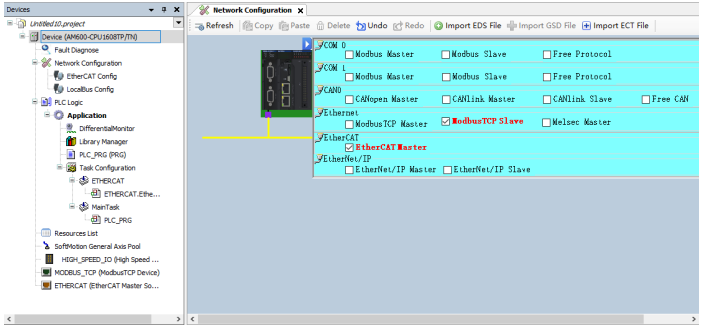
- Terminals No. 05–20 and No. 25–40 are input terminals.
- Terminals No. 01, 02, 21, and 22 are unused terminals.
- Terminals No. 03 and 04 are common terminals SS1, which are internally connected. The common terminals can be connected to one or two 24 VDC power supplies.
- Terminals No. 23 and 24 are common terminals SS0, which are internally connected. The common terminals can be connected to one or two 24 VDC power supplies.

4 Program Commissioning

The following is an example where AM600 series is used as the master control module along with the GL20-3200END module.

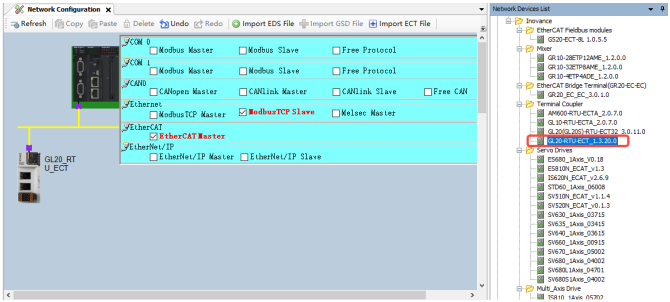
1. Enable the AM600 PLC as the EtherCAT master and add the GL20-RTU-ECT communication interface module.

   a. In the left **Devices** pane, double-click **Network Configuration** and click the AM600 PLC figure in the upper left corner of the interface. Check the "EtherCAT Master" to enable the PLC as an EtherCAT master.

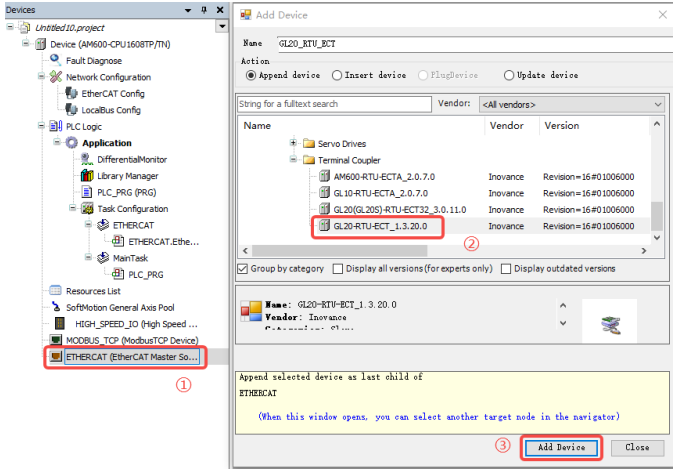


   b. Add the GL20-RTU-ECT communication interface module.

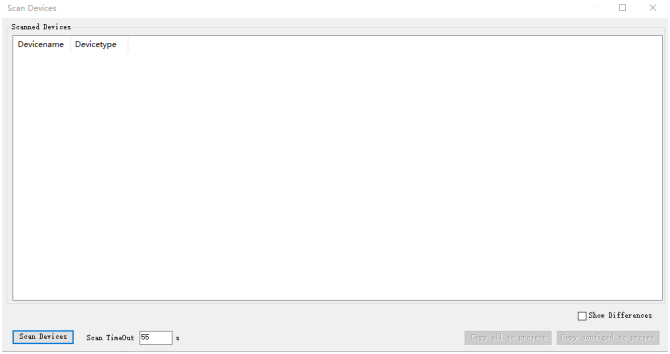
   - Method 1: In the right **Network Devices List** pane, double-click "GL20-RTU-ECT" to add the module.



- Method 2: In the left **Devices** pane, right click **ETHERCAT(EtherCAT Master SoftMotion)** ① and select **Add Device**. Select "GL20_RTU_ECT _*x.x.x.x* " ② in the pop-up dialog box and click **Add Device** ③.

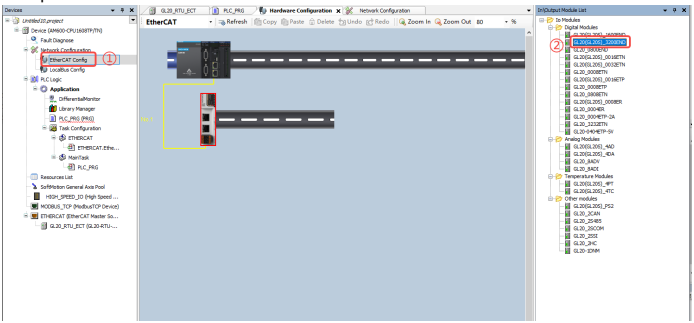


- Method 3: In the left **Devices** pane, right-click on **ETHERCAT(EtherCAT Master SoftMotion)** and select **Scan For Devices**, then click **Scan Devices** and select the scanned GL20-RTU-ECT module, and finally click **Copy all to project**.

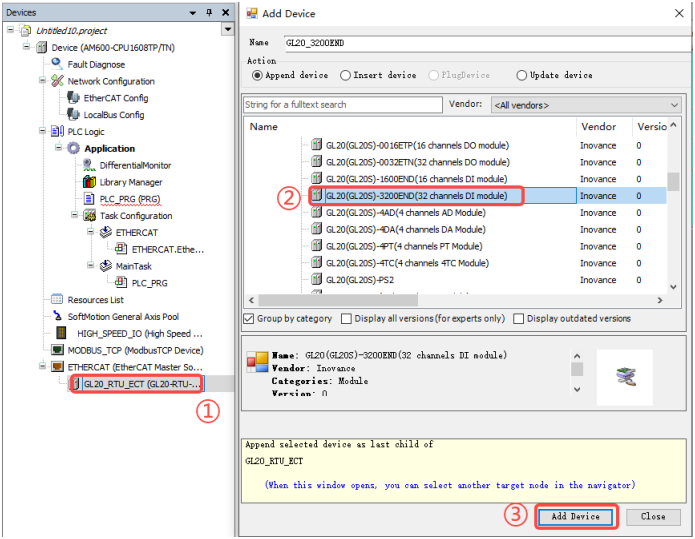


2. Add GL20-3200END module.

- Method 1: In the left **Devices** pane, double-click on **EtherCAT Config** ①, or in the **Network Configuration** pane, double-click on the GL20-RTU-ECT icon to open the **Hardware Configuration** pane, then in the right **In\Output Module List**, double-click on "GL20_3200END" ② or drag the GL20_3200END module and place it after the GL20-RTU-ECT module.

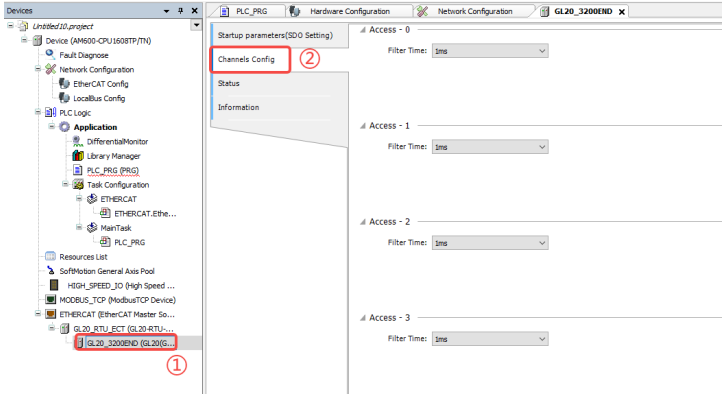


- Method 2: In the left **Devices** pane, right click "GL20_RTU_ECT" ① and select **Add Device**. Select "GL20_3200END" ② in the pop-up dialog box and click **Add Device** ③.



- Method 3: In the left **Devices** pane, right-click on **ETHERCAT(EtherCAT Master SoftMotion)** and select **Scan For Devices**, then click **Scan Devices** and select the scanned GL20_3200END module, and finally click **Copy all to project**.

3. Double-click the module ① to set **Channels Config** ②.

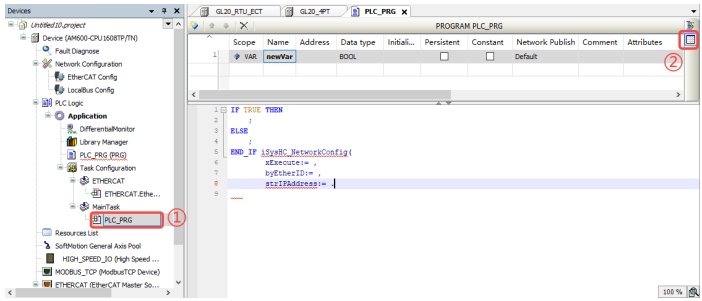


The parameters for channel configuration are shown in the following table.

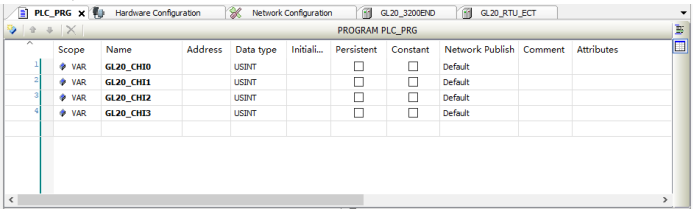
Parameter	Description	Parameter Settings
Filter time	Debounce filter time of the digital input channel	The following parameter values are supported: • No filter • 0.25 ms • 0.5 ms • 1 ms • 2 ms • 4 ms • 8 ms • 16 ms • 32 ms Default: 1 ms

4. Create input variables.

a. In the left **Device** pane, double-click **PLC_PRG** ① and click  ② in the upper right corner to switch to table mode.

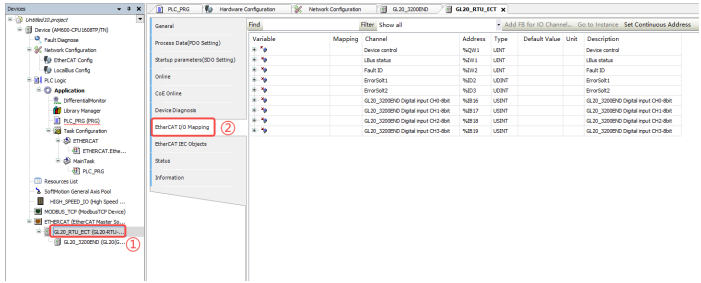


b. Add custom input variables "GL20_CHI0", "GL20_CHI1", "GL20_CHI2", and "GL20_CHI3". Set the scope of these variables to "VAR" and data type to "USINT", as shown below.

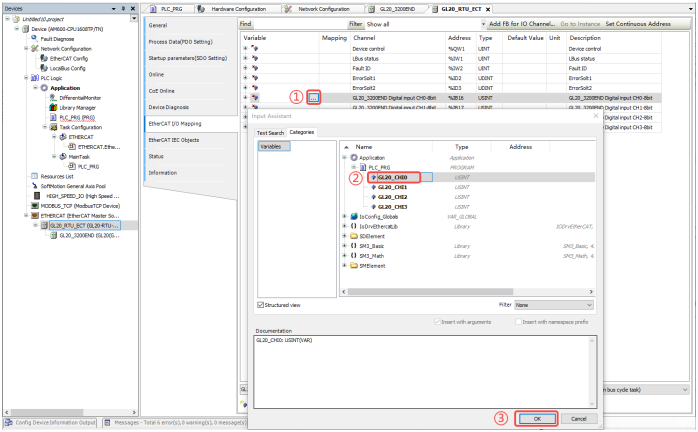


5. Map the input variables to the corresponding input channels.

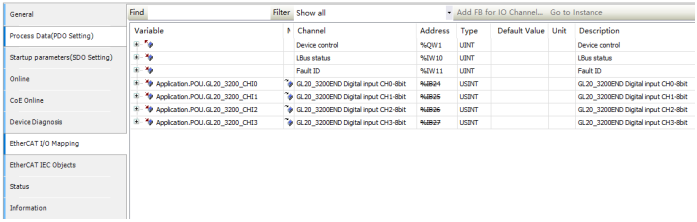
a. In the left **Devices** pane, double-click **GL20_RTU_ECT** ① and click the **EtherCAT I/O Mapping** ② tab.



b. On the **EtherCAT I/O Mapping** tab, double-click a variable entry and click ... ① to open the **Input Assistant** dialog box. Choose **Application** > **PLC_PRG** > specific variables ② and click **OK** ③.



Map the input variables "GL20_CHI0", "GL20_CHI1", "GL20_CHI2", and "GL20_CHI3" to the input channel of the configuration module, as shown in the figure below.



6. Double-click **PLC_PRG** in the left **Devices** pane and complete the programming on the **PLC_PRG** page.
7. Check, compile, log in, download, and run the program.

a. Click  on the toolbar at the top of the interface to check whether the program is correct.

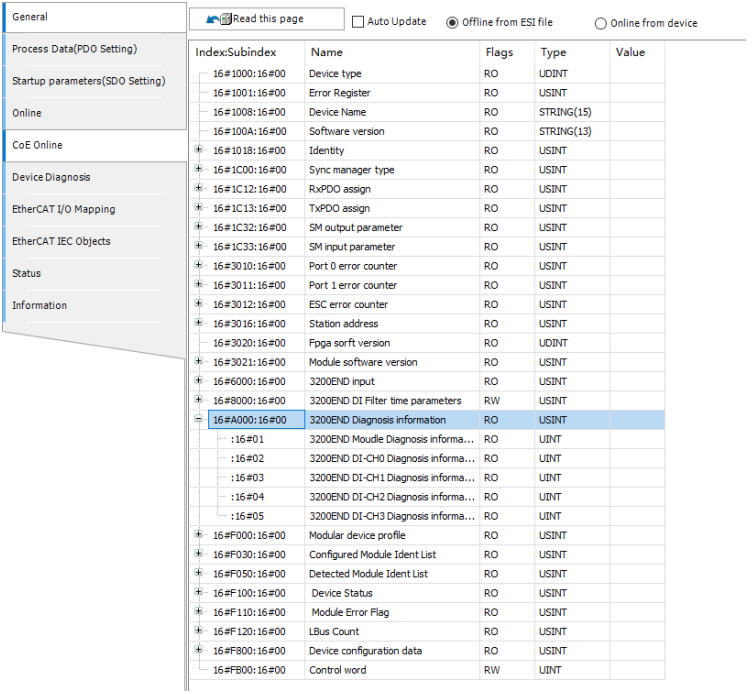
b. After the program check is correct, click  on the toolbar at the top of the interface to compile all the code into PLC executable code.

c. After the compilation is correct, click  on the toolbar at the top of the interface, and follow the interface prompts to log in to the PLC and download the program.

d. After the program download is complete, click  on the toolbar at the top of the interface to execute the program.

5 Fault Diagnosis

When the ERR indicator is ON, it indicates that the module is faulty. The module reports a fault code, which can be obtained through the diagnostic data object dictionary value in the "CoE Online" interface, as shown below. For the module installed in slot n (n = 0 to 31), the object dictionary definition for index 0xA000 +0x40*n is shown in the table below.



Index:Subindex	Name	Flags	Type	Value
16#1000:16#00	Device type	RO	UDINT	
16#1001:16#00	Error Register	RO	USINT	
16#1008:16#00	Device Name	RO	STRING(15)	
16#100A:16#00	Software version	RO	STRING(13)	
16#1018:16#00	Identity	RO	USINT	
16#1C00:16#00	Sync manager type	RO	USINT	
16#1C12:16#00	RxPDO assign	RO	USINT	
16#1C13:16#00	TxPDO assign	RO	USINT	
16#1C32:16#00	SM output parameter	RO	USINT	
16#1C33:16#00	SM input parameter	RO	USINT	
16#3010:16#00	Port 0 error counter	RO	USINT	
16#3011:16#00	Port 1 error counter	RO	USINT	
16#3012:16#00	ESC error counter	RO	USINT	
16#3016:16#00	Station address	RO	USINT	
16#3020:16#00	Fpga sorft version	RO	UDINT	
16#3021:16#00	Module software version	RO	USINT	
16#6000:16#00	3200END input	RO	USINT	
16#8000:16#00	3200END DI Filter time parameters	RW	USINT	
16#A000:16#00	3200END Diagnosis information	RO	USINT	
:16#01	3200END Moudle Diagnosis informa...	RO	UINT	
:16#02	3200END DI-CH0 Diagnosis informa...	RO	UINT	
:16#03	3200END DI-CH1 Diagnosis informa...	RO	UINT	
:16#04	3200END DI-CH2 Diagnosis informa...	RO	UINT	
:16#05	3200END DI-CH3 Diagnosis informa...	RO	UINT	
16#F000:16#00	Modular device profile	RO	USINT	
16#F030:16#00	Configured Module Ident List	RO	USINT	
16#F050:16#00	Detected Module Ident List	RO	USINT	
16#F100:16#00	Device Status	RO	USINT	
16#F110:16#00	Module Error Flag	RO	USINT	
16#F120:16#00	LBus Count	RO	USINT	
16#F800:16#00	Device configuration data	RO	USINT	
16#FB00:16#00	Control word	RW	UINT	

- Diagnostic Data

  For the module in slot n (n = 0 to 31), the object dictionary definition for index 0xA000+0x40*n is shown in the table below.

Index	0xA000+0x40*n: 3200END Diag data				
Subindex	Name	Data Type	Access Mode	Mapping	Default Value
0	Subindex 000	USINT	RO	NO	9
1	DI Channel CH0 Fault Information	UINT	RO	NO	0x0000
2	DI Channel CH1 Fault Information	UINT	RO	NO	0x0000
3	DI Channel CH2 Fault Information	UINT	RO	NO	0x0000
4	DI Channel CH3 Fault Information	UINT	RO	NO	0x0000

- Module fault code

Fault code	Description	Solution
0x5003	Module 24 V power supply failure	Check the external power supply wiring and verify the power supply voltage.

Note

Fault detection is not supported for digital inputs. For digital outputs, fault detection is only supported for the output power supply. When the output power supply is faulty (undervoltage), the fault code is 0x5003. No faults are reported for other channels.

6 Appendix: Version Matching Information

Contact Inovance technical support to obtain the firmware of GL20-3200END module and the firmware of communication interface module. XML files and the AutoShop/InoProShop software can be downloaded from the software and debugging tools tab on the GL20 series product page at *https://www.inovance.com*. The following table describes the version matching information.

GL20-3200END module firmware version	Communication interface module firmware version	XML/GSD file version	AutoShop/InoProShop version
Logic software: 0.1.2.0 and later	• GL20-RTU-ECT: Board software 2.4.13.0 and later • GL20-RTU-ECT32: Board software 2.5.9.0 and later • GL20-RTU-PN: Board software 2.2.2.0 and above	• GL20-RTU-ECT: 1.3.9.0 and later • GL20-RTU-ECT32: 3.0.2.0 and later • GL20-RTU-PN: 20230523 and later	• AutoShop (ECT): V4.8.2.4 and later • InoProShop (ECT): V1.7.3 SP1 and later • InoProShop (ECT32): V1.7.3 SP6 and later