



MAC00-B41

RS232/485, Misc I/O, M12 conn., IP67

MAC00 modules are control- and -interface modules for the MAC motor series of integrated (all-in-one) servo motors with shaft power from 46 W to 4500 W.

Choose between a wide range of control modules

- Ethernet modules support all protocols: Profinet, EtherNet/IP, EtherCAT, SERCOS, Powerlink and ModbusTCP/UDP
- Ethernet modules have built-in Switch for easy daisy-chaining of cables from motor-to-motor
- Wireless modules: WLAN or BlueTooth
- CANopen, Devicenet or Profibus or ePLC modules
- Serial communication modules, RS232 and/or RS485

Unique Ethernet functionality: use MacTalk (PC software) to change freely between all the different Ethernet protocols, you dont need several different types on stock ã ONE is enough.



General information

Description	RS232/485, Misc I/O, M12 conn., IP67, RS232/485, M12 IP67, Misc I/O, ePLC. Encoder In/Out, 2x AI ±10 V, 6x DI/DO Opto isolated RS232 and RS485. PWR: P+ and CVI IO2: 6xDIO and CVO COM: RS232/485/USB IO1: MF1, MF2, 5V out, 2xAI. Expansion Module for MAC motor® !ONLY for MAC400..4500 & MAC140-F.		
Manufacture	JVL	For motor type	MAC
Color	Black	Protection house	IP67
Software	MacTalk	Interface	RS232/485
Connectivity: Without module	RS232/RS485		
Control voltage (CVI/O+) [VDC]	12-28	Main supply [V]	12-48
Expansion connector	Generation 2		
Integrated PLC	No	PLC no. of DI	n/a
PLC no. of AIN	2	PLC no. of DO	n/a
Multifunction IOs	2	PLC no. of DIO	6

[Datasheet - pdf](#)



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Mechanical information

Customer Sealing



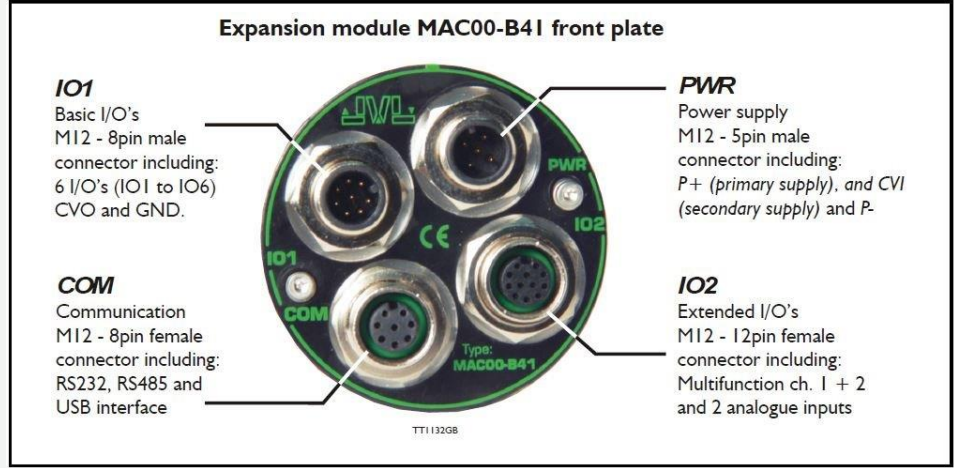
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Connector information

Expansion connector Generation 2

Motor connectors



Connector 1 label	PWR	Connector 1	M12 5-pin male A-coded
Connector 2 label	IO2	Connector 2	M12 12-pin female A-coded
Connector 3 label	COM	Connector 3	M12 8-pin female A-coded
Connector 4 label	IO1	Connector 4	M12 8-pin male A-coded
Connector 2 RS232	Yes	Connector 2 RS485	No
Connector 3 RS232	Yes	Connector 3 RS485	Yes
Connector 4 RS232	No	Connector 4 RS485	No

Picture CN1

"PWR" - Power input. M12 - 5pin male connector

Signal name	Description	Pin no.	JVL Cable W11000-M12F5T05N	Isolation group
P+	Main supply +12-48VDC. Connect with pin 2 *	1	Brown	1
P+	Main supply +12-48VDC. Connect with pin 1 *	2	White	1
P-	Main supply ground. Connect with pin 5 *	3	Blue	1
CVI	Control and user output supply +12-30VDC. Connect MAXIMUM 30VDC to this terminal	4	Black	1
P-	Main supply ground. Connect with pin 3 *	5	Grey	1

* Note: P+ and P- are each available at 2 terminals. Make sure that both terminals are connected in order to split the supply current in 2 terminals and thereby avoid an overload of the connector.

Picture CN2

"IO1" - Basic I/O's. M12 - 8pin male connector.

Signal name	Description	Pin no.	JVL Cable W11000-M12F8T05N	Isolation group (See note)
I/O1	I/O channel 1 - Can be used as input or output	1	White	1
I/O2	I/O channel 2 - Can be used as input or output	2	Brown	1
I/O3	I/O channel 3 - Can be used as input or output	3	Green	1
I/O4	I/O channel 4 - Can be used as input or output	4	Yellow	1
I/O5	I/O channel 5 - Can be used as input or output	5	Grey	1
I/O6	I/O channel 6 - Can be used as input or output	6	Pink	1
CVO	Supply output. Connected internally to the CVI terminal in the PWR connector. DO NOT connect >30V to this terminal !	7	Blue	1
GND	Ground intended to be used together with the other signals in this connector.	8	Red	1



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Connector information

Picture CN3

"COM" - Communication connector - M12 - 8pin female connector.				
Signal name	Description	Pin no.	JVL Cable W11000-M12 M8T05N	Isolation group (See note)
USB: D-	USB interface. Negative data terminal	1	White	2
RS232: TX	RS232 interface. Transmit terminal Leave open if unused.	2	Brown	2
RS232: RX	RS232 interface. Receive terminal Leave open if unused.	3	Green	2
IGND	Isolated interface ground to be used together with the other signals in this connector.	4	Yellow	2
RS485: A-	RS485 interface. Leave open if unused	5	Grey	2
RS485: B+	RS485 interface. Leave open if unused	6	Pink	2
USB: D+	USB interface. Positive data terminal	7	Blue	2
USB: VBUS	USB interface. Supply input 5VDC nominal	8	Red	2

Picture CN4

"IO2" - I/O connector 2. M12 - 12pin female connector				
Signal name	Description	Pin no.	JVL Cable W11009M12 M12T05N	Isolation group (see note)
A1+	Multifunction I/O1 terminal A1+	1	Brown	1
GND	Ground intended to be used together with the other signals in this connector	2	Blue	1
A1-	Multifunction I/O1 terminal A1-	3	White	1
B1+	Multifunction I/O1 terminal B1+	4	Green	1
A2+	Multifunction I/O2 terminal A2+	5	Pink	1
B1-	Multifunction I/O1 terminal B1-	6	Yellow	1
B2+	Multifunction I/O2 terminal B2+	7	Black	1
A2-	Multifunction I/O2 terminal A2-	8	Grey	1
5VO	5V out - max 100mA	9	Red	1
B2-	Multifunction I/O2 terminal B2-	10	Violet	1
AIN1	Analogue input1 ±10V or used for <i>Zero search</i>	11	Grey/pink	1
AIN2	Analogue input2 ±10V	12	Red/blue	1



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Electrical information

Control voltage (CVI/O+) [VDC]	12-28	Control Voltage (CVI) Min-Max [VDC]	DC 8-32
Max current CVI [A]			
Main supply [V]	12-48	Main supply Min-Max [V]	10-50
Rated Winding current [A]		P- isolated from Earth (Low Voltage ground (P-) isolated from housing)	
PLC no. of DI	n/a	Dig. Input impedans	10kohm
PLC no. of DO	n/a	PLC DO max current [mA/DO]	100mA - PNP
PLC no. of DIO	6		
PLC no. of AIN	2	PLC AIN voltage [VDC]	-10 to +10
PLC AIN Min-Max [VDC]	-10 to +32	PLC AIN Max Tol. [%]	5.0
Multifunction IOs	2	PLC MF low level [VDC]	2.0
PLC MF high level [VDC]	3.0	PLC MF Max level [VDC]	5.5
MTBF 30% [Year]		MTBF 100% [Year]	



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Communication information

e-PLC Files

Ethernet, PLC demo files



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Cable information

Item number	Mount on	Cable con 1 +Con 1 angle	Cable application	Wires no totally	Cable length [m]
Item description		Cable con 2 +Con 2 angle	Cable flexibility	Wire [mm2]	Connector 1 LED
WI1000-M12F5T02N M12 Shl Cable 2m 5 pin Fem 0°, Power	Connector 1	M12 5-pin female A-coded - 0° Straight Open Ended - n/a	Power/Motor/com Standard	5 0.32	2 No
WI1000-M12F5T05N M12 Shl Cable 5m 5 pin Fem 0°, Power	Connector 1	M12 5-pin female A-coded - 0° Straight Open Ended - n/a	Power/Motor/com Standard	5 0.32	5 No
WI1000-M12F5T1.2N M12 Shl Cable 1.2m 5 pin Fem 0°, Power	Connector 1	M12 5-pin female A-coded - 0° Straight Open Ended - n/a	Power/Motor/com Standard	5 0.32	1.2 No
WI1000-M12F5T10N M12 Shl Cable 10m 5 pin Fem 0°, Power	Connector 1	M12 5-pin female A-coded - 0° Straight Open Ended - n/a	Power/Motor/com Standard	5 0.32	10 No
WI1000-M12F5T10R M12 Shl Cable 10m 5 pin Fem 0°, Power, High-flex	Connector 1	M12 5-pin female A-coded - 0° Straight Open Ended - n/a	Power/Motor/com Cable Chains - 2D	5 0.34	10 No
WI1000-M12F5T20N M12 Shl Cable 20m 5 pin Fem 0°, Power	Connector 1	M12 5-pin female A-coded - 0° Straight Open Ended - n/a	Power/Motor/com Standard	5 0.32	20 No
WI1000-M12F5TLT0185 M12 shl Cable 3m 5 pin female 0°,PW SPEC	Connector 1	M12 5-pin female A-coded - 0° Straight - n/a	Power Standard	5 0.32	3 No
WI1000-M12F5V05N M12 Shl Cable 5m 5 pin Fem 90°, Power	Connector 1	M12 5-pin female A-coded - 90° Angled Open Ended - n/a	Power/Motor/com Standard	5 0.32	5 No
WI1000-M12F5V10N M12 Shl Cable 10 m 5 pin Fem 90°, Power	Connector 1	M12 5-pin female A-coded - 90° Angled Open Ended - n/a	Power/Motor/com Standard	5 0.32	10 No
WI1000-M12F5V20N M12 Shl Cable 20m 5 pin Fem 90°, Power	Connector 1	M12 5-pin female A-coded - 90° Angled Open Ended - n/a	Power/Motor/com Standard	5 0.32	20 No
WI1000-M12F5W05N M12 Shl Cable 5m LED 5p Fem 90°, Power <50V	Connector 1	M12 5-pin female A-coded - 90° Angled Open Ended - n/a	Power 24/48 Standard	5 0.32	5 LED
WI1000-M12F5W10N M12 Shl Cable 10m LED 5 p Fem 90°, Power <50V	Connector 1	M12 5-pin female A-coded - 90° Angled Open Ended - n/a	Power 24/48 Standard	5 0.32	10 LED
WI1000-M12F5W15N M12 Shl Cable 15m LED 5 p Fem 90°, Power <50V	Connector 1	M12 5-pin female A-coded - 90° Angled Open Ended - n/a	Power 24/48 Standard	5 0.32	15 LED
WI1000-M12F5W20N M12 Shl Cable 20m LED 5 p Fem 90°, Power <50V	Connector 1	M12 5-pin female A-coded - 90° Angled Open Ended - n/a	Power 24/48 Standard	5 0.32	20 LED
WI1000-M12F5WF5W20N M12 shl cab 20m LED 5 pin female 90',Pow <50V	Connector 1	M12 5-pin female A-coded - 90° Angled M12 5-pin female A-coded - 90° Angled	Power 24/48 Standard	5 0.32	20 LED
WI1008-M12F5SS1 M12 Con 5p Fem 0° Solder assembly	Connector 1	M12 5-pin female A-coded - 0° Straight - n/a	n/a	n/a	Connector n/a
WI1008-M12F5TG1 M12 Con 5p Fem 0° Spring Shield+B222	Connector 1	M12 5-pin female A-coded - 0° Straight - n/a	n/a	n/a	Connector n/a
WI1008-M12F5VG1 M12 Con 5p Fem 90° Spring Shield	Connector 1	M12 5-pin female A-coded - 90° Angled - n/a	n/a	n/a	Connector n/a
WI1008-M12M12SS1 M12 Con 12p Male 0° Solder assembly	Connector 2	M12 12-pin male A-coded - 0° Straight - n/a	n/a	n/a	Connector n/a
WI1008-M12M12TS1 M12 Con 12p Male 0° Solder Shield	Connector 2	M12 12-pin male A-coded - 0° Straight - n/a	n/a	n/a	Connector n/a
WI1008-M12M12VS1 M12 Con 12p Male 90° Solder Shield	Connector 2	M12 12-pin male A-coded - 90° Angled - n/a	n/a	n/a	Connector n/a
WI1009-M12M12T05N M12 Shl Cab 5m 12p Male 0° RS422 6P twisted	Connector 2	M12 12-pin male A-coded - 0° Straight Open Ended - n/a	Basic I/O Standard	12 0.061	5 n/a
WI1009-M12M12T20N M12 Shl Cab 20m 12p Male 0° RS422 6P twisted	Connector 2	M12 12-pin male A-coded - 0° Straight Open Ended - n/a	Basic I/O Standard	12 0.061	20 n/a
WI1000-M12M8T02N M12 Shl Cable 2m 8 p Male 0° COM1/Ext IO	Connector 3	M12 8-pin male A-coded - 0° Straight Open Ended - n/a	Basic I/O, Com Standard	8 0.32	2 n/a
WI1000-M12M8T05N M12 Shl Cable 5m 8 p Male 0° COM1/Ext IO	Connector 3	M12 8-pin male A-coded - 0° Straight Open Ended - n/a	Basic I/O, Com Standard	8 0.32	5 n/a
WI1000-M12M8T20N M12 Shl Cable 20m 8 p Male 0° COM1/ExtIO	Connector 3	M12 8-pin male A-coded - 0° Straight Open Ended - n/a	Basic I/O, Com Standard	8 0.32	20 n/a
WI1000-M12M8TF4LT186 M12 shl cable5m, M12 M8, M8 F4 0° IO	Connector 3	M12 8-pin male A-coded - 0° Straight M12 4-pin female A-coded - 0° Straight	8 0.32	8 0.32	5 n/a
WI1000-M12M8TLT0184	Connector 3	M12 8-pin male A-coded - 0° Straight	8	8	5



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Cable information

Item number	Mount on	Cable con 1 +Con 1 angle	Cable application	Wires no totally	Cable length [m]
Item description		Cable con 2 +Con 2 angle	Cable flexibility	Wire [mm2]	Connector 1 LED
M12 shl cable5m, 8 pin male 0° IO SPEC		M12 4-pin female A-coded - 0° Straight		0.32	n/a
WI1000-M12M8V05N	Connector 3	M12 8-pin male A-coded - 90° Angled	Basic I/O, Com	8	5
M12 Shl Cable 5m 8 p Mal 90° COM1/ExtIO		Open Ended - n/a	Standard	0.2	n/a
WI1000-M12M8V20N	Connector 3	M12 8-pin male A-coded - 90° Angled	Basic I/O, Com	8	20
M12 Shl Cable 20m 8 p Mal 90° COM1/ExtIO		Open Ended - n/a	Standard	0.2	n/a
WI1005-M12M8QM5V.3N	Connector 3	M12 8-pin male A-coded - 90° Angled	Communication		0.3
M12 Shl Cab 0.3m 8p Mal 5p Mal 90° RS485 twisted		M12 5-pin male A-coded - 90° Angled	Standard	0.32	n/a
WI1005-M12M8S10N	Connector 3	M12 8-pin male A-coded - 0° Straight		8	10
M12 Shl Cable 10m, 8 p Male MAC00-B41 twisted		Open Ended - n/a	Standard	0.32	n/a
WI1005-M12M8STR5	Connector 3	M12 8-pin male A-coded - 0° Straight	Communication	n/a	Connector
M12 8-pin male A Code Resistor RS485		n/a - n/a	n/a	0.32	n/a
WI1005-M12M8TF8T01N	Connector 3	M12 8-pin male A-coded - 0° Straight		8	0.5
M12 Shl Cab 1m 8p Male 0° to 8p Female 0° 2x4pair		M12 5-pin female A-coded - 0° Straight	Standard	0.32	n/a
WI1005-M12M8TF8T20N	Connector 3	M12 8-pin male A-coded - 0° Straight		8	5
M12 Shl Cab 20m 8p Male 8p Female 0° 2x4p twisted		M12 8-pin female A-coded - 0° Straight		0.32	n/a
WI1005-M12M8TM5T.3N	Connector 3	M12 8-pin male A-coded - 0° Straight	Communication	5	0.3
M12 Shl Cab 0,3 m 8p Male 5p Male 0° RS485 twisted		M12 5-pin male A-coded - 0° Straight	Standard	0.32	n/a
WI1005-M12M8TM5T.5N	Connector 3	M12 8-pin male A-coded - 0° Straight	Communication	5	0.5
M12 Shl Cab 0,5 m 8p Male 5p Male 0° RS485 twisted		M12 5-pin male A-coded - 0° Straight	Standard	0.32	n/a
WI1005-M12M8TM5T05N	Connector 3	M12 8-pin male A-coded - 0° Straight	Communication	5	5
M12 Shl Cab 5m 8p Male 5p Male 0° RS485 twisted		M12 5-pin male A-coded - 0° Straight	Standard	0.32	n/a
WI1005-M12M8VM5V.5N	Connector 3	M12 8-pin male A-coded - 90° Angled	Communication	5	0,5
M12 Shl Cab 0.5m 8pMale 5pMale 90° RS485 twisted		M12 5-pin male A-coded - 90° Angled	Standard	0.32	n/a
WI1005-M12M8VM5V03N	Connector 3	M12 8-pin male A-coded - 90° Angled	Communication	5	3
M12 Shl Cab3m 8p Male 5p Male 90° RS485 twisted		M12 5-pin male A-coded - 90° Angled	Standard	0.32	n/a
WI1005-M12M8VM5V10N	Connector 3	M12 8-pin male A-coded - 90° Angled	Communication	5	10
M12 Shl Cab10m 8p Male 5p Male 90° RS485 twisted		M12 5-pin male A-coded - 90° Angled	Standard	0.32	n/a
WI1005-M12M8VM5V20N	Connector 3	M12 8-pin male A-coded - 90° Angled	Communication	5	20
M12 Shl Cab20m 8p Male 5p Male 90° RS485 twisted		M12 5-pin male A-coded - 90° Angled	Standard	0.32	n/a
WI1008-M12M8SC1	Connector 3	M12 8-pin male A-coded - 0° Straight		n/a	Connector
M12 Con 8p Male 0° Screw Ø4-8mm cable		- n/a	n/a	n/a	n/a
WI1008-M12M8SS1	Connector 3	M12 8-pin male A-coded - 0° Straight		n/a	Connector
M12 Con 8p Male 0° Solder assembly		- n/a	n/a	n/a	n/a
WI1008-M12M8TC1	Connector 3	M12 8-pin male A-coded - 0° Straight		n/a	Connector
M12 Con 8p Male 0° Screw Shield		- n/a	n/a	n/a	n/a
WI1008-M12M8TS1	Connector 3	M12 8-pin male A-coded - 0° Straight		n/a	Connector
M12 Con 8p Male 0° Solder Shield		- n/a	n/a	n/a	n/a
WI1009-M12M8Q1.2N	Connector 3	M12 8-pin male A-coded - 90° Angled		8	1.2
M12 Shl Cable 1.2m 8p Male 90° 4P twisted		Open Ended - n/a	Standard	0.32	n/a
WI1009-M12M8V05N	Connector 3	M12 8-pin male A-coded - 90° Angled		8	5
M12 Shl Cable 5m 8 p Male 90° 4P twisted		Open Ended - n/a	Standard	0.32	n/a
WI1009-M12M8V20N	Connector 3	M12 8-pin male A-coded - 90° Angled		8	20
M12 Shl Cable 20m 8 p Male 90° 4P twisted		Open Ended - n/a	Standard	0.32	n/a
WI1011-M12M8V1.2T	Connector 3	M12 8-pin male A-coded - 90° Angled		8	1.2
M12 Shl Cable 1.2m 8 p Male 90° 4P twisted		Open Ended - n/a		0.32	n/a
WI1011-M12M8V10T	Connector 3	M12 8-pin male A-coded - 90° Angled		8	10
M12 Shl Cable 10m 8 p Male 90° 4P twisted		Open Ended - n/a	Standard	0.32	n/a
WI1011-M12M8V15T	Connector 3	M12 8-pin male A-coded - 90° Angled		8	15
M12 Shl Cable 15m 8 p Male 90° 4P twisted		Open Ended - n/a	Standard	0.32	n/a
RS232-M12-1-10-8	Connector 3 RS232	-			
RS232 M12 8pin M 10m f/FC4,FD4,FP4,B4		-			
RS232-M12-1-3-8-QS	Connector 3 RS232	-			
RS232 M12 8pin M 3m Quickstep/SMC75A1Mx		-			
RS232-M12-1-5-8	Connector 3 RS232	-			
RS232 M12 8pin M 5m f/ FC41,FP4,B4,B41,Ex4		-			



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Cable information

Item number	Mount on	Cable con 1 +Con 1 angle	Cable application	Wires no totally	Cable length [m]
Item description		Cable con 2 +Con 2 angle	Cable flexibility	Wire [mm2]	Connector 1 LED
RS485-M12-1-5-8	Connector 3 RS485	-			
RS485 M12-8pin DSub, 5m, straight v1.0		-			
WI1000-M12F8T05N	Connector 4	M12 8-pin female A-coded - 0° Straight	Basic I/O	8	5
M12 Shl Cable 5m 8 p Fem 0°, Basic IO		Open Ended - n/a	Standard	0.32	n/a
WI1000-M12F8T20N	Connector 4	M12 8-pin female A-coded - 0° Straight	Basic I/O	8	20
M12 Shl Cable 20m 8 p Fem 0°, Basic IO		Open Ended - n/a	Standard	0.32	n/a
WI1000-M12F8V05N	Connector 4	M12 8-pin female A-coded - 90° Angled	Basic I/O	8	5
M12 Shl Cable 5m 8 p Fem 90°, Basic IO		Open Ended - n/a	Standard	0.32	n/a
WI1000-M12F8V20N	Connector 4	M12 8-pin female A-coded - 90° Angled	Basic I/O	8	20
M12 Shl Cable 20m 8 p Fem 90°, Basic IO		Open Ended - n/a	Standard	0.32	n/a
WI1008-M12F8SC1	Connector 4	M12 8-pin female A-coded - 0° Straight		n/a	Connector
M12 Con 8p Fem 0° Screw Ø4-8mm cable		- n/a	n/a	n/a	n/a
WI1008-M12F8SS1	Connector 4	M12 8-pin female A-coded - 0° Straight		n/a	Connector
M12 Con 8p Fem 0° Solder assembly		- n/a	n/a	n/a	n/a
WI1008-M12F8TC1	Connector 4	M12 8-pin female A-coded - 0° Straight		n/a	Connector
M12 Con 8p Fem 0° Screw Shield		- n/a	n/a	n/a	n/a
WI1008-M12F8TS1	Connector 4	M12 8-pin female A-coded - 0° Straight		n/a	Connector
M12 Con 8p Fem 0° Solder Shield		- n/a	n/a	n/a	n/a
WI1011-M12F8V10T	Connector 4	M12 8-pin female A-coded - 90° Angled		8	10
M12 Shl Cable 10m 8 p Female 90° 4P twisted		Open Ended - n/a		0.32	n/a
WI1025-M12F8AM8A	Connector 4	M12 8-pin female A-coded - 90° Angled		5	
M12 Cabinet Feed-through F8p-M8p		M12 8-pin male A-coded - 90° Angled	Standard	0.32	n/a