



MAC00-P4

Process module IO 4-20mA opt. M12, 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 don t need several different types on stock ONE is enough.



General information

Description	Process module IO 4-20mA opt. M12, IP67, Process module IO 4-20mA opt. M12, IP67		
Manufacture	JVL	For motor type	MAC
Color	Black	Protection house	IP67
Software	MacTalk	Interface	RS232/485
Connectivity - Busses	RS232		
Control voltage (CVI/O+) [V]	12-28	Main supply [V]	12-28V
Expansion connector	Generation 2		
Integrated PLC	No	PLC no. of DI	3
PLC no. of AIN	3	PLC no. of DO	2
Multifunction IOs		PLC no. of DIO	n/a



MAC00-P4

Process module IO 4-20mA opt. M12, IP67

Mechanical information

Customer Sealing

Datasheet - pdf

Id0089gb.pdf



MAC00-P4

Process module IO 4-20mA opt. M12, IP67

Connector information

Expansion connector Generation 2

Picture connectors



Connector 1 label	PWR	Connector 1	M12 5-pin male A-coded
Connector 2 label	SLV	Connector 2	M12 5-pin male A-coded
Connector 3 label	COM	Connector 3	M12 5-pin female A-coded
Connector 4 label	CNT	Connector 4	M12 12-pin female A-coded
Connector 2 RS232	n/a	Connector 2 RS485	n/a
Connector 3 RS232	Yes	Connector 3 RS485	n/a
Connector 4 RS232	n/a	Connector 4 RS485	n/a

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
CV11	Output supply / Control voltage +12-32VDC.	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

“SLV” - Slave connector - M12 - 5pin male connector

Signal name	Description	Pin no.	JVL Cable “W11005-M12- F5TF5T03P”	Isolation group (see note)
RS485 A-	RS485 Modbus *. Positive data signal	1	1	4
RS485 B+	RS485 Modbus *. Negative data signal	4	4	4
CV12	Supply output (optional input) +12-28VDC Hardwired internally to CV11.	2	2	0
GND	Ground to be used with CV12. This ground is hardwired internally to the main power ground P-.	3	3	0
IGND	Ground intended to be used together with the other signals in this connector.	5	Screen wire	4

* The RS485 pins in “COM” and “SLV” is not for general use but only for master/slave configuration.



MAC00-P4

Process module IO 4-20mA opt. M12, IP67

Connector information

Picture CN3

"COM" - Communication connector - M12 - 5pin female connector.				
Signal name	Description	Pin no.	JVL Cable "RS232-M12-1-5-5"	Isolation group (See note)
RS232: RX	RS232 interface. Receive terminal Leave open if unused.	1	Brown	4
RS232: TX	RS232 interface. Transmit terminal Leave open if unused.	2	White	4
IGND	Ground intended to be used together with the other signals in this connector.	3	Blue	4
RS485: A-	RS485 Modbus *. Leave open if unused	4	Black	4
RS485: B+	RS485 Modbus *. Leave open if unused	5	Grey	4

Picture CN4

"CNT" - Control I/O. M12 - 12pin female connector				
Signal name	Description	Pin no.	JVL Cable W11009-M12M12T05N	Isolation group
AIN+	4-20mA input. Positive terminal	3	White	2
AIN-	4-20mA input. Negative terminal	1	Brown	2
AOUT1	4-20mA output. Positive terminal. Apply 7 to 24V to this terminal if internal AOUT supply is disabled.	9	Red	3
AOUT2	4-20mA output. Negative terminal.	2	Blue	3
O+	Supply term. to the OUT1 and 2 circuitry. Apply 5 - 32VDC	11	Grey/Pink	1
OUT1	Output 1 - Default : Error output. PNP output.	6	Yellow	1
OUT2	Output 2. PNP output.	4	Green	1
CVI1	Control supply input +12-28VDC. Consumption typical 350mA @ 24VDC and 700mA @24VDC if a slave motor is connected. At MAC00-P4 the CVI1 is hardwired to the CVI terminal (pin 4) at the power connector. At MAC00-P5 the CVI1 is not present but CVI1 is internally hardwired to P+.	12	Red/Blue	0
P-	Main ground to be used with CVI1 and IN2-4.	10	Violet	0
IN2 / AIN1	General digital input and analogue input 1 Notice that analogue input 1 is used for <i>Zero search</i>	5	Pink	0
IN3 / AIN2	General digital input and analogue input 2	8	Grey	0
IN4	General digital input	7	Black	0

* Note: Isolation group indicate which terminals/circuits that a galvanic connected to each other. In other words group 1, 2, 3 and 4 are all fully independantly isolated from each other. Group 0 correspond to the housing of the motor which may also be connected to earth via the 115/230VAC power inlet.



MAC00-P4

Process module IO 4-20mA opt. M12, IP67

Electrical information

Control voltage (CVI/O+) [V]	12-28	Control Voltage (CVI) Min-Max [V]	
Max current CVI [A]			
Main supply [V]	12-28V	Main supply Min-Max [V]	10-50
Max current (P+) [A]		P- isolated from Earth	
		PLC no. of DI	3
Dig. Input impedans	10kohm	PLC no. of DO	2
PLC DO max current [mA]	100mA - PNP	PLC no. of DIO	n/a
		PLC no. of AIN	3
PLC AIN voltage [VDC]	-10 to +10	PLC AIN Min-Max [VDC]	-10 to +32
PLC AIN Max Tol. [%]	5.0	Multifunction IOs	
PLC MF low level [VDC]		PLC MF high level [VDC]	
PLC MF Max level [VDC]		MTBF 30% [Year]	
MTBF 100% [Year]			