



## 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 don t need several different types on stock ONE is enough.



### General information

<b>Description</b>	RS232/485, Misc I/O, M12 conn., IP67, RS232/485, Misc I/O, M12 conn., IP67		
<b>Manufacture</b>	JVL	<b>For motor type</b>	MAC
<b>Color</b>	Black	<b>Protection house</b>	IP67
<b>Software</b>	MacTalk	<b>Interface</b>	RS232/485
<b>Connectivity - Busses</b>	RS232/RS485		
<b>Control voltage (CVI/O+) [V]</b>	12-28	<b>Main supply [V]</b>	12-48
<b>Expansion connector</b>	Generation 2		
<b>Integrated PLC</b>	No	<b>PLC no. of DI</b>	n/a
<b>PLC no. of AIN</b>	2	<b>PLC no. of DO</b>	n/a
<b>Multifunction IOs</b>	2	<b>PLC no. of DIO</b>	6



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## Mechanical information

**Customer Sealing**

**Datasheet - pdf**



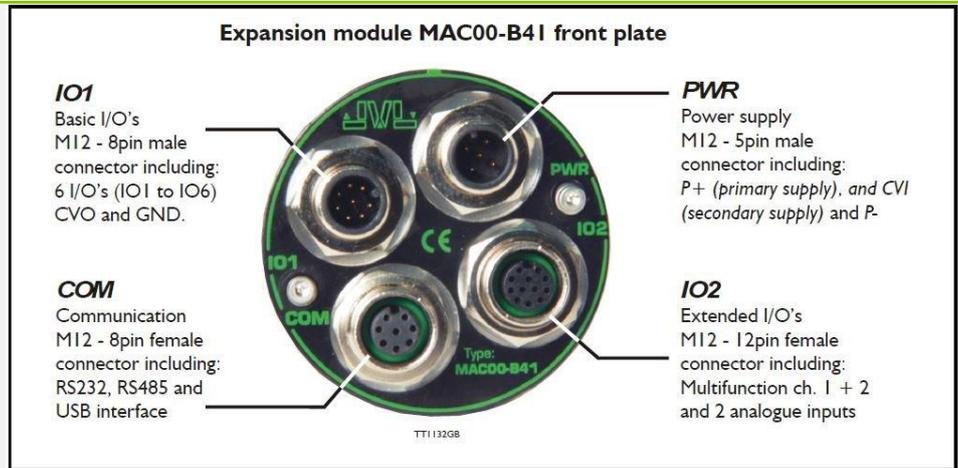
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### Connector information

**Expansion connector** Generation 2

#### Picture connectors



<b>Connector 1 label</b>	PWR	<b>Connector 1</b>	M12 5-pin male A-coded
<b>Connector 2 label</b>	IO2	<b>Connector 2</b>	M12 12-pin female A-coded
<b>Connector 3 label</b>	COM	<b>Connector 3</b>	M12 8-pin female A-coded
<b>Connector 4 label</b>	IO1	<b>Connector 4</b>	M12 8-pin male A-coded
<b>Connector 2 RS232</b>	Yes	<b>Connector 2 RS485</b>	n/a
<b>Connector 3 RS232</b>	Yes	<b>Connector 3 RS485</b>	Yes
<b>Connector 4 RS232</b>	n/a	<b>Connector 4 RS485</b>	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
CVI	Control and user output supply +12-30VDC. <b>Connect MAXIMUM 30VDC to this terminal</b>	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. <b>DO NOT connect &gt;30V to this terminal !</b>	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

**Angled connectors**





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**Electrical information**

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