

D8 line Installation manual

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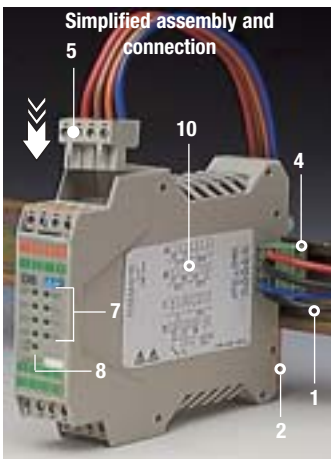
DIN rail mounting, 6 inputs and 2 outputs digital I/O module

D8 line

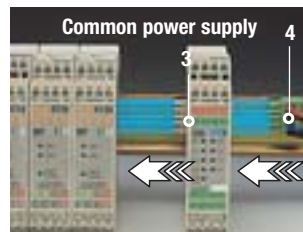
Installation manual • M.I. D8-1/04.2 • Cod. J30-658-1AD8 1E



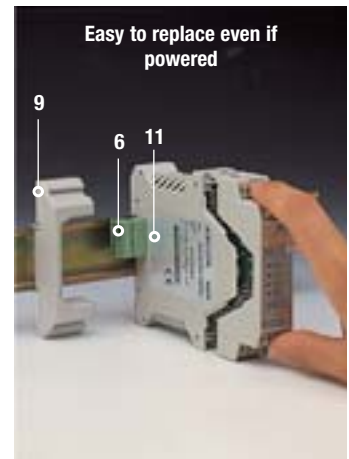
General description



- 1 DIN-rail, EN50022;
- 2 Spring loaded slide for rail fastening;
- 3 Built-in side connector, to connect one instrument to another (up to 31);
- 4 5-pole male connector, with screw terminals, for power supply and serial communications bus;
- 5 Four quick polarised connectors with 4 screw terminals for I/O;
- 6 Female connector, with termination resistor for serial communications;



- 7 Two red LEDs: outputs status;
Six yellow LEDs: inputs status;
- 8 One green LED:
lit: module powered ON;
flashing: serial communications in progress;
- 9 Couple of connector protections;
- 10 Wiring label;
- 11 Model identification label.



Model code

Mod. **D 8** **5 B C D** - **0 F 0 0**
Line Basic Accessories

The product code indicates the specific hardware configuration of the instrument, that can be modified by specialized engineers only.

Line **D 8**

D01-D02 outputs	B
Relay - Relay	1
Relay - SSR drive	2
SSR drive - SSR drive	3
SSR - SSR	4
SSR - SSR drive	5

Serial communications	C
CAN-Bus	3
RS485 Modbus/Jbus SLAVE	5

User manual	F
Italian/English (std.)	0
French/English	1
German/English	2
Spanish/English	3



Notes on electric safety and electromagnetic compatibility

Please, read carefully these instructions before proceeding with the installation of the I/O module

Class II instrument, rear panel mounting.


This instrument has been designed in compliance with:

Regulations on electrical apparatus:
according to regulations on the essential protection requirements in electrical apparatus EN 61010-1
Regulations on Electromagnetic Compatibility:
according to:

- Regulations on RF emissions:
EN61000-6-3 residential environments,
EN61000-6-4 industrial environments;
- Regulation on RF immunity:
EN61000-6-2 industrial equipment and system.



It is important to understand that it's responsibility of the installer to ensure the compliance of the regulations on safety requirements and EMC.



This device has no user serviceable parts and requires special equipment and specialised engineers. Therefore, a repair can be hardly carried on directly by the user. For this purpose, the manufacturer provides technical assistance and the repair service for its Customers. Please, contact your nearest Agent for further information.

All the information and warnings about safety and electromagnetic compatibility are marked with the  sign, at the side of the note.

Installation kit

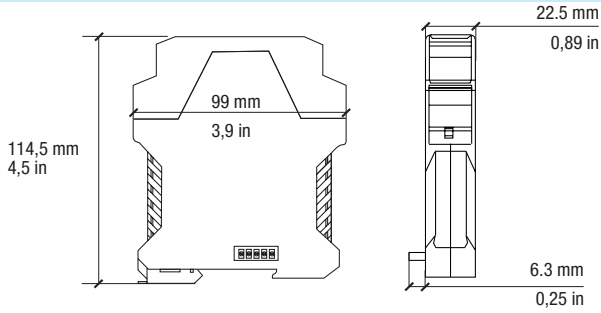
Each set of interconnected controllers requires one model **AD3-KIT/BA.RT.PC.CD** kit:

Power supply and serial comm.s connector code AD3/BA  Couple of connectors protections code AD3/PC 

Connector with termination resistor for serial communications code AD3/RT  CD Rom with configuration software tool code AD3/CD 

Installation

Dimensions



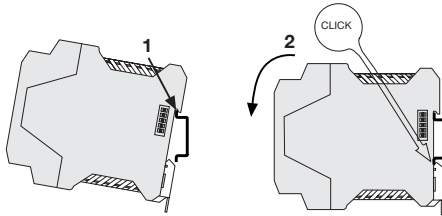
Environmental conditions			Suggestion
Operating conditions	Temperature 0...50°C		
	%Rh Relative humidity 5...95% Rh non-condensing		
Special conditions	Temperature > 50°C		Use forced ventilation
	%Rh > 95% RH		Warm up
	Conducting atmosphere		Use filter
Forbidden conditions	Corrosive atmosphere		Explosive atmosphere

Mounting on DIN rail (EN60022)

Mounting

- Clip the upper part of the instrument on the rail;
- Rotate the instrument downwards until the click;

When 2 or more instruments are installed on the same DIN rail, connect the communications/ power bus sliding the instruments side by side as explained in the following paragraphs.

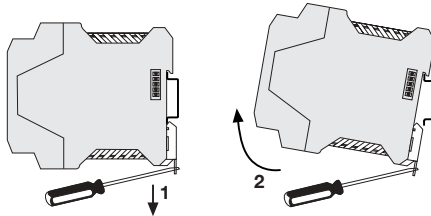


Disassembly

Switch the instrument off

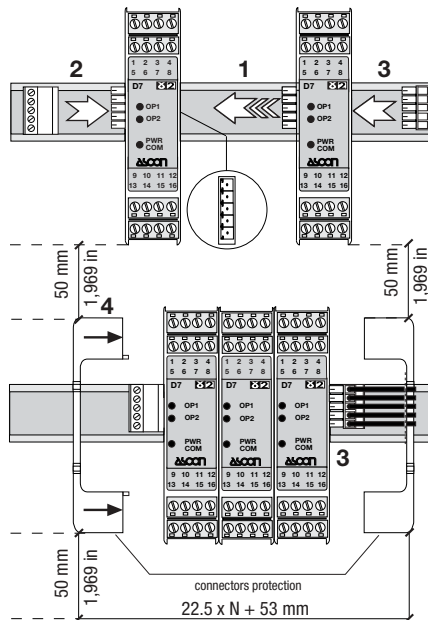
When 2 or more instruments are installed on the same DIN rail, disconnect the communications/ power bus separating the selected instrument from the others;

- Lower the spring slide by inserting a flat-blade screwdriver as indicated;
- Turn and lift the instrument upwards.



Mounting several instruments (up to 31) side by side

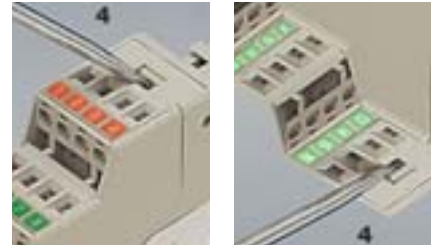
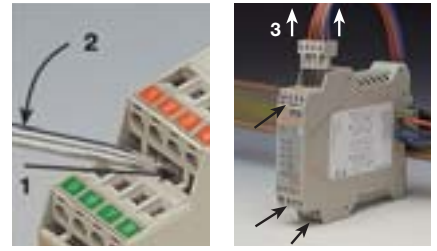
- After the mounting of instruments on the rail, put them side by side so that the male side connector fits into the corresponding female connector;
- After mounting all the instruments side by side insert the female 5-pole connector with the termination resistor of the serial communications into the corresponding male connector;
- Wire the 5-pole male power supply and serial communications connector and insert it in the corresponding female connector;
- When assembled insert the connectors protection on both sides.



Remove/insert the I/O module from/in its housing

How to remove the I/O module from the housing

- Insert the blade of a negative screwdriver under the I/O polarised connectors;
- Moving the screwdriver as indicated, unplug the connector from the module;
- Remove the connector and repeat these steps in order to unplug all the external connections;
- With the blade of the screwdriver, press the two slots (at the top and bottom of the module) in order to free the I/O module from the housing;



- Firmly grip the front panel in the terminal block area and pull the I/O module outside the housing.



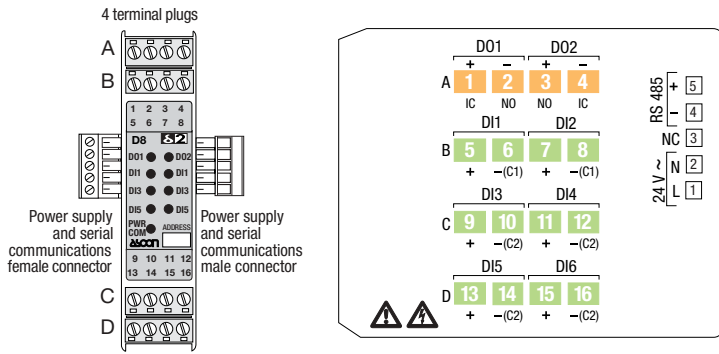
How to re-insert the I/O module in the housing

- In order to correctly re-insert the I/O module in its housing, invert the previous extracting sequence, paying particular attention in inserting the printed circuit board in the slots present at the top and bottom of the case.





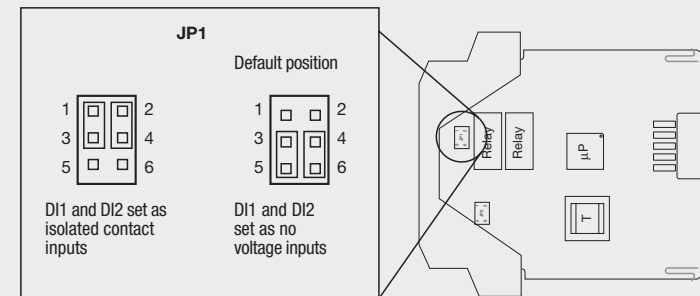
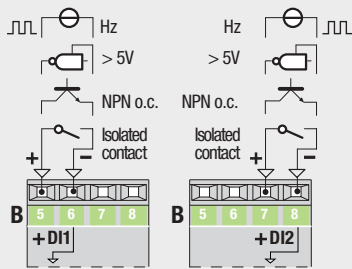
Terminal connectors and plugs



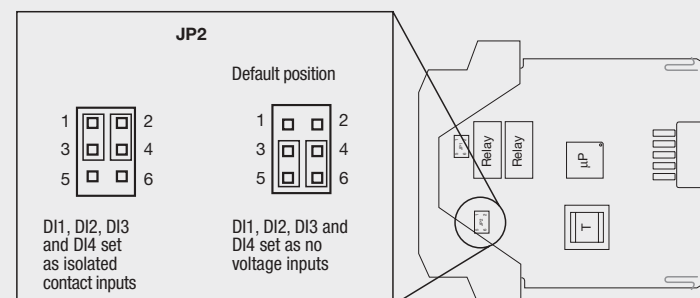
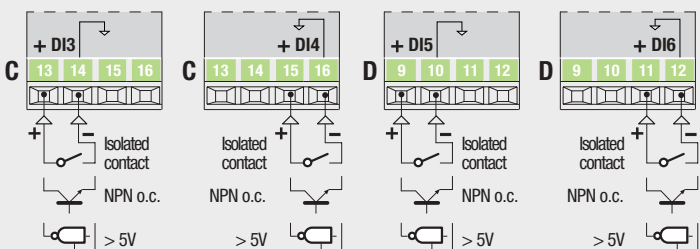
Features	Terminal plugs A-B-C-D	Power supply and communications connectors
Flexible cable section:	0,2...2,5 mm ² (AWG24 - AWG12)	0,08...1,5 mm ² (AWG28-AWG16)
Stripped wire	7 mm - 0.28 in	7 mm - 0.28 in
Negative screwdriver	0,6 x 3,5 mm	0,4 x 2,5 mm
Tightening torque	0,5 - 0,6 Nm	0,4 - 0,5 Nm

Inputs

DI1, DI2 digital inputs



DI3, DI4, DI5 and DI6 digital inputs



Precautions



All the wiring must comply with the local regulations.

The supply wiring should be separated from the power cables;

Avoid to use electromagnetic contactors, power relays and high power motors nearby.

Avoid power units nearby, especially if controlled in phase angle.

Keep the input low voltage sensor wires away from the power lines and the output cables. If this is not achievable, use shielded cables on the sensor input, with the shield connected to a good earth.

Notes

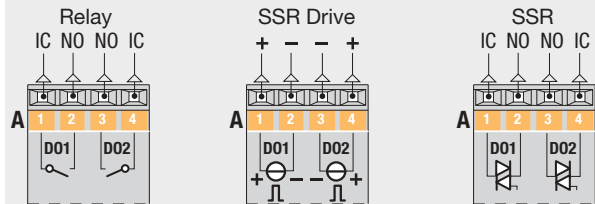


- 1 Make sure that the power supply voltage is the same indicated on the instrument.
- 2 Switch on the power supply only after that all the electrical connections have been completed.
- 3 In accordance with the safety regulations, the power supply switch shall bring the identification of the relevant instrument. The power supply switch shall be easily accessible from the operator.
- 4 The instrument is PTC protected. In case of failure it is suggested to return the instrument to the manufacturer for repair.
- 5 To protect the instrument internal circuits use: 2 A T at 250 Vac (4 A T at 120 Vac) for relay outputs or 1 Aac T fuses for SSR outputs.
- 6 Relay contacts are already protected with varistors.

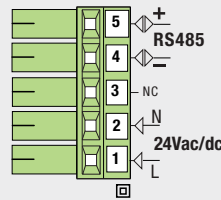
Only in case of 24 Vac inductive loads, use model A51-065-30D7 varistors (on request).

Outputs

D01, D02 outputs



Power supply bus and serial communication RS485 bus



Power supply: Switching type with double insulation with incorporated PTC (resettable fuse).
 Rated voltage: 24 Vac (-25%/+12%) 50/60 Hz; 24 Vdc (-15% +25%).
 Power consumption: 3 W max.
 Protection: PTC protected.
Serial communications: Passive and galvanically isolated interface 500 Vac/1 min.
 Conforms to standard EIA RS 485, Modbus/Jbus protocol.

D01 and D02 output characteristics

Output	Type	For resistive load
OP1 - OP2	Relay	SPST N.O.: 2A/250Vac (ext. fuse 2Aac T) 4A/110Vac (ext. fuse 4Aac T)
	SSR drive	0/5Vdc, ±10% 30 mA max.
	SSR	SSR: 1A/250Vac

Caution



After setting the internal jumper in order to modify the input type, carefully control that the jumper blocks connect terminals 1 with 3 and 2 with 4 or 3 with 5 and 4 with 6 as indicated in the drawings.

Connections different from those described trigger the protection and inhibit the instrument power ON.

Factory setting: no voltage inputs.