



## D8 line Installation manual

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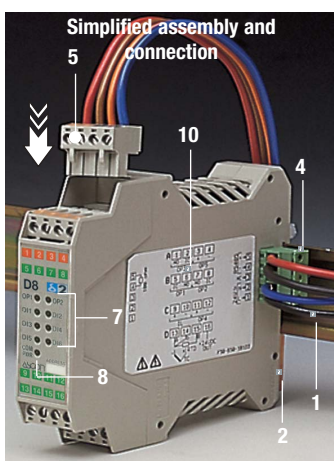
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### D8 line

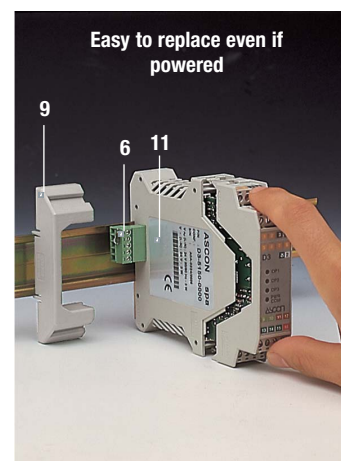
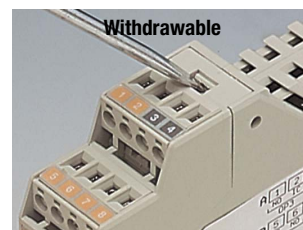
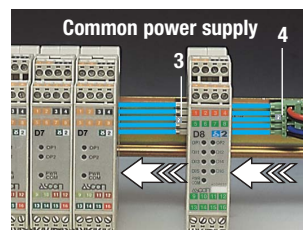
Installation manual • 04/02 • Code: ISTR\_I\_D8\_E\_01\_--



### 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;
- 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 5 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

Special Functions	E
None	0
2 Timers	2

User manual	F
Italian/English (standard)	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

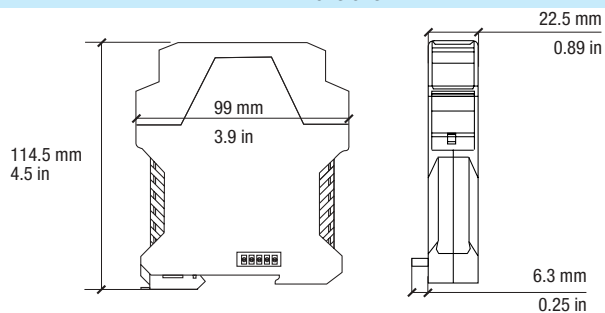
Connector with termination resistor for serial communications  
code AD3/RT



CD Rom with configuration software tool  
code AD3/CD

## Installation

### Dimensions



Environmental conditions		Suggestion
Operating conditions	Temperature 0...50°C [1]	
	Relative humidity 5...95% Rh non-condensing	
Special conditions	Temperature > 50 °C	Use forced ventilation
	> 95% RH	Warm up
	Conducting atmosphere	Use filter
Forbidden conditions	Explosive atmosphere	Explosive atmosphere

#### UL notes:

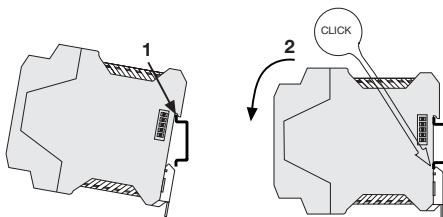
[1] Operating surrounding temperature 0...50°C

### 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.

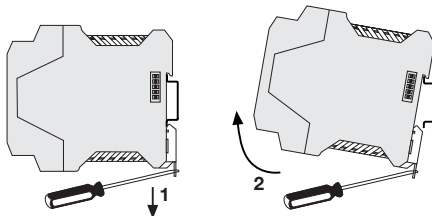


#### Disassembly

##### Switch the instrument off

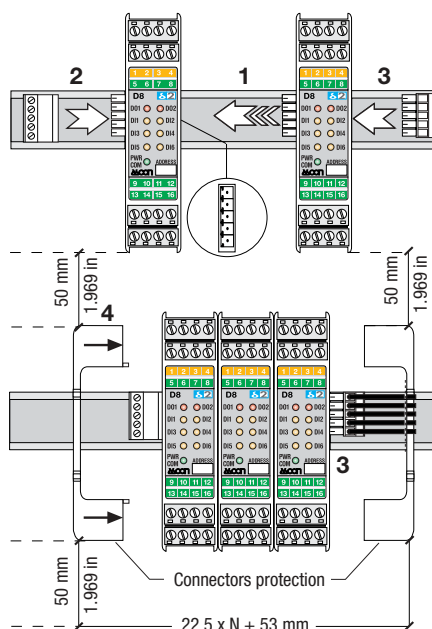
When 2 or more instruments are installed on the same DIN rail, disconnect the communications/ power bus separating the selected instrument from the others;

- 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

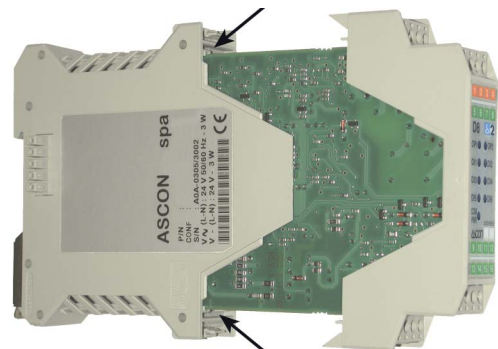
### How to remove the I/O module from the housing

- 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.

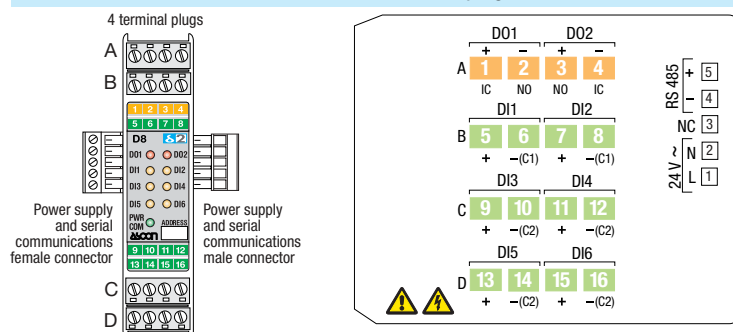


### How to re-insert the I/O module in the housing

- 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



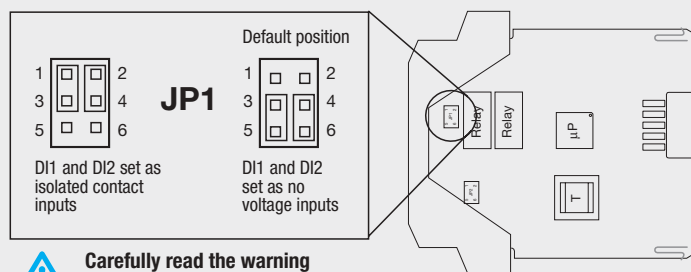
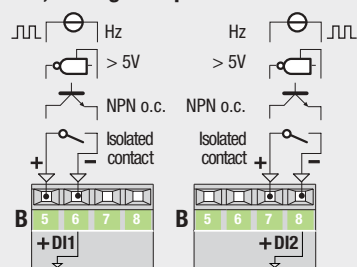
Features [1]	Terminal connectors A-B-C-D	Power supply and communications connector
Flexible cable section [2]:	0.2...2.5 mm <sup>2</sup> (AWG24...AWG12)	0.08...1.5 mm <sup>2</sup> (AWG28...AWG16)
Stripped wire	7 mm - 0.28 in	7 mm - 0.28 in
Flat blade screwdriver	0.6 x 3.5 mm	0.4 x 2.5 mm
Tightening torque [2]	0.5...0.6 Nm	0.4...0.5 Nm

## UL notes

- [1] Temperature rating and material of conductors: 60°C wire Cu only.  
 [2] Wire size, torque value (value depends from terminal blocks mounted).

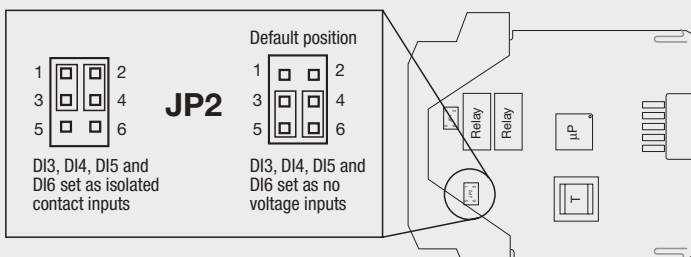
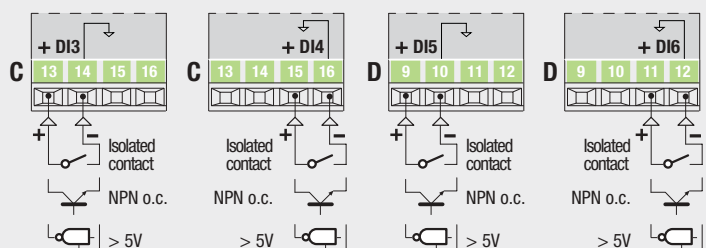
## Inputs

## DI1, DI2 digital inputs



Carefully read the warning note at the end of the page

## DI3, DI4, DI5 and DI6 digital inputs



Carefully read the warning note at the end of the page

## 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

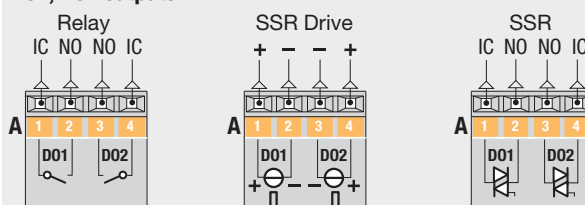


- 1 Make sure that the power supply voltage is the same indicated on the instrument.
- 2 Switch on the power supply only after that all the electrical connections have been completed.
- 3 In accordance with the safety regulations, the power supply switch shall bring the identification of the relevant 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.

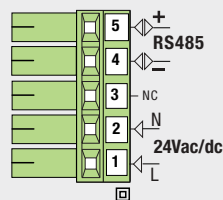
Only in case of 24 Vac inductive loads, use model A51-065-30D7 varistors (on request).

## Outputs

## DO1, DO2 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.

## DO1 and DO2 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

## WARNING



After setting the internal jumpers (JP1 and JP2) in order to modify the input type, carefully control that the jumper blocks connect PIN 1 with 3 and 2 with 4 or 3 with 5 and 4 with 6 as indicated in the drawings.

The connection of PIN 1 with PIN 2 can damage the instrument or trigger the protection that inhibits the instrument to power ON.

Factory setting: no voltage inputs.