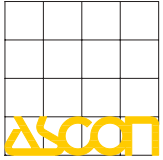


ISO9001 Certified



**ASCON spa**  
 20021 Baranzate (Italy)  
 Fax +39 02 350 4243  
 www.ascon.it  
 sales@ascon.it



## mod. IO-LB/MP-D4/08-08

M.I. IO-LB/MP-D4/08-08 - 0/09.05  
 Cod. J30-658-1AD4 08 08 E

# Installation Manual

### Contents

- General description
- Accessories
- Installation
- Electrical connections
- Electric safety

## 8 Digital Inputs and 8 Relay Outputs for the microPAC systems

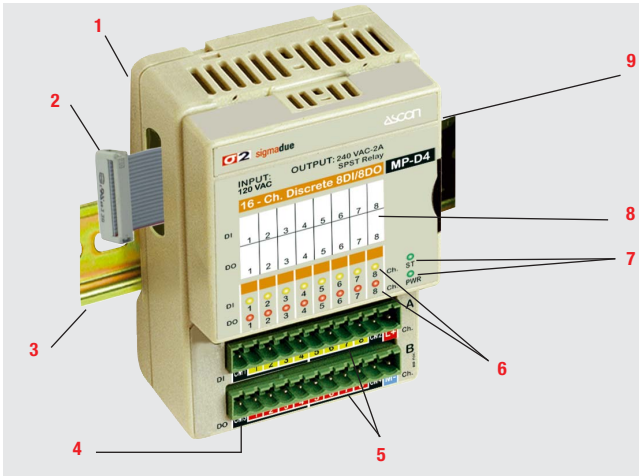
### mod. IO/MP-D4/08-08



This I/O module is connected to the **microPAC** CPU through a dedicated bus and expands the system by:

- 8, 120Vac Digital Inputs;
- 8, 2A NO Relay Outputs.

### General description

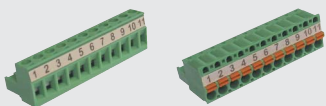


- 1 - Model identification label (on the back side of the module);
- 2 - Bus to connect the CPU or the previous external I/O module;
- 3 - DIN RAIL 35 x 7.5 (EN50022);
- 4 - Slides to install an additional terminal block 2 x 11 poles (accessory);
- 5 - Male 11 poles plugs (A and B), pitch 5.0mm; the female 11 poles plugs have fast snap-ON connectors with screw or spring terminals to connect the power supply, the 8 digital Inputs and the 8 digital Outputs;
- 6 - I/Os status LEDs: 1...8 yellow LEDs, status of the 8 digital Inputs; 1...8 red LEDs, status of the 8 digital Outputs;
- 7 - Status green LEDs: **ST**: module status, **PWR**: power supply ON;
- 8 - Removable and writable label to identify the connected I/O (TAG number);
- 9 - Bus to connect the external I/O modules;

### Accessories

#### 11 poles connectors

With screw terminals: **AP-S2/SPINA-V11**  
 With spring terminals: **AP-S2/SPINA-M11**



#### Additional terminal block

**AP-S2/TB-211-1**



Power supply 45W - 2A/24 Vdc  
**AP-S2/AL-DR45-24**

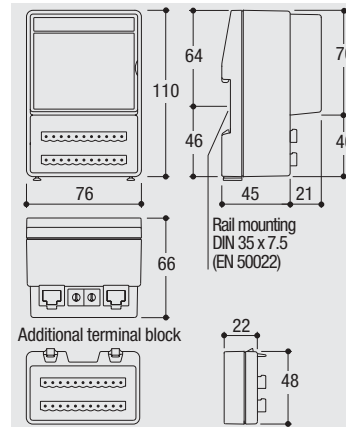


Power supply 120W - 5A/24Vdc  
**AP-S2/AL-DR120-24**



### Installation

#### Dimensions (mm)

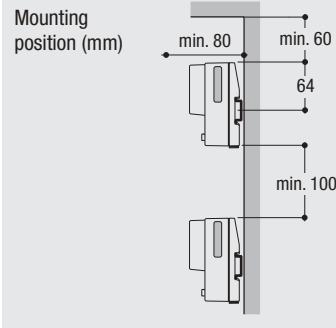


#### Operating conditions

Environmental condition	CE	Suggestion
Operating conditions	<ul style="list-style-type: none"> <li>Temperature: 0...+50°C</li> <li>Humidity: 5...95% Rh non condensing</li> </ul>	
Special conditions	<ul style="list-style-type: none"> <li>Temperature: &gt; 50°C</li> <li>Humidity: &gt; 95% RH</li> </ul>	<ul style="list-style-type: none"> <li>Use forced ventilation</li> <li>Warm up</li> </ul>
Forbidden conditions	<ul style="list-style-type: none"> <li>Conducting atmosphere</li> <li>Corrosive atmosphere</li> <li>Explosive atmosphere</li> </ul>	<ul style="list-style-type: none"> <li>Use filter</li> </ul>

#### Mounting position

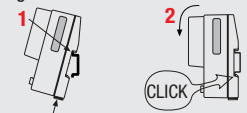
- Mount the module vertically;
- In order to help the ventilation flow of air, respect the distances between modules and walls or other modules.



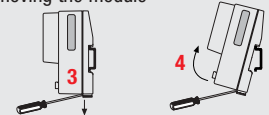
#### Mounting/removing the modules on/from the DIN rail

- 1 Close the spring slide, then clip the upper part of the module on the rail;
- 2 Rotate the module downwards till to the click;
- 3 Switch OFF the Power Supply  
Lower the spring slide by inserting a flat-blade screwdriver as indicated;
- 4 Turn and lift the module upwards.

#### Mounting the module



#### Removing the module



### Connecting the expansion modules

The I/O module are already set.

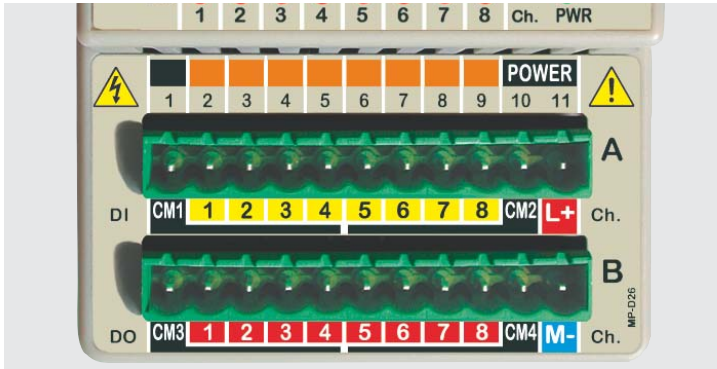
The I/O expansion modules must be mounted on the right of the last mounted module. The maximum system configuration is: **microPAC** CPU + 2 expansion modules. The modules (CPU included) must be powered OFF when connected to each other. All the modules must be removed from the DIN rail before to connect or disconnect the expansion modules.

- 1 Switch OFF the Power Supply;
- 2 Insert the connector of the bus in the rightmost module. A position key identifies the insertion versus of the connector;
- 3 Mount the modules on the DIN rail.

To remove the I/O expansion modules invert the mounting sequence described.

## Electrical connections

### Terminals connections and plugs



Pin	Label	Signals	Pin	Label	Signals
A1	CM1	Common pole for inputs A1...A4	B1	CM3	Common pole for outputs B1...B4
A2...A9	1...8	8, 120Vac digital inputs	B2...B9	1...8	8 digital outputs (+ pole)
A10	CM2	Common pole for inputs A5...A8	B10	CM4	Common pole for outputs B5...B8
A11	L+	+24V power supply terminal	B11	M-	0V power supply terminal

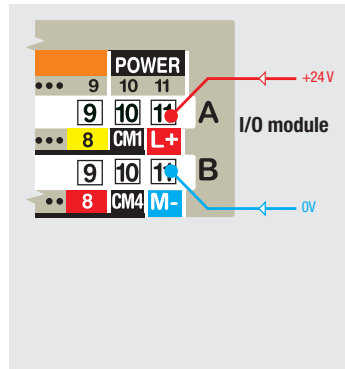
Description	Plugs A, B terminals
Flexible cable section:	0.2...2.5 mm <sup>2</sup> (AWG24...AWG12)
Stripped wire	Screw: 7mm; Spring: 10mm
Flat blade screwdriver	0.6 x 3.5 mm
Tightening torque	0.5...0.6 Nm

#### Technical data:

- Two 11 poles plugs (A, B) pitch 5.0mm
- Made with self extinguishing material as required by UL94 V0 standard
- Overvoltage category/pollution degree II/2
- Max. load current/section 8A/2.5mm<sup>2</sup> at 65°C
- Test pulse voltage: 4 kVp

- ⚠ Please note that the maximum current capacity for each terminal is 8A
- ⚠ Make sure that the overall current absorption (modules and field devices) matches the power supply
- ⚠ In order to avoid excessive voltage drops, install the most power consuming modules closer to the power supply.

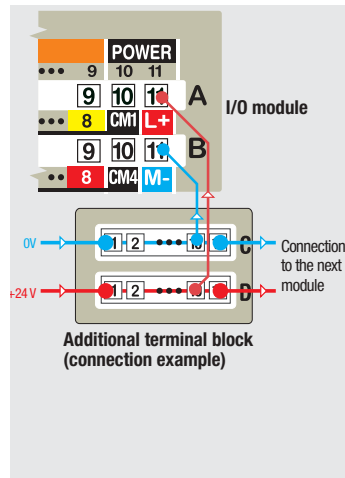
### Power supply



- ⚠ The module does not need to be powered as its electronics are powered by the local bus. The 24Vdc power supply (to be connected at L+ and M- terminals) is necessary to power the Input/Output section.

24Vdc (-15...+25%), 5W max.

### Additional terminal block TB-211-1

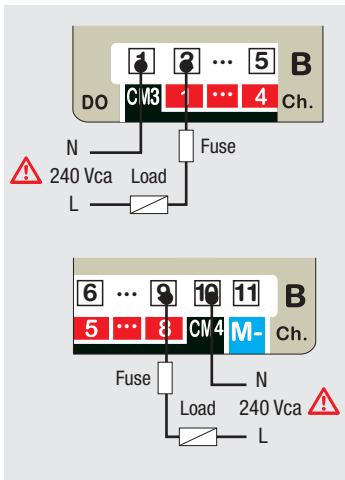


An additional terminal block can be installed on the I/O module using the two slides located in the lower part of the case.

The additional terminal block has no active components inside, only two 11 pitch 5.0mm contacts connectors.

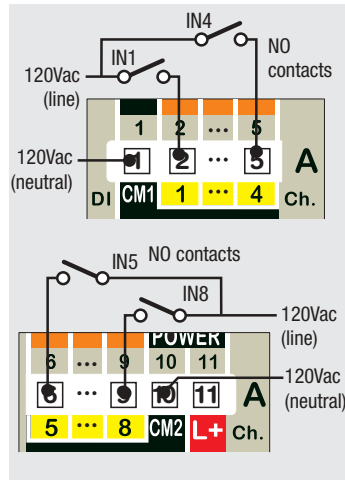
All the 11 contacts of each connector (C and D) are internally connected and can be used to make multiple connections (see the example).

### Relay Outputs 1...8



- ⚠ Relays rating: 2A at 120/240 Vac.
- ⚠ Terminal B1 (CM3) is the common terminal of relay outputs 1...4 (at terminals B2...B4); terminal B10 (CM4) is the common terminal of relay outputs 5...8 (at terminals B6...B9).
- Protect loads with fast type fuses.

### ⚠ 120Vca Digital Inputs 1...8 Type II (EN61131-2)



- ⚠ **DANGER** High voltage inputs, pay extreme attention to these input connections.
- ⚠ Terminal A1 (CM1) is the common (neutral) terminal of the 120Vac digital inputs 1...4 (at terminals A2...A4); terminal A10 (CM2) is the common (neutral) terminal of the 120Vac digital inputs 5...8 (at terminals A6...A9).
- ⚠ Respect the polarity shown, each common terminal is shared by 4 digital input.

## ⚡ Electric safety and electromagnetic compatibility

**Class II instrument, rear panel mounting.** This instrument has been designed in compliance with:

- Regulations on electrical equipment:** according to regulations on the essential protection requirements in electrical equipment EN 61010-1
- Regulations on Electromagnetic Compatibility** according to:
  - Regulations on RF emissions: 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 controller has no user serviceable parts and requires special equipments and specialised engineers to be repaired. 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.**

### Before installing the module read the following instructions

#### Precautions



- All wirings must comply with the local regulations
- The supply wiring should be routed away 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 low level sensor input 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 earth.

#### Notes

- 1 Make sure that the power supply voltage is the same indicated on the instrument label
- 2 Switch ON the power supply only after all the electrical connections have been completed