EPcolor S

Programmable (with Gui-PRO graphic tool) remote user interfaces

EVCO

16.10.2018 16:30
21.8 °C   35%rH
INVERNO   MANUALE

device for **INDOOR APPLICATIONS**

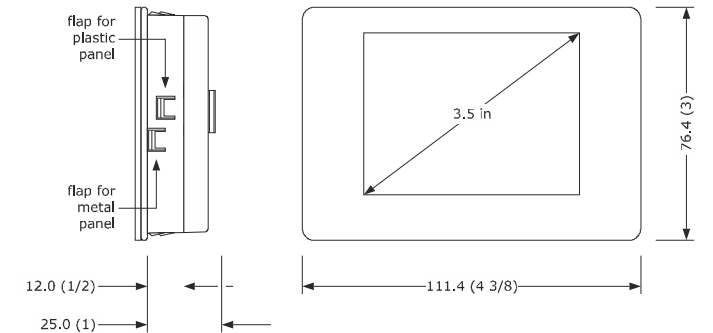**PLEASE READ CAREFULLY** and save this document
CONSIDER THE ENVIRONMENT

EN   ENGLISH

- panel or wall mounting (according to the model)
- 24 VAC/12… 30 VDC power supply not insulated
- colour touch-screen TFT graphic display
- clock
- alarm buzzer
- RS-485 MODBUS master/slave port
- CAN port
- 1 MB program memory
- **device for indoor applications**.

Purchasing codes	Installation mode	Incorporated sensors
EPCJ01X4	panel mounted	none
EPCJ04X4V	wall mounted	none

For further information please consult the hardware manual.

## 1   MEASUREMENTS AND INSTALLATION | Measurements in mm (in)

1.1   Models for panel mounting

flap for plastic panel
flap for metal panel

12.0 (1/2)
25.0 (1)
111.4 (4 3/8)
76.4 (3)
3.5 in

To be fitted to a panel, with elastic holding flaps.

N.B.
- the thickness of a metal panel must be between 0.8 and 1.5 mm (1/32 and 1/16 in), while that for a plastic panel must be between 0.8 and 3.4 mm (1/32 and 1/8 in)
- the measurements of drilling template must be 107.6 x 72.6 mm (3 15/16 x 2 7/8 in), with rounded corners R 3.0 mm (1/8 in).

1.2   Models for wall mounting

18.5 (3/4)
111.4 (4 3/8)
76.4 (3)
3.5 in
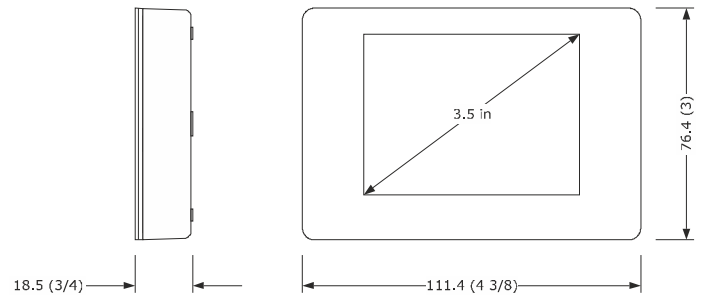
Wall mounting (with bolts and fastening screws) or in the most common flush mounting boxes (with fastening screws).
1. Unhook the back shell from the front through a screwdriver and the proper seat.
2.1 In case of wall mounting:
    2.1.1 Lean the back shell against the wall in a position suitable to get the connecting cable to pass through the proper opening.
    2.1.2 Use the slots of the back shell as template to drill 4 holes having a diameter suitable to the bolt.
    5.0 mm (3/16 in) diameter bolts are suggested.
    2.1.3 Insert the bolts in the holes drilled in the wall.
    2.1.4 Fasten the back shell at the wall with 4 screws.
    Countersunk head screws are suggested.
2.2 In case of flush mounting box, fasten the back shell at the box with 4 screws.
    Countersunk head screws are suggested.
3. Make the electrical connection as shown in the section *ELECTRICAL CONNECTION* without powering up the device.
4. Fasten the front of the device at the back shell.

screwdriver
seat
wall
front
back shell
opening to get the connecting cables to pass
slot
conn. cables
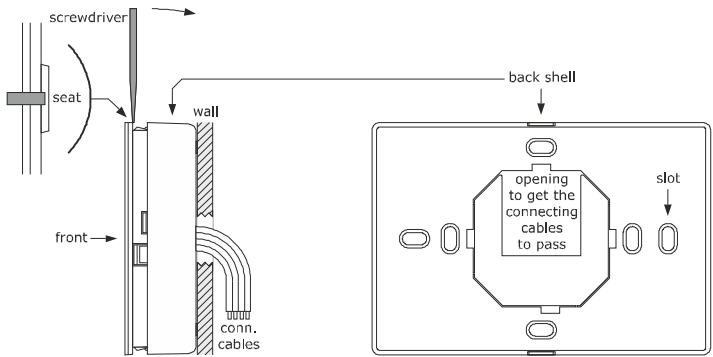
INSTALLATION PRECAUTIONS

- Ensure that the working conditions are within the limits stated in the *TECHNICAL SPECIFICATIONS* section
- Do not install the device close to heat sources, equipment with a strong magnetic field, in places subject to direct sunlight, rain, damp, excessive dust, mechanical vibrations or shocks
- In compliance with safety regulations, the device must be installed properly to ensure adequate protection from contact with electrical parts. All protective parts must be fixed in such a way as to need the aid of a tool to remove them.

2   ELECTRICAL CONNECTION

N.B.
- Use cables of an adequate section for the current running through them
- To reduce any electromagnetic interference connect the power cables as far away as possible from the signal cables and connect to a CAN network and RS-485 MODBUS network by using a twisted pair
- for the CAN port use a ferrite (for example *Essentra RKCF-08-A5*) to which the conductors of the shielded cable must be wound with two coils.

2.1   Models for panel mounting
2.1.1   Connectors and parts

EPcolor S
connector 3
micro-switch
connector 2
connector 1

Connector 1
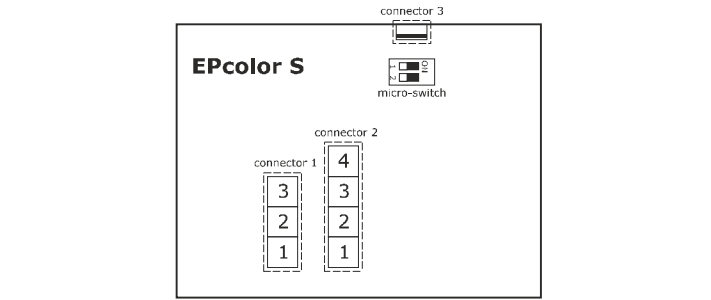
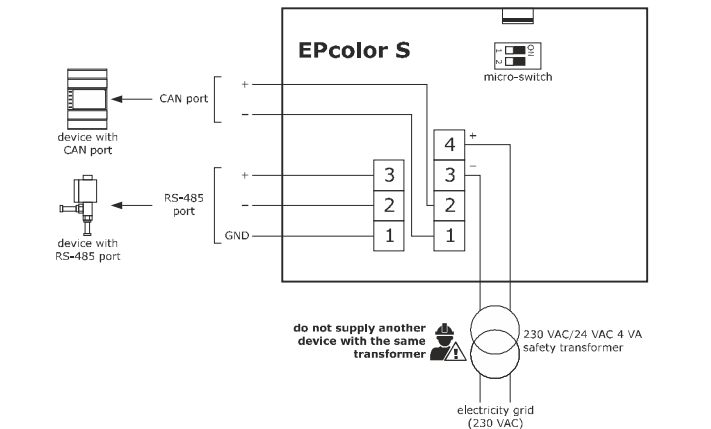| N.	DESCRIPTION
1	GND reference RS-485 MODBUS port
2	RS-485 MODBUS port signal -
3	RS-485 MODBUS port signal +

Connector 2

N.	DESCRIPTION
1	CAN port signal -
2	CAN port signal +
3	device power supply (24 VAC/12… 30 VDC). If the device is fed by DC power, connect terminal minus
4	device power supply (24 VAC/12… 30 VDC). If the device is fed by DC power, connect terminal plus

Connector 3: USB port, for programming the device.

Micro-switch:
- to insert the RS-485 MODBUS port termination resistor.
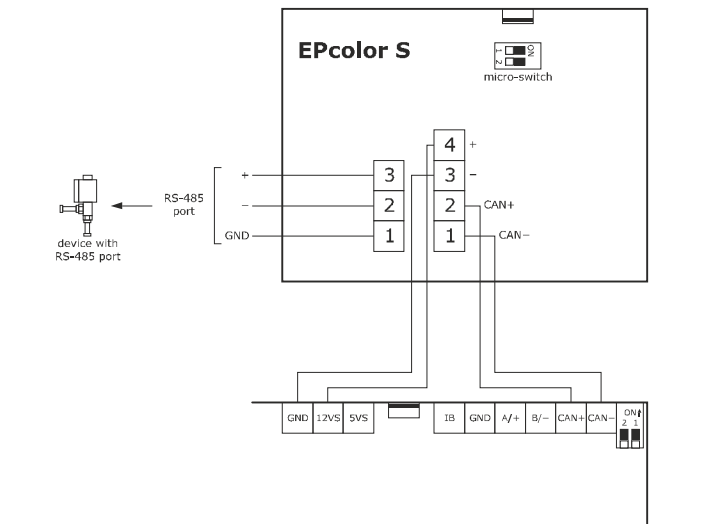- to insert the CAN port termination resistor.

2.1.2   Electrical connection with independent power supply

N.B.
Do not supply another device with the same transformer.

EPcolor S
micro-switch
device with CAN port
device with RS-485 port
CAN port
RS-485 port
GND
do not supply another device with the same transformer
230 VAC/24 VAC 4 VA safety transformer
electricity grid (230 VAC)

2.1.3   Electrical connection with device powered by a controller (for example c-pro 3 OEM)

N.B.
Make sure that the current supplied by the controller is suitable to power the device.

EPcolor S
micro-switch
device with RS-485 port
RS-485 port
GND
CAN+
CAN−
GND 12VS 5VS   IB GND A/+ B/− CAN+ CAN−

2.1.4   Insertion of the RS-485 MODBUS port and CAN port termination resistor

To insert the RS-485 MODBUS port termination resistor, place micro-switch 1 in position ON.
To insert the CAN port termination resistor, place micro-switch 2 in position ON.
The micro-switch is at the back of the device (remove the back shell from the front before).

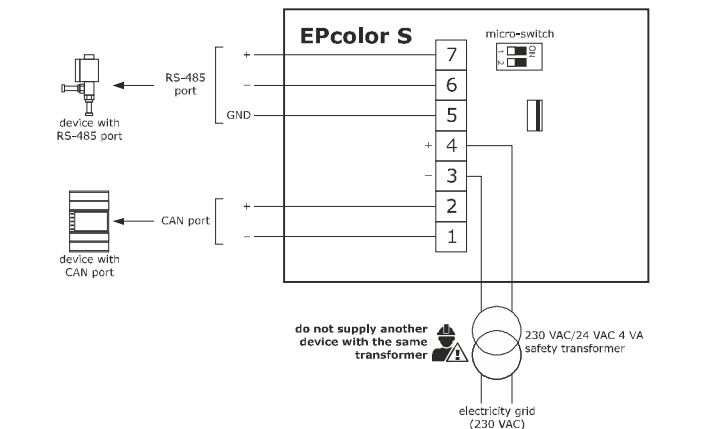### 2.2   Models for wall mounting
2.2.1   Connectors and parts
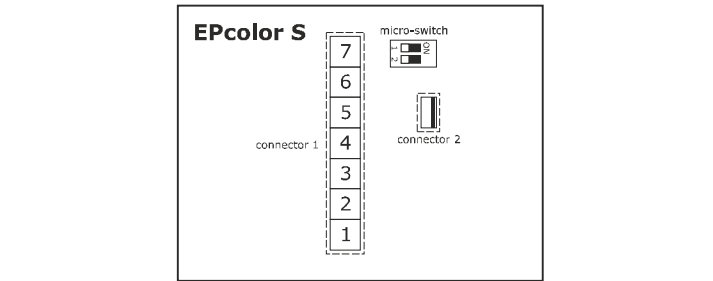
EPcolor S
micro-switch
connector 1
connector 2

Connector 1

N.	DESCRIPTION
1	CAN port signal -
2	CAN port signal +
3	device power supply (24 VAC/12… 30 VDC). If the device is fed by DC power, connect terminal minus
4	device power supply (24 VAC/12… 30 VDC). If the device is fed by DC power, connect terminal plus
5	GND reference RS-485 MODBUS port
6	RS-485 MODBUS port signal -
7	RS-485 MODBUS port signal +

Connector 2: USB port, for programming the device.

Micro-switch:
- to insert the RS-485 MODBUS port termination resistor.
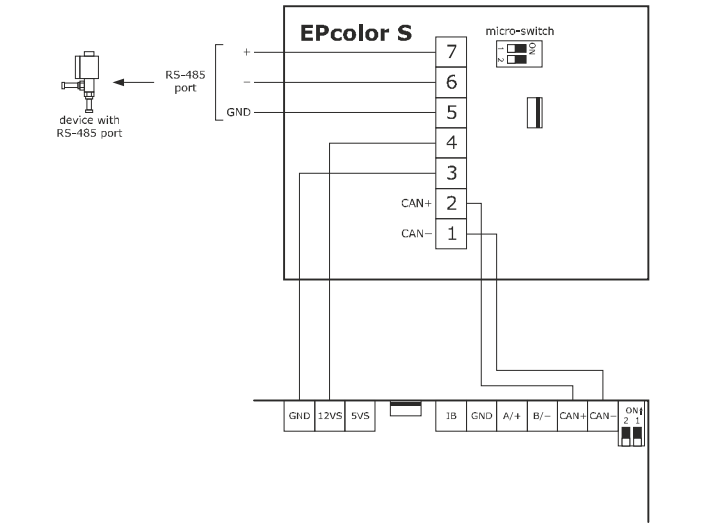- to insert the CAN port termination resistor.

2.2.2   Electrical connection with independent power supply

N.B.
Do not supply another device with the same transformer.

EPcolor S
micro-switch
device with RS-485 port
RS-485 port
GND
device with CAN port
CAN port
do not supply another device with the same transformer
230 VAC/24 VAC 4 VA safety transformer
electricity grid (230 VAC)

2.2.3   Electrical connection with device powered by a controller (for example c-pro 3 OEM)

N.B.
Make sure that the current supplied by the controller is suitable to power the device.

EPcolor S
micro-switch
device with RS-485 port
RS-485 port
GND
CAN+
CAN−
GND 12VS 5VS   IB GND A/+ B/− CAN+ CAN−

2.2.4   Insertion of the RS-485 MODBUS port and CAN port termination resistor

To insert the RS-485 MODBUS port termination resistor, place micro-switch 1 in position ON.
To insert the CAN port termination resistor, place micro-switch 2 in position ON.
The micro-switch is at the back of the device (remove the back shell from the front before).

PRECAUTIONS FOR ELECTRICAL CONNECTION

- If using an electrical or pneumatic screwdriver, adjust the tightening torque
- If the device has been moved from a cold to a warm place, the humidity may have caused condensation to form inside. Wait about an hour before switching on the power
- Make sure that the supply voltage, electrical frequency and power are within the set limits. See the section *TECHNICAL SPECIFICATIONS*
- Disconnect the power supply before doing any type of maintenance
- Do not use the device as safety device
- For repairs and for further information, contact the EVCO sales network; possible returns without label data will not be accepted.

3   TECHNICAL SPECIFICATIONS

Purpose of the control device		Function controller
Construction of the control device		Built-in electronic device
Container		Black, self-extinguishing
Category of heat and fire resistance		D
Measurements	Models for panel mounting	111.4 x 76.4 x 25.0 mm (4 3/8 x 3 x 1 in)
	Models for wall mounting	111.4 x 76.4 x 18.5 mm (4 3/8 x 3 x 3/4 in)
Mounting methods for the control device		According to the model, panel mounting (with elastic holding flaps), wall mounting (with bolts and fastening screws) or in the most common flush mounting box (with fastening screws)
Connection method	Models for panel mounting	Removable screw terminal blocks for wires up to 1 mm²
	Models for wall mounting	Fixed screw terminal blocks for wires up to 1 mm²

Maximum permitted length for connection cables

Power supply: 10 m (32.8 ft)	RS-485 MODBUS port: 1,000 m (3,280 ft)

CAN port:
- 1,000 m (3,280 ft) with baud rate 20.000 baud
- 500 m (1,640 ft) with baud rate 50.000 baud
- 250 m (820 ft) with baud rate 125.000 baud
- 50 m (164 ft) with baud rate 500.000 baud

Over 10 m (32.8 ft) use a shielded cable

Operating temperature		From -10 to 55 °C (from 14 to 131 °F)
Storage temperature		From -20 to 70 °C (from -4 to 158 °F)
Operating humidity		Relative humidity without condensate from 5 to 95%
Pollution status of the control device		2

Compliance

RoHS 2011/65/EC		WEEE 2012/19/EU
REACH (EC) Regulation N. 1907/2006	EMC 2014/30/UE	RED 2014/53/UE
Power supply		24 VAC (±15%), 50/60 Hz (±3 Hz), max. 4 VA not insulated or 12… 30 VDC, max. 2 W not insulated (independent power supply or by a controller)
Earthing methods for the control device		None
Rated impulse-withstand voltage		I
Over-voltage category		330 V
Software class and structure		A
Clock		Incorporated secondary lithium battery
Clock drift		≤ 55 s/month at 25 °C (77 °F)
Clock battery autonomy in the absence of a power supply		6 momths
Clock battery charging time		24 h (the battery is charged by the power supply of the device)
Displays		3.5 in colour touch-screen TFT graphic display
Alarm buzzer		Built-in
Program memory		1 MB

Communications ports

1 RS-485 MODBUS master/slave port	1 CAN port	1 USB port