

- EN ENGLISH**
- back-panel or panel mounting (according to the model)
  - 24 VAC/12... 30 VDC power supply not insulated
  - 5 or 7 in colour touch-screen TFT graphic display (according to the model)
  - clock
  - alarm buzzer
  - 2 RS-485 MODBUS ports
  - CAN port
  - 1 MB program memory
  - **device for indoor applications.**

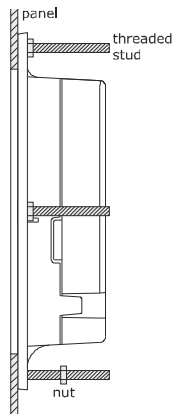
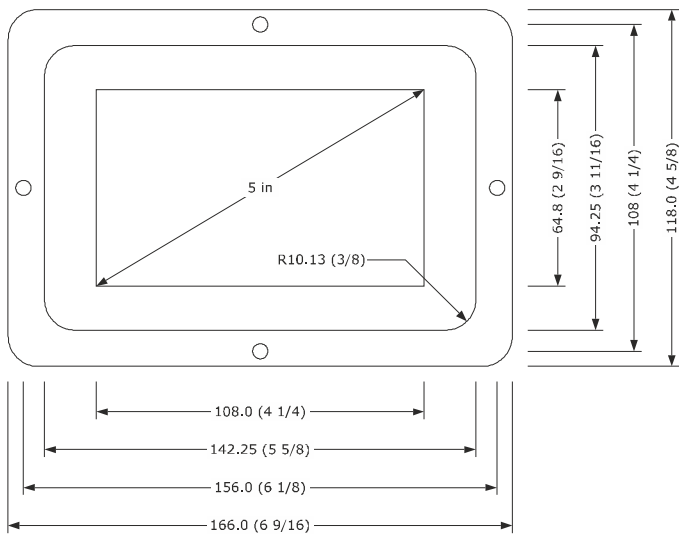
Purchasing codes	Series	Display size	Installation mode
EPCMO0X4	EPcolor M	5 in	back-panel mounted
EPCMO1X4	EPcolor M	5 in	panel mounted
EPCLO0X4	EPcolor L	7 in	back-panel mounted
EPCLO1X4	EPcolor L	7 in	panel mounted

For further information please consult the hardware manual.

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

**1.1 Measurements and installation EPcolor M**

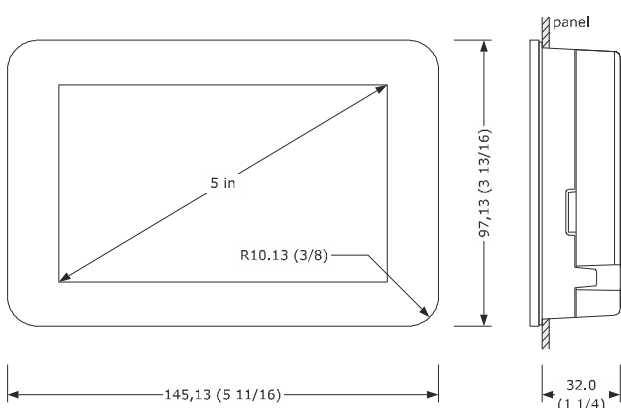
**1.1.1 Models for back-panel mounting**



Back-panel mounting, with threaded studs.

**1.1.2 Models for panel mounting**

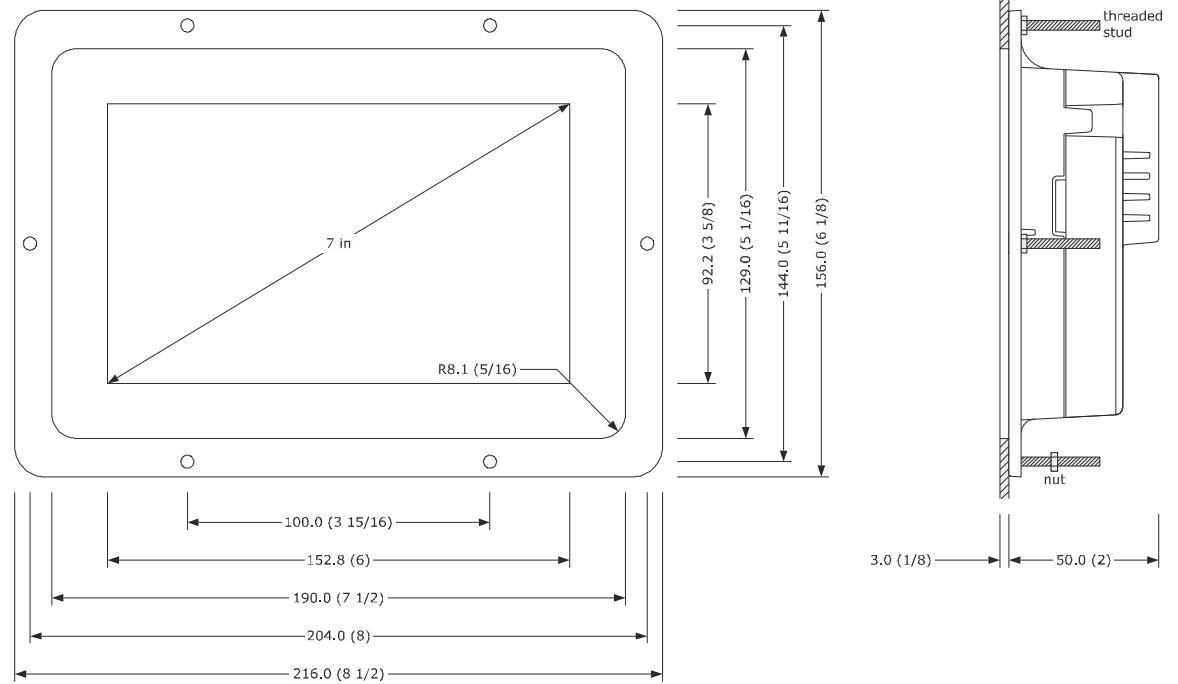
- N.B.**
- the thickness of a metal panel must be between 0.8 and 1.5 mm (1/32 and 1/16 in), while that for a plastic panel must be between 0.8 and 3.4 mm (1/32 and 1/8 in)
  - the measurements of drilling template must be 130 x 88.4 mm (5 1/8 x 3 1/2 in), with rounded corners R 3.0 mm (1/8 in).



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

**1.2 Measurements and installation EPcolor L**

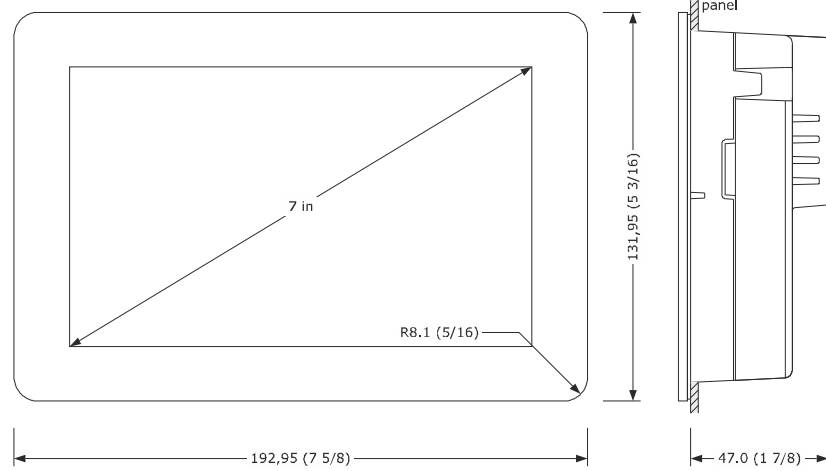
**1.2.1 Models for back-panel mounting**



Back-panel mounting, with threaded studs.

**1.2.2 Models for panel mounting**

- 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 178.2 x 118.2 mm (7 x 4 5/8 in), with rounded corners R 3.0 mm (1/8 in).



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

**INSTALLATION PRECAUTIONS**

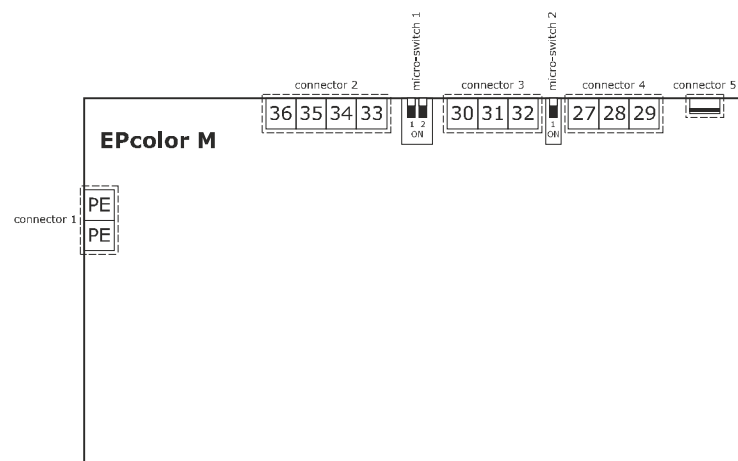
- Ensure that the working conditions are within the limits stated in the *TECHNICAL SPECIFICATIONS* section
- Do not install the device close to heat sources, equipment with a strong magnetic field, in places subject to direct sunlight, rain, damp, excessive dust, mechanical vibrations or shocks
- In 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.
  - do not supply another device with the same transformer
  - for the CAN of EPcolor M 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 Electrical connection EPcolor M**

**2.1.1 Connectors and parts**



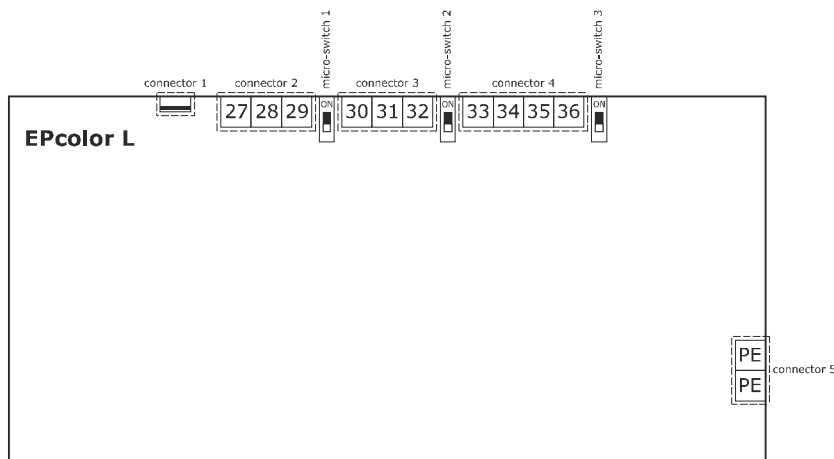
Connector 1	
N.	DESCRIPTION
PE	grounding equipment
PE	grounding equipment
Connector 2	
N.	DESCRIPTION
36	GND reference device power supply and RS-485 MODBUS master port
35	RS-485 MODBUS master port signal -
34	RS-485 MODBUS master port signal +
33	device power supply (24 VAC/12... 30 VDC)
Connector 3	
N.	DESCRIPTION
30	GND reference RS-485 MODBUS slave port
31	RS-485 MODBUS slave port signal -
32	RS-485 MODBUS slave port signal +
Connector 4	
N.	DESCRIZIONE
27	GND reference CAN port
28	CAN port signal -
29	CAN port signal +

Micro-switch 1:  
 - to insert the RS-485 MODBUS master port termination resistor.  
 - to insert the RS-485 MODBUS slave port termination resistor.

Micro-switch 2, to insert the CAN port termination resistor.

**2.1.2 Insertion of the RS-485 MODBUS ports and CAN port termination resistor**  
 To insert the RS-485 MODBUS master port termination resistor, place dip 1 of micro-switch 1 in position ON.  
 To insert the RS-485 MODBUS slave port termination resistor, place dip 2 micro-switch 1 in position ON.  
 To insert the CAN port termination resistor, place micro-switch 2 in position ON.

**2.2 Electrical connection EPCOLOR L**  
**2.2.1 Connectors and parts**



Connector 1: USB port, for programming the device.

N.	DESCRIZIONE
27	GND reference CAN port
28	CAN port signal -
29	CAN port signal +

N.	DESCRIPTION
30	GND reference RS-485 MODBUS slave port
31	RS-485 MODBUS slave port signal -
32	RS-485 MODBUS slave port signal +

N.	DESCRIPTION
33	GND reference device power supply and RS-485 MODBUS master port
34	RS-485 MODBUS master port signal -
35	RS-485 MODBUS master port signal +
36	device power supply (24 VAC/12... 30 VDC)

N.	DESCRIPTION
PE	grounding equipment
PE	grounding equipment

Micro-switch 1: to insert the CAN port termination resistor.  
 Micro-switch 2: to insert the RS-485 MODBUS slave port termination resistor.  
 Micro-switch 3: to insert the RS-485 MODBUS master port termination resistor.

**2.2.2 Insertion of the RS-485 MODBUS port and CAN port termination resistor**  
 To insert the CAN port termination resistor, place micro-switch 1 in position ON.  
 To insert the RS-485 MODBUS slave port termination resistor, place micro-switch 2 in position ON.  
 To insert the RS-485 MODBUS master port termination resistor, place micro-switch 3 in position ON.

**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	EPCOLOR M models for back-panel mounting	166.0 x 118.0 x 35.0 mm (6 9/16 x 4 5/8 x 1 3/8 in)
	EPCOLOR M models for panel mounting	145.13 x 97.13 x 32.0 mm (5 11/16 x 3 13/16 x 1 1/4 in)
	EPCOLOR L models for back-panel mounting	216.0 x 156.0 x 50.0 mm (8 1/2 x 6 1/8 x 2 in)
	EPCOLOR L models for panel mounting	192.95 x 131.95 x 47.0 mm (7 5/8 x 5 3/16 x 1 7/8 in)

Mounting methods for the control device	According to the model, back-panel mounting (with threaded studs) or panel mounting (with elastic holding flaps)
Connection method	Removable screw terminal blocks for wires up to 1 mm <sup>2</sup>

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 0 to 55 °C (from 32 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. 6.5 VA not insulated or 12... 30 VDC, max. 3 W not insulated in EPCOLOR M	24 VAC (±15%), 50/60 Hz (±3 Hz), max. 10 VA not insulated or 12... 30 VDC, max. 4.6 W not insulated in EPCOLOR L
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 months	
Clock battery charging time	24 h (the battery is charged by the power supply of the device)	

Displays	EPCOLOR M models	5 in colour touch-screen TFT graphic display
	EPCOLOR L models	7 in colour touch-screen TFT graphic display

Alarm buzzer	Built-in
Program memory	1 MB

Communications ports	
1 RS-485 MODBUS master port	1 RS-485 MODBUS slave port
1 CAN port	1 USB port

N.B. The device must be disposed of according to local regulations governing the collection of electrical and electronic waste.

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