EVPS9B

Backup module

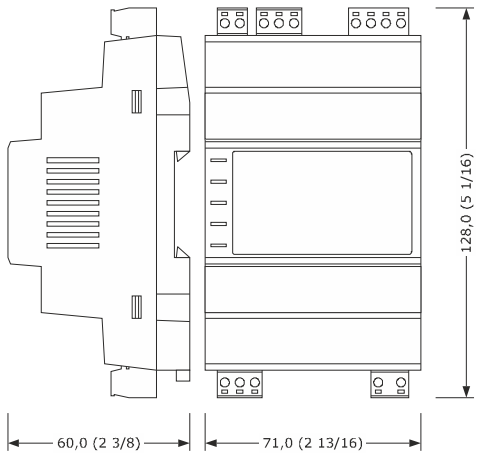
PLEASE READ CAREFULLY
and save this document
CONSIDER THE ENVIRONMENT

1 ENGLISH

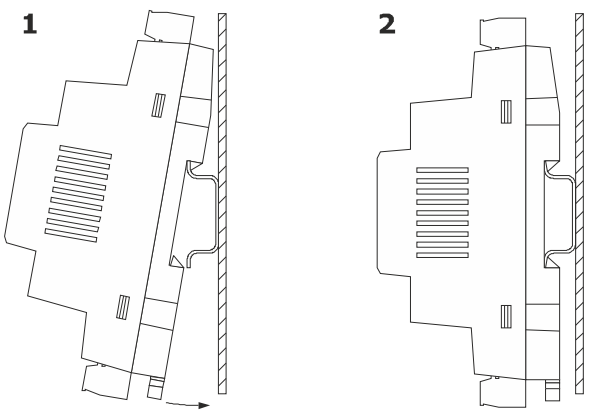
- power supply 115... 230 VAC
- analog input for product probe (Pt 1000)
- backup battery input (12 VDC max. 12 Ah sealed lead battery)
- auxiliary power supply output (9... 16 VDC 7 W)
- electromechanical relay (8 res. A @ 250 VAC)
- RS-485 MODBUS slave port

1 MEASUREMENTS AND INSTALLATION

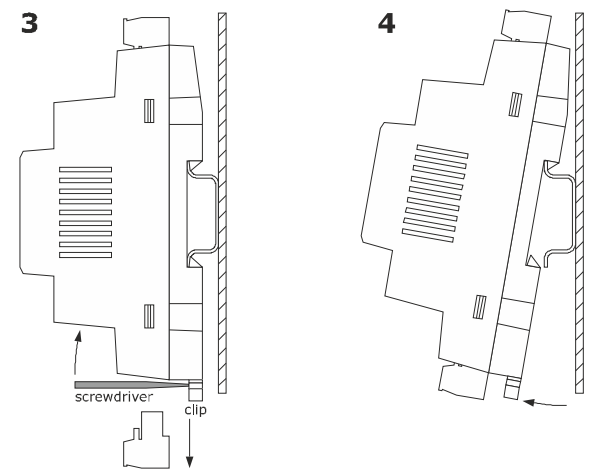
Measurements in mm (inches). To be fitted on a DIN rail, in a control panel.



To install the device operate as shown in pictures 1 and 2.



To remove the device, first remove any screw-in removable terminal blocks mounted in the lower part, then operate as shown in pictures 3 and 4.



To install the device again press down the clip before.

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 COLLEGAMENTO ELETTRICO

N.B.
- Use 12 VDC max. 12 Ah sealed lead battery
- 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, if necessary, connect to a RS-485 MODBUS network by using a twisted pair.

2.1 Connectors

Description of connectors.

N.	DESCRIPTION
GND	reference (GND)
IN	product probe analog input (for Pt 1000 probes)

N.	DESCRIPTION
A/+	signal + RS-485 MODBUS slave port
B/-	signal - RS-485 MODBUS slave port
GND	reference (GND)

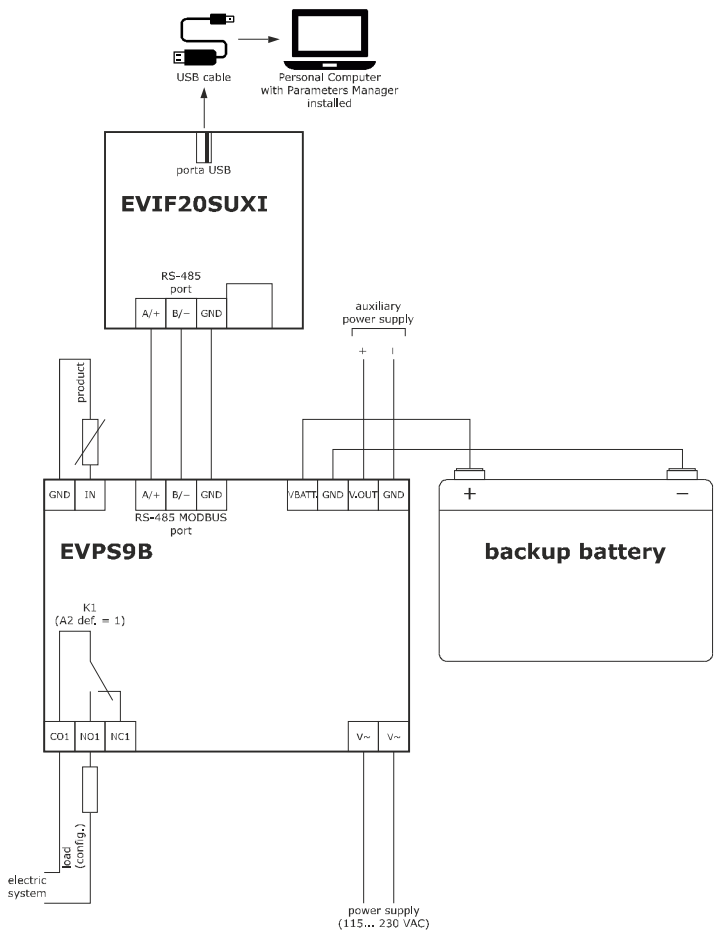
N.	DESCRIPTION
VBATT.	backup battery input (12 VDC max. 12 Ah sealed lead battery)
GND	reference (GND)
V.OUT	auxiliary power supply output (9... 16 VDC 7 W)
GND	reference (GND)

N.	DESCRIPTION
C01	common contact electromechanical relay
NO1	normally open contact electromechanical relay (8 res. A @ 250 VAC)
NC1	normally closed contact electromechanical relay

N.	DESCRIPTION
V~	device power supply (115... 230 VAC)
V~	device power supply (115... 230 VAC)

2.2 Electrical connection

Example of connection to the setup software system Parameters Manager.
Make sure to have the serial interface EVIF20SUXI (the USB cable is included with the interface).
For further information on the setup software system Parameters Manager, please consult the relevant user manual.



For the connection to a controller, please consult the relevant user manual.

Meaning of LEDs

LED	ON	OFF	SHORT LAMP	LONG LAMP
POWER	device properly powered	-	-	device powered by the backup battery
BATT.	backyp battery charged	-	backup battery not present or in failure	backup battery in charge
RS485	-	RS-485 communication	no RS-485 communication	-
OUT	relay active	relay not active	-	-

2.3 Fitting the termination resistor of RS-485 network

The termination resistor of the RS-485 network connected to the RS-485 MODBUS slave port is always fitted.

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.

3 CONFIGURATION PARAMETERS

	N.	PAR.	DEF.	SETPOINT	MIN... MAX.
	1	SP	**-50.0**	setpoint	-99.0... 99.9 °C/°F
	N.	PAR.	DEF.	ANALOGUE INPUTS	MIN... MAX.
	2	CA1	**0.0**	product probe offset	-25.0... 25.0 °C/°F
	3	P0	**0**	probe type	0 = Pt 1000 1 = reserved
	4	P2	**0**	temperature unit of measurement	0 = °C 1 = °F
	N.	PAR.	DEF.	REGULATION	MIN... MAX.
	5	r0	**12.0**	voltage for backyp battery charged	0.0... 15.0 V
	6	r1	**50**	release charge current	0... 50 mA
	7	r2	**300**	maximum charge current	0... 300 mA
	8	r3	**14.3**	maximum voltage for backyp battery charged	0.0... 15.0 V
	9	r4	**5.0**	setpoint differential	0.0... 12.0 °C/°F
	10	r5	**300**	relay on delay after power-on (only if A2 = 2)	0... 1.440 min
	N.	PAR.	DEF.	ALARMS	MIN... MAX.
	11	A1	**9.5**	voltage backup battery not present or in failure	0.0... 12.0 V
	12	A2	**1**	relay operation	0 = disabled 1 = active in case of lack of power supply 2 = active, if elapsed the time r5, the product temperature is > "SP+r4" and disactive if the product temperature is < SP (CO_2 backup) 3 = active if the product temperature is > "SP+r4" and disactive if the product temperature is < SP (safety thermostat) 4 = disactive if the product temperature is < SP and active if the product temperature is > "SP+r4" (antifreezing)
	N.	PAR.	DEF.	MODBUS	MIN... MAX.
	13	Lb	**0**	MODBUS baud rate	0 = 9,600 baud 1 = 19,200 baud 2 = 38,400 baud

MODBUS parity is even.

4 DATI TECNICI

Purpose of the control device:		Function controller.
Construction of the control device:		Built-in electronic device.
Container:		Grey, self-extinguishing.
Category of heat and fire resistance:		D.
Measurements:		4 DIN modules: 71.0 x 110.0 x 60.0 mm (2 13/16 x 4 5/16 x 2 3/8 in).
Mounting methods for the control device:		To be fitted on a DIN rail, in a control panel.
Degree of protection provided by the covering:		IP40.
Connection method:		Removable screw terminal blocks for wires up to 2.5 mm².
Maximum permitted length for connection cables:		
Power supply: 10 m (32.8 ft)		Analogue inputs: 10 m (32.8 ft)
Auxiliary power supply: 10 m (32.8 ft)		Backup battery: 10 m (32.8 ft)
Digital outputs: 100 m (328 ft)		RS-485 MODBUS port: 1,000 m (3,280 ft).
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:		Compliance:
RoHS 2011/65/EC	WEEE 2012/19/EU	RoHS 2011/65/EC
EMC 2014/30/EU		LVD 2014/35/UE.
Power supply:		115... 230 VAC (+10 % -15 %), 50/60 Hz (±3 Hz), max. 24 VA.
Earthing methods for the control device:		None.
Rated impulse-withstand voltage:		2.5 KV.
Over-voltage category:		II.
Software class and structure:		A.
Analogue inputs:		1 for Pt 1000 probes (product probe).
Pt 1000 probes:	Sensor type:	1 KΩ @ 0 °C, 32 °F
	Measurement field:	from -100 to 400 °C (from -148 to 752 °F)
	Resolution:	0.1 °C (1 °F).
Other inputs:		1 for backup battery (12 VDC max. 12 Ah sealed lead battery).
Auxiliary power supply:		9... 16 VDC max. 5 W.
Digital outputs:		1 electromechanical relay.
Type 1 or Type 2 Actions:		Type 1.
Additional features of Type 1 or Type 2 actions:		C.
Communications ports:		1 RS-485 MODBUS slave 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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