

EE10-T

Room Temperature Sensors

EE10 is dedicated for accurate room temperature (T) measurement in residential and commercial HVAC.

For model EE10-M3, the measured data is available either on the analogue output or on the BACnet MS/TP or Modbus RTU interface, as well as on the optional display.

The stylish enclosure is available in two sizes according to regional standards.

The back cover, which contains only the screw terminals, can be mounted and wired first. The front cover containing the electronics can be simply snapped onto the back cover right before commissioning. Thus the active part of the device is not exposed to construction site pollution and can be replaced without tools within seconds.



Typical Applications

Building automation
 Indoor climate control

Features

High accuracy and long term stability
 Fast and easy installation
 Modbus, BACnet or analogue outputs

Technical Data

Measured values

Temperature

Accuracy¹⁾ at 20 °C (68 °F) and $U_V = 24 \text{ V DC}$ $\pm 0.3 \text{ °C}$ ($\pm 0.54 \text{ °F}$)

Output

Analogue

0 - 10 V $-1 \text{ mA} < I_L < 1 \text{ mA}$
 4 - 20 mA (2-wire) $R_L < (U_V - 10) / 0.02 < 500 \Omega$

Digital Interface

RS485 with max. 32 devices on one bus

Protocol

Modbus RTU or BACnet MS/TP

General

Voltage supply (U_V), class III

0 - 10 V	15 - 40 V DC ²⁾ or 24 V AC $\pm 20\%$
4 - 20 mA	10 + 0.02 x $R_L < U_V < 28 \text{ V DC}$ ($R_L < 500 \Omega$)
RS485	15 - 35 V DC ²⁾ or 24 V AC $\pm 20\%$

Current consumption, typ.

Analogue (0 - 10 V, 4 - 20 mA)	DC supply: 4 mA / AC supply: 15 mA _{rms}
Digital (RS485)	DC supply: 9 mA / AC supply: 20 mA _{rms}

Electrical connection Screw terminals max. 1.5 mm² (AWG 16)

Enclosure (polycarbonate) US Version: UL94 V-0 approved / EU Version: UL94 HB approved

Protection rating IP30

Electromagnetic compatibility EN 61326-1 EN 61326-2-3 Industrial Environment
 FCC Part 15 ICES-003 Class B



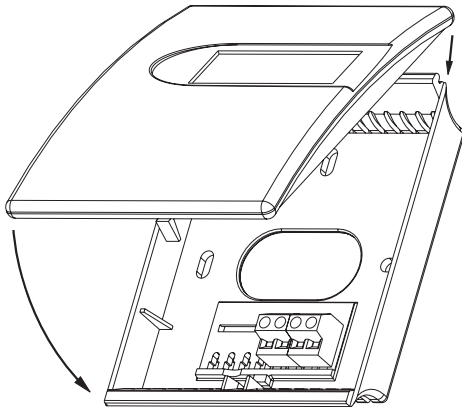
Temperature working range -5...55 °C (23...131 °F)

Temperature storage range -25...60 °C (-13...140 °F)

1) The accuracy statement includes the uncertainty of the factory calibration with an enhancement factor k=2 (2-times standard deviation). The accuracy was calculated in accordance with EA-4/02 and with regard to GUM (Guide to the Expression of Uncertainty in Measurement).

2) USA & Canada: class 2 supply required, max. supply voltage 30 V

Enclosure



Dimensions:

EU: W x H x D = 85 x 100 x 26 mm (3.3 x 3.9 x 1")

US: W x H x D = 85 x 136 x 26 mm (3.3 x 5.4 x 1")

Colour:

EU-Standard, US:

Front cover: signal white RAL9003

Back cover: light grey RAL7035

Scope of Supply

- EE10 sensor according ordering guide
- Mounting material
- Test report according DIN EN 10204-2.2 (for EE10-T)
- Quick user guide (for digital output only)

Ordering Guide

			EE10-
	Model	T	M3
	Output	0 - 10 V	A3
		4 - 20 mA	A6
	Display	RS485	J3
Without display		no code	
Enclosure	With display	D1	
	EU-Standard (RAL9003/RAL7035)	no code	
	US (RAL9003/RAL7035)	RG2	
Output Setup	Temperature Unit	T [°C]	no code
		T [°F]	MB2
	Scale T low	0	no code
		Value ¹⁾	SBLValue
	Scale T high	50	no code
		Value ¹⁾	SBHValue
	Protocol	Modbus RTU ²⁾	P1
		BACnet MS/TP ³⁾	P3
	Unit	Metric (SI)	no code
		Non-metric US/GB	U2
Baud rate	9600 (usual for Modbus)	BD5	
	19200	BD6	
	38400 (usual for BACnet)	BD7	
	57600 ⁴⁾	BD8	
	76800 ⁴⁾	BD9	

1) -5 °C (23 °F) < Scale T low < 20 °C (68 °F).

2) Factory setting: Even Parity, Stopbits 1.

3) Factory setting: No parity, Stopbits 1.

4) Only for BACnet MS/TP

25 °C (77 °F) < Scale T high < 55 °C (131 °F). Scale T high – Scale T low > 20 °C (68 °F).

Modbus Map see User Guide at www.epluse.com/ee10

Product Implementation Conformance Statement (PICS) available at www.epluse.com/ee10

Order Example

EE10-M3A3D1

Model: T
Output: 0 - 10 V
Display: With display
Enclosure: EU-Standard (RAL9003/RAL7035)
Temperature Unit: °C
Scale T low: 0 °C
Scale T high: 50 °C

EE10-M3J3P3BD7

Model: T
Output: RS485
Display: Without display
Enclosure: EU-Standard (RAL9003/RAL7035)
Protocol: BACnet MS/TP
Unit: Metric (SI)
Baud rate: 38400