

EE07 Series

Interchangeable Humidity / Temperature Transmitter for OEM Applications

alterations according to customer specifications possible

The compact EE07 humidity and temperature probe is based on a new electronic concept in combination with the miniaturized SMD humidity sensor element HC105 series.

A wide humidity and temperature working range, small dimensions of the polycarbonate or metal housing and appropriate filters allow for the use in a large variety of applications.

Calibration data and other measurement relevant functions (e.g. linearization or temperature compensation) are stored in the electronics, integrated in the probe. In combination with the M12 connector, replacement in seconds without readjustment of the evaluation electronics is guaranteed.

The digital output signal allows for easy processing of the measurement results and cost efficient interfacing to customers electronics.



Typical Applications

- humidifiers and dehumidifiers
- meteorological applications
- climate and ventilation control
- snowguns
- OEM applications

Features

- digital output
- fast interchangeable
- very small dimensions
- highest accuracy
- traceable calibration
- easy interfacing to microcontroller

Technical Data

Measuring values

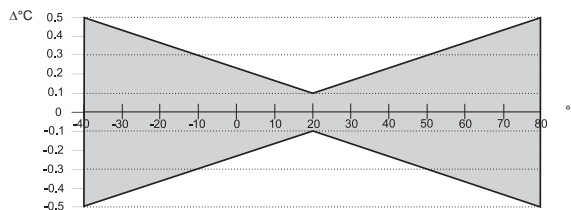
Relative Humidity

| | | |
|--|--|-----------------------|
| Sensor element | HC105 | |
| Digital output (2 wire) ¹⁾ | output value: 0.00...100.00% RH | |
| Working range ²⁾ | 0...100% RH | |
| Accuracy incl. hysteresis and nonlinearity | ±2% RH (0...90% RH) | ±3% RH (90...100% RH) |
| | Traceable to intern. standards, administrated by NIST, PTB, BEV... | |
| Temperature dependence | $< (0.025 + 0.0003 \times \text{RH}) \left[\frac{\% \text{RH}}{^{\circ}\text{C}} \right]$ | |

Temperature

| | |
|---------------------------------------|---|
| Sensor element | Pt1000 (tolerance class A, DIN EN 60751) |
| Digital output (2 wire) ¹⁾ | output value: -40.00...+80.00°C (-40...176°F) |

Accuracy
(at 20°C: ±0,1°C)



General

| | |
|---|--|
| Supply voltage | 3.8V DC - 5.5V DC |
| Current consumption | < 1.5mA |
| Housing | polycarbonate or stainless steel / IP65 |
| Sensor protection | membrane filter, PTFE filter, metal grid filter (polycarbonate), metal grid filter (stainless steel) |
| Electromagnetic compatibility ³⁾ | EN 61326-1 EN 61326-2-3 |
| Temperature range | working temperature: -40...80°C (-40...176°F) storage temperature: -40...60°C (-40...140°F) |
| max. cable length ⁴⁾ | 30m (98.4ft) |

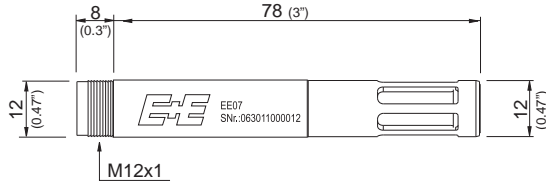


1) serial protocol refer to www.epluse.com
 3) EE07 is not protected against surge

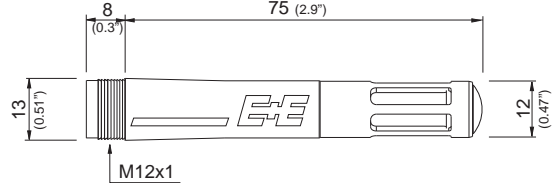
2) refer to the working range of the humidity sensor HC105
 4) dependent on selected Bus frequency

Housing Dimensions (mm)

Metal housing EE07-MFTx

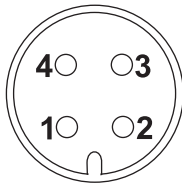


Polycarbonate housing EE07-PFTx



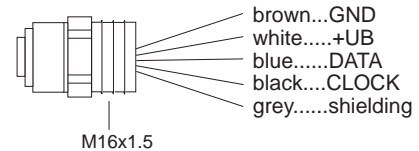
Connection Diagram

EE07:



- 1...GND
- 2...+UB
- 3...DATA
- 4...CLOCK

M12x1 flange coupling with 50mm (2") litz wire (HA010705):

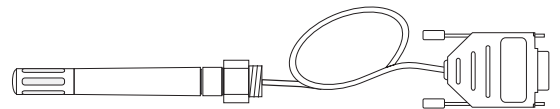


Ordering Guide

| HOUSING | MODEL | FILTER | COATING |
|-------------------|-------------------------------|---|-------------------|
| metal (M) | humidity and temperature (FT) | membrane filter (1) | without (no code) |
| polycarbonate (P) | | PTFE filter (5) | with (HC01) |
| | | metal grid filter (polycarbonate) (6) | |
| | | metal grid filter (stainless steel) (9) | |
| EE07- | | | |

Accessories

- E2 interface - RS232 converter: (HA011001)
For first testing measurements by a PC is a RS232 converter available
- M12x1 flange coupling with 50mm (2") litz wire (HA010705)
- filter caps (HA0101xx)
- radiation shield (HA010502)



E2 interface - RS232 converter

Order Example

EE07-PFT6

Housing: polycarbonate
Model: humidity and temperature
Filter: metal grid filter (polycarbonate)