

# EE07

## 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.

The configuration equipment allows humidity and temperature adjustment of the sensor.



### 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

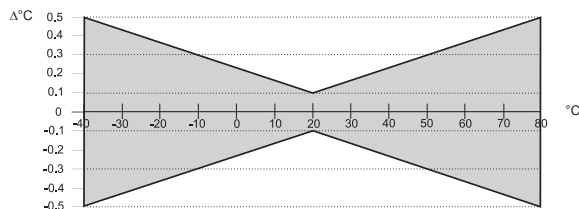
##### Relative Humidity

Sensor element	HC105	
Digital output (2 wire) <sup>1)</sup>	output value: 0.00...100.00% RH	
Working range <sup>2)</sup>	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	$< (0.025 + 0.0003 \times RH) \left[ \frac{\% RH}{^{\circ}C} \right]$	

##### Temperature

Sensor element	Pt1000 (tolerance class A, DIN EN 60751)
Digital output (2 wire) <sup>1)</sup>	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 <sup>3)</sup>	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 <sup>4)</sup>	30m (98.4ft)

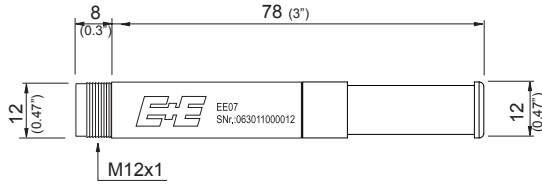
1) serial protocol refer to [www.epluse.com](http://www.epluse.com)  
 3) EE07 is not protected against surge

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

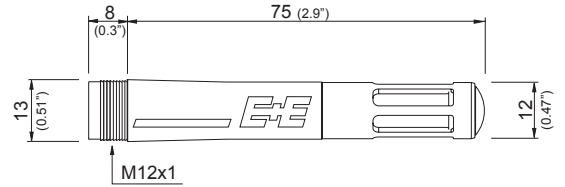


## Housing Dimensions (mm)

### Metal housing EE07-MFTx

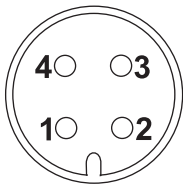


### Polycarbonate housing EE07-PFTx



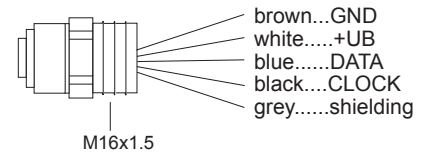
## Connection Diagram

### 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)	
<b>EE07-</b>			

## Order Example

### EE07-PFT6

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

## Accessories

- M12x1 flange coupling with 50mm (2") litz wire (HA010705)
- filter caps (HA0101xx)
- radiation shield (HA010502)

**Configuration equipment:** The configuration equipment allows humidity and temperature adjustment of the sensor.

- configuration cable (HA011001)
- configuratin software: free download under [www.epluse.com/EE07](http://www.epluse.com/EE07)

