E+E ELEKTRONIK® *Ges.m.b.H.*
YOUR PARTNER IN SENSOR TECHNOLOGY

EE07

Interchangeable Humidity / Temperature Probes for OEM Applications

**customer specific modifications possible**

The compact EE07 humidity and/or temperature probe is based on a new electronic concept in combination with the miniaturized SMD humidity sensor element HC105 series. A wide humidity and/or temperature working range, compact 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.

RH/T Probe
Polycarbonate Housing

RH/T Probe
Metal Housing

T Probe
Metal housing

EE07
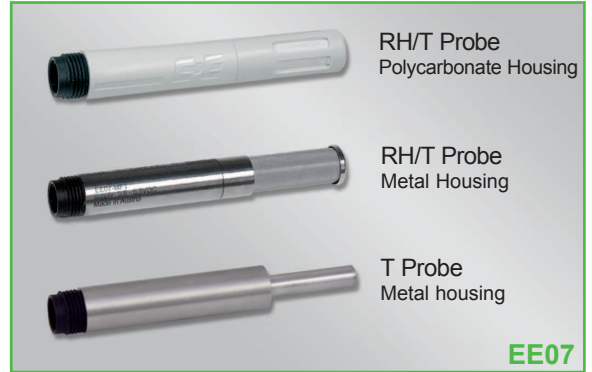
Typical Applications

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

Features

digital output
interchangeable
easy to install
compact size
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	$< (0.025 + 0.0003 \times RH) \left[\frac{\% RH}{°C} \right]$

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)	
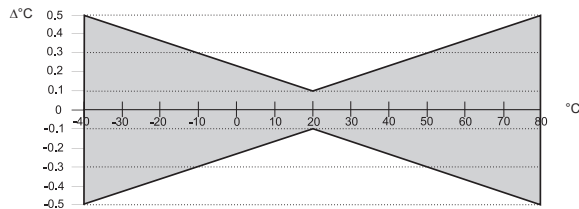
General

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)

CE

1) serial protocol refer to www.epluse.com
2) refer to the working range of the humidtiy sensor HC105
3) EE07 is not protected against surge
4) dependent on selected Bus frequency

Housing Dimensions (mm)

Humidity & Temperature Probes:

Metal Housing EE07-MFTx
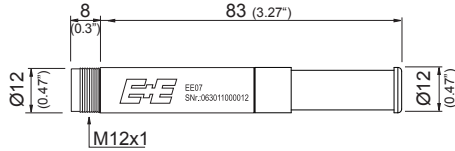
8 (0.3")
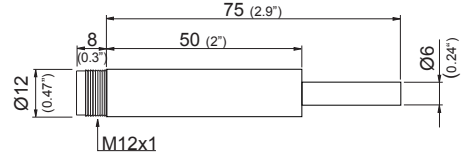83 (3.27")
Ø12 (0.47")
Ø12 (0.47")
EE07 SNr.:063011000012
M12x1

Polycarbonate Housing EE07-PFTx
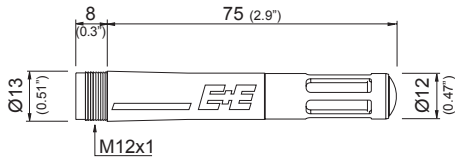
8 (0.3")
75 (2.9")
Ø13 (0.51")
Ø12 (0.47")
M12x1

Temperature Probes:

Metal Housing EE07-MT

8 (0.3")
75 (2.9")
50 (2")
Ø12 (0.47")
Ø6 (0.24")
M12x1

Polycarbonate Housing EE07-PT1

8 (0.3")
75 (2.9")
Ø13 (0.51")
Ø12 (0.47")
M12x1
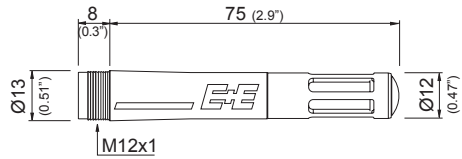
Connection Diagram

EE07:

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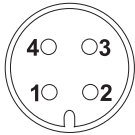
1...GND
2...+UB
3...DATA
4...CLOCK

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

brown...GND
white.....+UB
blue......DATA
black....CLOCK
grey......shielding

M16x1.5
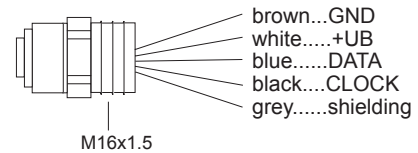
Ordering Guide

Humidity & Temperature Probes:

HOUSING		MODEL		FILTER		COATING	
metal [1]	(M)	humidity and temperature	(FT)	membrane filte	(1)	without	(no code)
polycarbonate	(P)			PTFE filter	(5)	with	(HC01)
				metal grid filter (polycarbonate)	(6)		
				metal grid filter (stainless steel)	(9)		
				H_2O_2 filter	(8)		
EE07-							

1) The metal housing is only available with metal grid filter (stainless steel) (9)

Temperature Probes:

Polycarbonate housing **EE07-PT1**
Metal housing **EE07-MT**

Order Example

EE07-PFT6
Polycarbonate housing
Humidity and temperature
Metal grid filter (polycarbonate)

EE07-MT
Metal housing
Temperature probe

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 at www.epluse.com/configurator

PC
HA011001