

## EE99-1 Series

## OEM - Humidity / Temperature Modules

The EE99-1 OEM - RH/T modules are designed to meet the specific requirements of RH/T monitoring in climate chambers.

High-end E+E humidity sensor elements of the HC series and accurate temperature compensation of the humidity reading result in an excellent accuracy over a broad measurement range.

The analogue output for relative humidity is 4 - 20mA / 3-wire. The passive temperature output can be connected via 3-wire to an external readout.

Easy mounting and service is possible with a plug-in screw terminals block and by push buttons for field calibration.



EE99-1

### Sensor Coating

Operation in heavily polluted and/or corrosive environments is typical for many industrial processes and can lead to drift or damage of the humidity sensor and therefore to incorrect measurements. The unique protective coating developed by E+E for the sensing probe (ordering code: - HC01) means a significant improvement of the long-term stability of the transmitter in very dirty and aggressive environments.

### Typical Applications

climate chambers  
drying chambers

### Features

remote sensing probe up to 10m (32.8ft)  
accuracy  $\pm 2\%$  RH  
traceable calibration  
working range humidity 0...100% RH  
working range temperature  $-50...180^{\circ}\text{C}$  ( $-58...356^{\circ}\text{F}$ ) / up to  $200^{\circ}\text{C}$  ( $392^{\circ}\text{F}$ ) short term  
passive 3-wire temperature output  
easy field calibration

### Technical Data

#### Measured quantities

##### Relative humidity

Humidity sensor <sup>1)</sup>	HC1000-400	
Working range	0...100% RH	
Accuracy incl. hysteresis and nonlinearity with - special calibration against certified standards - standard calibration	$\pm 1\%$ (0...90% RH) $\pm 2\%$ (0...90% RH)	$\pm 2\%$ (90...100% RH) $\pm 3\%$ (90...100% RH)
Output signal	Traceable to intern. standards, administrated by NIST, PTB, BEV... 4 - 20mA (3-wire)	
Response time with filter at $20^{\circ}\text{C}$ ( $68^{\circ}\text{F}$ ) / $t_{90}$	< 15 sec.	

##### Temperature

Temperature sensor element <sup>2)</sup>	Pt100 resp. Pt1000 (class A, DIN EN 60751) see Ordering Guide	
Working range	$-50...180^{\circ}\text{C}$ ( $-58...356^{\circ}\text{F}$ ) / up to $200^{\circ}\text{C}$ ( $392^{\circ}\text{F}$ ) short term	

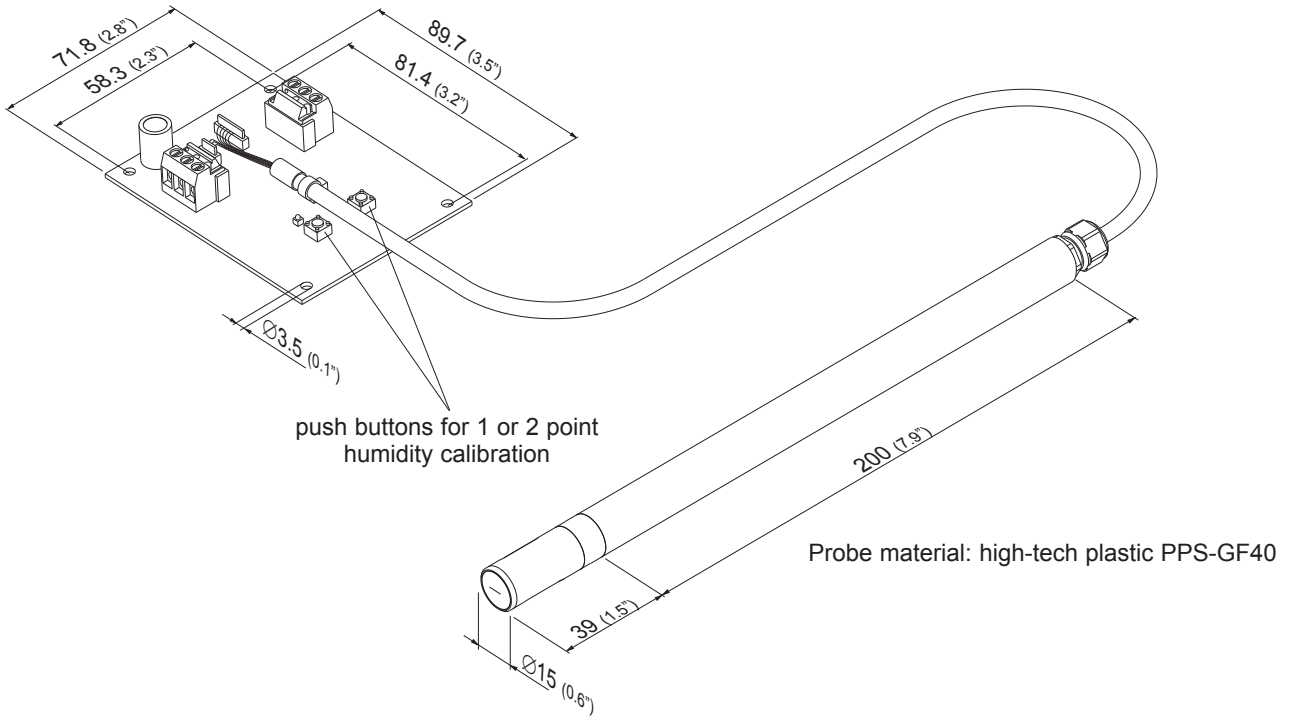
#### General Data

Supply voltage	10 - 35V DC or 10 - 28V AC	
Load resistor for 4 - 20 mA output	10 - 35V DC	$R_L < \frac{U_V - 5V}{0.02 A}$ [ $\Omega$ ] (max. 350 $\Omega$ )
	10 - 28V AC	$R_L < 350 \Omega$
Current consumption	for DC supply < 32mA	for AC supply < 60mA <sub>eff</sub>
Working temperature range electronics	$-40...60^{\circ}\text{C}$ ( $-40...140^{\circ}\text{F}$ )	
Storage temperature range	$-40...60^{\circ}\text{C}$ ( $-40...140^{\circ}\text{F}$ )	
Electrical connection	pluggable screw terminals up to max. 1.5mm <sup>2</sup> (AWG 16)	
Sensor protection	stainless steel grid filter	
Electromagnetic compatibility	Designed for installment in and with other equipment (OEM) Measurements according to EN61000-4-3 and EN61000-4-6 FCC Part15 ClassB ICES-003 ClassB	

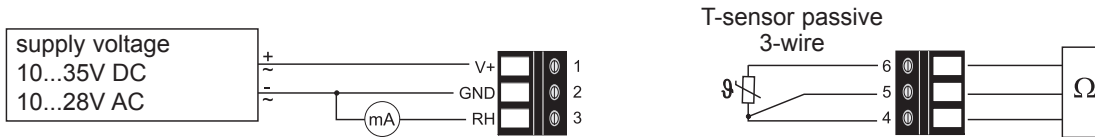
1) Refer to the working range of the humidity sensor

2) max. power dissipation 1mW

## Mounting Dimensions (mm)



## Connection Diagram



## Ordering Guide

MODEL	OUTPUT	T-SENSOR	VERSION	FILTER	CABLE LENGTH
Humidity + Temperature passive (FP)	4 - 20 mA (6)	Pt100 DIN A (A)	remote sensing probe (D)	stainless steel grid filter (8)	2m (6.6ft) (02)
		Pt1000 DIN A (C)			5m (16.4ft) (05)
					10m (32.8ft) (10)
EE99-1-					

PROBE LENGTH	SENSOR COATING
200mm (7.9") (5)	without coating (-) with coating (HC01)

## Order Example

### EE99-1-FP6AD8025

Model: Humidity + Temperature passive  
 Output: 4 - 20mA  
 T-Sensor: Pt100 DIN A  
 Version: remote sensing probe  
 Filter: stainless steel grid filter  
 Cable length: 2m (6.6ft)  
 Probe length: 200mm (7.9")  
 Coating sensor: without coating

## Accessories

Metal grid filter (HA010108)