

# EE180 Series

## Humidity / Temperature Transmitter for Meteorological Applications

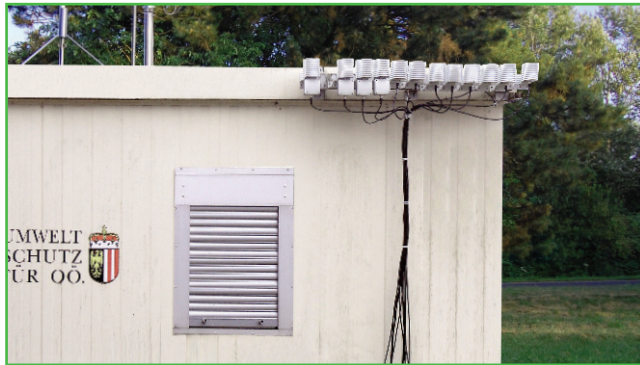
Accurate humidity / temperature measurement over a wide working range and the probe design, make the EE180 the perfect solution for demanding meteorological applications and road weather systems.

With the inimitable E+E sensor coating the measurement cell is even better protected against typical conterminants in outside applications, like dirt, dust or salt.

Low power consumption and short start-up time support efficient energy management for battery operated systems.

The humidity and temperature measurement are available as analogue outputs (0-1/2.5/5V) and as a digital interface (E2-interface). Easy implementation and data processing is warranted.

Humidity and temperature reading can be re-adjusted using the calibration software; available as an accessory.



### Typical Applications

weather stations  
road weather instruments  
humidity / temperature data logging

### Features

low power consumption  
analog and digital output  
E+E sensor coating  
excellent resistance against salt, dust etc.

### Technical Data

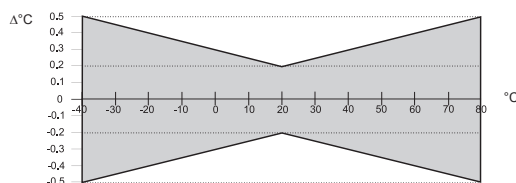
#### Measuring values

##### Relative Humidity

Sensor	HC101	
Working range <sup>1)</sup>	0...100% RH	
Analogue output 0...100% RH	0-1/2.5/5/10V	-0.2mA < I <sub>L</sub> < 0.2mA
Digital output (2 wire) <sup>2)</sup>	output value: 0.00...100.00% RH	
Accuracy <sup>3)</sup> (including hysteresis, non-linearity and repeatability, traceable to intern. standards, administrated by NIST, PTB, BEV...)		
-15...40°C (5...104°F) ≤90% RH	± (1.3 + 0.3%*mv) % RH	
-15...40°C (5...104°F) >90% RH	± 2.3% RH	
-25...60°C (-13...140°F)	± (1.4 + 1%*mv) % RH	
-40...60°C (-40...140°F)	± (1.5 + 1.5%*mv) % RH	
Temperature dependence	typ. 0.03% RH/°C (typ. 0.02% RH/°F)	

##### Temperature EE180-FTx

Sensor	Pt 1000 Class A	
Analogue output xx...yy°C <sup>3)</sup>	0-1/2.5/5/10V	-0.2mA < I <sub>L</sub> < 0.2mA
Digital output (2 wire) <sup>2)</sup>	output value: -40.00...+80.00°C (-40...176°F)	
Accuracy at 10/24V DC		



##### Temperature EE180-FPx

Output	resistive, 4-wire
Sensor	refer to ordering guide

## General

Supply voltage	output 0-1V / 0-2.5V	4.5-15V DC or 7-30V DC
	output 0-5V	7-30V DC
	output 0-10V	12-30V DC
Current consumption	<0.75mA (V10)	
	<1.2mA (V11)	
Digital interface	E2-interface	level = 3.3V / ±0.1V
Housing	plastic material / IP65	
Weight	290 g (with 5m cable)	
Electromagnetic compatibility	EN 61000-6-3 EN 61000-6-2	
Temperature ranges	working temperature: -40...60°C (-40...140°F) storage temperature: -40...80°C (-40...176°F)	



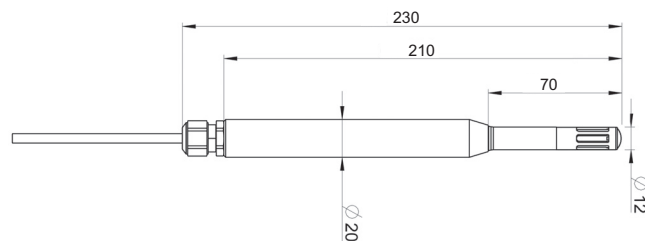
1) refer to the working range of the humidity sensor HC101

2) serial protocol refer to www.epluse.com

3) refer to ordering guide

\*) 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).

## Dimensions (mm)



## Connection Diagram

	Temp. active	Temp. passive, 4-wire		Temp. active	Temp. passive, 4-wire
T-passive	white (not connected)	white, black	RH-out	yellow	yellow
T-passive	blue (not connected)	blue, violet	SCL } E2-	green	green
GND	pink	pink	SDA } interface	brown	brown
T-out	grey	grey (not connected)	+UB	red	red

## Ordering Guide

MODEL		OUTPUT	SUPPLY	T-SENSOR (passive, 4-wire)
humidity active / temperature active	(FT)	0 - 1V <sup>1)</sup>	4.5 - 15V DC	Pt 100 1/3 Class B (H)
humidity active / temperature passive	(FP)	0 - 2.5V <sup>1)</sup>	7 - 30V DC	Pt 1000 1/3 Class B (Q)
		0 - 5V <sup>2)</sup>		Pt 100 1/5 Class B (P)
		0 - 10V <sup>2)</sup>		
<b>EE180-</b>				

1) possible with supply 4.5 - 15V DC (V10) or 7 - 30V DC (V11)  
 2) possible with supply 7 - 30V DC (V11) only

FILTER	COATING	CABLE LENGTH	T-SCALING (active, T-output)
metal grid filter (E6)	sensor coating (HC01)	1m (3.3ft) (K100)	-40...60 (T02)
		3m (9.8ft) (K300)	0...60 (T07)
		5m (16.4ft) (K500)	-20...50 (T48)
			other (Txx)

## Order Example

### EE180-FT2V11E6HC01K300T02

model:	humidity active / temp. active	filter:	metal grid filter
output:	0 - 5V	coating:	sensor coating
supply:	7 - 30V DC	cable length:	3m (9.8ft)
type:	with cable	T-scaling:	-40...60°C

## Accessories / Replacement Parts

- metal grid filter (HA010106-6018)

## EE180