

# EE160

## HVAC Humidity and Temperature Transmitter

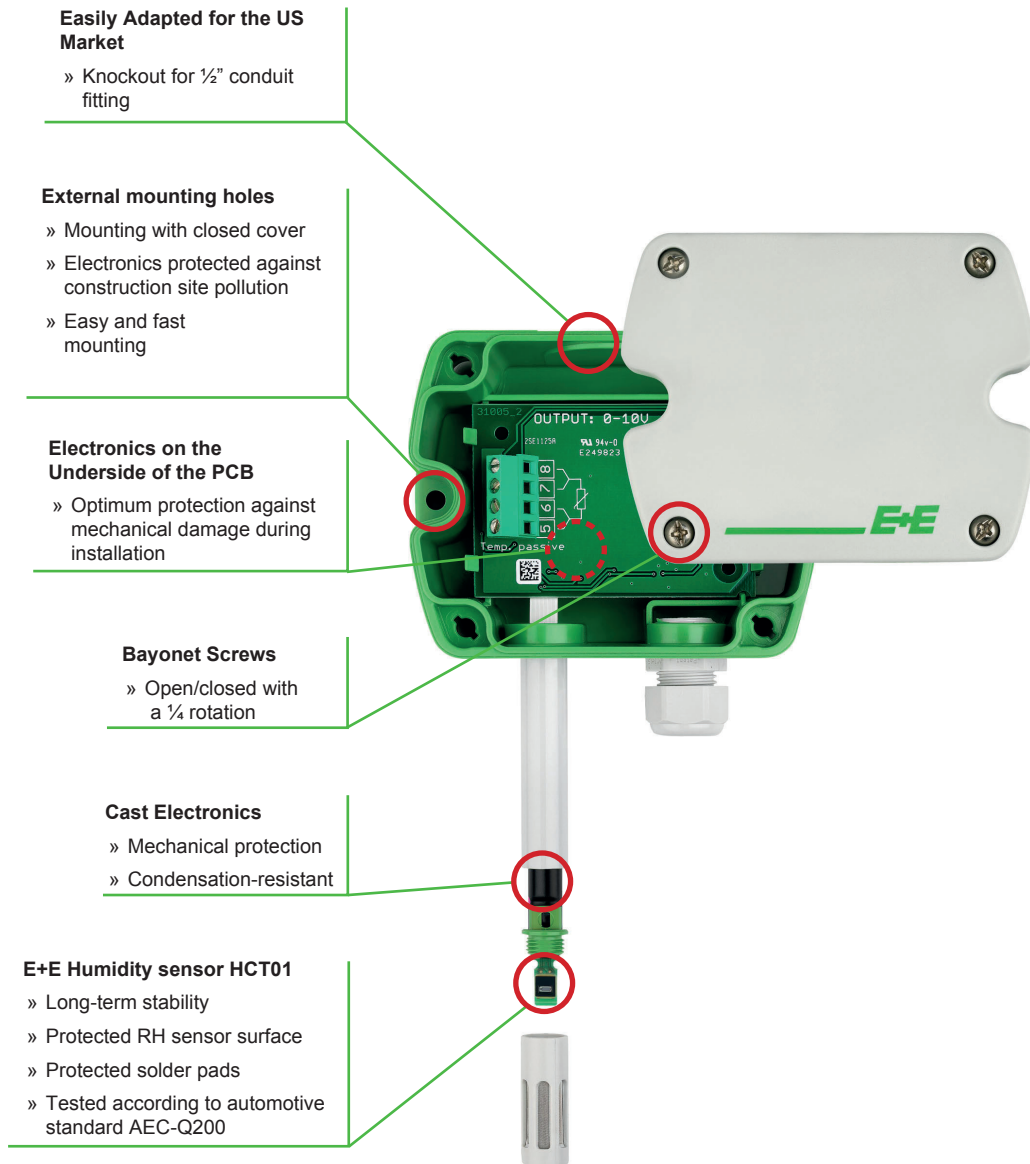
Specially designed for HVAC, the EE160 sensor by E+E Elektronik is a cost-effective, highly accurate and reliable solution for measuring relative air humidity and temperature.

The enclosure minimizes installation costs and provides outstanding protection against contamination and condensation, thus ensuring flawless operation.

The EE160 employs the new humidity/temperature E+E sensor element HCT01 with excellent long term stability and resistance against pollutants. In combination with a long calibration experience, the EE160 provides a measurement accuracy of  $\pm 2.5\%RH$  and is available for wall or duct-mounted with current, voltage or Modbus RTU output.



A configurator makes it possible to freely select the scaling of the temperature output and configure the Modbus parameters. The configurator software, which is free of charge, allows additionally for an on-site adjustment of the humidity and temperature.



## Technical data

### Measured values

#### Relative Humidity

Sensor	E+E Sensor HCT01-00D	
Analog output 0...100% RH	0-10 V	-1 mA < I <sub>L</sub> < 1 mA oder
	4-20 mA (two-wire)	R <sub>L</sub> < 500 Ohm
Digital output*	RS485	
Working range	10...95% RH	
Accuracy at 20°C	±2.5% RH	
Temperature dependency	typ. ±0.03% RH/°C	

#### Temperature

Sensor	Pt1000 (tolerance class B, DIN EN 60751)	
Analog output <sup>1)</sup>	0-10 V	
	4-20 mA	
Digital output*	Modbus RTU	
T-Accuracy at 20°C	±0.3°C	
passive T-output	see ordering code	

### General

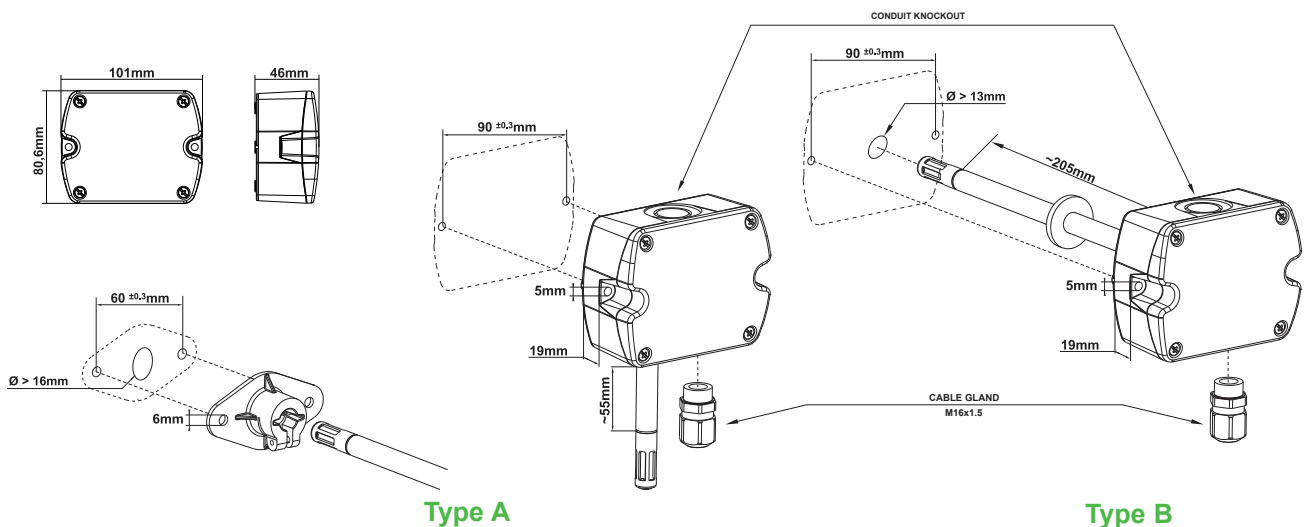
Power supply		
for 0 - 10 V / RS485		15 - 35V DC or 24V AC ±20%
for 4 - 20 mA		10V + R <sub>L</sub> x 20 mA < U <sub>v</sub> < 35V DC
Current consumption		
Analog	with DC power supply	typ. 5mA
	with AC power supply	typ. 13mA <sub>eff</sub>
Digital*	with AC power supply	typ. 2mA
Connection	Screw terminals, max. 1.5 mm <sup>2</sup>	
Housing / protection class	Polycarbonate (UL listed) / IP65	
Cable gland	M16 x 1.5	
Sensor protection	membrane filter	
Electromagnetic compatibility	EN61326-1	
	EN61326-2-3	
Temperature ranges	Operating temperature:	-15...60°C ( 5...140°F)
	Storage temperature:	-25...60°C (-13...140°F)



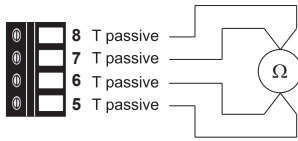
\* Available from Q4/2012

<sup>1)</sup> Output scaling see Ordering Guide

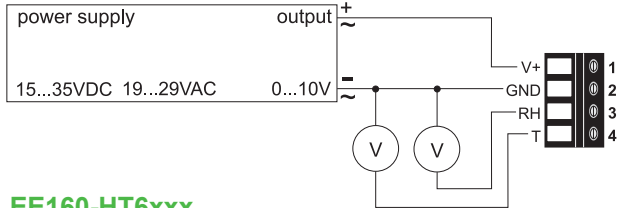
### Dimensions (mm)



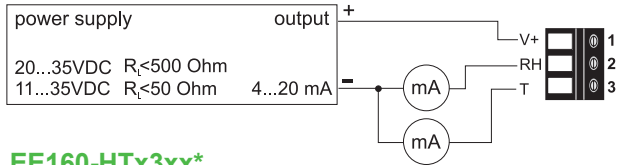
## Connection diagram



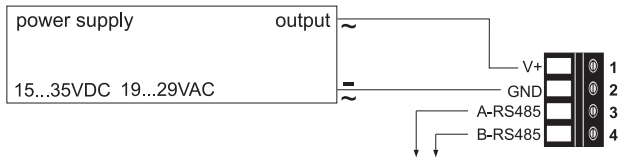
### EE160-HT3xxx



### EE160-HT6xxx



### EE160-HTx3xx\*



## Ordering Guide

### Configuration

MODEL	ANALOG <sup>1)</sup>	DIGITAL <sup>1)*</sup>	PASSIVE T-SENSOR <sup>2)</sup>	HOUSING	TYPE	FILTER
humidity + temperature (HT)	0-10V (3)	RS485 (3)	Pt 100 DIN A (A)	polycarbonate (P)	wall mount (A)	membrane filter (B)
	4-20mA (6)	none (x)	Pt 1000 DIN A (C)		duct mount (B)	
	none (x)		NTC 10k (E)			
			none (x)			
<b>EE160-</b>						

### Interface parameter - analog output

OUTPUT SCALING	SCALING	UNIT
temperature (Tx)	-30...40° (001)	metric (M)
	-40...60° (002)	non-metric (N)
	-10...50° (003)	
	0...50° (004)	
	other (xxx)	

### Interface parameter - digital output\*

PROTOCOL	BAUDRATE	PARITY	STOPBITS	UNIT
modbus (1)	9600 (A)	odd (O)	1 stopbit (1)	metric (M)
	19200 (B)	even (E)	2 stopbit (2)	non-metric (N)
	38400 (C)	no parity (N)		

<sup>1)</sup> a combination of analog and digital version is not possible <sup>2)</sup> analogue version only  
 \* Available from Q4/2012

## Accessories

- EE160 Cable for configuration adapter (HA011059)\*
  - Configuration adapter (HA011050)
- \* only for EE160 analog version

## Order example

### Analog output

#### EE160-HT6xAPAB/Tx001M

Model: humidity + temperature transmitter  
 Analog output: 4-20mA  
 Passive T-Sensor: Pt 100 DIN A  
 Housing: polycarbonate  
 Type: wall mounting  
 Filter: membrane filter

Output scaling: temperature  
 Scaling: -30...40°  
 Unit: metric

### Digital output

#### EE160-HTx3xPBB/1AE1N

Model: humidity + temperature transmitter  
 Digital output: RS485  
 Housing: polycarbonat  
 Type: duct mounting  
 Filter: membrane filter

Protocol: Modbus  
 Baudrate: 9600  
 Parity: even  
 Stopbits: 1  
 Unit: non-metric

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