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 ±2.5%RH and is available for wall or duct-mounted with current, voltage or Modbus RTU output.

The configuration equipment allows user setup for the output scaling and for the interface parameters, as well as humidity and temperature adjustment of the sensor.

Easily Adapted for the US Market
» Knockout for ½" conduit fitting

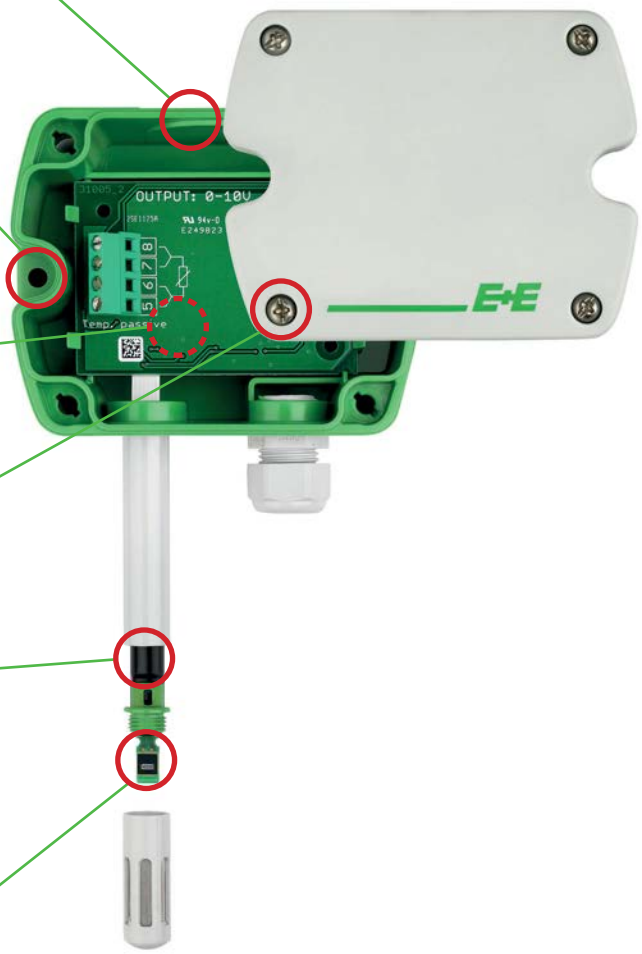
External mounting holes
» Mounting with closed cover
» Electronics protected against construction site pollution
» Easy and fast mounting

Electronics on the Underside of the PCB
» Optimum protection against mechanical damage during installation

Bayonet Screws
» Open/closed with a ¼ rotation

Cast Electronics
» Mechanical protection
» Condensation-resistant

E+E Humidity sensor HCT01
» Long-term stability
» Protected RH sensor surface
» Protected solder pads
» Tested according to automotive standard AEC-Q200



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Technical data

Measured values

Relative Humidity

Sensor	E+E Sensor HCT01-00D	
Analog output 0...100% RH	0-10 V	-1 mA < I_L < 1 mA oder
	4-20 mA (two-wire)	R_L < 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

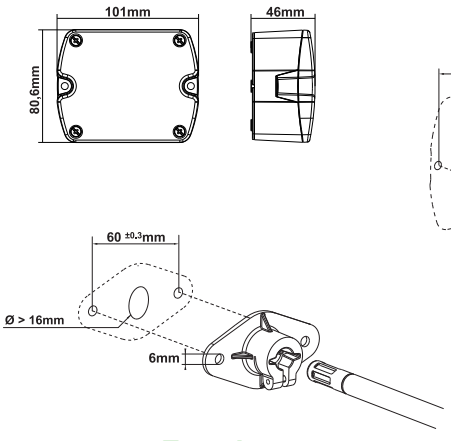
Sensor	Pt1000 (tolerance class B, DIN EN 60751)
Analog output[1)]	0-10 V
	4-20 mA
Digital output	RS485
T-Accuracy at 20°C	±0.3°C
passive T-output	see ordering code

General

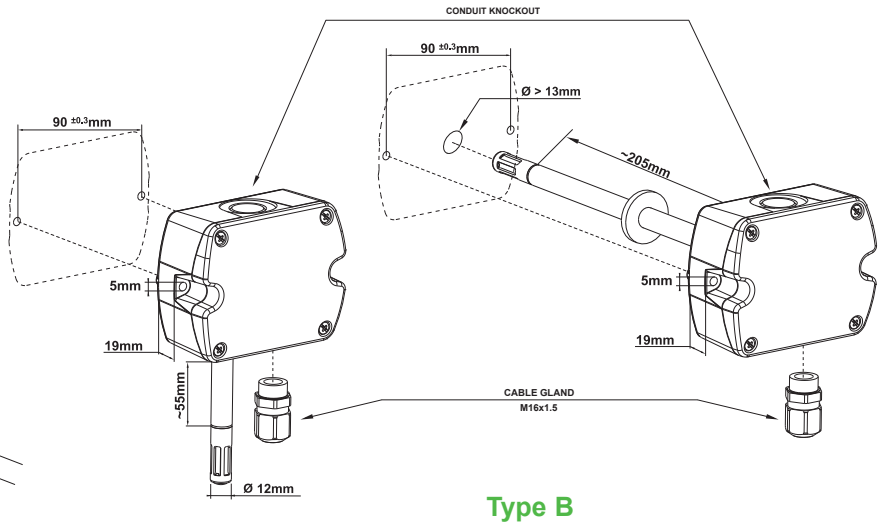
Power supply		
for 0 - 10 V / RS485	15 - 35V DC or 24V AC ±20%	
for 4 - 20 mA	10V + R_L x 20 mA < U_V < 35V DC	
Current consumption		
Analog	with DC power supply	typ. 5mA
	with AC power supply	typ. 13mA$_{eff}$
Digital	with DC power supply	typ. 15mA
	with AC power supply	typ. 25mA$_{eff}$
Connection	Screw terminals, max. 1.5 mm²	
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)

[1)] Output scaling see Ordering Guide

Dimensions (mm)

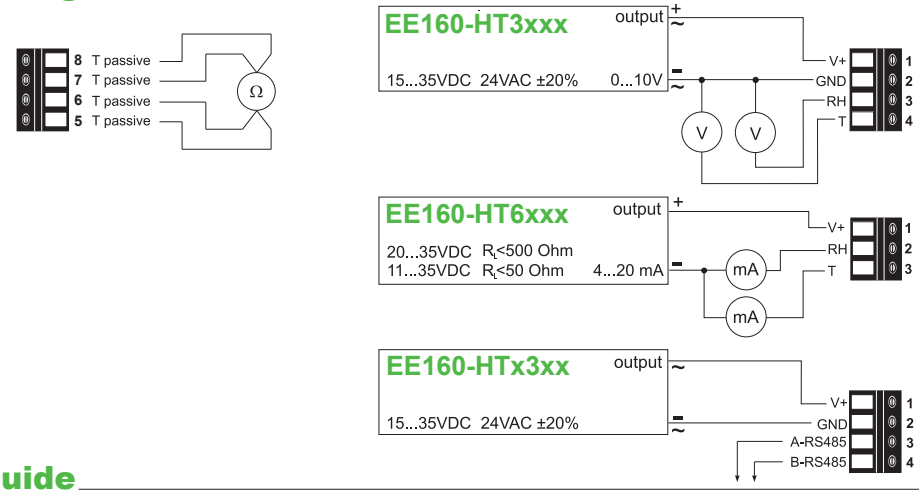


Type A



Type B

Connection diagram



Ordering Guide

Configuration

MODEL	ANALOG[1]	DIGITAL[1]	PASSIVE T-SENSOR[2]	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)			
EE160-						

Interface parameter - analog output

OUTPUT SCALING	SCALING		UNIT
temperature (Tx)	°C	°F	metric (M)
	-20...80 (024)	-32...122 (076)	non-metric (N)
	-40...60 (002)	-40...140 (083)	
	-10...50 (003)	0...180 (026)	
	0...50 (004)		
	other Scalings see Datasheet „T-Scaling“		

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)		

[1] a combination of analog and digital version is not possible [2] analogue version only

Accessories

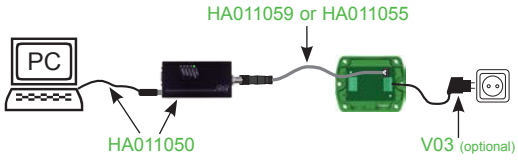
Configuration equipment: The configuration equipment allows user setup for the output scaling and for the interface parameters, as well as humidity and temperature adjustment of the sensor.

Position 1:
- configuration adapter (incl. USB cable for PC) (HA011050)

Position 2:
- for EE160 analog: cable for configuration adapter (HA011059)
- for EE160 digital: cable for configuration adapter (HA011055)

Position 3:
- configuration software: free of charge; download: www.epluse.com/EE160

Position 4 - optional:
- power supply for EE160 (V03)



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