

# USER'S GUIDE

## EE160 - Humidity and Temperature Transmitter for HVAC Applications

### GENERAL

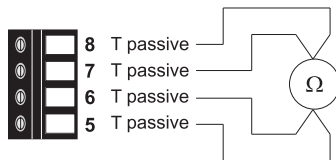
The EE160 transmitter, available for wall or duct mounting, is designed for the measurement of humidity and temperature in HVAC applications. The transmitter incorporates the E+E humidity and temperature sensor HCT01.

For use in special applications do not hesitate to contact E+E Elektronik or a local distributor.

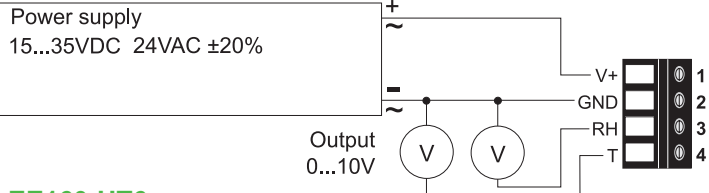
### CAUTION

- For accurate measurement it is essential that the temperature of the sensing probe and mainly of the sensing head is same as the temperature of the air to measure. Avoid mounting the EE160 transmitter in a way which creates temperature gradients along the probe.
- The transmitter and mainly the sensing head shall not be exposed to extreme mechanical stress.
- The transmitter must be operated with the filter cap on at all times. Do not touch the sensors inside the sensing head.
- While replacing the filter cap (because of pollution for instance) against an original E+E spare one please take very good care to not touch the sensors.

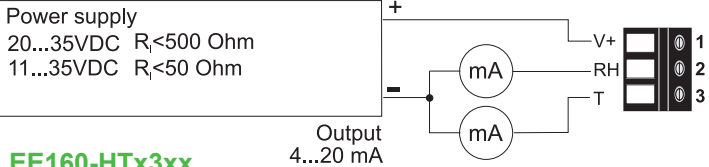
### CONNECTION DIAGRAM



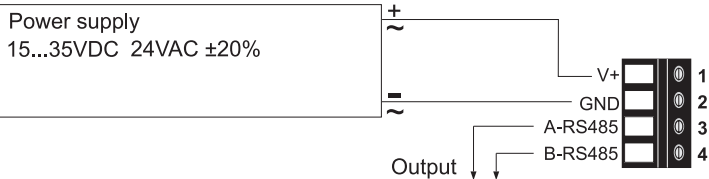
#### EE160-HT3xxx



#### EE160-HT6xxx



#### EE160-HTx3xx



### DIGITAL SETTINGS

#### MODBUS-MAP

Register address	Protocol address	Parameter name
<b>FLOAT:</b>		
30026	0x19	Temperature
30028	0x1B	relative Humidity
<b>INTEGER:</b>		
30301	0x12C	Temperature
30302	0x12D	relative Humidity

#### Slave address setting via EE-PCS Product Configuration Software:

All switches at position 0 → address has to be set via configuration software (factory setting 245).

Example: Slave address is set via configuration software.

#### Slave address setting via Dip-Switch:

Setting the Dip-Switch to any other address than 0 overwrites the slave address set via configuration software.

Example: Slave address set to 11 (=1011000 binary).

#### Dip-Switch



#### Dip-Switch



#### Protocol setting:

Address, baudrate, parity and stop bits can be set via configurator software (available on [www.epluse.com/EE160](http://www.epluse.com/EE160)) or via modbus protocol.

## 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
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Working range	10...95% RH
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Accuracy at 20°C	±2.5% RH
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Temperature dependency	typ. ±0.03% RH/°C
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#### Temperature

Sensor	Pt1000 (tolerance class B, DIN EN 60751)
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Analog output <sup>1)</sup>	0-10 V
	4-20 mA

Digital output	RS485
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T-Accuracy at 20°C	±0.3°C
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passive T-output	see ordering code
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### 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 supplytyp. 5mA
	with AC power supplytyp. 13mA <sub>eff</sub>
Digital	with DC power supplytyp. 15mA
	with AC power supplytyp. 25mA <sub>eff</sub>

Connection	Screw terminals, max. 1.5 mm <sup>2</sup>
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Housing material	Polycarbonate, UL94V-0 approved
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Protection class	IP65
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Cable gland	M16 x 1.5
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Sensor protection	membrane filter
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Electromagnetic compatibility	EN61326-1
	EN61326-2-3

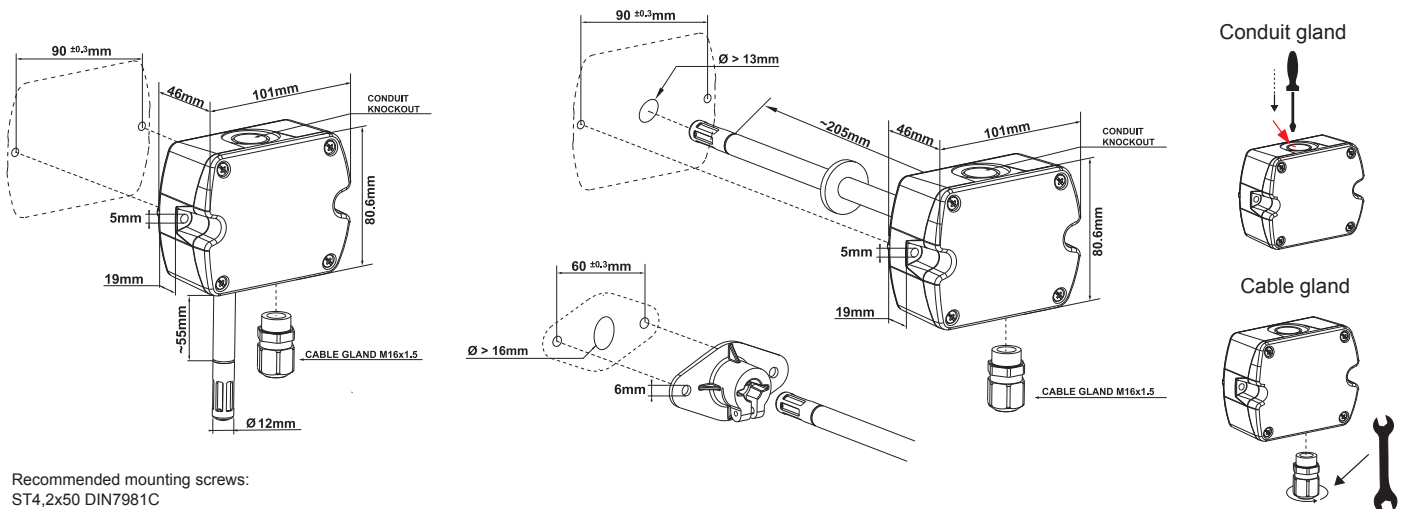


Temperature ranges	Operating temperature: -15...60°C ( 5...140°F)
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	Storage temperature: -25...60°C (-13...140°F)
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<sup>1)</sup> Output scaling see Ordering Guide

## DIMENSIONS / MOUNTING



Recommended mounting screws:  
ST4,2x50 DIN7981C

## SETUP AND ADJUSTMENT

The EE160 transmitter is ready to use and does not require any configuration by the user. The factory setup of EE160 corresponds to the type number ordered. For ordering guide please see data sheet at [www.epluse.com/EE160](http://www.epluse.com/EE160).)

If needed, the user can change the factory setup by using the optional E+E Product Configuration Adapter (EE-PCA) and the E+E Product Configuration Software (EE-PCS).



One can assign other physical quantities to the analogue outputs, change the scaling of the outputs and perform one or two point adjustment for humidity and temperature.

For product data sheets EE-PCS and EE-PCA please see [www.epluse.com](http://www.epluse.com).

The E+E Product Configuration Software (EE-PCS) is free and can be downloaded from [www.epluse.com/configurator](http://www.epluse.com/configurator).

## ACCESSORIES

**Configuration kit:** The configuration kit 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 analogue outputs: cable for configuration adapter HA011059  
- for digital outputs: cable for configuration adapter HA011055

### Position 3:

- configuration software: free of charge; download: [www.epluse.com/EE160](http://www.epluse.com/EE160)

### Position 4 - optional:

- power supply for EE160 V03

## INFORMATIONEN

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