

# EE80 Series

## HVAC Room Transmitter for CO<sub>2</sub>, Relative Humidity and Temperature

The EE80 series combines CO<sub>2</sub>, relative humidity (RH) and temperature (T) measurement in one housing. The snap-in mounting concept stands for easy installation and replacement within seconds.

EE80 series set new standards in CO<sub>2</sub> measurements for HVAC. The operation is based on the infrared principle. A patented auto-calibration procedure compensates for the aging of the infrared source and ensures outstanding long term stability.

The basic EE80 version for CO<sub>2</sub> and T can be easily extended with a RH plug-in module. The well proven E+E sensor technology guarantees accurate and long term stability.

EE80 provides analogue voltage outputs.

The optional display indicates sequentially the actual measuring data.



EE80

### Typical Applications

building management for residential and office areas  
 ventilation control

### Features

CO<sub>2</sub> / RH / T measurement in one device  
 RH output with plug-in module  
 easiest installation  
 modern design  
 long term stability  
 optional display

### Technical Data

#### Measuring values

##### CO<sub>2</sub>

Measurement principle	Non-Dispersive Infrared Technology (NDIR)	
Sensor	E+E Dual Source Infrared System	
Working range	0 - 2000ppm	0 - 5000ppm
Accuracy at 20°C (68°F) and 1013mbar	0...2000ppm:	< ± (50ppm +2% of measuring value)
	0...5000ppm:	< ± (50ppm +3% of measuring value)
Response time t <sub>63</sub>	< 90 sec	
Temperature dependence	typ. 2ppm CO <sub>2</sub> /°C	
Long term stability	typ. 20ppm / year	
Sample rate	ca. 0.5 min	

##### Relative Humidity (only for versions with voltage output)

Measurement principle	capacitive	
Sensor element	HC103	
Working range <sup>1)</sup>	10...90% RH	
Accuracy at 20°C (68°F)	±3% RH (30...70% RH)	±5% (10...90% RH)

##### Temperature

Accuracy at 20°C (68°F)	±0.3°C (±0.54°F)	version with current output 4 - 20mA: ±0.7°C (±1.26°F)
-------------------------	------------------	--

#### Outputs

0...2000/5000 ppm / 0...100% RH / 0...50°C (32...122°F)	0 - 5V	-1mA < I <sub>L</sub> < 1mA
	0 - 10V	-1mA < I <sub>L</sub> < 1mA
	4 - 20mA	R <sub>L</sub> < 500 Ohm

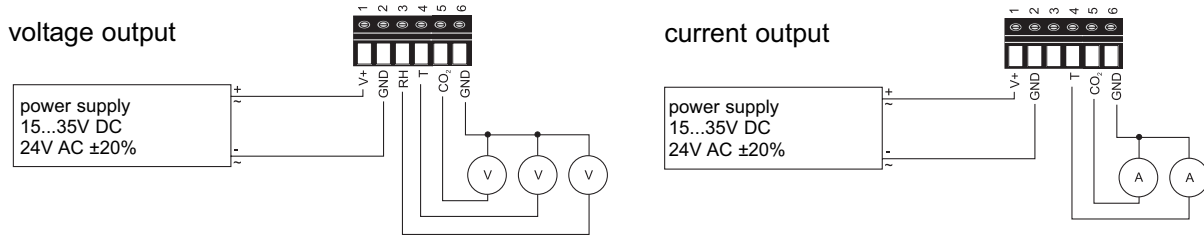
#### General

Supply voltage SELV	24V AC ±20%	15 - 35V DC	SELV = Safety Extra Low Voltage
Power requirement	< 3 W		
Warm up time <sup>2)</sup>	< 5 min		

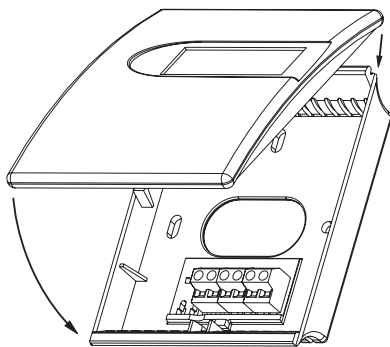
Display	LC display: alternating CO <sub>2</sub> (ppm) / T (°C or °F) / RH (% RH)		<b>CE</b>
Electrical connection	screw terminals max. 1.5 mm <sup>2</sup> (AWG16)		
Electromagnetic compatibility	EN 61000-6-3 EN 61000-6-1	EN61326-1+A1+A2:05.2002	
Working temperature range	0...90% RH (non condensing) / -5...55°C (23...131°F)		
Storage temperature range	0...90% RH (non condensing) / -20...60°C (-4...140°F)		

- 1) refer to the working range of the humidity sensor HC103!  
2) warm up time for performance according specification

## Connection Diagram



## Housing Dimensions (mm)



W x H x D = 85 x 100 x 26mm  
(3.3 x 3.9 x 1")

Material of housing: PC  
Protection class: IP20  
Colour of housing: Cover: RAL 9003 (signal white)  
Back: RAL 7035 (light grey)

(other colours upon request)

## Order Example

### EE80-2CT3D04

Version with voltage output:

Working range: 0...2000ppm  
Model: CO<sub>2</sub> + Temperature  
Output: 0-10V  
Display: with display  
T-Unit: °C  
T-Scale: 0...50°C (32...122°F)

## Ordering Guide

### Version with voltage output:

WORKING RANGE	MODEL	OUTPUT	DISPLAY	T-UNIT	T-SCALE
0...2000ppm (2)	CO <sub>2</sub> + T (CT)	0-5V (2)	without display (--)	°C (E01)	standard (0...50°C) (--)
0...5000ppm (5)	CO <sub>2</sub> + T + RH (CTF)	0-10V (3)	with display (D04)	°F (E01)	(32...122°F)
other T-scaling refer to page 11 (Txx)					
<b>EE80-</b>					

### Version with current output:

WORKING RANGE	MODEL	OUTPUT	DISPLAY	T-UNIT	T-SCALE
0...2000ppm (2)	CO <sub>2</sub> + T (CT)	4-20mA (6)	without display (--)	°C (E01)	standard (0...50°C) (--)
0...5000ppm (5)			with display (D04)	°F (E01)	(32...122°F)
other T-scaling refer to page 11 (Txx)					
<b>EE80-</b>					

## Accessories

- humidity plug-in module (HA011003)