

EE80 Series

HVAC Room Transmitter for CO₂, Relative Humidity and Temperature

The EE80 series combines CO₂, 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 CO₂ 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 CO₂ 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

CO₂ / 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

CO₂

Measurement principle	Non-Dispersive Infrared Technology (NDIR)	
Sensor	E+E Dual Source Infrared System	
Working range	0 - 2000ppm	0 - 5000ppm (only for version with current output 4 - 20mA)
Accuracy at 20°C (68°F)	0...2000ppm:	< ± (50ppm +2% of measuring value)
and 1013mbar	0...5000ppm:	< ± (50ppm +3% of measuring value)
Response time t ₆₃	< 90 sec	
Temperature dependence	typ. 2ppm CO ₂ /°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 ¹⁾	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)
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Outputs

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

General

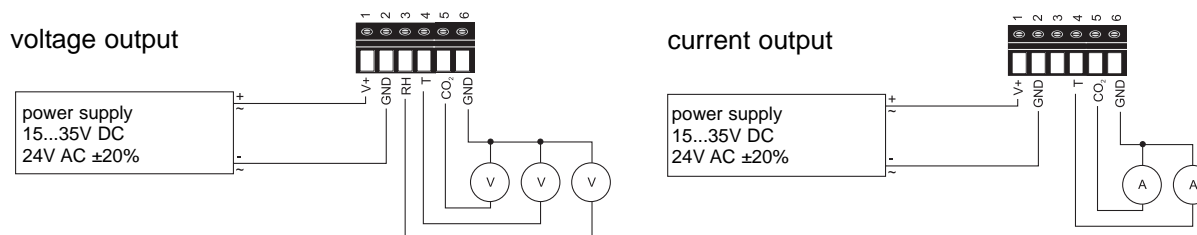
Supply voltage SELV	24V AC ±20%	15 - 35V DC	SELV = Safety Extra Low Voltage
Power requirement	< 3 W		
Warm up time ²⁾	< 5 min		

Display	LC display: alternating CO ₂ (ppm) / T (°C or °F) / RH (% RH)	
Electrical connection	screw terminals max. 1.5 mm ² (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)	

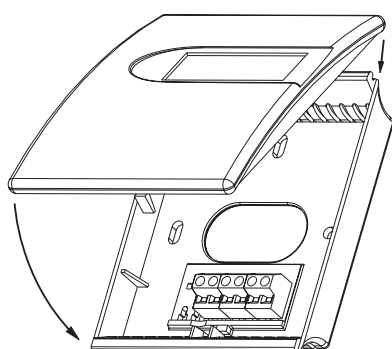


- 1) refer to the working range of the humidity sensor HC103!
 2) warm up time for performance according specification

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: CO₂ + 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 ₂ + T (CT) CO ₂ + T + RH (CTF)	0-5V (2) 0-10V (3)	without display (--) with display (D04)	°C (E01) °F	standard (0...50°C) (--) (32...122°F) other T-scaling refer to page 11 (Txx)
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Version with current output:

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

- humidity plug-in module (HA011003)

EE80