

# EE80

## HVAC Room CO<sub>2</sub> Switch

EE80 room CO<sub>2</sub> switch is based on the non-dispersive infrared (NDIR) measurement principle. A patented auto-calibration procedure compensates for the aging of the infrared source and ensures outstanding long term stability.

The switch threshold and hysteresis can be set with potentiometers on the electronics board. The measured CO<sub>2</sub> data can be indicated on the optional LC display.

Two different enclosure designs ensure professional appearance according to regional standards.



EE80

### Typical Applications

building management for residential and office areas  
 ventilation control

### Features

modern design  
 optional display  
 easiest installation  
 long-term stable

### Technical Data

#### Measured values

CO <sub>2</sub>	
Measurement principle	Non-Dispersive Infrared Technology (NDIR)
Sensor	E+E Dual Source Infrared System
Working range	0...2000 / 5000 ppm
Accuracy at 25 °C (77 °F) and 1013 mbar	0...2000 ppm: < ± (50 ppm +2 % of measuring value) 0...5000 ppm: < ± (50 ppm +3 % of measuring value)
Response time t <sub>63</sub>	< 195s
Temperature dependence	typ. 2 ppm CO <sub>2</sub> /°C
Long term stability	typ. 20 ppm / year
Sample rate	approx. 15 s

#### Switch Output

Max. switching voltage	50 V AC / 60 V DC
Max. switching load	0.7 A at 50 V AC      1A at 24 V DC
Min. switching load	1 mA at 5 V DC
Contact material	Ag+Au clad

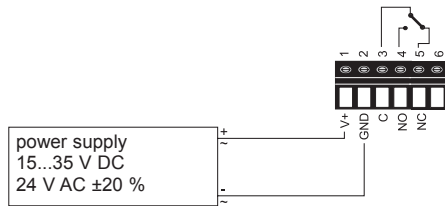
#### General

Supply voltage	24 V AC ±20 %      15 - 35 V DC
Current consumption	typ. 10 mA max. 0.5 A for 0.3 s
Warm up time <sup>1)</sup>	< 5 min
Housing material	Polycarbonate US Version: UL94V-0 approved / EU Version: UL94HB approved
Protection class	IP30
Display	LC display
Electrical connection	screw terminals max. 1.5 mm <sup>2</sup> (AWG16)
Electromagnetic compatibility	EN61326-1      FCC Part 15 EN61326-2-3      ICES-003 ClassB
Working temperature range	0...90 % RH (non condensing) / -20...60 °C (-4...140 °F)
Storage temperature range	0...90 % RH (non condensing) / -20...60 °C (-4...140 °F)

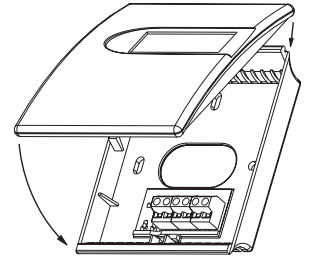


1) warm up time for performance according specification

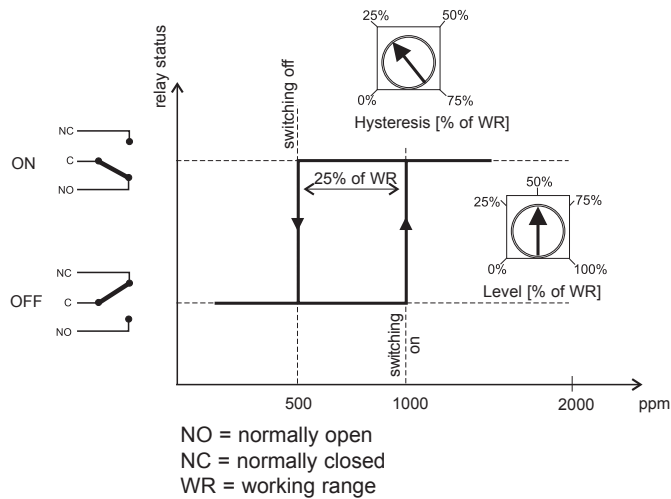
## Connection Diagram



## Housing Dimensions (mm)



Europe: W x H x D = 85 x 100 x 26 mm (3.3 x 3.9 x 1")  
USA: W x H x D = 85 x 136 x 26 mm (3.3 x 5.4 x 1")



### Housing colour:

#### Standard (EU & US):

Front cover: Signal white RAL 9003  
Back cover: Light grey RAL 7035

#### Optional (only EU):

Front and back cover: Grey (Anthracite grey RAL 7016)  
Silver (White aluminum RAL 9006)

## Ordering Guide

WORKING RANGE	MODEL	DISPLAY	HOUSING DESIGN & COLOUR
0...2000 ppm (2)	CO <sub>2</sub> Switch (CS)	without Display (-)	EU-Standard (RAL9003 / RAL7035) (-)
0...5000 ppm (5)		with Display (D04)	EU-Grey (RAL7016) (G)
			EU-Silver (RAL9006) (S)
			US (RAL9003 / RAL7035) (US)
<b>EE80-</b>			

## Order Example

### EE80-2CSD04G

Working range: 0...2000 ppm  
Model: CO<sub>2</sub> Switch  
Display: with Display  
Housing design & colour: EU-Grey (RAL7016)

### EE80-5CSUS

Working range: 0...5000 ppm  
Model: CO<sub>2</sub> Switch  
Display: without Display  
Housing design & colour: US (RAL9003 / RAL7035)