

# 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)<br>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                          |

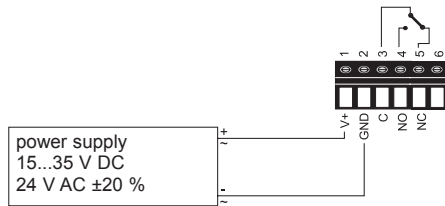
#### General

|                               |   |
|-------------------------------|---|
| Supply voltage                | 24 V AC ±20 %      15 - 35 V DC   |
| Current consumption           | typ. 10 mA<br>max. 0.5 A for 0.3 s  |
| Warm up time <sup>1)</sup>    | < 5 min   |
| Housing material              | Polycarbonate<br>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<br>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)                    |

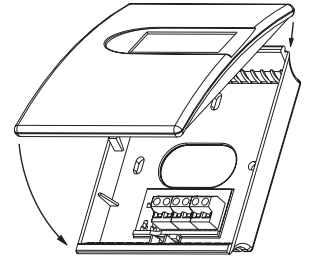


1) warm up time for performance according specification

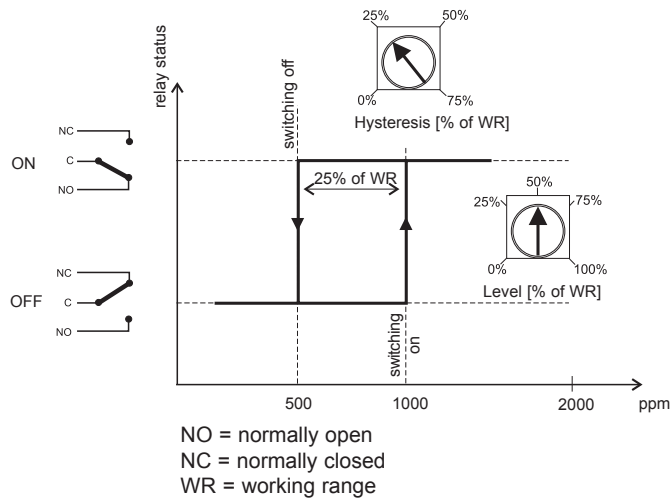
## Connection Diagram



## 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)