

EE85

Duct mount CO₂ Switch

EE85 is optimized for building automation as well as for process control applications. It measures CO₂ concentration based on the Non-Dispersive Infrared (NDIR) technology. A patented auto-calibration procedure compensates for the aging of the infrared source and leads to outstanding long-term stability.

The air from the duct flows through the probe into the EE85 enclosure and back into the duct. Inside the enclosure the air diffuses through a membrane into the CO₂ sensing cell. As there is no flow through the sensing cell, this is very well protected against dust.

EE85 is available with measuring ranges of 0...2000, 0...5000 or 0...10000ppm and with two probe lengths. The switch threshold and hysteresis can be set with potentiometers on the printed circuit board.

The mounting flange included in the scope of supply facilitates installation in the ventilation ducts.



Typical Applications

building automation for residential and commercial areas
 process control

Features

very simple installation
 compact size
 auto-calibration

Technical Data

Measuring Values

CO ₂	
Measurement principle	Non-Dispersive Infrared Technology (NDIR)
Sensing element	E+E Dual Source Infrared System
Measuring range	0...2000 / 5000 / 10000ppm
Accuracy at 25°C (77°F) and 1013mbar	0...2000ppm: < ± (50ppm +2% of measuring value) 0...5000ppm: < ± (50ppm +3% of measuring value) 0...10000ppm: < ± (100ppm +5% of measuring value)
Response time $\tau_{95}^{1)}$	< 195s
Temperature dependence	typ. 2ppm CO ₂ /°C
Long term stability	typ. 20ppm / year
Sample rate	approx. 15s

Switch Output

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

General

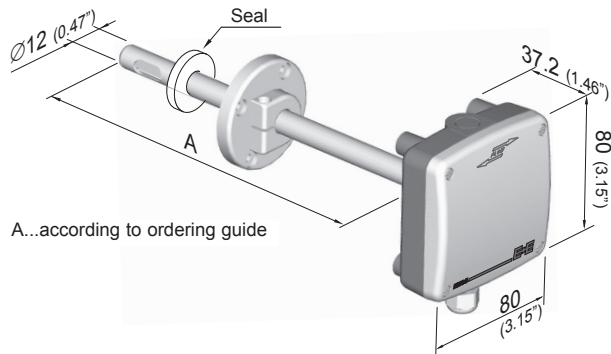
Supply voltage	24V AC ±20% 15 - 35V DC
Current consumption	typ. 10mA max. 0.5A for 0.3s
Warm up time ²⁾	< 5 min
Housing / protection class	PC / housing: IP65, probe: IP20
Cable gland	M16 x 1.5 cable Ø 4.5 - 10 mm (0.18 - 0.39")
Electrical connection	screw terminals max. 1.5 mm ² (AWG 16)
Electromagnetic compatibility	EN61326-1 FCC Part 15 EN61326-2-3 ICES-003 ClassB
Working temperature and conditions	-20...60°C (-4...140°F) 0...95% RH (non-condensing)
Storage temperature and conditions	-20...60°C (-4...140°F) 0...95% RH (non-condensing)



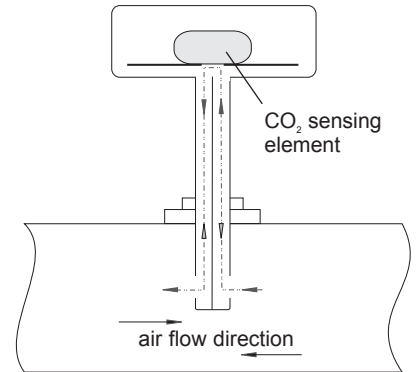
1) minimum flow speed 1m/s (200ft/min)

2) warm up time for performance according to specification

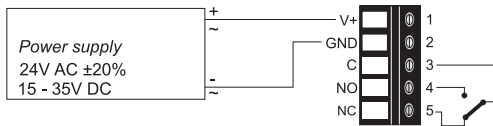
Dimensions (mm)



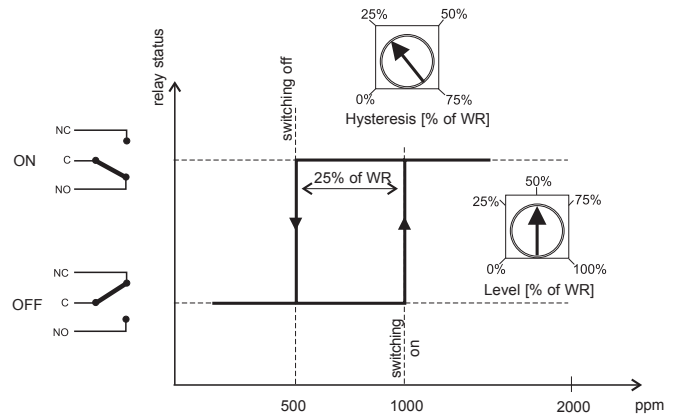
Operation Principle



Connection Diagram



NO = normally open
NC = normally closed
WR = working range



Ordering Guide

MEASURING RANGE	MODEL	PROBE LENGTH (see dimensions „A“)
0...2000ppm (2)	CO ₂ Switch (CS)	50mm (2)
0...5000ppm (5)		200mm (5)
0...10000ppm (10)		
EE85-		

Order Example

EE85-5CS5

Measuring range: 0...5000ppm
Model: CO₂ Switch
Probe length: 200mm