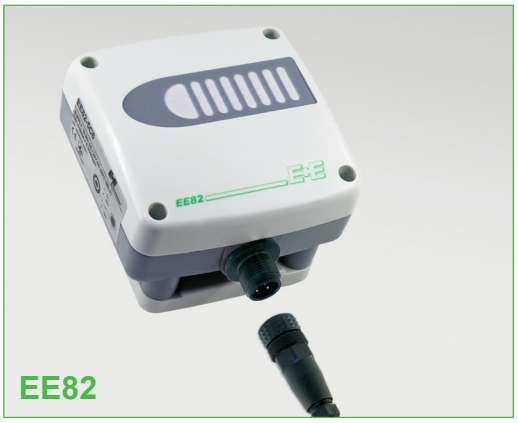
EE82 Series

CO_2 Transmitters and Switches for demanding applications

Measuring instruments in green houses or life stock barns are exposed to a very demanding environment: high humidity levels, pollutants like fertilizers, herbicides and high ammonia concentrations are just a few of the many hazards.
The robust, functional housing of the EE82 with integrated special filter has been designed for such applications.

The air diffuses through the filter into the instrument enclosure. Then the air diffuses further through a second membrane filter integrated in the CO_2 measuring cell.

The CO_2 measurement is based on the non-dispersive infrared (NDIR) technology. The patented auto-calibration procedure compensates for aging of the infrared source and guarantees high reliability, long term stability and eliminates the need of periodical recalibration in the field.



EE82

Measuring ranges of 0...2000/5000/10000ppm correspond to an analogue interface of 0 - 5/10V or 4 - 20mA. Selectively a switching output with adjustable switching point and hysteresis is available.

The very practical snap-in mounting flange and connector for the supply voltage and outputs allow quick and easy installation of the EE82 without ever opening the housing.

Typical Applications

green houses
fruit and vegetable storage
life stock barns

Features

easy installation
compact housing
auto-calibration
measuring range 0...10000ppm
analogue or switching output

Technical Data

Measuring Values

Measuring 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 τ_{63}	< 195s	
Temperature dependence	typ. 2ppm CO_2/°C	
Long term stability	typ. 20ppm / year	
Sample rate	approx. 15s	

Output

Analogue Output

0...2000 / 5000 / 10000ppm	0 - 5 / 0 - 10V	-1mA < I_L < 1mA
	4 - 20mA	R_L < 500 Ohm

Switching 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	

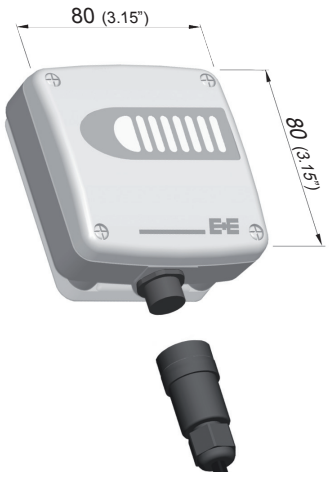
General

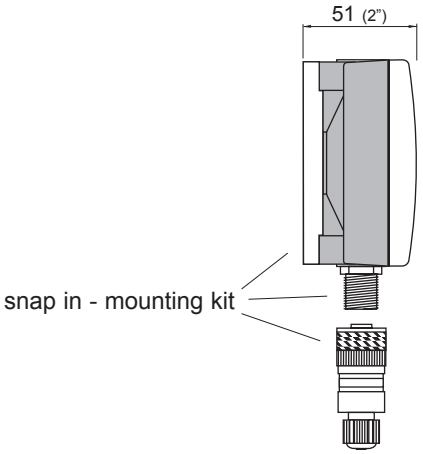
Supply voltage	24V AC ±20%	15 - 35V DC
Current consumption	typ. 10mA + output current	
	max. 0.5A for 0.3s	
Warm up time[1)]	< 5 min	
Housing / protection class	PC / IP54	
Electrical connection	M12 plug	
Electromagnetic compatibility	EN61326-1	FCC Part 15
	EN61326-2-3	ICES-003 ClassB
Working temperature and conditions	-20...60°C (-4...140°F)	0...100% RH
Storage temperature and conditions	-20...60°C (-4...140°F)	0...95% RH (not condensating)

CE

1) warm up time for performance according specification

Dimensions (mm)

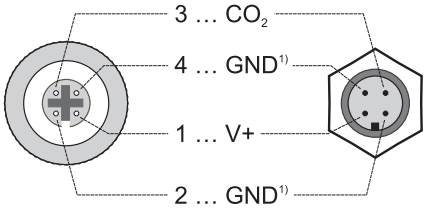




Connection Diagram

Analogue Output

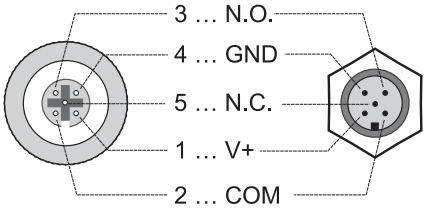
EE82-xC2/3/6

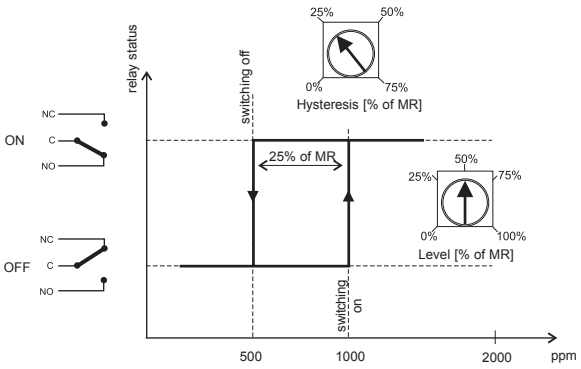


1) GND internally conected

Switching Output

EE82-xCS





Ordering Guide

MEASURING RANGE		MODEL		OUTPUT	
0...2000ppm	(2)	CO_2	(C)	0 - 5V	(2)
0...5000ppm	(5)			0 - 10V	(3)
0...10000ppm	(10)			4 - 20mA	(6)
				switching output	(S)
EE82-					

Order Example

EE82-5C3

Measuring range:	0...5000ppm
Model:	CO_2
Output:	0 - 10V