EE82 Series

CO_2 Transmitters and Switches for Agriculture 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.

Measuring ranges of 0...2000/5000/7000ppm 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...2000/5000/7000ppm
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...2000/5000/7000ppm
Accuracy at 20°C (68°F)	0...2000ppm	< ± (50ppm +2% of measuring value)
and 1013mbar	0...5000ppm	< ± (50ppm +3% of measuring value)
	0...7000ppm	< ± (50ppm +5% of measuring value)
Response time τ_{63} 1)		< 120s
Temperature dependence		typ. 2ppm CO_2/°C
Long term stability		typ. 20ppm / year
Sample rate		ca. 30s

Output

Analogue Output

0...2000/5000/7000ppm	0 - 5 / 0 - 10V	-1mA < I_L < 1mA
	4 - 20mA	R_L < 500 Ohm

Switching Output

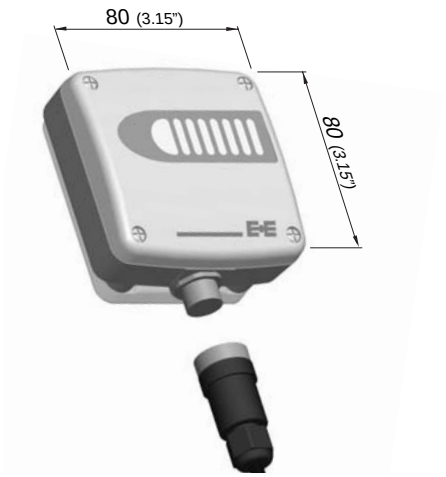
Max. switching voltage	50V AC / 60V DC	
Max. switching load	1A at 50V AC	1A at 30V DC
Min. switching load	1mA at 5V DC	
Contact material	Ag+Au clad	

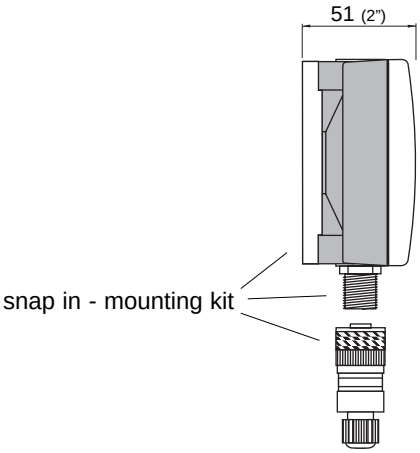
General

Supply voltage SELV	24V AC ±20%	15 - 35V DC	SELV = Safety Extra Low Voltage
Power requirement	< 3W		
Warm up time	< 5 min		
Housing / protection class	PC / IP54		
Electrical connection	M12 plug		
Electromagnetic compatibility	EN 61000-6-3	ÖVE EN61326-1+A1+A2:05.2002	CE
	EN 61000-6-1	FCC Part 15 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)	

1) minimum air velocity 1m/s (200ft/min)

Dimensions (mm)

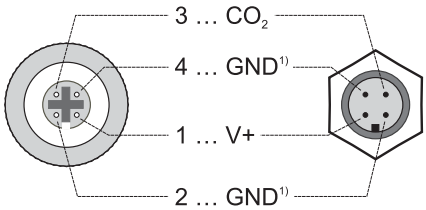




Connection Diagram

Analogue Output

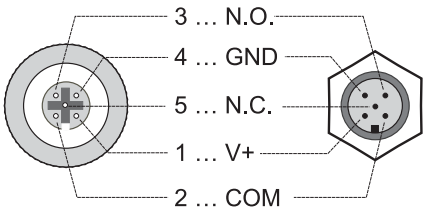
EE82-xC2/3/6

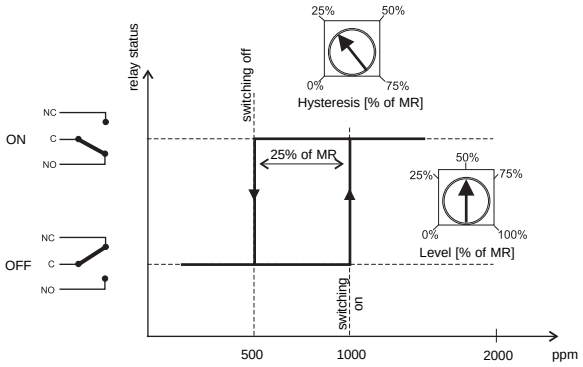


1) GND internally conected

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...7000ppm	(7)			4 - 20mA	(6)
				switching output	(S)
EE82-					

Order Example

EE82-5C3

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