

EE82 Series

CO₂ 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 CO₂ measuring cell.

The CO₂ 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) and 1013mbar	0...2000ppm	< ± (50ppm +2% of measuring value)	
	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 4 - 20mA	-1mA < I _L < 1mA R _L < 500 Ohm
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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	

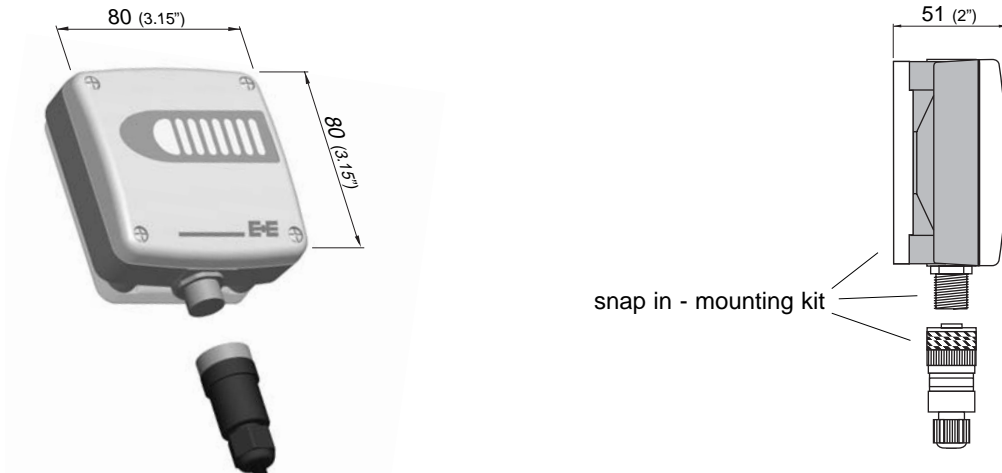
General

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	
	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)



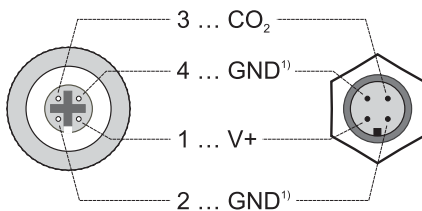
Dimensions (mm)



Connection Diagram

Analogue Output

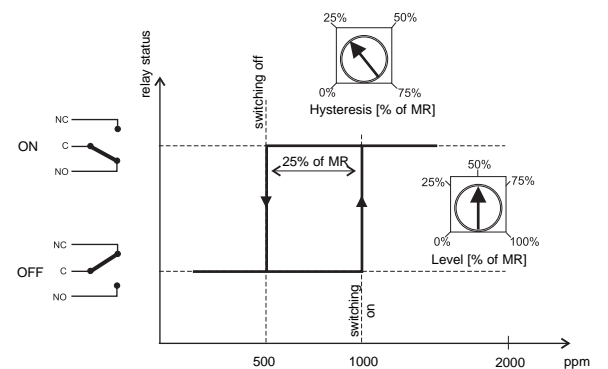
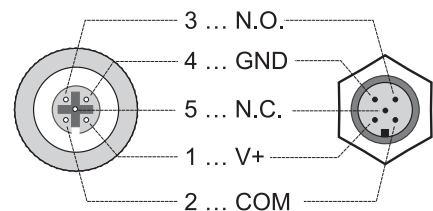
EE82-xC2/3/6



1) GND internally connected

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: CO₂
Output: 0 - 10V