EE820

CO_2 Sensor for Demanding Applications

The EE820 CO_2 sensor is optimized for use in harsh, demanding applications, such as hatchers, incubators, life stock barns or greenhouses.

Outstanding Accuracy

A multiple point CO_2 and temperature factory adjustment procedure leads to excellent CO_2 measurement accuracy over the entire temperature working range, so the EE820 can even be installed outdoors.

Long-term Stability

The EE820 incorporates the E+E dual wavelength NDIR CO_2 sensor, which compensates for ageing effects, is highly insensitive to pollution and offers outstanding long term stability.

High Resistance to Pollution

With its robust, functional IP54 enclosure with a special filter the EE820 can be employed even in harsh environment.

Fast Response Time

For an even lower response time, a forced air circulation module is available as an accessory.

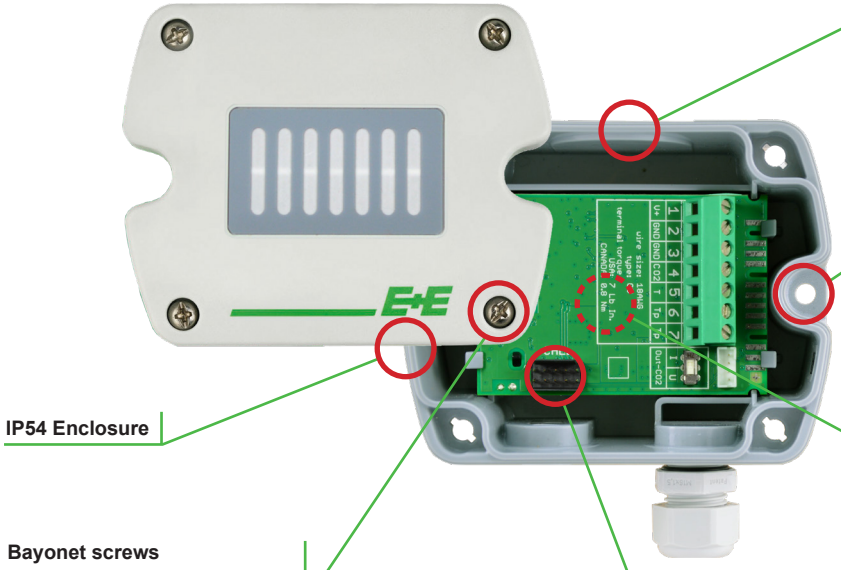
Analogue Output

The CO_2 measured data range up to 10 000 ppm is available on the analogue output (voltage / current).

Easy Configuration and Adjustment

An optional adapter and the free EE-PCS Product Configuration Software facilitate the configuration and adjustment of the EE820.

Features



Appropriate for US mounting requirements
» Knockout for ½" conduit fitting

External mounting holes
» Easy and fast mounting with closed cover
» Electronics protected against construction site pollution

Electronics
Optimum protection against mechanical damage during installation
» CO_2 autocalibration
» Temperature compensation
» Excellent resistance to pollution

Test report
» According DIN EN 10204-2.2

IP54 Enclosure

Bayonet screws
» Open/closed with a ¼ rotation

Service interface for configuration and adjustment

Technical Data

Measurands

Measurement principle	Dual wavelength non-dispersive infrared technology (NDIR)		
Measuring range	0...2 000 / 5 000 / 10 000 ppm		
Accuracy at 25 °C (77 °F) and 1 013 mbar (14.7 psi)	0...2 000 ppm:	< ± (50 ppm +2 % of mv)	mv = measured value
	0...5 000 ppm:	< ± (50 ppm +3 % of mv)	
	0...10 000 ppm:	< ± (100 ppm +5 % of mv)	
Response time t_{63}, typ.	300 s		
Temperature dependency, typ.	± (1 + CO_2 concentration [ppm] / 1 000) ppm/°C (-20...45 °C) (-4...113 °F)		
Sample rate	Approx. 15 s		

Output

Analogue

0...2 000 / 5 000 / 10 000 ppm	0 - 10 V	-1mA < I_L < 1 mA	
	4 - 20 mA	R_L < 500 Ohm	R_L= load resistance

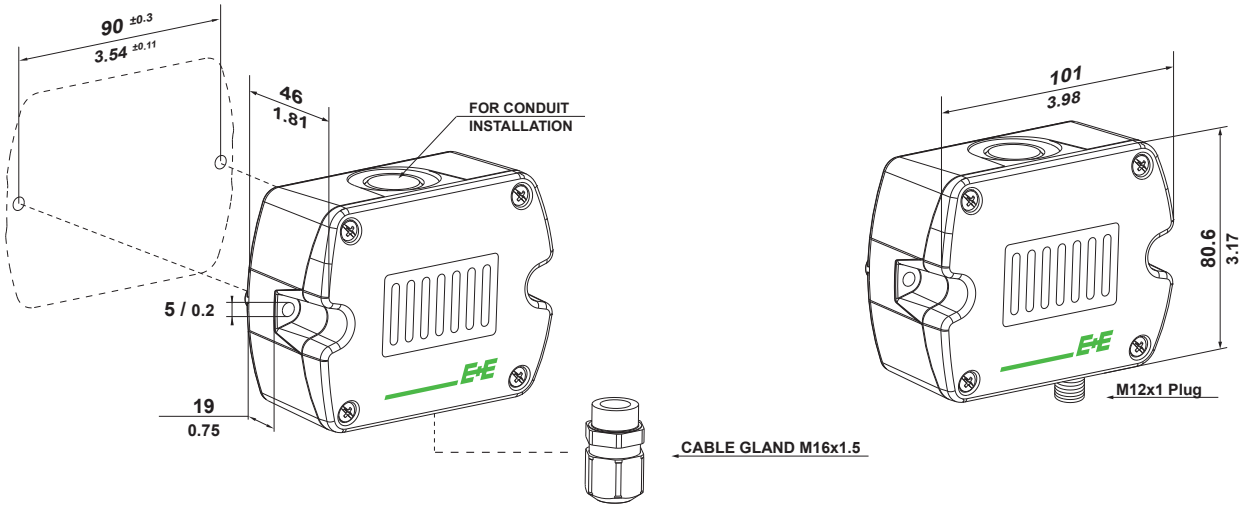
General

Power supply class III ⧫ 1)	24 V AC ±20%	15 - 35 V DC	
Current consumption, typ.	15 mA + output current		
Current peak, max.	350 mA for 0.3 s (analogue output)		
Warm up time 2)	< 5 min		
Enclosure material	Polycarbonate, UL94V-0 approved		
Protection class	IP54		
Electrical connection	Screw terminals 2.5 mm² or M12 plug		
Electromagnetic compatibility	EN 61326-1	EN 61326-2-3 Industrial Environment	UK CA CE
	FCC Part 15	ICES-003 Class B	
Working conditions	-20...60 °C (-4...140 °F)	0...100 %RH (non-condensing)	
Storage conditions	-20...60 °C (-4...140 °F)	0...95 %RH (non-condensing)	

1) USA & Canada class 2 supply required, max. supply voltage 30 V DC
2) For performance according to specification

Dimensions

Values in mm / inch



Ordering Guide

			EE820-	
	Measuring range	0...2 000 ppm	HV1	
		0...5 000 ppm	HV2	
		0...10 000 ppm	HV3	
	Analogue output	0 - 10 V	A3	
		4 - 20 mA	A6	
	Electrical connection	M16 cable gland	E1	
		M12 plug		E9
	Accessories	No accessories		AC0
		M12x1 cable socket, for self assembly		AC2

Order Example

EE820-HV2A6E1AC0

Measuring range: 0...5 000 ppm
Output: 4 - 20 mA
Electrical connection: M16 cable gland
Accessories: No accessories

Accessories

(for further information, see data sheet "Accessories")

USB configuration adapter	HA011066
Product configuration software (free download: www.epluse.com/ee820)	EE-PCS
EE820-FAC Forced Air Circulation Module	HA011302
Connection cable M12x1 socket - flying leads	
- 1.5 m (3.3ft)	HA010819
- 5 m (16.4 ft)	HA010820
- 10 m (32.8 ft)	HA010821
Protective cap for female M12 connectors	HA010781
Protective cap for male M12 connectors	HA010782
Power supply adapter	V03

Support Literature

www.epluse.com/ee820