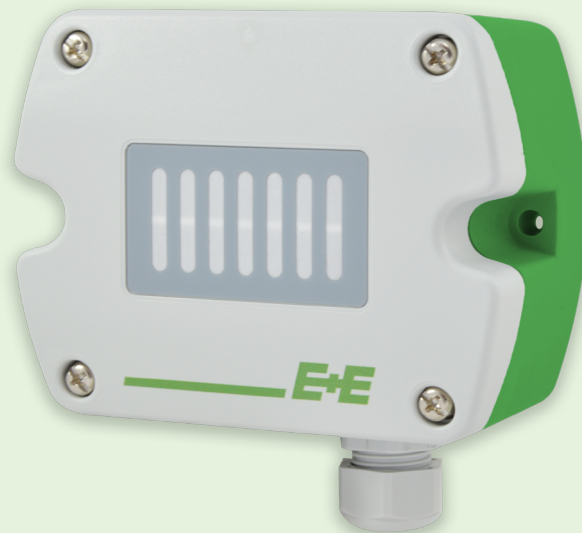




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# + Datasheet EE820

CO<sub>2</sub> Sensor for Demanding Applications



# EE820

## CO<sub>2</sub> Sensor for Demanding Applications

The EE820 CO<sub>2</sub> sensor is optimized for use in harsh, demanding applications, such as hatchers, incubators, life stock barns or greenhouses.

### Outstanding Accuracy

A multiple point CO<sub>2</sub> and temperature factory adjustment procedure leads to excellent CO<sub>2</sub> 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<sub>2</sub> 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.

### Analogue Output

The CO<sub>2</sub> measured data with 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.



EE820 with cable gland



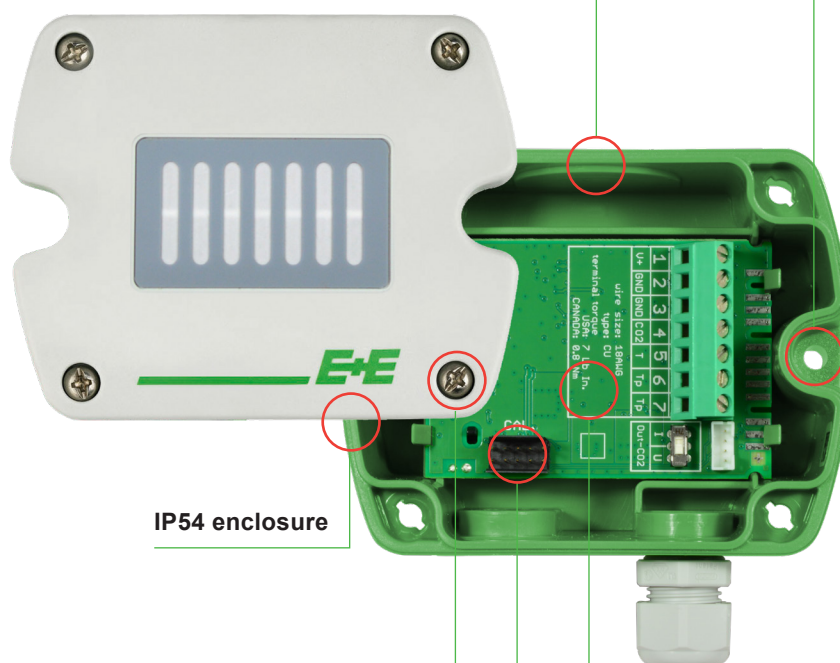
EE820 with M12x1 plug

# Features

## External mounting holes

- Easy and fast mounting with closed cover
- Electronics protected against construction site pollution

## Knockout for 1/2" conduit fitting (US)



## IP54 enclosure

## Bayonet screws

- Opened/closed with a 1/4 rotation

## Electronics

- Optimum protection against mechanical damage during installation
- CO<sub>2</sub> auto-calibration
- Temperature compensation
- Excellent resistance to pollution

## Service interface for configuration and adjustment

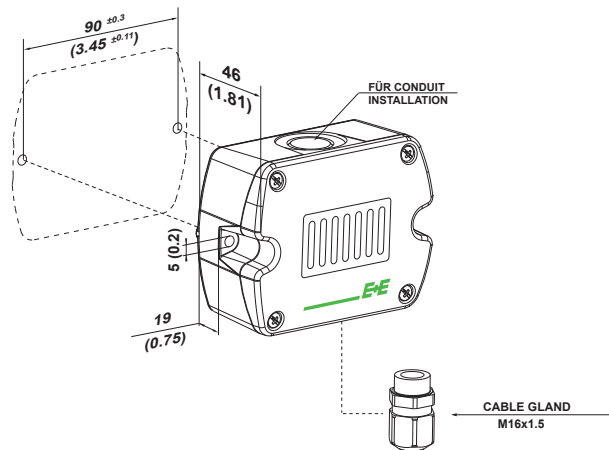
## Test Report

According to DIN EN 10204-2.2

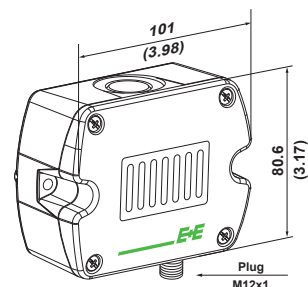
# Dimensions

Values in mm (inch)

EE820 with cable gland



EE820 with plug



# Tecnical Data

## Measurands

### CO<sub>2</sub>

Measurement principle	Dual wavelength non-dispersive infrared technology (NDIR)
Measuring range	0...2000/5000/10000 ppm
Accuracy @ 25 °C (77 °F) and 1013 mbar (14.7 psi)	<p>0...2000 ppm &lt; ±(50 ppm + 2 % of measured value)</p> <p>0...5000 ppm &lt; ±(50 ppm + 3 % of measured value)</p> <p>0...10000 ppm &lt; ±(100 ppm + 5 % of measured value)</p>
Temperature dependency in the range of -20...45 °C (-4...113 °F)	±(1 + CO <sub>2</sub> concentration [ppm] / 1000) ppm/°C
Response time t <sub>63</sub> , typ.	300 s
Sampling interval, approx.	15 s




## Outputs

### Analogue

CO <sub>2</sub>	0...2000/0...5000/0...10000 ppm	0 - 10 V 4 - 20 mA	-1mA < I <sub>L</sub> < 1 mA R <sub>L</sub> ≤ 500 Ω	I <sub>L</sub> = load current R <sub>L</sub> = load resistance
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# Technical Data

## General

<b>Power supply</b> class III  USA & Canada: Class 2 supply necessary, max. voltage 30 V DC	24 V DC ±20 %      15 - 35 V DC
<b>Current consumption</b> , typ.	15 mA + output current
<b>Peak current</b> , max. @ analogue output	350 mA for 0.3 s
<b>Warm-up time</b> <sup>1)</sup>	< 5 min
<b>Electrical connection</b>	Screw terminals max. 2.5 mm <sup>2</sup> or M12 plug
<b>Working conditions</b>	-20...+60 °C (-4...+140 °F) 0...100 %RH, non-condensing
<b>Storage conditions</b>	-20...+60 °C (-4...+140 °F) 0...95 %RH, non-condensing
<b>Enclosure</b>  <div style="text-align: right;"><b>Material</b> <b>Protection rating</b></div>	Polycarbonate (PC), UL94 V-0 approved IP54
<b>Electromagnetic compatibility</b>	EN 61326-1      EN 61326-2-3      Industrial environment FCC Part15 Class B      ICES-003 Class B
<b>Conformity</b>	 

1) For performance according to specification.

# Ordering Guide

Feature	Description	Code		
Hardware Configuration		EE820-		
	CO <sub>2</sub> measuring range	0...2000 ppm	HV1	
		0...5000 ppm	HV2	
		0...10000 ppm	HV3	
	Analogue output	0 - 10 V	A3	
		4 - 20 mA	A6	
	Electrical connection	M16x1.5 cable gland	E1	
		M12 connector, 4 poles		E9
	Accessories	No accessories		AC0
		M12x1 cable socket, for self assembly		AC2

## Order example

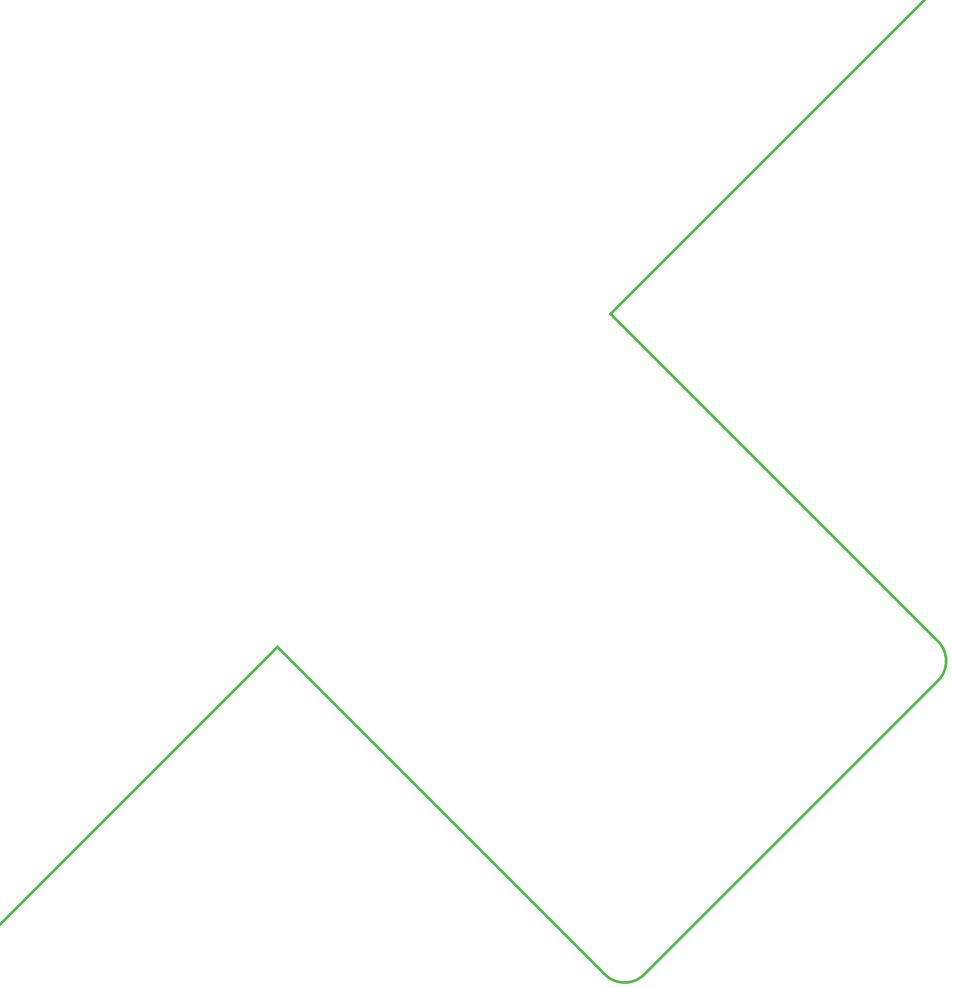
### EE820-HV2A6E1AC0

Feature	Code	Description
CO <sub>2</sub> measuring range	HV2	0...5000 ppm
Analogue output	A6	4 - 20 mA
Electrical connection	E1	M16 cable gland
Accessories	AC0	No accessories

## Accessories

For further information, see data sheet [Accessories](#).

Description	Code	
USB configuration adapter	HA011066	
E+E Product Configuration Software (Free download: <a href="http://www.epluse.com/configurator">www.epluse.com/configurator</a> )	EE-PCS	
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 M12 socket	HA010781	
Protective cap for M12 plug	HA010782	
Power supply adapter	V03	



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