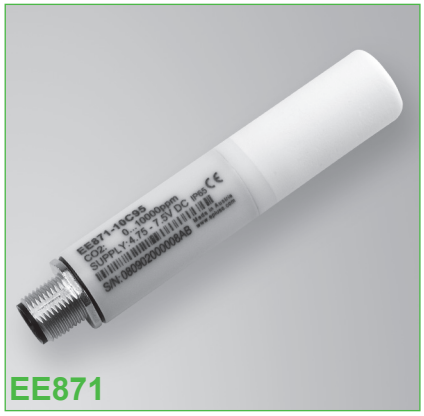
Series EE871

CO_2 Probe for OEM / HVAC Applications

The CO_2 sensor EE871 features a large measurement range up to 10000ppm and the smallest housing dimensions.

The digital E2 interface facilitates a simple querying and processing of the measured values and an individual configuration of the sensing head. The measurement is based on infrared technology (NDIR).

The dual wavelength CO2 sensor makes the EE871 maintenance-free. Aging effects are compensated and an outstanding long-term stability is ensured. Calibration data and other important functions such as linearisation or temperature compensation are stored in the electronics in the sensor tube. In combination with the integrated flange coupling, a rapid replaceability of the sensing head is possible without the need for readjusting the end device.


EE871

Moreover, the low current consumption of the EE871 is unique! The adjustable measurement interval allows the average current consumption to be reduced to less than 60µA. The perfect solution for battery-operated devices.

Typical applications

Greenhouses
Fruit and vegetable storage
Stables
Data loggers
OEM applications

Properties

maintenance-free through dual wavelength method
very low current consumption
digital interface
highest accuracy
outstanding long-term stability
adjustable measurement interval

Technical data

Measured values

CO_2

Measuring principle	non-dispersive infrared technology (NDIR)		
Sensor	E+E dual wavelength method		
Measurement range	0...2000 / 5000 / 10000ppm		
Accuracy at 25°C and 1013mbar	0...2000ppm:	< ± (50ppm +2% from the measured value)	
	0...5000ppm:	< ± (50ppm +3% from the measured value)	
	0...10000ppm:	< ± (100ppm +5% from the measured value)	
Response time t_{90}	< 195s		
Temperature dependency	type 2ppm CO_2/°C (0...50°C)		
Long-term stability	type 20ppm / a		
Measurement interval [1]	adjustable from 15s to 1h		

Output

Measurement range	0...2000 / 5000 / 10000ppm		
Interface	digital E2(details: www.epluse.com)		
max. cable length	up to 10m allowable		

General

Supply voltage	4.75 - 7.5V DC		
Average current consumption [2]	3.7mA at 15sec. measurement interval		
	58µA at 1h measurement interval		
Current peak	max. 500mA for 0.05s		
Housing / Protection class	Plastic PC / Housing IP65		
Electrical connection	Connector M12 x 1		
Electromagnetic compatibility	EN61326-1		
	EN61326-2-3		
Operating temperature and conditions	-40...60°C	0...100% rF (non-condensing)	85...110kPa
Storage temperature and condition	-40...60°C	0...100% rF (non-condensing)	70...110kPa
Dimensions	96 x Ø18.5mm		
Weight	approx. 40g		

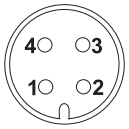
CE

1) Factory setting = 15sec.

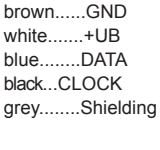
2) The average current consumption depends on the measurement interval set

Connection

EE871:

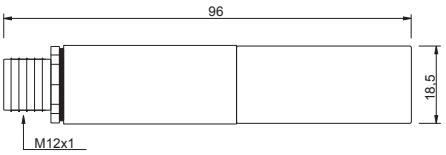


1...GND
2...+UB
3...DATA
4...CLOCK



Dimensions (mm)

M12x1 flanged mounting with 50mm stranded wire (HA010705):



Ordering information

MEASUREMENT RANGE		TYPE	OUTPUT	FILTER
0...2000ppm	(02)	CO_2 (C)	E2 interface (2)	PTFE-Filter (E)
0...5000ppm	(05)			
0...10000ppm	(10)			
EE871-				

Order example

EE871-02C2E

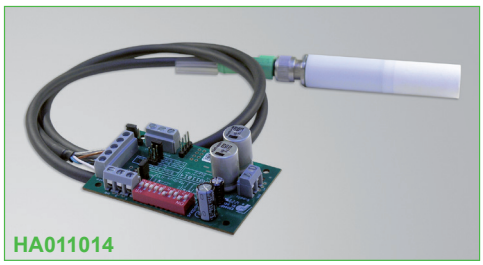
Measurement range:	0...2000ppm
Type:	CO_2
Output:	digital interface
Filter:	PTFE filter

Accessories

EE87x test board	(HA011010)
mounting flange	(HA010212)

Converter Board for E2 to Analog and Modbus Outputs - HA011014

The converter board allows for a conversion of the E2 interface from the EE871 into an analog voltage or current output signal, as well as into a Modbus RTU interface.
The Modbus parameters can be easily set with jumpers directly on the convertor board.


HA011014

Technical Data

Supply voltage		10-35V DC 10-28.8V AC	
Supply current		300mA at 10V DC 120mA at 24V DC	
Output	voltage	0-10V	-1mA < I_L < 1mA
	current	4-20mA	R_L < 500Ohm
	digital	Modbus RTU	
Dimensions		78 x 48 mm	

Order Example

position 1:
EE871
see ordering information
EE871-xxxx

position 2 (optional):
E2 to Analog/Modbus converter
HA011014

position 3 (optional):
connection cable EE871 ↔ converter board
- 1m (3.28 ft) HA010809
- 5m (16.4 ft) HA010811
- 10m (32.8 ft) HA010812