

CO₂ Sensing Probe

The CO₂ probe is designed for use in harsh, demanding applications. The measured data range of up to 5 % CO₂ (50 000 ppm) is available on E2 digital interface. A multiple point CO₂ and temperature adjustment procedure leads to excellent CO₂ measurement accuracy over the entire temperature working range, ideal for use in agriculture or outdoors. Incorporates the dual wavelength NDIR CO₂ sensor, which automatically compensates for ageing effects and is highly insensitive to pollution.

The IP65 enclosure and the replaceable filter offer excellent protection in harsh, polluted environment. With a special filter cap, probe can be employed in applications with periodical H₂O₂ sterilization. The compact size, the M12 connector and the optional mounting flange allow for fast probe installation or replacement. With the optional radiation shield, can be also used outdoors.



Typical Applications

Greenhouses and livestock barns
Fruit and vegetable storage
Hatchers and incubators
Outdoor CO₂ monitoring
Data loggers and handhelds
Pharma, Biotech (H₂O₂ sterilization)

Key Features

Auto-calibration
Outstanding long-term stability
Temperature compensation
Very low current consumption
IP65 enclosure

Technical Data

Measured values

CO₂

Measuring principle	Dual wavelength (non-dispersive infrared technology) NDIR	
Measurement range	0...2 000 ppm:	< ± (50 ppm + 2 % from the measured value)
Accuracy at 25 °C and 1013 mbar ¹⁾ (77 °F...14,69 psi)	0...5 000 ppm:	< ± (50 ppm + 3 % from the measured value)
	0...10 000 ppm:	< ± (100 ppm + 5 % from the measured value)
	0...3 %:	< ± (1,5 % from full scale + 2 % from the measured value)
	0...5 %:	
Response time t ₉₃	105 s with measured data averaging (smooth output) 60 s without measured data averaging	
Temperature dependency (-20...45 °C) (-4...113 °F)	0...2 000 ppm:	
	0...5 000 ppm:	typ. ± (1 + CO ₂ concentration [ppm] / 1000) ppm/°C
	0...10 000 ppm:	
	0...3 %:	typ. -0,3 % from the measured value/°C
	0...5 %:	
Measurement interval	Adjustable from 15 s to 1 h (Factory setting: 15 s)	

General

Supply voltage	4.75 - 7.5 V DC
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1) For averaging output

Average current consumption ²⁾	120 µA (at 1 h measurement interval)...4.3 mA (at 15 sec. measurement interval)
Current peak, max.	350 mA for 0.05 s
Enclosure / protection rating	Polycarbonate (PC) / enclosure IP65
Electrical connection	Connector M12x1
Cable length, max.	10 m (32.8 ft)
Electromagnetic compatibility (Industrial environment)	EN 61326-1 EN 61326-2-3
Operating conditions	-40...60 °C (-40...140 °F) 0...100 % RH (non-condensing) 85...110 kPa (12,33...15,95 psi)
Storage conditions	-40...60 °C (-40...140 °F) 0...100 % RH (non-condensing) 70...110 kPa (10,15...15,95 psi)



2) The average current consumption depends on the measurement interval

Connection



	E2	E2	
1...	GND	GND	brown
2...	+UB	+UB	white
3...	DATA	DATA	blue
4...	CLOCK	CLOCK	black
		Shielding	grey

Dimensions (mm/inch)

