



CO2 Detection Sensor

The MAXMAC CO2 Detection Sensor is a high-performance NDIR sensor designed for accurate and stable carbon dioxide monitoring in a wide range of applications. Based on non-dispersive infrared technology, it provides reliable CO2 measurement from 400 to 10,000 ppm, with customization available for other ranges.

Engineered for fast response, high consistency, and excellent repeatability, this sensor delivers dependable performance in demanding environments. Its compact structure, low warm-up time, and long-term stability make it suitable for system integration across air quality, ventilation, and environmental monitoring applications.

With RS485 communication output, stable operation, and a durable design, the MAXMAC CO2 Detection Sensor is an ideal solution for modern CO2 monitoring systems requiring precision, reliability, and long service life.

Key benefits:

- High accuracy
- Wide measurement range
- Fast response time
- Low warm-up time
- High consistency and repeatability
- Excellent long-term stability
- Compact size
- RS485 interface for easy integration

Typical applications:

- Indoor air quality monitoring
- Fresh air and ventilation systems
- HVAC systems
- Smart building environmental monitoring
- Industrial CO2 monitoring
- Commercial air quality control systems

Standard Specification

Item	Description
Product name	CO2 Detection Sensor
Operating principle	Non-dispersive infrared (NDIR)
Measured gas	CO2
Measurement range	400–10,000 ppm / customizable
Resolution	1 ppm
Measurement interval	4 s
Accuracy	400–3000 ppm: $\pm(50 \text{ ppm} + 3\% \text{ of reading})$ Other ranges: $\pm(50 \text{ ppm} + 5\% \text{ of reading})$ or $\pm 5\%$, whichever is greater
Warm-up time	$\leq 10 \text{ s}$
Response time	$\leq 20 \text{ s}$ ($\tau 63\%$)
Life expectancy	> 15 years
Operating voltage	4.5–5.5 VDC or 9–28 VDC
Current consumption	Average 16 mA, peak 300 mA (duration < 10 ms / sampling cycle)
Operating temperature	0°C to 50°C
Operating humidity	5%–95% RH, non-condensing
Storage temperature	-30°C to 70°C
Dimensions	72 mm × 71 mm × 19 mm
Weight	approx. 25 g
Interface	RS485

Note:

Please refer to the product specification for complete technical details.

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