CO2 (R744) Refrigerant Leak Sensor

The MAXMAC CO2 (R744) Refrigerant Leak Sensor is a high-performance NDIR sensor designed for reliable carbon dioxide refrigerant leak monitoring in demanding HVAC and refrigeration applications. Based on non-dispersive infrared technology, it provides accurate and stable CO2 detection from 400 to 10,000 ppm, with customization support up to 50,000 ppm for application-specific requirements.

Engineered for fast response, high consistency, and excellent repeatability, this sensor delivers dependable performance in continuous safety monitoring environments. Its compact structure, low warm-up time, and long-term stability make it suitable for refrigerant leak detection systems, machinery rooms, commercial refrigeration equipment, and ventilation-linked alarm platforms.

With stable operation, a durable design, and RS485/LIN/CAN communication support, the MAXMAC CO2 (R744) Refrigerant Leak Sensor is an ideal solution for modern R744 refrigerant safety systems requiring precise sensing, reliable warning capability, and long service life.

Key benefits:

- Dedicated for CO2 (R744) refrigerant leak detection
- High accuracy and stable NDIR sensing
- Fast response time and low warm-up time
- High consistency and repeatability
- Excellent long-term stability
- Compact design for easy system integration
- RS485/LIN/CAN interface for easy control system connection
- Suitable for continuous safety monitoring

Typical applications:

- R744 refrigerant leak detection systems
- CO2 refrigeration equipment
- Cold room and freezer safety monitoring
- HVAC and ventilation safety systems
- Commercial refrigeration cabinets
- Machinery room and plant room monitoring

Standard Specification

Item	Description
Product name	CO2 (R744) Refrigerant Leak Sensor
Operating principle	Non-dispersive infrared (NDIR)
Measured gas	CO2 (R744)
Measurement range	400–10,000 ppm / customizable up to 50,000 ppm
Resolution	1 ppm
Measurement interval	4 s
Accuracy	400–3000 ppm: ±(50 ppm + 3% of reading) Other ranges: ±(50 ppm + 5% of reading) or ±5%, whichever is greater
Warm-up time	≤ 10 s
Response time	≤ 20 s (τ63%)
Life expectancy	> 15 years
Operating voltage	5.0 VDC / customizable
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 / customizable LIN 2.1 / CAN

Note:

Please refer to the product specification for complete technical details.

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