R290 Refrigerant Leak Detection Sensor

The MAXMAC R290 Refrigerant Leak Detection Sensor is a high-performance NDIR sensor designed for reliable refrigerant leak monitoring in demanding applications. Based on non-dispersive infrared technology, it provides accurate and stable detection of R290 concentration from 0 to 100% LFL, making it suitable for safety-critical refrigerant monitoring environments.

Engineered for fast response, high consistency, and long-term stability, this sensor is designed to perform reliably across a wide operating temperature and humidity range. Its rugged integrated design supports use in HVAC, heat pump, refrigeration, and related refrigerant safety systems where dependable leak detection is required.

With high accuracy, wide measurement range, low warm-up time, and RS485/LIN/CAN communication support, the MAXMAC R290 sensor is an ideal solution for modern refrigerant leak detection systems requiring fast response, stable operation, and long service life.

Key benefits:

- 0-100% LFL measurement range
- High accuracy and fast response
- Low warm-up time
- High consistency and repeatability
- Excellent long-term stability
- Wide operating temperature range
- Suitable for demanding refrigerant safety applications
- RS485/LIN/CAN interface for easy system integration
- Long service life ≥ 15 years

Typical applications:

- Refrigerant leak detection systems
- Heat pump safety monitoring
- HVAC and air conditioning systems
- Refrigeration equipment
- Industrial refrigerant monitoring
- Safety control systems for R290 applications

Standard Specification

Item	Description
Product name	R290 Refrigerant Leak Detection Sensor
Operating principle	Non-dispersive infrared (NDIR)
Measured gas	R290
Measurement range	0-100% LFL
Resolution	0.1% LFL
Measurement interval	4 s
Accuracy	±2.5% LFL @ 0%-25% LFL ±5% LFL @ 25%-70% LFL ±10% LFL @ 70%-100% LFL
Warm-up time	≤ 10 s
Response time	≤ 20 s (τ25%)
Life expectancy	≥ 15 years
Operating voltage	5.0 VDC / customizable
Current consumption	Average 16 mA, peak 300 mA (pulse width <10 ms / measurement cycle)
Operating temperature	-40°C to 90°C
Operating humidity	5%-95% RH, non-condensing
Storage temperature	-40°C to 95°C
Dimensions	72 mm × 71 mm × 19 mm
Weight	approx. 25 g
Interface	RS485 / customizable LIN 2.1 / CAN

Note:

Please refer to product specification for the complete technical details.

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