

# Automotive R290 Refrigerant Leakage Monitoring Sensor



AM4206

Cubic AM4206 is an automotive R290 refrigerant leakage monitoring sensor based on Non-Dispersive Infrared (NDIR) technology, specifically designed for detecting R290 gas leaks in automotive HVAC systems.

AM4206 can continuously monitor R290 refrigerant leaks in real-time and promptly generate alarm signals via LIN communication. Based on reliable dual-beam design and smart auto baseline mechanism, AM4206 can achieve long-term stability, rapid detection and less gas cross interference, providing an effective and robust solution for safety monitoring, in response to the implementation of EU F-gas Regulation.

## Working principle

The principle of non-dispersive infrared gas sensing technology is that the gas absorption of characteristic infrared wavelengths conforms to Lambert-Beer's law. The basic principle is that an infrared light source emits an infrared beam through the sampling gas chamber, and each gas component in the sample gas absorbs a specific frequency infrared rays. By the detector to receive and measure the infrared absorption of the corresponding frequency, combined with the algorithm analysis set in the embedded software, the concentration of the gas component can be measured.

## Features

- Non-Dispersive Infrared (NDIR) technology, robust detection
- Wide measurement range up to 0~100% LEL
- Optional built-in heater to avoid condensation and frost
- Less cross interference with other gases

## Specifications

Working Principle	NDIR Technology
Measurement Gas	R290
Measurement Range	0~100%LEL
Measurement Accuracy	±2.5%LEL @0%~25% LEL ±10% of reading @25%~100% LEL
Average Working Current	Heater off ≤50mA Heater on ≤350mA
Resolution	0.1%LEL
Response Time	≤15s @25%LEL (compliance with UL 60335-2-40 4th)
Working Condition	-40~95°C, 0~99%RH (non-condensing)
Storage Condition	-40~110°C, 0~99%RH (non-condensing)
Working Temperature	-40~85°C
Working Voltage	DC 9~16V, 12V standard voltage
Lifetime	15 years
Communication	LIN

\* For details of technical parameters, please refer to the specification sheet.

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All products are in continuous development and therefore specifications may be subject to change without prior notice.