

Senseair Sunlight R290



A power efficient NDIR sensor for refrigerant leak detection

New environmental regulations for the HVAC market leads to the switch from synthetic to natural refrigerants. With this comes new needs for leak detection systems, as natural refrigerants are highly flammable. Senseair Sunlight R290, together with its sibling Senseair Sunlight R32, was designed as a robust, compact, low power solution for this purpose.

Electronics with no moving parts makes Senseair Sunlight R290 robust and resistant to vibrations. Any application with a tough environment or in environments with explosion risk is benefited by the solid-state design. The LED NDIR sensor saves power while maintaining high precision.

Senseair Sunlight R290 is designed for high volume production with full traceability by sensor serial number on all manufacturing processes and key components.

Every sensor is individually calibrated and is provided with UART (Modbus) and I²C interface. With the ABC function activated, the sensor is maintenance-free.

Senseair Sunlight R290 is a module that is designed for simple integration into products. Senseair Sunlight R290 can be used in a wide range of refrigerant applications

Standard specification

Article number	009-4-0002
Operating principle	Non-dispersive infrared (NDIR)
Measured gas	R290, Propane (C ₃ H ₈) ¹
Measurement range	0–100% LFL
Accuracy	±2.5% LFL
Operating range	-40–70 °C, 0–95% RH (non-condensing)
Power supply	3.05–5.50 VDC
Peak current	< 95 mA
Average current	1–94 µA
Communication interface	UART, I ² C
Compliance	IEC 60079-29-1 IEC/UL 60335-2-40 (sensor element part)
Maintenance	Periodic Zero calibration or ABC calibration
Life expectancy	15 years in normal commercial environments
Dimensions (L x W x H)	34 x 21 x 12 mm
Weight	5 g
Storage conditions	-40–85 °C

Key benefits

- Complies with IEC 60079-29-1
- Complies with sensor element part at IEC and UL 60335-2-40
- Miniature size
- Fast response time
- Maintenance-free
- Long term stability
- Long lifetime
- Immunity to poisoning
- Individually calibrated
- Very low power consumption
- Mass production

Note 1: Sensor can measure molecules containing C-H bonds.
Disclaimer: Please refer to product specification for the complete technical details.

