

Senseair Sunlight HC-R

A new generation NDIR sensors with Optical Solid-State design



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

Senseair Sunlight HC-R 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 HC-R is a module that is designed for simple integration into products. Senseair Sunlight HC-R can be used in a wide range of refrigerant applications based on R32.

Standard specification

Measured gas	R32 (CH ₂ F ₂) ¹
Operating principle	Non-dispersive infrared (NDIR)
Operating range	-40 – 70 °C, 0 – 95% RH (non-condensing)
Measurement range	0 – 50% LFL
Resolution	10 ppm (0.007% LFL)
Accuracy [R32]	Standard range: ±2.5% LFL ^{2,3,4} Extended range: ±5% LFL ^{2,3,4}
Measurement setting	Continuous measurement mode, 2 s, 8 samples
Maintenance	Periodic Zero calibration or ABC calibration ⁵
Life expectancy	15 years in normal commercial environments
Power supply	3.05 – 5.50 V DC ⁶
Storage temperature	-40 – 85 °C
Dimensions (L x W x H)	34 x 21 x 12 mm, max
Communication interface	UART, I ² 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.
Note 2: Standard range 0 – 25% LFL, Extended range 25 – 50% LFL.
Note 3: -30 – 60 °C, 0 – 95% RH, after 3 ABC periods or 1 zero calibration and default measurements settings.
Note 4: Accuracy is specified over temperature range. Specification is referenced to certified calibration mixtures. Some industrial applications do require maintenance. Contact Senseair for further information.
Note 5: Default mode: ABC ON, ABC period 720 h (30 days).
Note 6: Unprotected against surges and reverse power supply polarity.