Senseair Sunrise HVAC



A new generation NDIR sensor

Senseair Sunrise HVAC is a new generation NDIR sensor with Optical Solid State design. Electronics with no moving parts makes this sensor 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 the first NDIR sensor with LED technology that truly saves power while maintaining a high precision.

The ultra low power consumption makes Sunrise optimal for battery and wireless applications.

The sensor has an accuracy (CO_2) ±30 ppm ±3% of reading. Thanks to the built-in self-correcting algorithm you can mount and forget your sensor for the next 15 years and it will still be accurate.

Standard specification

Article No.	006-0-0008
Measured gas	Carbon dioxide (CO_2)
Operating principle	Non-dispersive infrared
Measurement range (CO_2)	400 – 5000ppm; extended range up to 10000ppm
Accuracy (CO_2)	±30ppm ±3% of reading [1, 2] (extended range ±10% of reading)
Average current, typical	See table to the right
Measurement period	Default: 16s, 8 samples (adjustable by host)
Steady state current during sampling	90mA
Peak current	<125mA
Power supply	3.05 – 5.5V [3]
Dimensions	33.5 x 19.7 x 11.5mm
Weight	5g
Life expectancy	>15 years
Operating range	0 – 50°C, 0 – 85%RH
Storage temperature	-40 – 70°C
Serial communication	UART, I²C

Note 1: 15 – 35°C, 0 – 80%RH, after 3 ABC periods and default measurements settings.
Note 2: Specification is referenced to uncertainty of calibration gas mixtures (±1%).
Note 3: Unprotected against surges and reverse power supply polarity.

Key benefits

- Optical Solid State
- Ultra Low Power consumption
- High Precision
- Robust
- Mass Production
- Self-correcting

Average current (typical), at continuous and single measurement mode respectively

Measurement period	2 Samples		8 Samples		32 Samples	
	Cont	Single	Cont	Single	Cont	Single
16s	22µA		34µA			
1min	18µA	7µA	21µA	17µA	35µA	27µA
5min	16µA	1µA	17µA	3µA	20µA	5µA





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