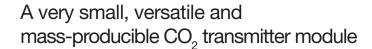
Senseair S8 Residential



More than 25 years experience of research and development within the field of infrared gas sensing has brought us our smallest NDIR CO₂ sensor. The sensor has excellent performance such as high accuracy and low power consumption.

Senseair S8 Residential 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 digital interface. The sensor is maintenance-free and has an estimated life time of more than 15 years.

Senseair S8 Residential is a module that is designed for simple integration into products. Senseair S8 Residential can be used in a wide range of applications such as ventilation control to improve energy savings and to assure a good indoor climate. Other fields of use are personal safety and measurements to increase process yield and to increase economic value in bio-related processes.



Standard specification

Measured gas
Operating Principle

Measurement range CO₂
Accuracy CO₂
Maintenance
Life Expectancy
Power supply

Operation temperature range Communication

Dimensions
Energy consumption

Response time

Energy consumption

400–2000ppm ±70ppm ±3% of reading^{1,2} No maintenance required >15 years 4.5–5.25VDC

Carbon dioxide (CO₂)

(NDIR)

Non-dispersive infrared

0-50°C UART (Modbus) 33.9 x 19.8 x 8.7mm

300mA peak 30mA average

2 minutes by 90%

Note 1: In normal IAQ applications. Accuracy is defined after minimum three (3) ABC periods of continuous operation with ABC on.

Note 2: Accuracy is specified over operating temperature range. Specification is referenced to certified calibration mixtures. Uncertainty of calibration gas mixtures (±1% currently) is to be added to the specified accuracy for absolute measurements.

Key benefits

- Miniature size
- Individually calibrated
- Maintenance-free
- Long term stability
- Low power consumption







Senseair S8 Residential Technical Specification

General Sensor Performance:

Required storage/operation environment Non-corrosive and non-condensing

Sensor lifetime expectancy >15 years

Service interval and maintenance Maintenance-free for normal indoor applications with Senseair1

Self-diagnostics A full system test is executed automatically every time the power is turned ON

Operative environment required for keeping calibrated and specified accuracy in gas measurement:

Operative temperature range 0-50°C

Operative relative humidity range 0-85%RH, non-condensing¹

Electrical Properties:

Power supply 4.5-5.25V unprotected against surges and reverse connection

Power consumption 300mA peak, 30mA average

Mechanical Properties:

Electrical Connections DVCC, G+ and G0

Pin headers Optional²

Dimensions 33.9 x 19.8 x 8.7mm (Max. Length x Width x Height)

CO, Measurement:

Operating principle Measurement Range Non-dispersive infrared (NDIR)

400–2000ppm. Up to 10000ppm extended range³ ±70ppm ±3% of reading ^{4,5}

Accuracy

Measurement interval 2 seconds

When using ABC (Automatic Baseline Correction) algorithm of Senseair.

Note 2:

Sensor is designed to measure in the range 400 to 2000ppm. Exposure to con Note 3:

centrations below 400ppm may result in incorrect operation of ABC algorithm and shall be avoided for model with ABC on.

In normal IAQ applications. Accuracy is defined after minimum three (3) weeks of continuous operation with ABC on. Some industrial applications do require maintenance. Please, contact Senseair for further information! Note 4:

Note 5:

Accuracy is specified over operating temperature range. Specification is referenced to certified calibration mixtures. Uncertainty of calibration gas mixtures ($\pm 1\%$ currently) is to be added to the specified accuracy for absolute measurements.