# Senseair S8 LP



## A very small, versatile and mass-producible CO<sub>2</sub> transmitter module

More than 25 years experience of research and development within the field of infrared gas sensing has now brought us the smallest CO2 sensor, with NDIRtechnique, in the world - Senseair S8 LP. The new sensor has excellent performance such as high accuracy and low power consumption. Senseair S8 LP 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 LP is a module that is designed for simple integration into products. Senseair S8 LP can be used in a wide range of applications such as in 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 CO<sub>2</sub> Accuracy CO, Maintenance Life expectancy Power supply Operation temperature range

Communication **Dimensions** Power consumption

Response time

Carbon dioxide (CO<sub>2</sub>) Non-dispersive infrared (NDIR) 400-2000ppm ±40ppm ±3% of reading<sup>1,2</sup> No maintenance required >15 years 4.5-5.25VDC 0-50°C **UART** (Modbus) 33.9 x 19.8 x 8.7mm

300mA peak 18mA average

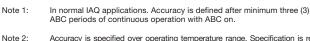
2 minutes by 90%

#### **Key benefits**

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







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.



## Senseair S8 LP Technical Specification

#### **General Sensor Performance:**

Required storage/operation environment Non-corrosive and non-condensing 1

Sensor lifetime expectancy >15 years

Service interval and maintenance Maintenance-free for normal indoor applications with Senseair 1

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

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

Operating temperature range

0-85%RH, non-condensing <sup>1</sup> Operating relative humidity range

**Electrical Properties:** 

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

Power consumption 300mA peak, 18mA average

**Mechanical Properties:** 

**Electrical Connections** DVCC, G+ and G0

Dimensions 33.9 x 19.8 x 8.7mm

CO<sub>2</sub> Measurement:

Operating principle Non-dispersive infrared (NDIR)

Measurement Range 400-2000ppm. Up to 10000ppm extended range <sup>2</sup>

Accuracy ±40ppm ±3% of reading 3,4

Measurement interval 4 seconds

Note 1: 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 centrations below 400ppm may result in incorrect operation of ABC algorithm

and shall be avoided for model with ABC on.

Note 3: In normal IAQ applications, Accuracy is defined after minimum three (3) ABC maintenance. Please, contact Senseair for further information!

periodsofcontinuousoperationwith ABCon. Some industrial applications do require

Note 4:

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.