

MinIR™

Low Power Carbon Dioxide Sensor

MinIR is an ultra low power (5mW⁴), high performance CO₂ sensor, ideally suited for battery operation and portable instruments. Based on patented IR LED and Detector technology and innovative optical designs, **MinIR** is the lowest power NDIR sensor available. **MinIR** is a third generation product from Gas Sensing Solutions Ltd – leaders in IR LED CO₂ sensing.

- Ultra-low Power 5mW
- Measurement ranges from 0 to 100%
- 3.3V supply.
- Peak current only 33mA.
- Compact 20mm diameter package



MinIR™ Sensor

Specifications

General Performance	
Warm-up Time	< 10s. 1.2 secs to first reading.
Operating Conditions	0°C to 50°C (Standard) 0 to 95% RH, non-condensing
Recommended Storage	-30°C to +70°C
CO2 Measurement	
Sensing Method	Non-dispersive infrared (NDIR) absorption Patented Gold-plated optics Patented Solid-state source and detector
Sample Method	Diffusion
Measurement Range	0-5%, 0-20%, 0-50%, 0-100%
Accuracy	±70 ppm +/- 5% of reading ¹
Non Linearity	< 1% of FS
Pressure Dependence	0.1% of reading per mbar in normal atmospheric conditions.
Operating Pressure Range	950 mbar to 1050 mbar ²
Response Time	10 secs to 3 mins (Configurable via filter type and application) ³ Reading refreshed twice per second. ³

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Electrical/ Mechanical		
Power Input	3.25 to 5.5V. (3.3V recommended). Peak Current 33mA ⁴ . Average Current <1.5mA ⁴ .	
Power Consumption	5mW ⁴	
Dimensions and Wiring Connections		
All measurements in millimeters (mm)		
Connection	Description	Comments
0V	GND Connection	0V
V+	Positive power supply	3V3 to 5V
TX-Out	UART Tx from sensor	Voh will be 3V. Sensor output.
Rx-In	UART Rx to sensor	Used for configuration etc.

Note 1: All measurements are at STP unless otherwise stated.

Note 2: External Pressure calibration required.

Note 3: User Configurable Filter Response.

Note 4: Power measurements for standard CO2 sensor with 2 readings per second.

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