

MinIR™

Low Power Carbon Dioxide Sensor

MinIR is an ultra low power (3.5mW⁴), 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 a third generation product from Gas Sensing Solutions Ltd – leaders in IR LED CO₂ sensing.

- Ultra-low Power 3.5mW
- Measurement ranges from 0 to 100%
- 3.3V supply
- Peak current only 33mA
- Compact 20mm diameter package



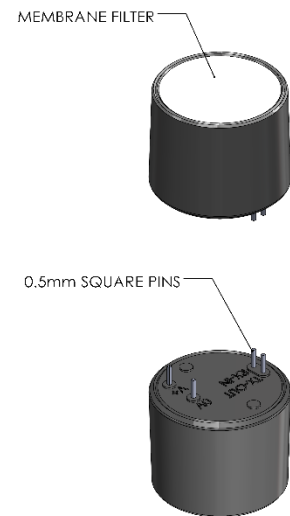
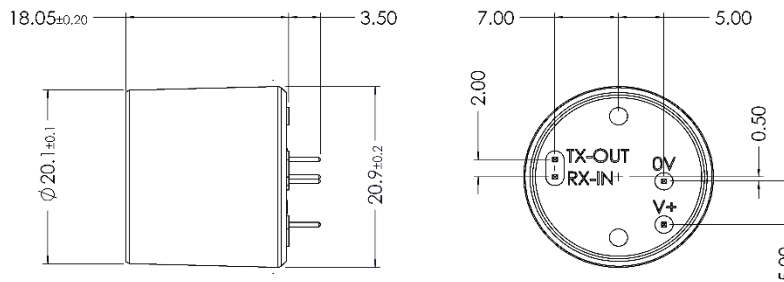
MinIR™ Sensor

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%, 0-60%, 0-100%
Accuracy	±70 ppm +/- 5% of reading ¹ (100% Range ±300 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 10 bar ²
Response Time	10 secs to 3 mins (Configurable via filter type and application) ³ Reading refreshed twice per second. ³

Electrical/ Mechanical	
Power Input	3.25 to 5.5V. (3.3V recommended). Peak Current 33mA ⁴ . Average Current <1.5mA ⁴ .
Power Consumption	3.5mW ⁴
Interface	UART (Serial)

CONNECTION	DESCRIPTION	COMMENTS
0V	GND CONNECTION	0V
V+	POSITIVE POWER SUPPLY	3V3 TO 5V
Tx-OUT	UART Tx FROM SENSOR	V _{oh} WILL BE 3V. SENSOR OUTPUT.
Rx-IN	UART Rx TO SENSOR	USED FOR CONFIGURATION



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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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