

# DataSheet: MinIR™

## Low Power Carbon Dioxide Sensor

**MinIR** is an ultra-low power (3.5mW<sup>4</sup>), high performance CO<sub>2</sub> sensor, ideally suited for battery operation and portable instruments. It is based on IR LED and detector technology and innovative optical designs. The MinIR is available in 5% CO<sub>2</sub> (GC-0024) and 100% CO<sub>2</sub> (GC-0025) versions.

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



### MinIR™ Sensor Models

GC-0024: 5%

GC-0025: 100%

## 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
CO <sub>2</sub> 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% (GC-0024), 0-100% (GC-0025)
Accuracy	±70 ppm +/- 5% of reading <sup>1</sup>
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 <sup>2</sup>
Response Time	10 secs to 3 mins (Configurable via filter type and application) <sup>3</sup> Reading refreshed twice per second. <sup>3</sup>

Information supplied by is believed to be accurate and reliable. However no responsibility is assumed for its use.

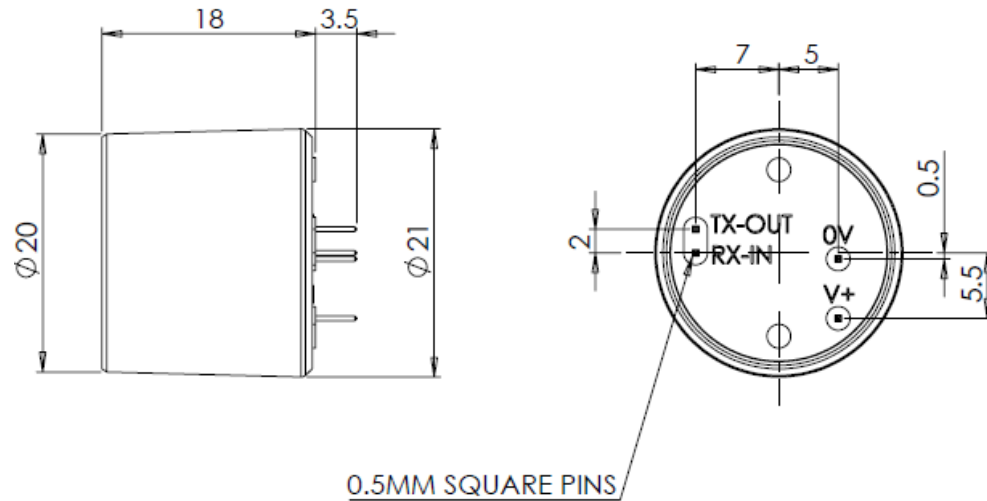
**Electrical/ Mechanical**

<b>Power Input</b>	3.25 to 5.5V. (3.3V recommended). Peak Current 33mA <sup>4</sup> . Average Current <1.5mA <sup>4</sup> .
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<b>Power Consumption</b>	3.5mW <sup>4</sup>
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**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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