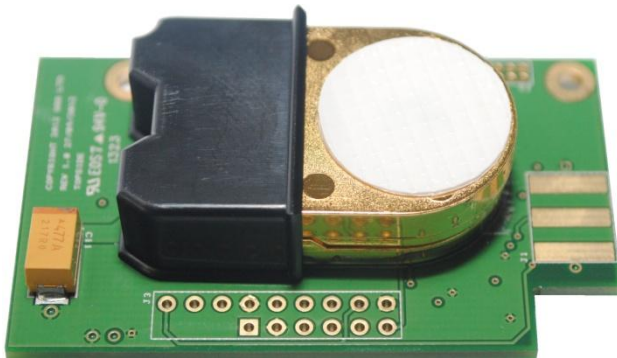


MISIR™

Low Power HVAC Carbon Dioxide Sensor

MISIR is a low power (20mW⁴), high performance CO₂ sensor. Based on GSS patented solid state IR sensor technology and innovative optical designs, MISIR is configured to meet the requirements of the HVAC and Demand Led Ventilation markets.



- Low Power 20mW
- Measurement ranges from 0 to 1%
- Low noise measurement (<10ppm)
- 3.3V to 5V supply.
- Digital (UART) and Voltage Output Options
- Automatic calibration

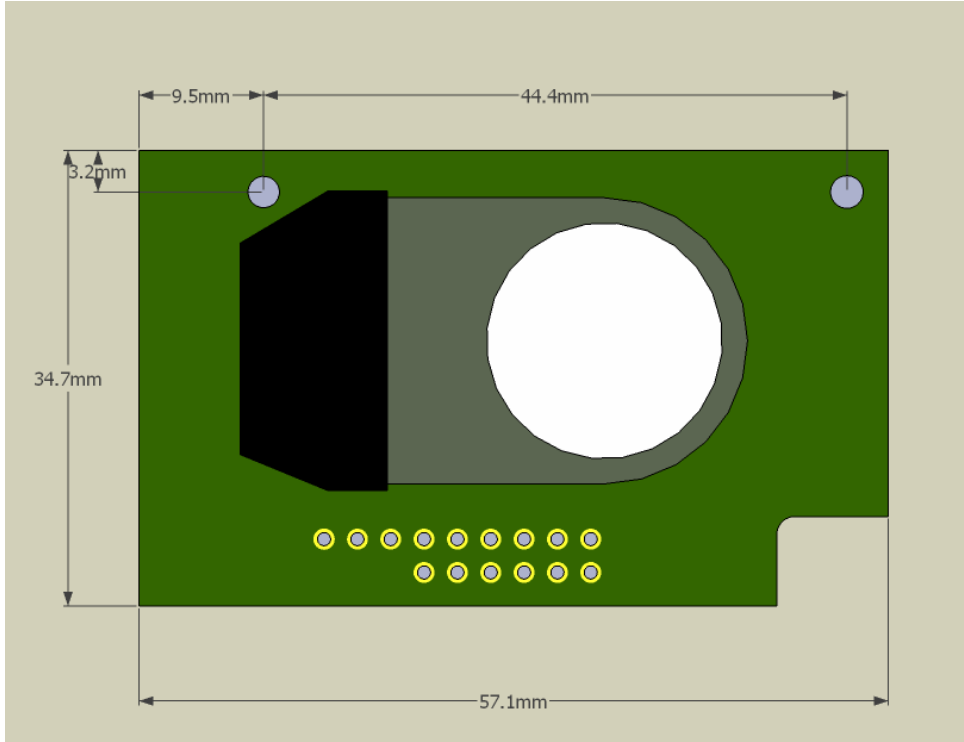
Specification

General Performance	
Warm up time	< 20 seconds
Operating Conditions	0°C to 50°C 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, GSS Solid-state source and detector
Sampling Method	Diffusion
Measurement range	0-2000ppm, 0-5000ppm, 0-1%
Accuracy	±50 ppm +/- 3% of reading ¹
Non Linearity	< 1% of FS
Calibration	Automatic Calibration
Pressure Dependence	0.13% of reading per mm Hg in normal atmospheric conditions
Operating Pressure Range	950 mbar to 1100 bar ²
Response Time	2 Minutes

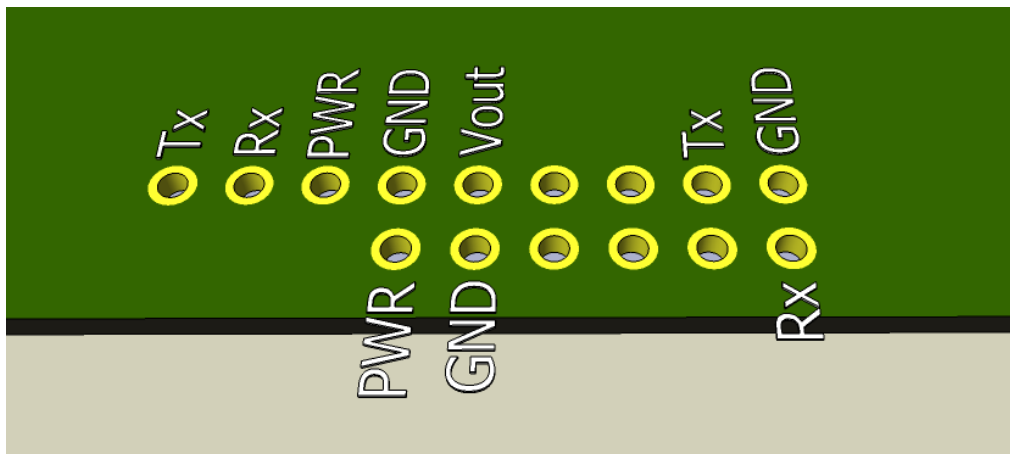
Electrical/Mechanical

Power Input	3.25 to 5.25V. (3.3V recommended). Peak Current 150mA ³ . Average Current 6mA ³ .
Power Consumption	20 mW ³

Dimensions and Wiring Connections



The total height is 15mm at the highest point.



Pin	Description	Comment
PWR	V _{supply}	3.3V to 5.25V
GND	0V	Only one GND should be connected
RX	Sensor receive line (UART)	5V Tolerant
TX	Sensor transmit line (UART)	V _{oh} = V _{supply}
VOUT	Voltage output	V _{out} proportional to CO ₂ concentration. Full scale = 3V

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

Note 2: External Pressure calibration required.

Note 3: Power measurements for standard CO2 sensor with 2 readings per second.

Note 4: Autocalibration is enabled by default on MISIR. For correct operation, the sensor must experience fresh air at some point during the autocalibration period. For details see the application note "COZIR Autocalibration". For other options, refer to users guide.

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