SprintIR™

20Hz High-Speed & Low-Power Carbon Dioxide Sensor

SprintIR is a high speed (20Hz vs. normal 2Hz sensors) and low power (35mW[4]) CO_2 sensor. It is ideally suited for battery operation, portable instruments and HVAC. Two models are available: 2,000ppm and 10,000ppm (1%) CO2. Based on infrared LED and detector technology and innovative optical designs, the SprintIR offers the fastest and lowest power NDIR sensor available.

- High-speed response
- Ultra-low Power 35mW
- Measurement ranges from 2,000ppm to 1%
- Low noise measurement (<10ppm)
- 3.3V supply
- Peak current only 100mA

Models
2,000ppm (GC-0013)
10,000ppm (1%) (GC-0008)

CO2Meter.com
CO2 Measurement Specialists

131 Business Center Drive
Ormond Beach, FL 32174
(386) 872-765 Sales
(386) 256-4910 Support
www.CO2Meter.com
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Specifications

General Performance

Warm-up Time

- < 10s

Operating Conditions

- 0°C to 50°C (standard)
- -25°C to 55°C (extended range)
- 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

- 0-2,000ppm, 0-10,000ppm (1%) CO2
- Extended range models (up to 100%) available

Accuracy

- ±50 ppm +/- 3% of reading[1]

Non Linearity

- < 1% of FS

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Pressure Dependence

- 0.13% of reading per mm Hg

Operating Pressure Range

- 950 to 1050 bar[2]

Response Time

- 30 secs to 2 mins (user Configurable)[3]
- Reading refreshed twice per second[3]

Electrical/Mechanical

Power Input

- 3.25V to 5.5V DC
- Peak Current 100mA[4]
- Average Current < 15mA[4]

Power Consumption

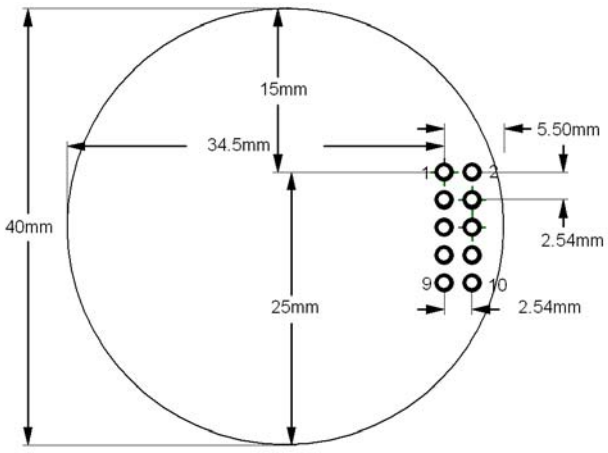
- 35 mW[4]

Wiring Connections

- 2x5 0.1" header

View from underside (connector side)

1	GND	2	N/C
3	3.3V (nominal)	4	N/C
5	Rx	6	N/C
7	Tx	8	Nitrogen Zero
9	Analog (0.1 to 3.3V)	10	Fresh Air Zero



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Note that the drawing shows details of the PCB inside the sensor casing. The outside dimension of the sensor casing is 43mm.

Pin 2 should not be connected. Pins 4 and 6 do not require connection and are internally connected to GND.

The zeroing options are for hardware zeroing (both active low). These functions can also be implemented by sending a serial command (recommended).

Typical connections for digital interface are GND, 3.3V, Rx and Tx.

The analog (voltage) output is available only when specified. Otherwise, N/C.

The serial connection is 9600baud, 8 bit, no parity, 1 stop bit. There is no hardware flow control. Note that Vh for the serial Rx and Tx lines will be 3V regardless on the supply voltage.

Note 1: All measurements are at STP unless otherwise stated.
Note 2: External Pressure calibration required to eliminate pressure dependence.
Note 3: User Configurable Filter Response.
Note 4: Power measurements for standard CO2 sensor with 2 readings / second

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