

C2 LOW POWER CO2 SENSOR

DESCRIPTION – HIGH SPEED

The C2 is a high sensitivity Carbon Dioxide (CO₂) sensor offering low power (35mW).

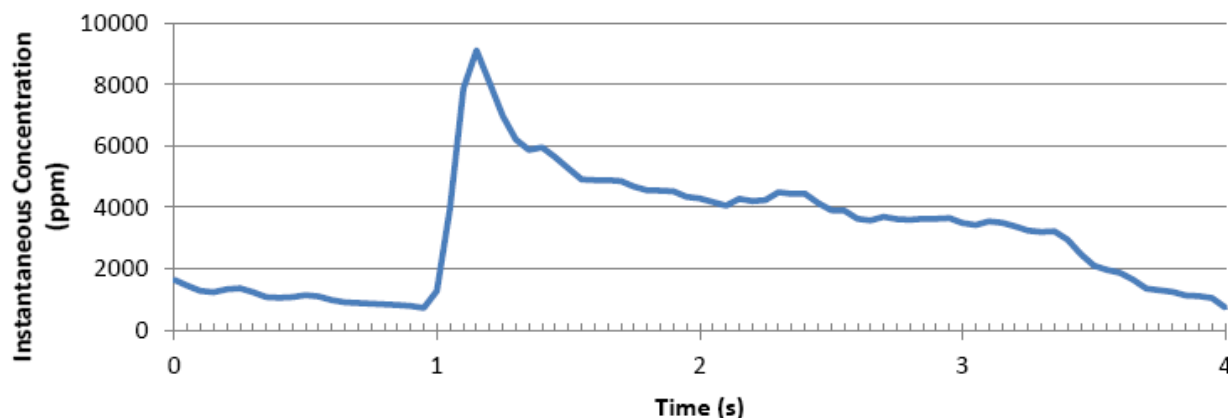
This high speed version offers sensing at 20Hz, 20 readings per second, and is ideal for applications where CO₂ concentrations change rapidly, such as analytical instrumentation and metabolic assessment.

Combination of low power and fast warm-up make it suitable for use in portable instruments, especially battery powered applications and hand held devices.

The standard ranges offered are 0-5%, 0-20%, 0-65% and 0-100% volume. Optional temperature and humidity sensing is also available with this sensor.



**C2 HIGH SPEED Infrared
Carbon Dioxide CO₂ SENSOR
Part no. 2112BC2SPD**



FEATURES

- High speed sensing (20Hz), 20 readings per second
- Low 35mW power
- Measurement ranges from 5% to 100%
- 3.3V supply
- Optional flow through housing adapter



**C2 HIGH SPEED
Infrared Carbon
Dioxide CO₂ sensor
shown with optional
fitted flow housing
adapter
Part nos. 2112BC2SPD
+ 2112BC12-H**

C2 LOW POWER CO2 SENSOR

SPECIFICATIONS

Operating Principle:	Non-dispersive infrared (NDIR) absorption. Patented gold-plated optics. Patented solid-state source and detector
Gas Detected:	Carbon Dioxide CO ₂
Sample method:	Flow through
Measurement Ranges:	Standard: 0 – 5 % volume Optional: 0 – 20 % volume Optional: 0 – 60 % volume Optional: 0 – 100 % volume Other ranges available on request
Warm-up Time:	< 1 minute
Resolution:	1ppm
Accuracy:	+/- 70ppm +/-5% of reading (measurement at STP)
Non Linearity:	<1% of FS
Operating Temperature Range:	0°C to 50°C (standard); -25°C to +55°C (extended range)
Humidity Range:	0 - 95% RH, non-condensing
Pressure Dependence:	0.1% of reading per mbar in normal atmospheric conditions
Operating Pressure Range:	950 mbar – 10 bar (external pressure calibration required to eliminate pressure dependence)
Expected Operating Life:	5 years in normal use from date of manufacture

Electrical/Mechanical Specifications

Power Input:	3.2 to 5V (3.3V recommended) Peak current 100mA. Average current <15mA
Power Consumption:	3.5mW
Wiring Connections:	2 x 5 0.1" header

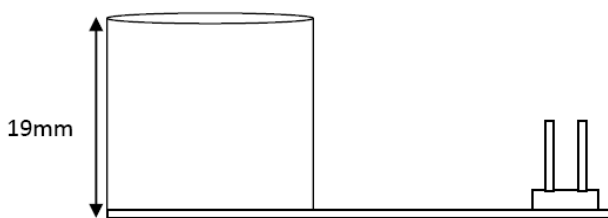
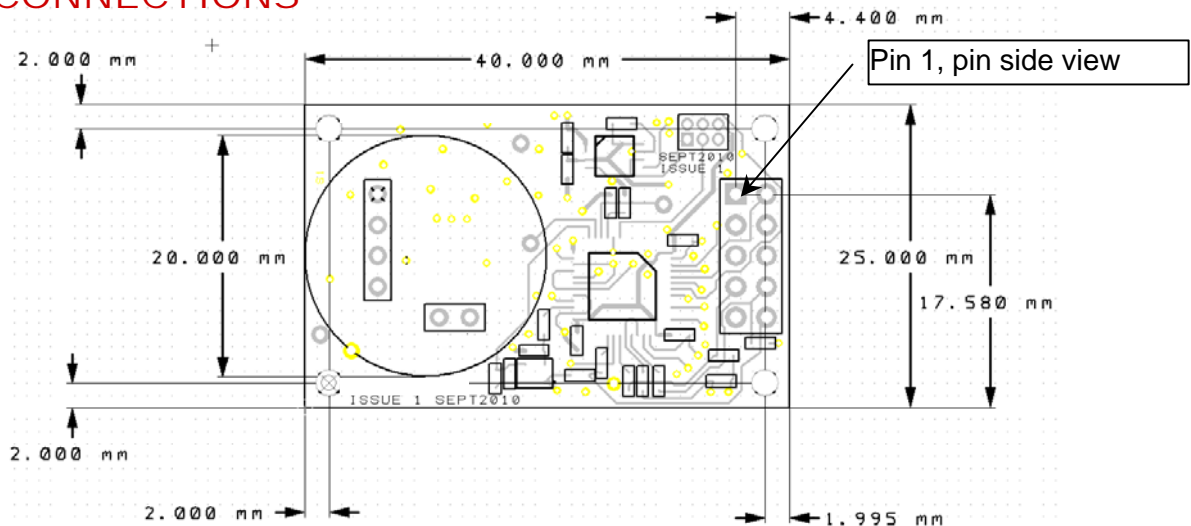


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Physical Specifications

Storage Conditions:	-30°C to +70°C
Weight:	approx. 18g
Warranty period:	6 months from date of despatch
Part Number:	2112BC2SPD

CONNECTIONS



Function	Pin #	Pin #	Function
0V	1	2	N/C
+3.3V	3	4	0V
Sensor Rx (in)	5	6	0V
Sensor Tx (out)	7	8	Zero N
Analogue O/P	9	10	Zero Air

Wiring Connections: 2 x 5 0.1" header. Pin 1 is identified on the dimensional drawing above.

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

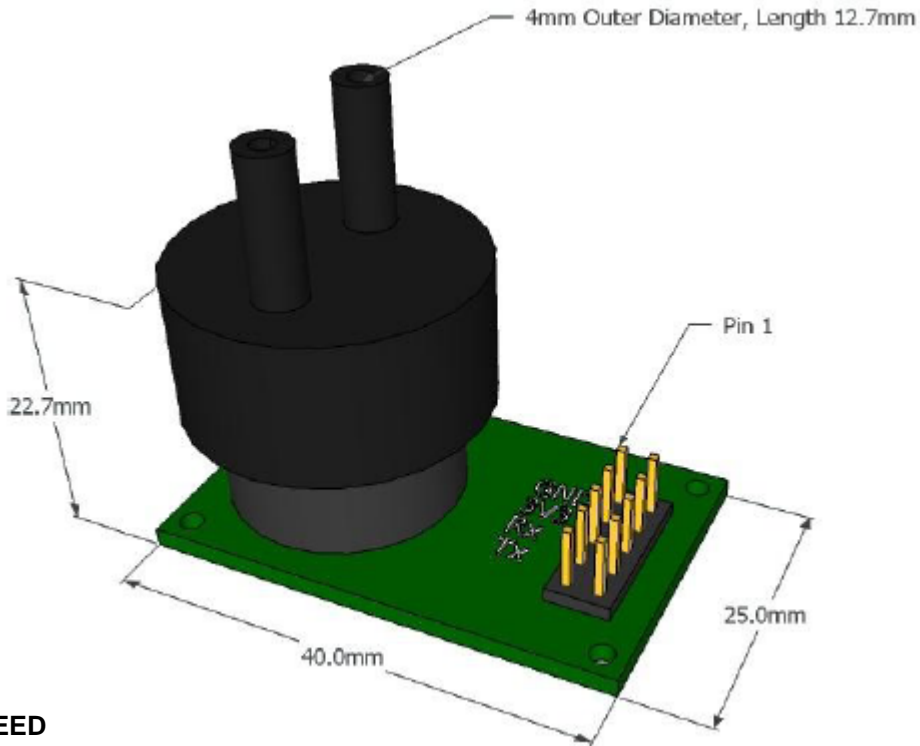
The zeroing options are for hardware zeroing (both active low). These functions can also be implemented by sending a serial command (recommended).

Typical connections for digital interface are GND, 3.3V, Rx and Tx. Note that the Vh for the serial Tx line will be 3V regardless of the supply voltage.



C2 LOW POWER CO2 SENSOR

DIMENSIONS WITH FLOW HOUSING ADAPTER OPTION



C2 HIGH SPEED
Infrared Carbon Dioxide CO2 sensor
shown with optional fitted flow housing adapter

Part nos. 2112BC2SPD + 2112BC12-H

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