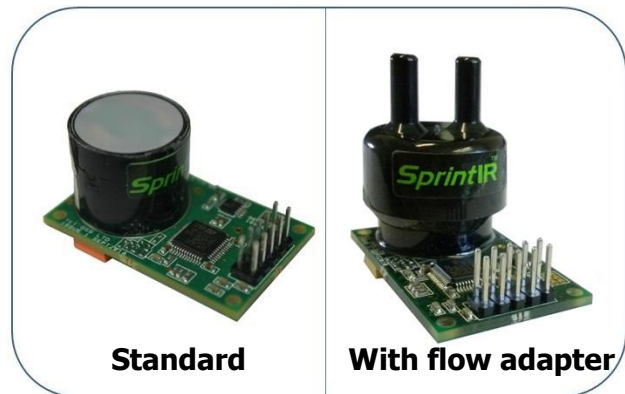


# SprintIR™

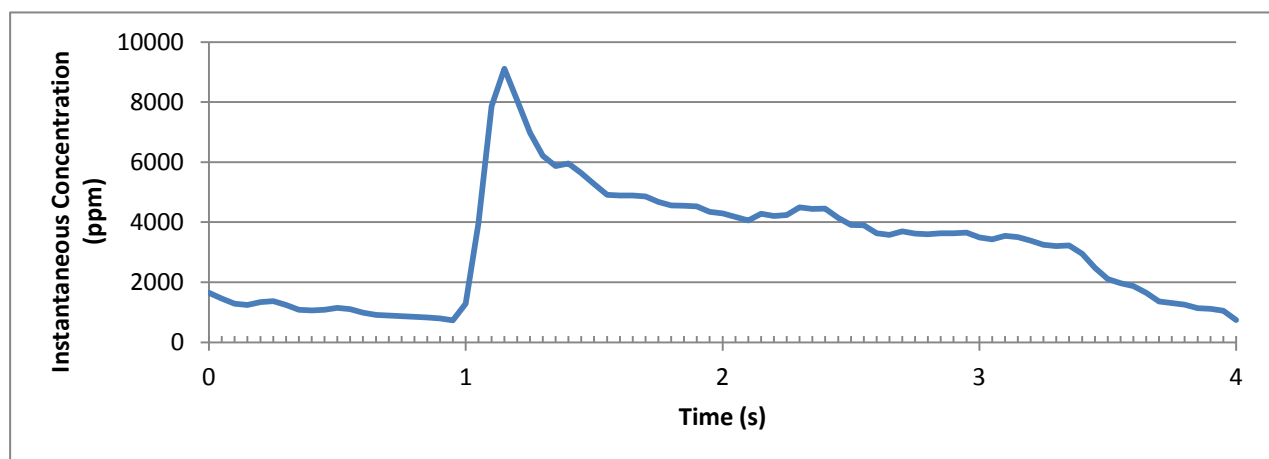
## High Speed Carbon Dioxide Sensor

SprintIR is a high speed (20 Hz) CO<sub>2</sub> sensor, ideally suited for applications which require capture of rapidly changing CO<sub>2</sub> concentrations including metabolic assessment and analytical instrumentation.

- High speed sensing (20Hz)
- Measurement ranges from 0 to 100%
- 3.3V supply
- Low power requirement 35mW
- Flow through adaptor (Optional)



**SprintIR™ Sensor** SprintIR™ Sensor  
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## Specifications

CO <sub>2</sub> Measurement	
<b>Sensing Method</b>	Non-dispersive infrared (NDIR) absorption Patented Gold-plated optics Patented Solid-state source and detector
<b>Sample Method</b>	Diffusion(Standard) / Flow through (with flow-through adaptor)
<b>Measurement Range</b>	0-5%, 0-20%, 0-60%, 0-100%
<b>Accuracy</b>	±70 ppm +/- 5% of reading <sup>1</sup>
<b>Measurement Noise</b>	<10% of reading with no digital filtering
<b>Non Linearity</b>	< 1% of FS
<b>Pressure Dependence</b>	0.1% of reading per mbar in normal atmospheric conditions
<b>Operating Pressure Range</b>	950 mbar to 10 bar <sup>2</sup>

General Performance																									
Warm-up Time	< 1 minute																								
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																								
Electrical/ Mechanical																									
Power Input	<ul style="list-style-type: none"> <li>• 3.2 to 5V. (3.3V recommended)</li> <li>• Peak current 100mA</li> <li>• Average Current &lt;15mA</li> </ul>																								
Power Consumption	35 mW																								
Output	UART only																								
Dimensions and Wiring Connections 2x5 0.1" header. Pin 1 is identified on the dimensional drawing.																									
<table border="1"> <thead> <tr> <th>Function</th> <th>Pin #</th> <th>Pin #</th> <th>Function</th> </tr> </thead> <tbody> <tr> <td>0V</td> <td>1</td> <td>2</td> <td>N/C</td> </tr> <tr> <td>+3.3V</td> <td>3</td> <td>4</td> <td>0V</td> </tr> <tr> <td>Sensor Rx (in)</td> <td>5</td> <td>6</td> <td>0V</td> </tr> <tr> <td>Sensor Tx (out)</td> <td>7</td> <td>8</td> <td>Zero N</td> </tr> <tr> <td>N/C</td> <td>9</td> <td>10</td> <td>Zero Air</td> </tr> </tbody> </table>		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	N/C	9	10	Zero Air
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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.																									

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

**Note 2:** External Pressure calibration required.

**Note 3:** User Configurable Filter Response.

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