SprintIR^{6S}

Ultra-fast response Carbon Dioxide Sensor

The **SprintIR^{6S}** is a high speed CO_2 sensor (20Hz) that can take up to 20 readings per second, with a warm-up time of under 30 seconds. The sensor has been designed with a sample volume of only 2ml, enabling it to achieve a 6 times faster response rate than the current SprintIR*.

With measurement ranges of 0-5%, 0-20% and 0-100%, the **SprintIR^{6S}** is suitable for applications where capture of rapidly changing CO_2 concentrations is required.

At less than a cubic inch in size, the **SprintIR^{6S}** operates at between 3.25 and 5.5V, with a power consumption of only 35mW. The sensor is available with options to support either flow-through or diffusion configuration, depending on the application.

- Ultra-fast response rate - 6X faster than the SprintIR*
- Faster warm-up time - < 30 secs to first reading
- High speed sensing - 20 readings per second (20Hz)
- Low power - 35mW

** Based on 0.1 litres per minute flow rate and 0-10% step change in CO_2 concentration.*

SprintIR^{6S} CO_2 Sensor

Specifications

General Performance	
Warm-up Time	< 30 seconds
Operating Conditions	0°C to 50°C (Standard) 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 Solid-state source and detector
Sample Method	Flow through
Measurement Range	0-5%, 0-20%, 0-100%
Accuracy	±70 ppm +/- 5% of reading[1] (100% Range ±300 ppm +/-5% of reading1)
Non Linearity	< 1% of FS
Pressure Dependence	0.13% of reading per mm Hg in normal atmospheric conditions.
Operating Pressure Range	Atmospheric pressure range. Lower and higher pressures require more advanced pressure compensation.
Response Time	Flow Rate Dependent – see graph below. Response time also depends on user configurable digital filter settings.

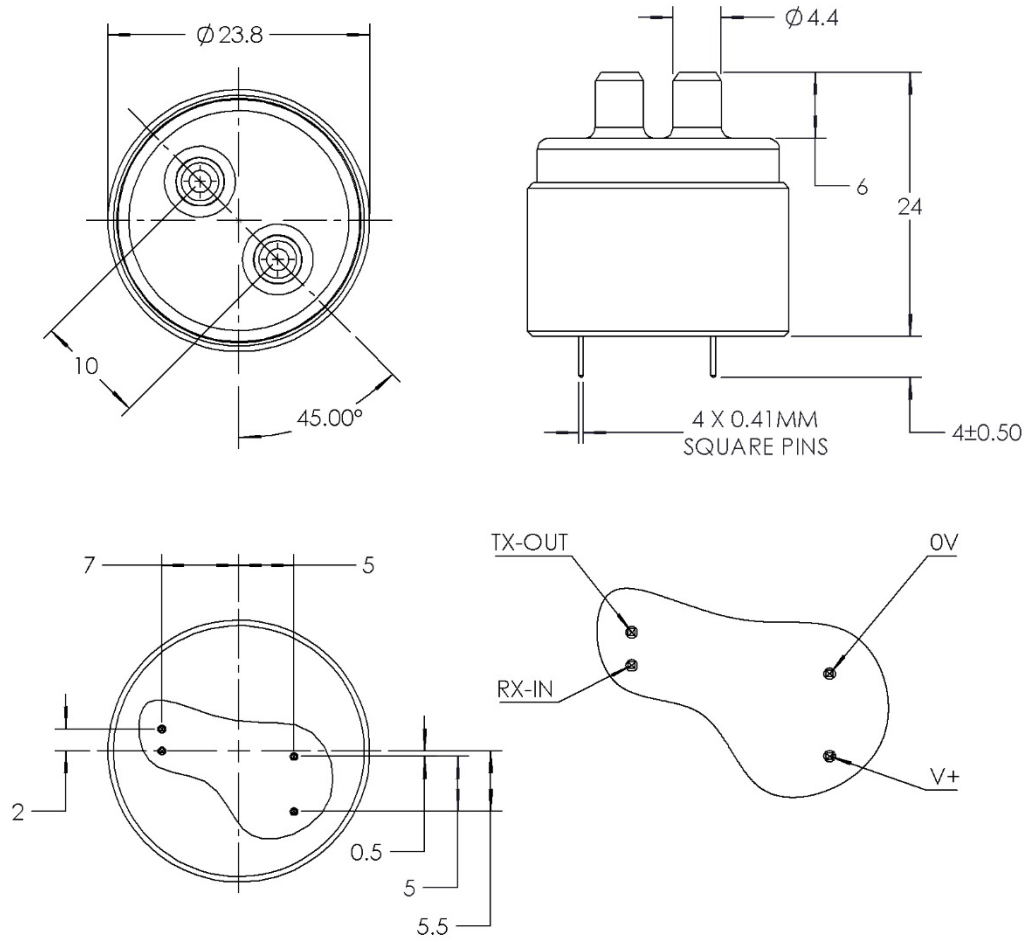
Apollosense Ltd

Shenzhen:
Adress：Room 712, Huaneng Building, Shennan Zhong Road, Shenzhen 518031, China
Tel：（86-755）83680810 83680820 83680830 83680860
Fax：（86-755）83680866

Hong Kong:
Adress： Unit 1502, Hollywood Plaza, 610 Nathan Road, Mong Kok, Kln., H.K.
Tel：(852) 2737 0903
Fax：(852) 2737 0938
Email：sales@apollounion.com

Electrical / Mechanical	
Power Input	3.25 to 5.5V. (3.3V recommended). Peak Current 33mA[4]. Average Current <12mA[4].
Power Consumption	35 mW[4]

Dimensions and Wiring Connections

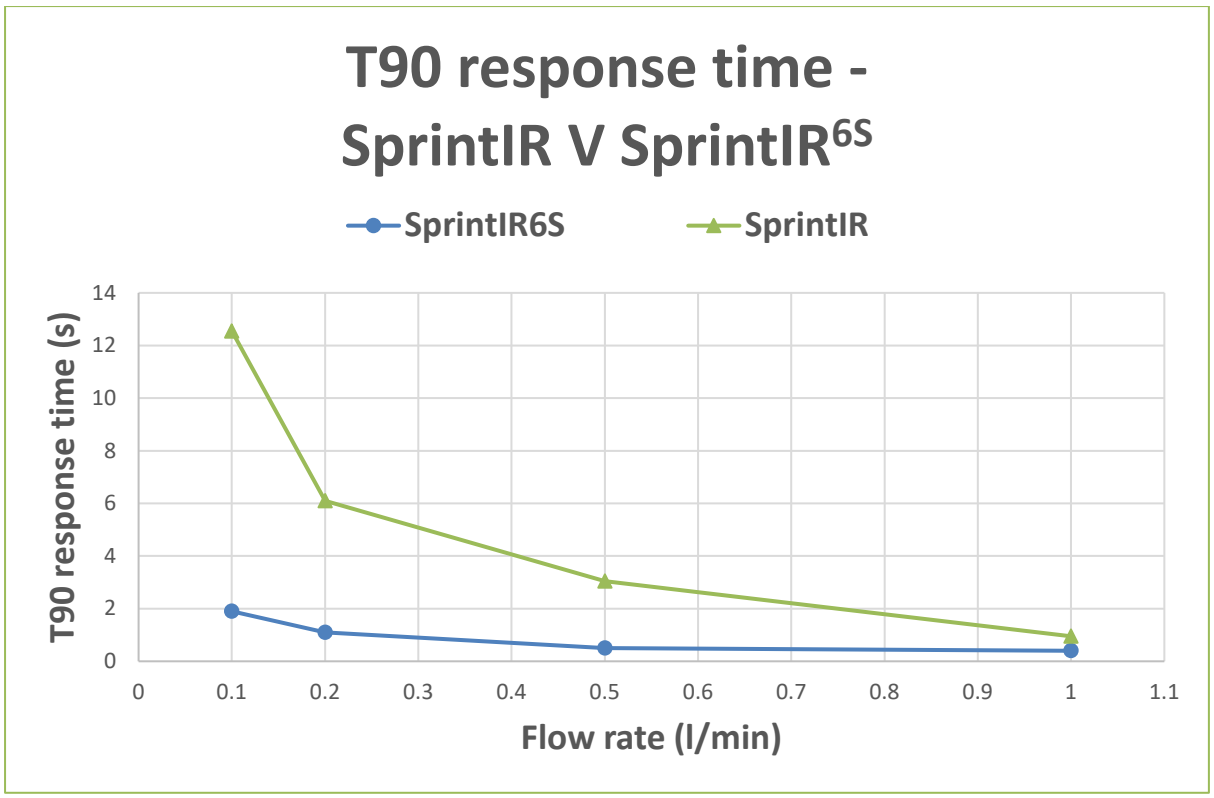


Pin	Comments
0V	GND
V+	3V3 to 5V
RX-IN	Sensor Rx. 5V tolerant
TX-OUT	Sensor Tx. V_{oh} = 3V

Apollosense Ltd

Shenzhen:
Adress：Room 712, Huaneng Building, Shennan Zhong Road, Shenzhen 518031, China
Tel：（86-755）83680810 83680820 83680830 83680860
Fax：（86-755）83680866

Hong Kong:
Adress： Unit 1502, Hollywood Plaza, 610 Nathan Road, Mong Kok, Kln., H.K.
Tel：(852) 2737 0903
Fax：(852) 2737 0938
Email：sales@apollounion.com



T90 time measured from 0 to 10% CO_2. Digital filter switched off.

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 20 readings per second.

Apollosense Ltd

Shenzhen:
Adress：Room 712, Huaneng Building, Shennan Zhong Road, Shenzhen 518031, China
Tel：（86-755）83680810 83680820 83680830 83680860
Fax：（86-755）83680866

Hong Kong:
Adress： Unit 1502, Hollywood Plaza, 610 Nathan Road, Mong Kok, Kln., H.K.
Tel：(852) 2737 0903
Fax：(852) 2737 0938
Email：sales@apollounion.com