

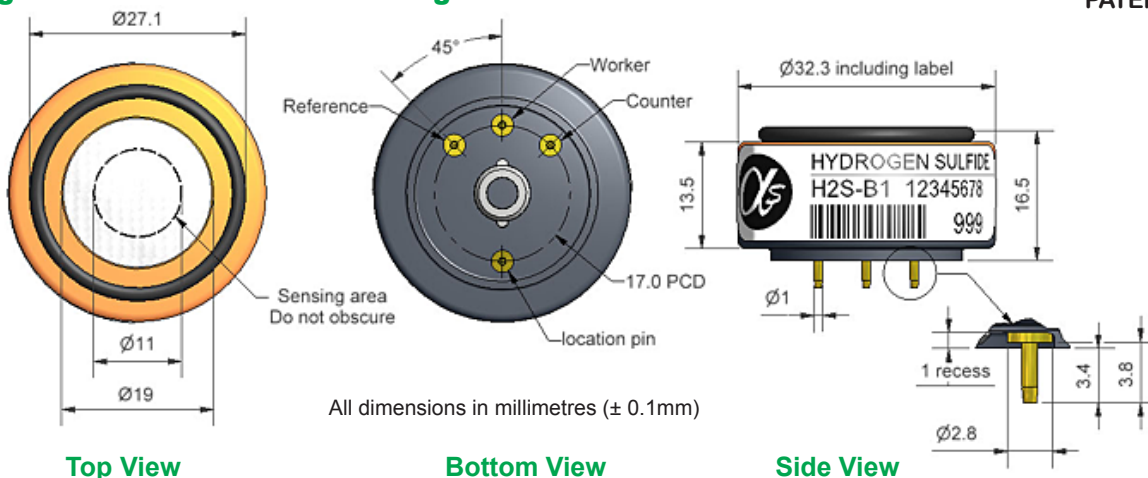


# H2S-B1 Hydrogen Sulfide Sensor



**PATENTED**

**Figure 1 H2S-B1 Schematic Diagram**



**Technical Specification**

<b>PERFORMANCE</b>	Sensitivity	nA/ppm in 20ppm H <sub>2</sub> S	300 to 450
	Response time	t <sub>90</sub> (s) from zero to 20ppm H <sub>2</sub> S	< 55
	Zero current	ppm equivalent in zero air	$\pm 0.8$
	Resolution	RMS noise (ppm equivalent)	< 0.05
	Range	ppm H <sub>2</sub> S limit of performance warranty	200
	Linearity	ppm error at full scale, linear at zero and 20ppm H <sub>2</sub> S	1 to -5
	Overgas limit	maximum ppm for stable response to gas pulse	500
<b>LIFETIME</b>	Zero drift	ppm equivalent change/year in lab air	< 0.05
	Sensitivity drift	% change/year in lab air, monthly test	< 3
	Operating life	months until 80% original signal (24 month warranted)	> 24
<b>ENVIRONMENTAL</b>	Sensitivity @ -20°C	% (output @ -20°C/output @ 20°C) @ 20ppm	80 to 92
	Sensitivity @ 50°C	% (output @ 50°C/output @ 20°C) @ 20ppm	100 to 110
	Zero @ -20°C	ppm equivalent change from 20°C	< $\pm 0.5$
	Zero @ 50°C	ppm equivalent change from 20°C	< 0 to 1.5
<b>CROSS SENSITIVITY</b>	NO <sub>2</sub> sensitivity	% measured gas @ 10ppm	< -30
	Cl <sub>2</sub> sensitivity	% measured gas @ 10ppm	< -25
	NO sensitivity	% measured gas @ 50ppm	< 35
	SO <sub>2</sub> sensitivity	% measured gas @ 20ppm	< 18
	CO sensitivity	% measured gas @ 400ppm	< 3
	H <sub>2</sub> sensitivity	% measured gas @ 400ppm	< 0.5
	C <sub>2</sub> H <sub>4</sub> sensitivity	% measured gas @ 400ppm	< 0.5
	NH <sub>3</sub> sensitivity	% measured gas @ 400ppm	< 0.1
CO <sub>2</sub> sensitivity	% measured gas @ 5%	< 0.1	
<b>KEY SPECIFICATIONS</b>	Temperature range	°C	-30 to 50
	Pressure range	kPa	80 to 120
	Humidity range	% rh	15 to 90
	Storage period	months @ 3 to 20°C (stored in sealed pot)	6
	Load resistor	$\Omega$ (recommended)	10 to 47
	Weight	g	< 13



At the end of the product's life, do not dispose of any electronic sensor, component or instrument in the domestic waste, but contact the instrument manufacturer, Alphasense or its distributor for disposal instructions.

**NOTE:** all sensors are tested at ambient environmental conditions, with 10 ohm load resistor, unless otherwise stated. As applications of use are outside our control, the

**ApolloSense Ltd**



# H2S-B1 Performance Data

Technical Specification

**Figure 2 Sensitivity Temperature Dependence**

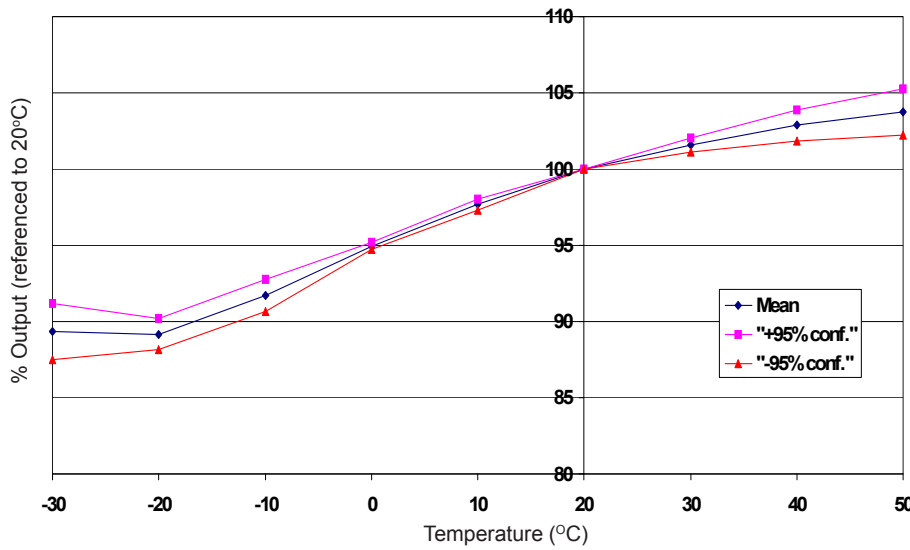


Figure 2 shows the variation in sensitivity caused by changes in temperature.

This data is taken from a typical batch of sensors.

**Figure 3 Zero Temperature Dependence**

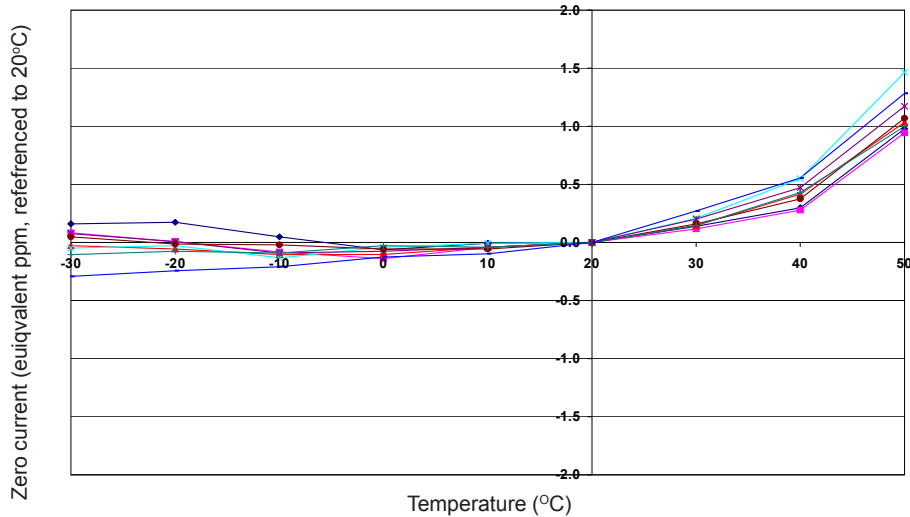
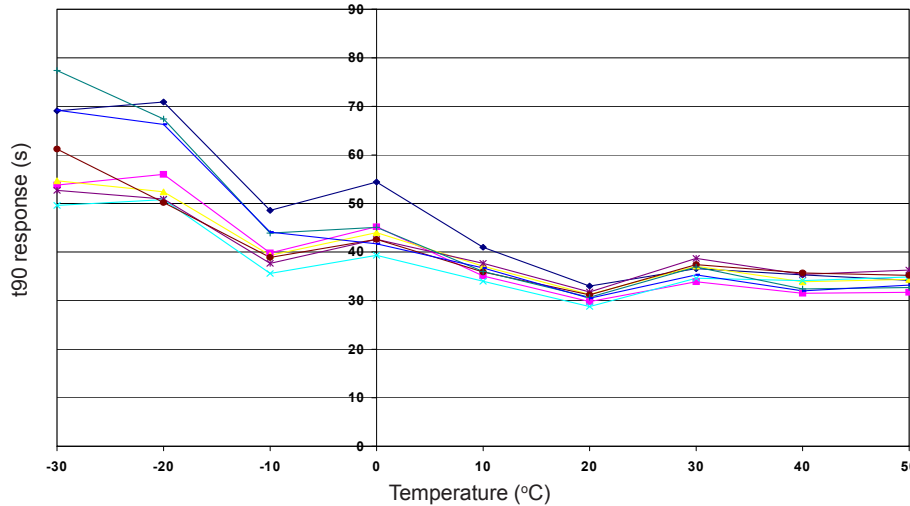


Figure 3 shows the variation in zero output caused by changes in temperature, expressed as ppm gas equivalent, referenced to zero at 20°C.

This data is taken from a typical batch of sensors.

**Figure 4 Response Time Temperature Dependence**



Electrochemical gas cells respond slower at lower temperatures.

Results are from a standard batch of sensors.