



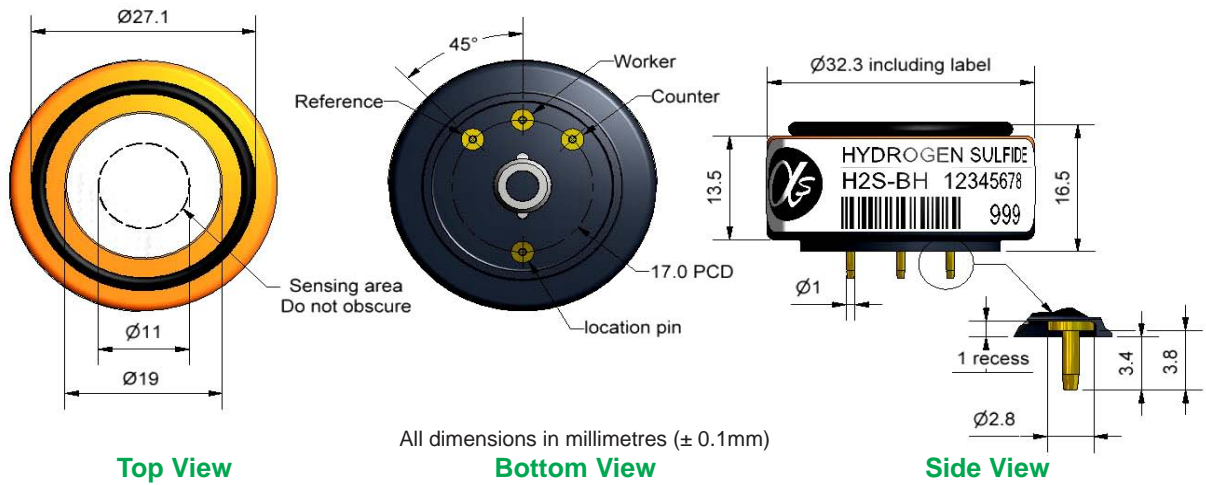
H2S-BH Hydrogen Sulfide Sensor

High Sensitivity



PATENTED

Figure 1 H2S-BH Schematic Diagram



Technical Specification

PERFORMANCE	Parameter	Specification	Range
	Sensitivity	nA/ppm in 20ppm H ₂ S1	1600 to 2200
	Response time	t ₉₀ (s) from zero to 20ppm H ₂ S	< 30
	Zero current	ppm equivalent in zero air	< \pm 0.05
	Resolution	RMS noise (ppm equivalent)	< 0.02
	Range	ppm H ₂ S limit of performance warranty	50
	Linearity	ppm error at full scale, linear at zero and 20ppm H ₂ S	-1 to -2
	Overgas limit	maximum ppm for stable response to gas pulse	200

LIFETIME	Parameter	Specification	Range
	Zero drift	ppm equivalent change/year in lab air	< 0.03
	Sensitivity drift	% change/year in lab air, monthly test	< 1
	Operating life	months until 80% original signal (24 month warranted)	> 24

ENVIRONMENTAL	Parameter	Specification	Range
	Sensitivity @ -20°C	% (output @ -20°C/output @ 20°C) @ 20ppm	80 to 93
	Sensitivity @ 50°C	% (output @ 50°C/output @ 20°C) @ 20ppm	100 to 111
	Zero @ -20°C	ppm equivalent change from 20°C	\pm 0.1
	Zero @ 50°C	ppm equivalent change from 20°C	\pm 0.15

CROSS SENSITIVITY	Gas	Sensitivity	% measured gas @	Gas	Range
	NO ₂	sensitivity	10ppm	NO ₂	< -30
	Cl ₂	sensitivity	10ppm	Cl ₂	< -25
	NO	sensitivity	50ppm	NO	< 3
	SO ₂	sensitivity	20ppm	SO ₂	< 10
	CO	sensitivity	400ppm	CO	< 1
	H ₂	sensitivity	400ppm	H ₂	< 0.25
	C ₂ H ₄	sensitivity	400ppm	C ₂ H ₄	< 0.1
NH ₃	sensitivity	20ppm	NH ₃	< 0.1	

KEY SPECIFICATIONS	Parameter	Specification	Range
	Temperature range	°C	-30 to 50
	Pressure range	kPa	80 to 120
	Humidity range	% rh continuous	15 to 90
	Storage period	months @ 3 to 20°C (stored in sealed pot)	6
	Load resistor	Ω (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 information provided is given without legal responsibility. Customers should test under their own conditions, to ensure that the sensors are suitable for their own requirements.



H2S-BH Performance Data

Technical Specification

Figure 2 Sensitivity Temperature Dependence

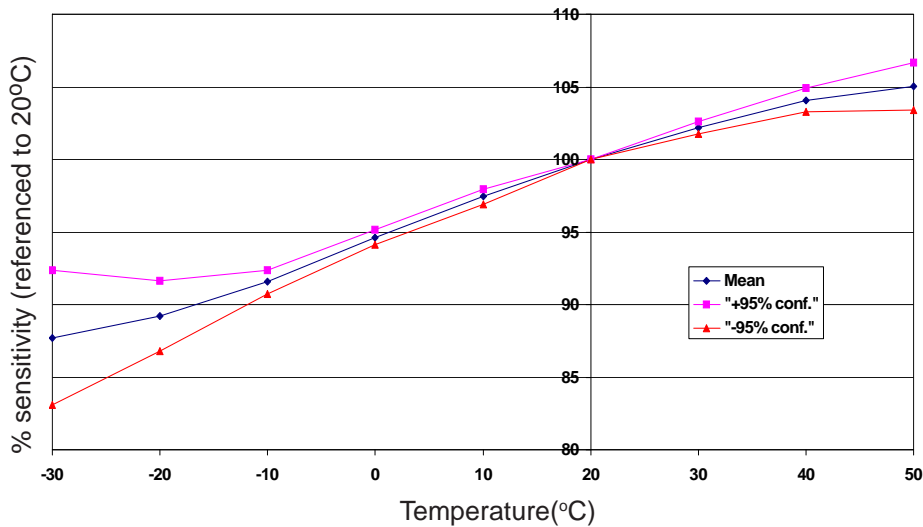


Figure 2 shows the variation in sensitivity caused by changes in temperature.

This data is taken from a typical batch of sensors. The mean and $\pm 95\%$ confidence intervals are shown.

Figure 3 Zero Temperature Dependence

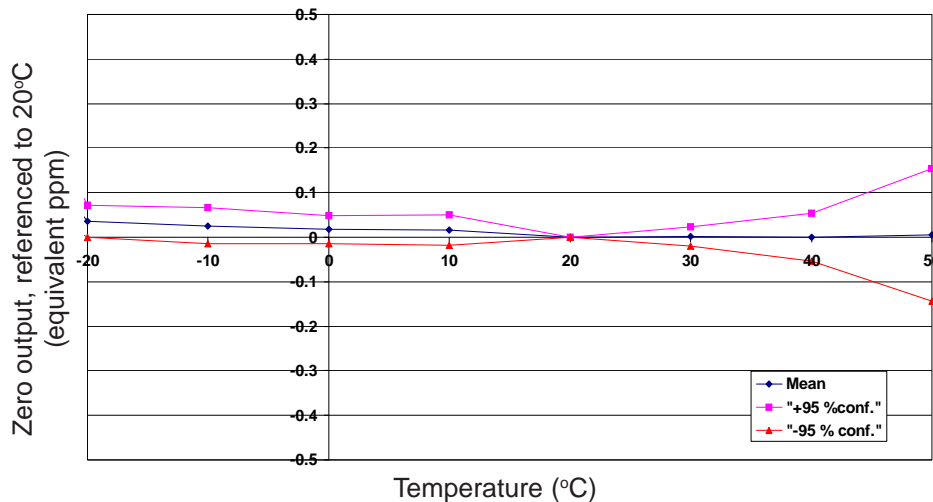


Figure 3 shows the variation in zero output caused by changes in temperature expressed as ppm gas equivalent.

This data is taken from a typical batch of sensors. The mean and $\pm 95\%$ confidence intervals are shown.

Figure 4 Zero Long Term Stability

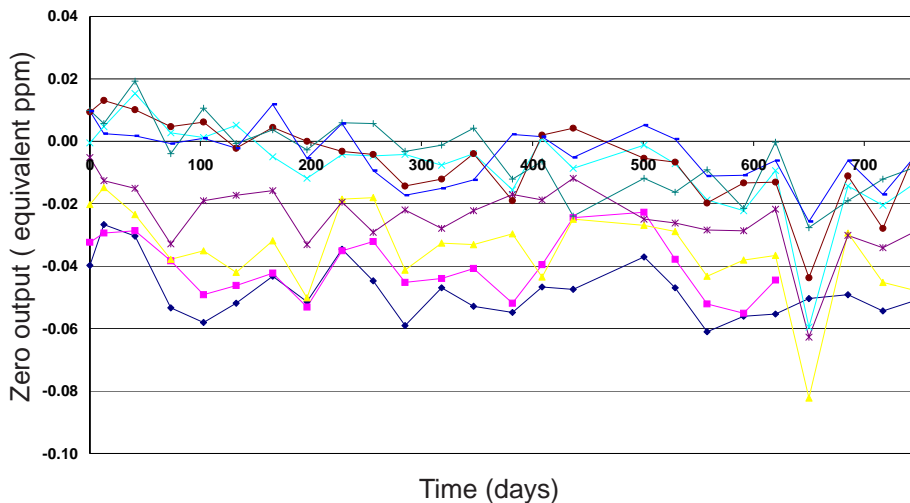


Figure 4 shows the excellent zero stability for the H2S-BH over 2 years, ensuring that low level alarms will remain stable.

For further information on the performance of this sensor, on other sensors in the range or any other subject, please contact Alphasense Ltd. For Application Notes visit "www.alphasense.com".

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