



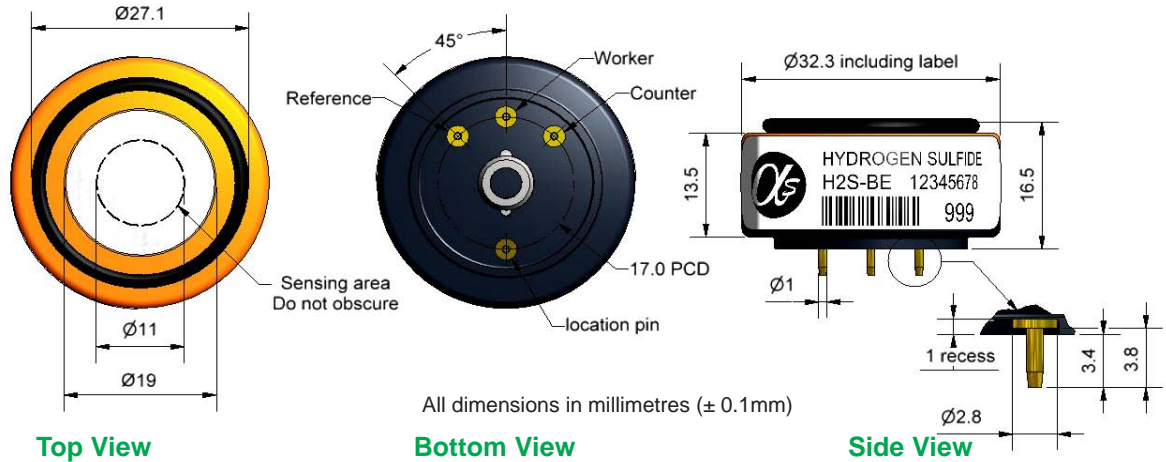
H₂S-BE Hydrogen Sulfide Sensor

High Concentration



Figure 1 H₂S-BE Schematic Diagram

PATENTED



Technical Specification

PERFORMANCE	Sensitivity	nA/ppm in 200ppm H ₂ S	80 to 115
	Response time	t ₉₀ (s) from zero to 200ppm H ₂ S	<35
	Zero current	ppm equivalent in zero air	± 0.7
	Resolution	RMS noise (ppm equivalent)	<0.5
	Range	ppm H ₂ S limit of performance warranty	2,000
	Linearity	ppm error at 2000ppm, linear at zero and 400ppm H ₂ S	<30
	Overgas limit	maximum ppm for stable response to gas pulse	10,000
LIFETIME	Zero drift	ppm equivalent change/year in lab air	<0.25
	Sensitivity drift	% change/year in lab air, monthly test	<3
	Operating life	months until 80% original signal (24 month warranted)	>24
ENVIRONMENTAL	Sensitivity @ -20°C	% (output @ -20°C/output @ 20°C) @ 200ppm	83 to 93
	Sensitivity @ 50°C	% (output @ 50°C/output @ 20°C) @ 200ppm	102 to 110
	Zero @ -20°C	ppm equivalent change from 20°C	± 4
	Zero @ 50°C	ppm equivalent change from 20°C	± 4
	CROSS SENSITIVITY	NO ₂ sensitivity	% measured gas @ 10ppm
Cl ₂ sensitivity		% measured gas @ 10ppm	<-12
NO sensitivity		% measured gas @ 50ppm	<10
SO ₂ sensitivity		% measured gas @ 20ppm	<20
CO sensitivity		% measured gas @ 400ppm	<4
H ₂ sensitivity		% measured gas @ 400ppm	<0.2
C ₂ H ₄ sensitivity		% measured gas @ 400ppm	<0.25
NH ₃ sensitivity	% measured gas @ 20ppm	<0.1	
KEY SPECIFICATIONS	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-BE Performance Data



Technical Specification

Figure 2 Sensitivity Temperature Dependence

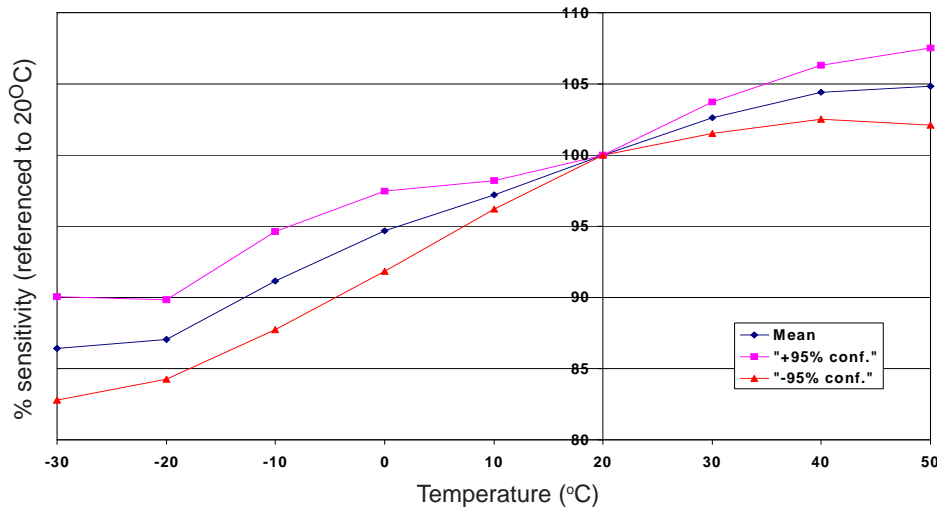


Figure 2 shows the variation in sensitivity caused by changes in temperature.

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

Figure 3 Zero Temperature Dependence

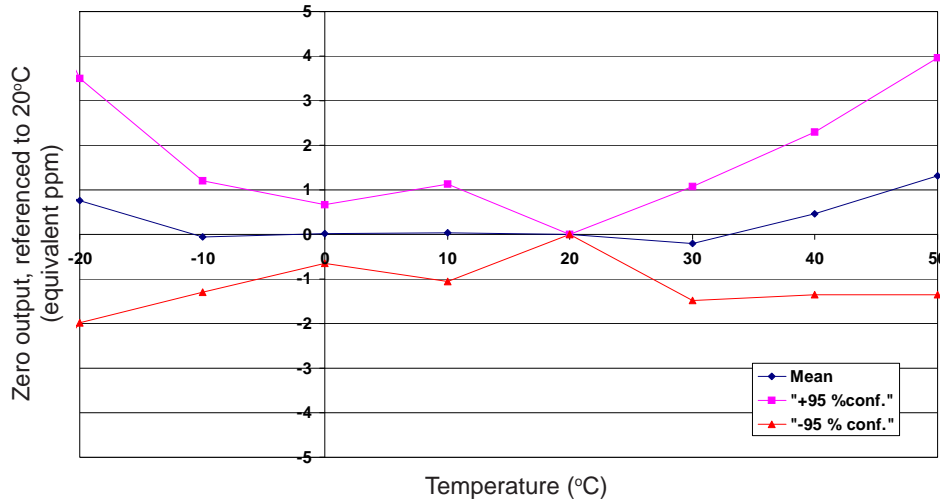
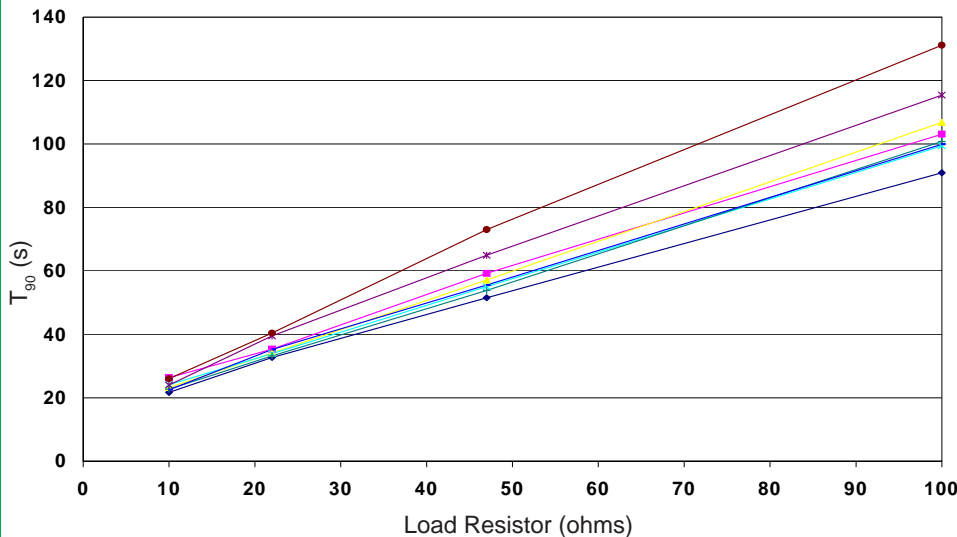


Figure 3 shows the variation in zero output caused by changes in temperature expressed as ppm gas equivalent.

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

Figure 4 Effect of Load Resistor



Increasing the load resistance increases response time and reduces RMS noise.

The best compromise for load resistance is determined experimentally.

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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