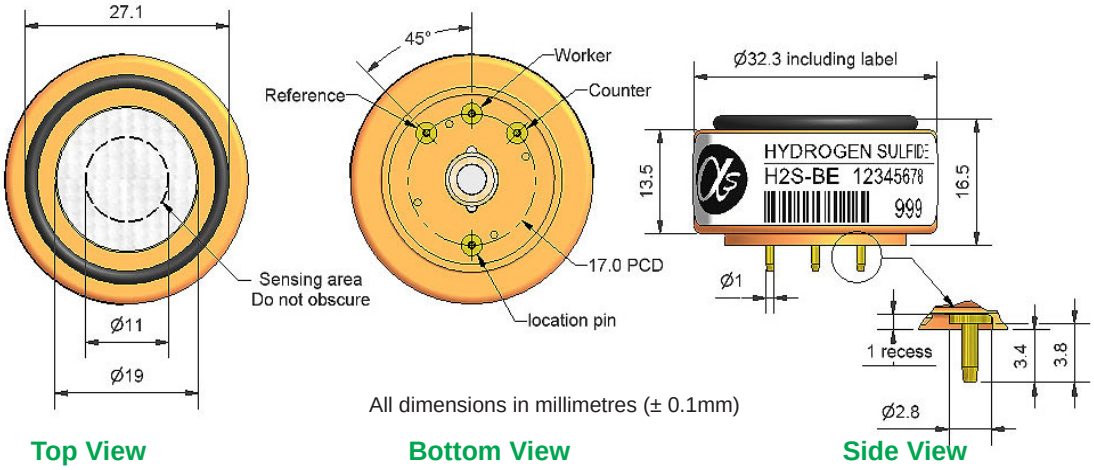
H2S-BE Hydrogen Sulfide Sensor

High Concentration

PATENTED

Technical Specification

Figure 1 H2S-BE Schematic Diagram



PERFORMANCE	Sensitivity	nA/ppm in 200ppm H_2S	80 to 115
	Response time	t_{90} (s) from zero to 200ppm H_2S	<35
	Zero current	ppm equivalent in zero air	<± 0.7
	Resolution	RMS noise (ppm equivalent)	<0.5
	Range	ppm H_2S limit of performance warranty	2,000
	Linearity	ppm error at 2000ppm, linear at zero and 400ppm H_2S	<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 NO_2	<-25
	Cl_2 sensitivity	% measured gas @ 10ppm Cl_2	<-12
	NO sensitivity	% measured gas @ 50ppm NO	<10
	SO_2 sensitivity	% measured gas @ 20ppm SO_2	<20
	CO sensitivity	% measured gas @ 400ppm CO	<4
	H_2 sensitivity	% measured gas @ 400ppm H_2	<0.2
	C_2H_4 sensitivity	% measured gas @ 400ppm C_2H_4	<0.25
	NH_3 sensitivity	% measured gas @ 20ppm NH_3	<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

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

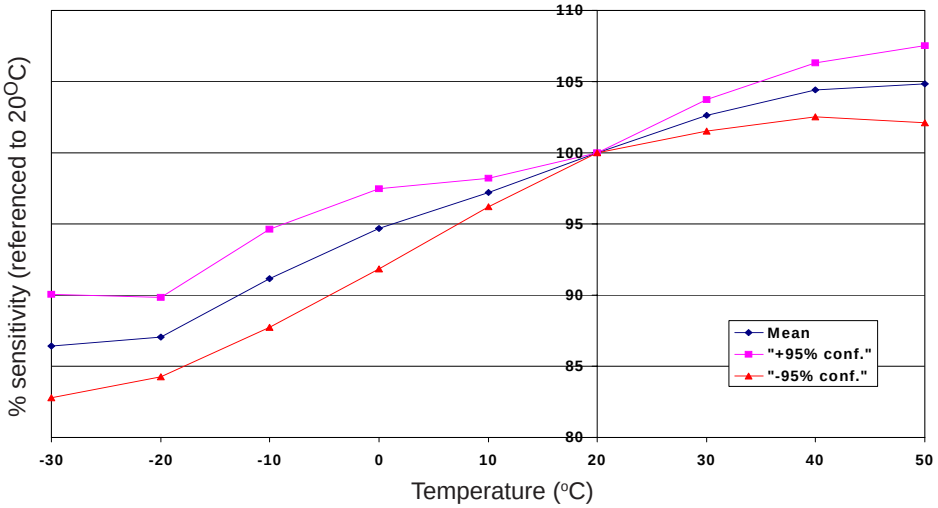


Figure 2 shows the variation in sensitivity caused by changes in temperature.

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

Figure 3 Zero Temperature Dependence

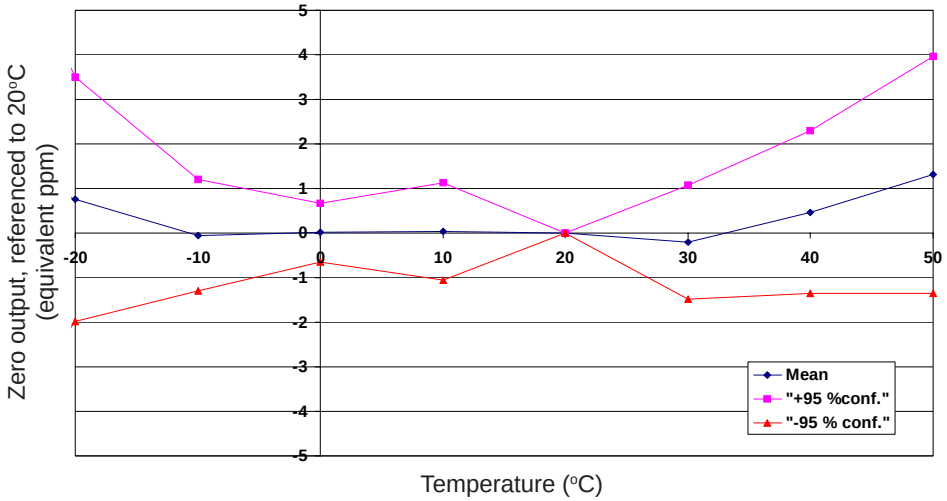
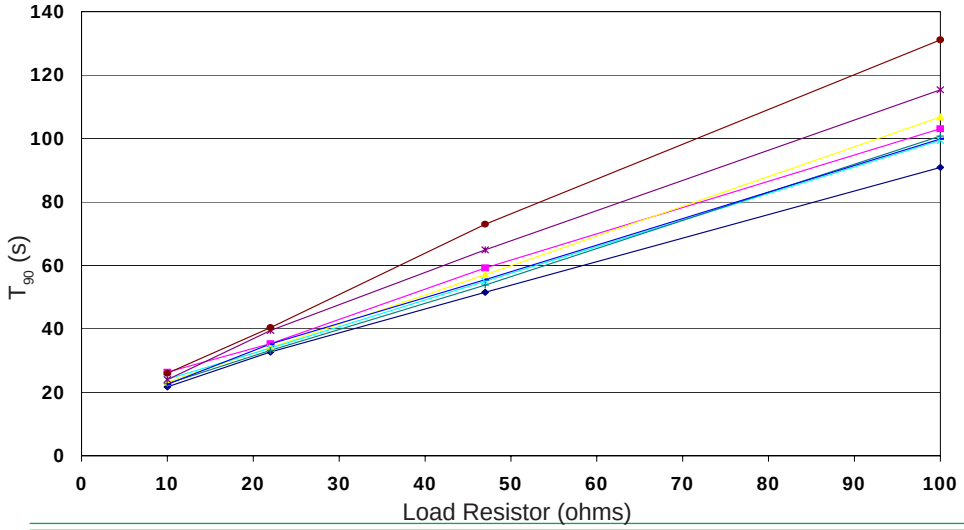


Figure 3 shows the variation in zero output caused by changes in temperature expressed as ppm gas equivalent.

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.