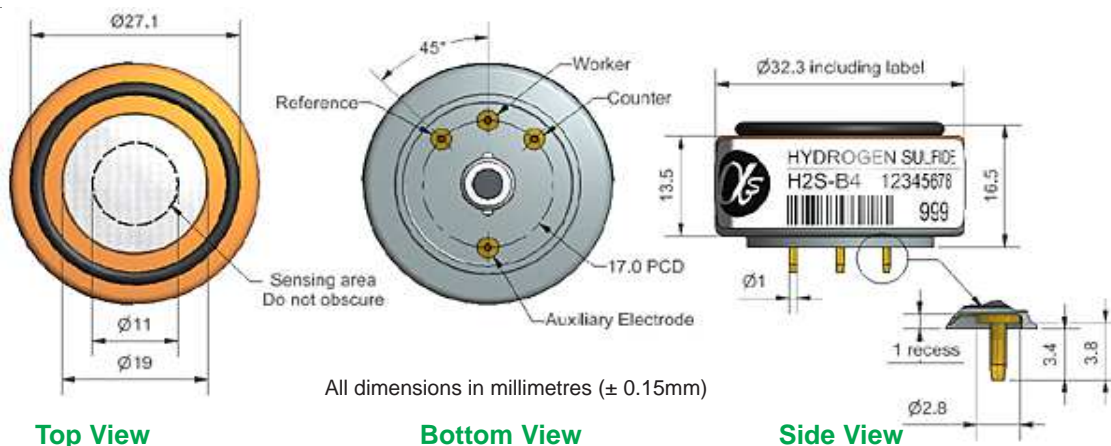


H2S-B4 Hydrogen Sulfide Sensor 4-Electrode



Figure 1 H2S-B4 Schematic Diagram



Technical Specification

PERFORMANCE	Parameter	Value
	Sensitivity	nA/ppm at 2ppm H ₂ S
	Response time	t ₉₀ (s) from zero to 2ppm H ₂ S
	Zero current	nA in zero air at 20°C
	Noise*	±2 standard deviations (ppb equivalent)
	Range	ppm H ₂ S limit of performance warranty
	Linearity	ppb error at full scale, linear at zero and 40ppm H ₂ S
	Overgas limit	maximum ppm for stable response to gas pulse

* Tested with Alphasense ISB low noise circuit

LIFETIME	Parameter	Value
	Zero drift	ppb equivalent change/year in lab air
	Sensitivity drift	% change/year in lab air, monthly test
	Operating life	months until 50% original signal (24 month warranted)

ENVIRONMENTAL	Parameter	Value
	Sensitivity @ -20°C (% output @ -20°C/output @ 20°C) @ 2ppm H ₂ S	77 to 90
	Sensitivity @ 50°C (% output @ 50°C/output @ 20°C) @ 2ppm H ₂ S	100 to 110
	Zero @ -20°C	nA change from 20°C
	Zero @ 50°C	nA change from 20°C

CROSS SENSITIVITY	Gas	Sensitivity	Value
	NO ₂	sensitivity % measured gas @ 5ppm	< -10
	Cl ₂	sensitivity % measured gas @ 5ppm	< -12
	NO	sensitivity % measured gas @ 5ppm	< 12
	SO ₂	sensitivity % measured gas @ 5ppm	< 20
	CO	sensitivity % measured gas @ 5ppm	< 3
	H ₂	sensitivity % measured gas @ 100ppm	< 0.5
	C ₂ H ₄	sensitivity % measured gas @ 100ppm	< 0.1
	NH ₃	sensitivity % measured gas @ 20ppm	< 0.1
CO ₂	sensitivity % measured gas @ 5%	< 0.1	

KEY SPECIFICATIONS	Parameter	Value
	Temperature range	°C
	Pressure range	kPa
	Humidity range	% rh
	Storage period	months @ 3 to 20°C (stored in sealed pot)
	Load resistor	Ω (ISB circuit is recommended)
	Weight	g



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 47 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-B4 Performance Data

Technical Specification

Figure 2 Sensitivity Temperature Dependence

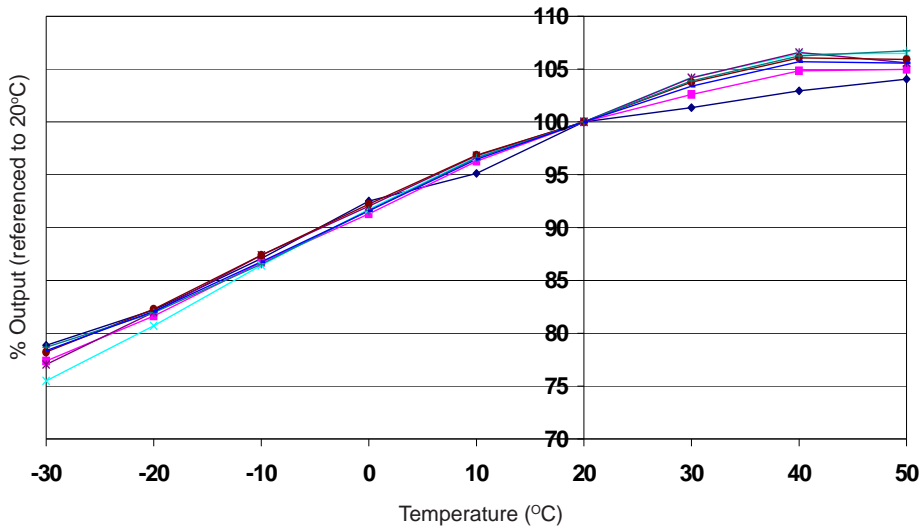


Figure 2 shows the temperature dependence of sensitivity at 2ppm H₂S.

This data is taken from a typical batch of sensors.

Figure 3 Zero Temperature Dependence

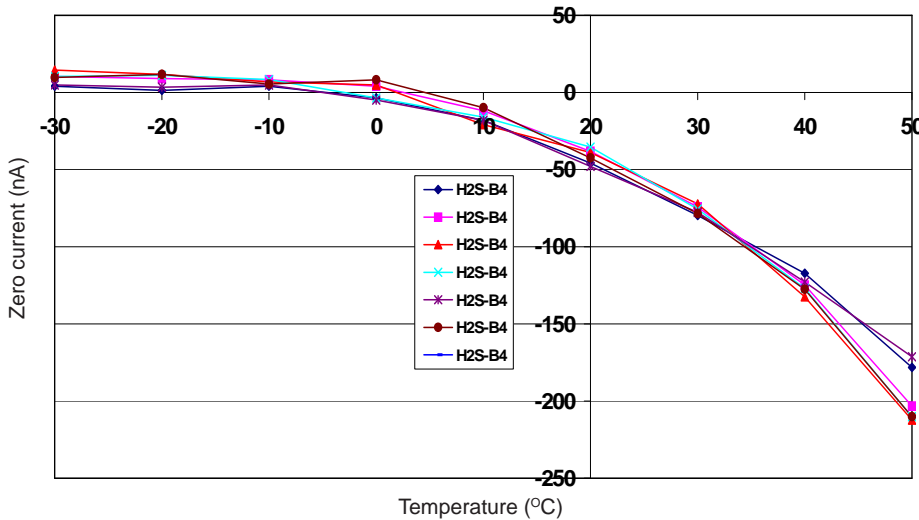


Figure 3 shows the variation in zero output of the working electrode caused by changes in temperature, expressed as nA.

This data is taken from a typical batch of sensors.

Contact Alphasense for further information on zero current correction.

Figure 4 Linearity to 200 ppb H₂S

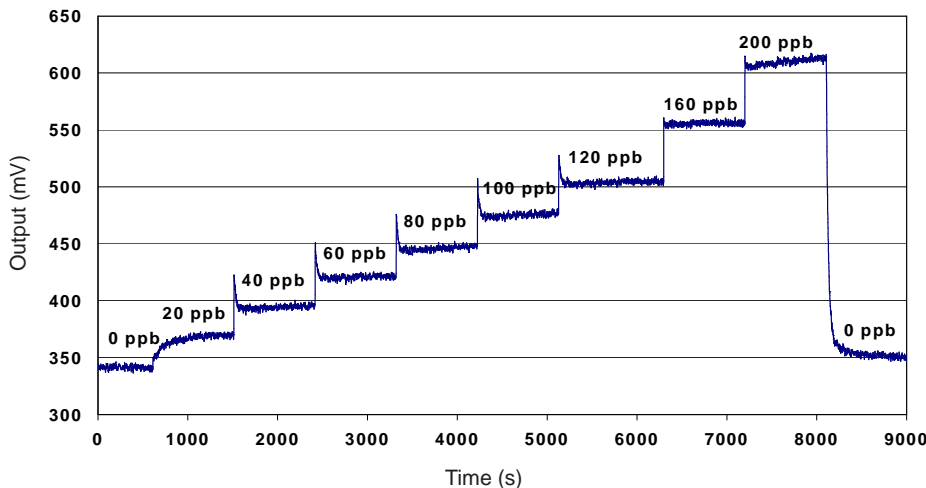


Figure 4 shows response to 200ppb H₂S.

Use of Alphasense ISB circuit reduces noise to 1ppb, with the opportunity of digital smoothing to reduce noise even further