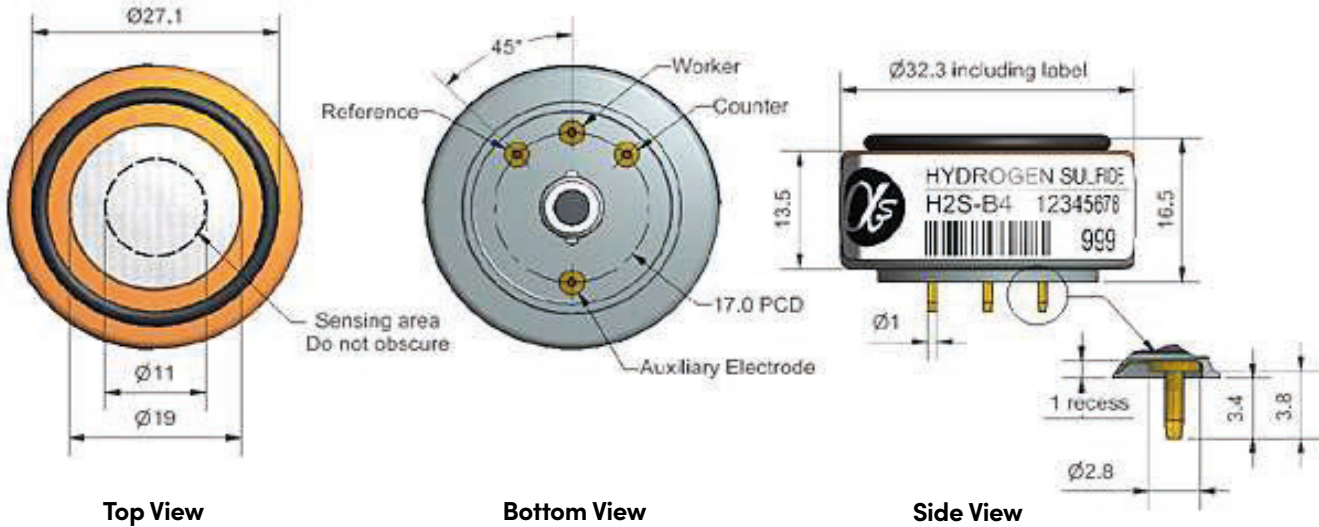


Technical specifications Version 1.0

H2S-B4 Hydrogen Sulfide Sensor – 4-Electrode



Dimensions are in millimetres (± 0.15 mm).

Performance	Sensitivity	nA/ppm at 2ppm H ₂ S	1450 to 2600	
	Response time	t90 (s) from zero to 2ppm H ₂ S	< 60	
	Zero current	nA in zero air at 20°C	-250 to 200	
	Noise*	±2 standard deviations (ppb equivalent)	1	
	Range	ppm H ₂ S limit of performance warranty	100	
	Linearity	ppb error at full scale, linear at zero and 40ppm H ₂ S	< ± 4	
	Overgas limit	maximum ppm for stable response to gas pulse	200	
	*Tested with Alphasense ISB low noise circuit			
Lifetime	Zero drift	ppm equivalent change/year in lab air	< ± 100	
	Sensitivity drift	% change/year in lab air, monthly test	< 20	
	Operating life	months until 50% original signal (24-month warranted)	> 24	
Environmental	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	50 to 60	
	Zero @ 50°C	nA change from 20°C	-120 to -160	
Cross Sensitivity	NO ₂ sensitivity	% measured gas @ 5ppm	NO ₂	< -10
	Cl ₂ sensitivity	% measured gas @ 5ppm	Cl ₂	< -12
	NO sensitivity	% measured gas @ 5ppm	NO	< 12
	SO ₂ sensitivity	% measured gas @ 5ppm	SO ₂	< 20
	CO sensitivity	% measured gas @ 5ppm	CO	< 3
	H ₂ sensitivity	% measured gas @ 100ppm	H ₂	< 0.5
	C ₂ H ₄ sensitivity	% measured gas @ 100ppm	C ₂ H ₄	< 0.1
	NH ₃ sensitivity	% measured gas @ 20ppm	NH ₃	< 0.1
	CO ₂ sensitivity	% measured gas @ 5%	CO ₂	< 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 (ISB circuit is recommended)	33 to 100	
	Weight	g	< 13	

Figure 1 Sensitivity Temperature Dependence

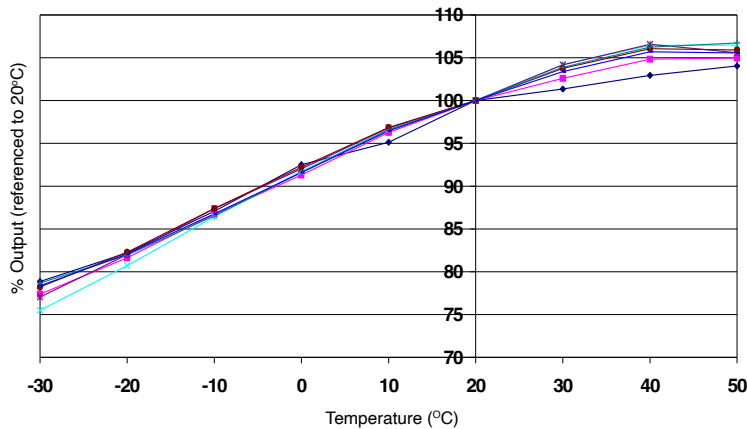


Figure 1 shows the temperature dependence of sensitivity at 2ppm H₂S.
This data is taken from a typical batch of sensors.

Figure 2 Zero Temperature Dependence

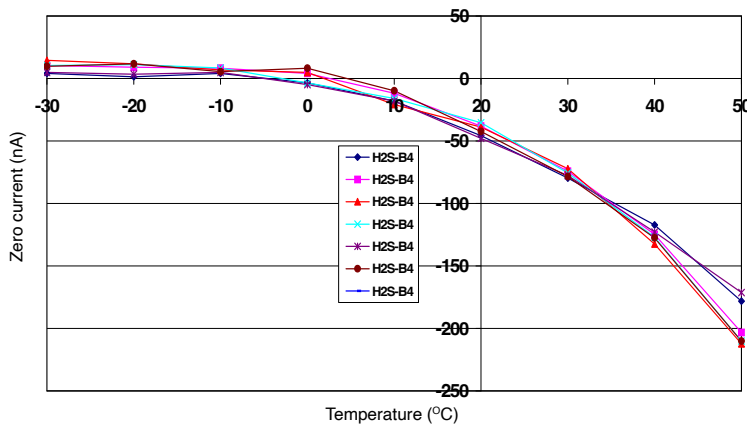


Figure 2 shows the variation in zero output of the working electrode caused by changes in temperature, expressed as nA.
This data is taken from a typical batch of sensors.
Contact Alphasense for further information on zero current correction.

Figure 3 Linearity to 200 ppb H₂S

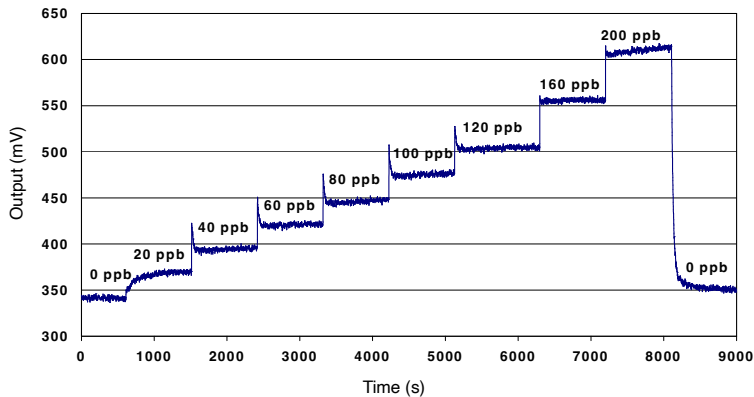


Figure 3 shows response to 200ppb H₂S.
Use of Alphasense ISB circuit reduces noise to 1ppb, with the opportunity of digital smoothing to reduce noise even further.

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 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.
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