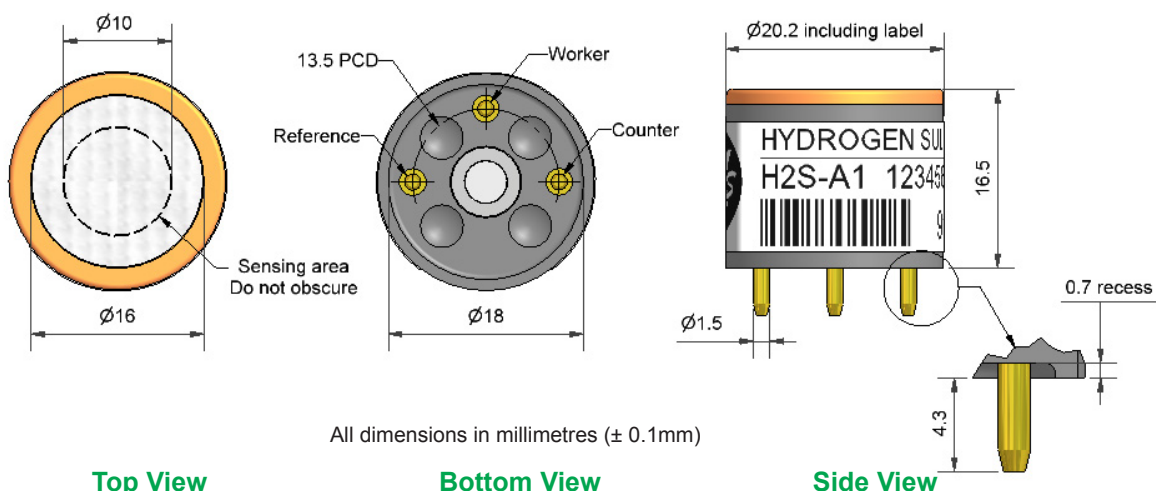




H2S-A1 Hydrogen Sulfide Sensor



Figure 1 H2S-A1 Schematic Diagram



All dimensions in millimetres (± 0.1 mm)

Top View

Bottom View

Side View

PERFORMANCE	Sensitivity	nA/ppm in 20ppm H ₂ S	550 to 875
	Response time	t ₉₀ (s) from zero to 20ppm H ₂ S	< 35
	Zero current	ppm equivalent in zero air	< ± 0.4
	Resolution	RMS noise (ppm equivalent)	< 0.05
	Range	ppm H ₂ S limit of performance warranty	100
	Linearity	ppm error at full scale, linear at zero and 20ppm H ₂ S	0 to -4
	Overgas limit	maximum ppm for stable response to gas pulse	500
LIFETIME	Zero drift	ppm equivalent change/year in lab air	< 0.1
	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) @ 20ppm	80 to 92
	Sensitivity @ 50°C	% (output @ 50°C/output @ 20°C) @ 20ppm	100 to 110
	Zero @ -20°C	ppm equivalent change from 20°C	< ± 0.5
	Zero @ 50°C	ppm equivalent change from 20°C	< ± 0.7
CROSS SENSITIVITY	NO ₂ sensitivity	% measured gas @ 10ppm	< -20
	Cl ₂ sensitivity	% measured gas @ 10ppm	< -25
	NO sensitivity	% measured gas @ 50ppm	< 4
	SO ₂ sensitivity	% measured gas @ 20ppm	< 10
	CO sensitivity	% measured gas @ 400ppm	< 1.5
	H ₂ sensitivity	% measured gas @ 400ppm	< 0.2
	C ₂ H ₄ sensitivity	% measured gas @ 400ppm	< 0.5
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	< 6



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.

Technical Specification

ApolloSense Ltd



H2S-A1 Performance Data

Technical Specification

Figure 2 Sensitivity Temperature Dependence

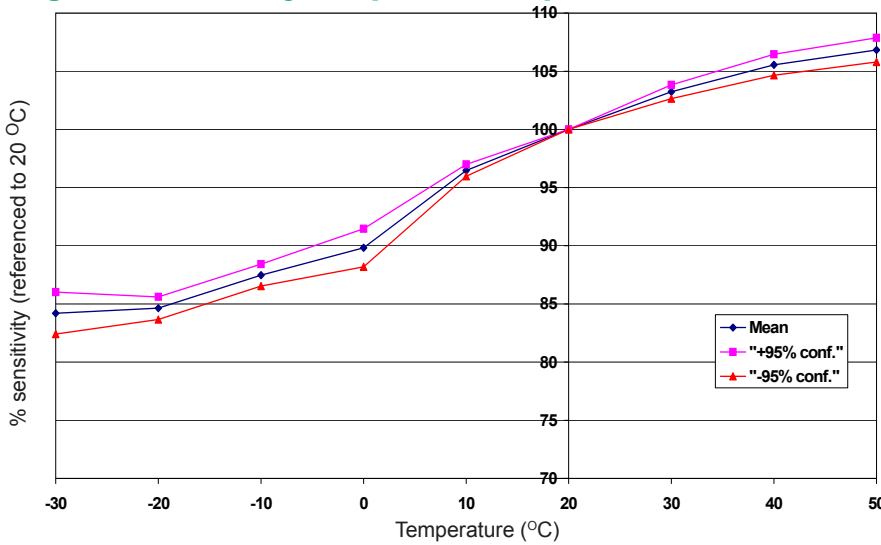


Figure 2 shows the variation in sensitivity caused by changes in temperature.

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

Figure 3 Zero Temperature Dependence

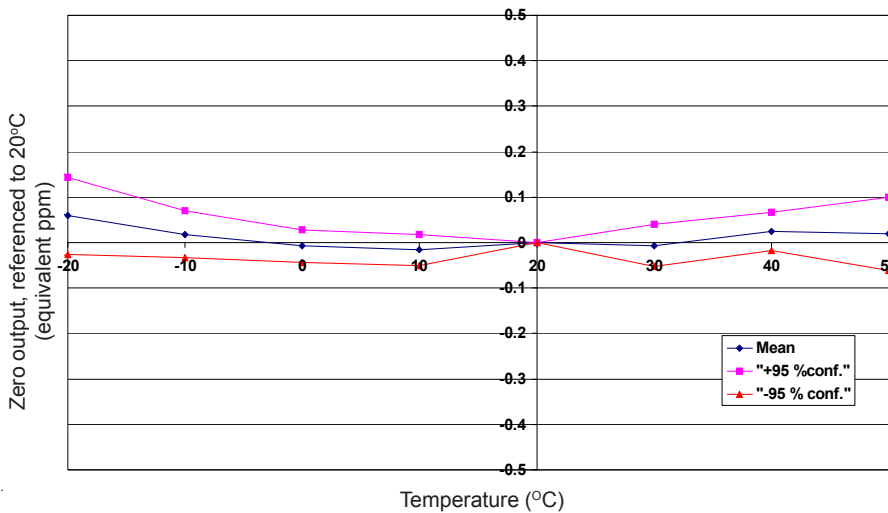


Figure 3 shows the variation in zero output caused by changes in temperature, expressed as ppm gas equivalent.

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

Figure 4 Sensitivity Long Term Stability

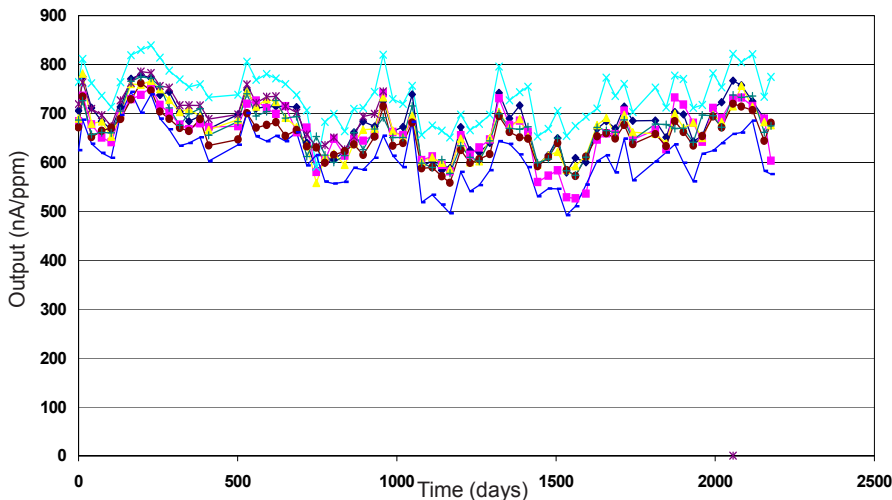


Figure 4 shows the excellent long term stability of the H2S-A1, which results from the combination of a patented design, superior electrochemistry and good process control.

ApolloSense Ltd