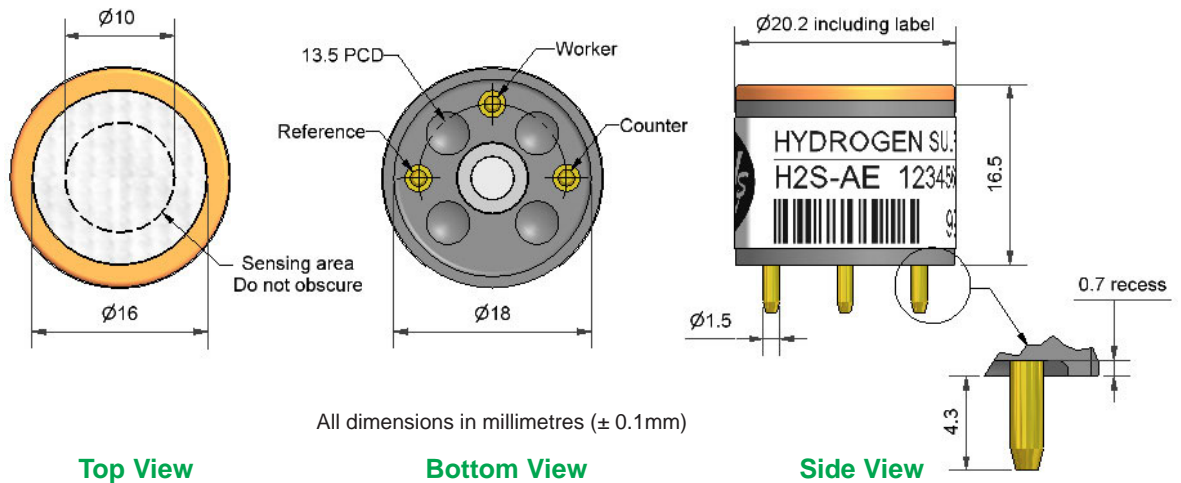


H2S-AE Hydrogen Sulfide Sensor

High Concentration



Figure 1 H2S-AE Schematic Diagram



PERFORMANCE	Sensitivity	nA/ppm in 400ppm H ₂ S	70 to 100
	Response time	t ₉₀ (s) from zero to 400ppm H ₂ S	<25
	Zero current	ppm equivalent in zero air	<1
	Resolution	RMS noise (ppm equivalent)	<0.5
	Range	ppm H ₂ S limit of performance warranty	2,000
	Linearity	ppm error at full scale, linear at zero and 400ppm H ₂ S	0 to -40
	Overgas limit	maximum ppm for stable response to gas pulse	10,000
LIFETIME	Zero drift	ppm equivalent change/year in lab air	nd
	Sensitivity drift	% change/year in lab air, monthly test	nd
	Operating life	months until 80% original signal (24 month warranted)	>24
ENVIRONMENTAL	Sensitivity @ -20°C	% (output @ -20°C/output @ 20°C) @ 20ppm	78 to 92
	Sensitivity @ 50°C	% (output @ 50°C/output @ 20°C) @ 20ppm	100 to 110
	Zero @ -20°C	ppm equivalent change from 20°C	< ± 1
	Zero @ 50°C	ppm equivalent change from 20°C	< ± 1
CROSS SENSITIVITY	NO ₂ sensitivity	% measured gas @ 10ppm	<-20
	Cl ₂ sensitivity	% measured gas @ 10ppm	<-25
	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	<0.25
	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



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.

Technical Specification



H2S-AE Performance Data

Technical Specification

Figure 2 Zero Temperature Dependence

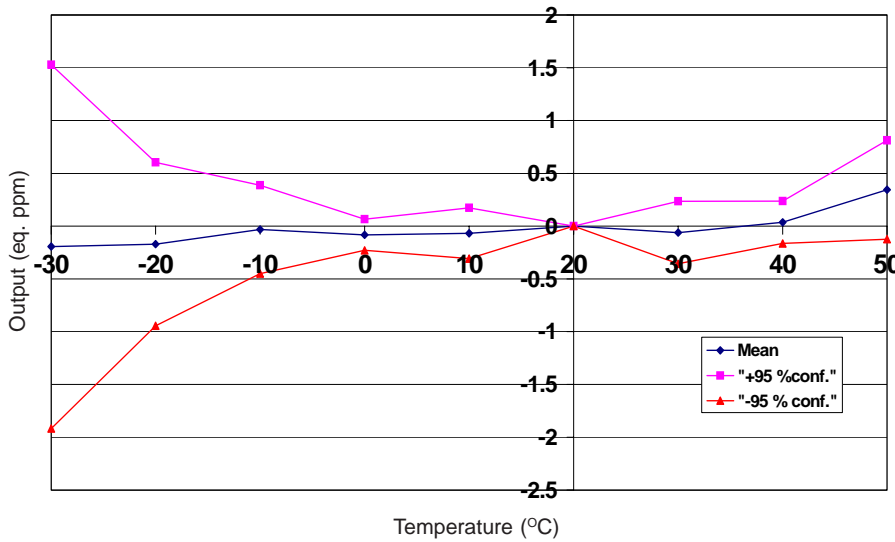


Figure 2 shows the variation in the zero current caused by changes in temperature.

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

Figure 3 Batch Repeatability

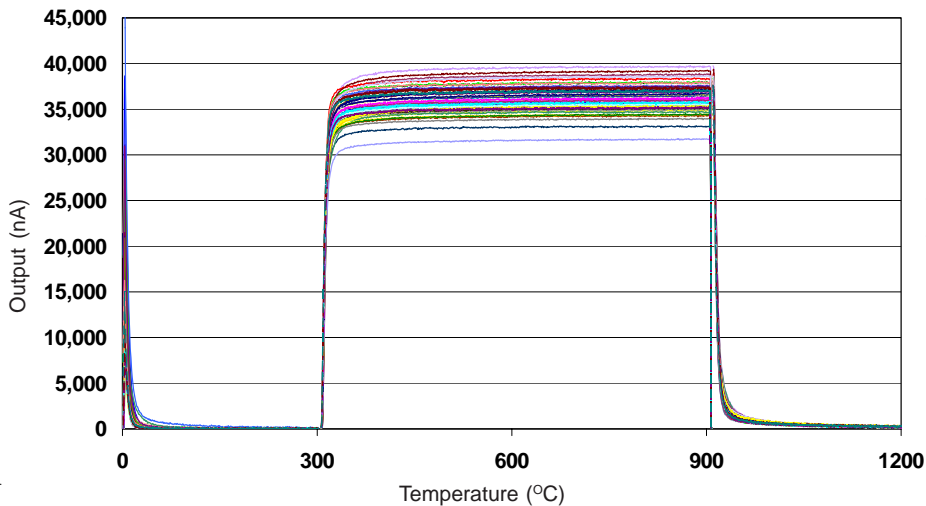


Figure 3 shows the response to 400ppm H₂S for an entire batch. Repeatable zero, fast response and stable output show good process control

This data is taken from a typical batch of sensors.

Figure 4 Response to 1% H₂S

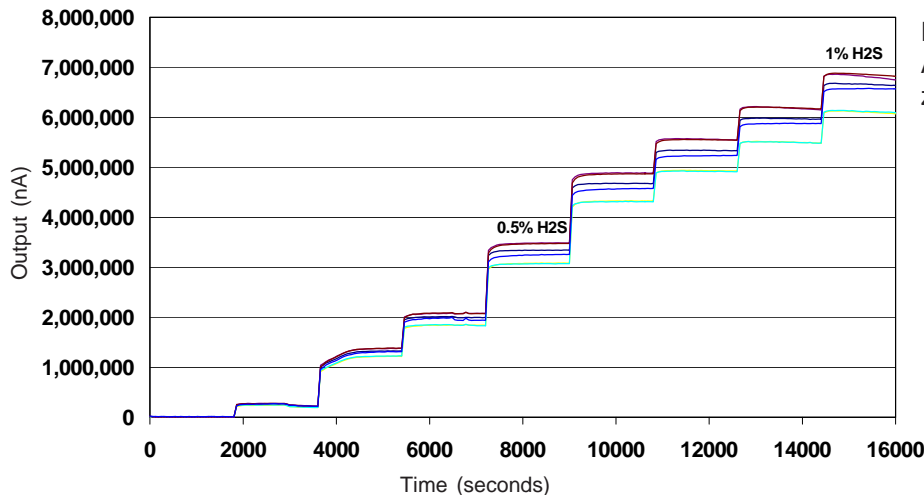


Figure 4 shows that the H₂S-AE has stable response from zero to 1% H₂S.

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".