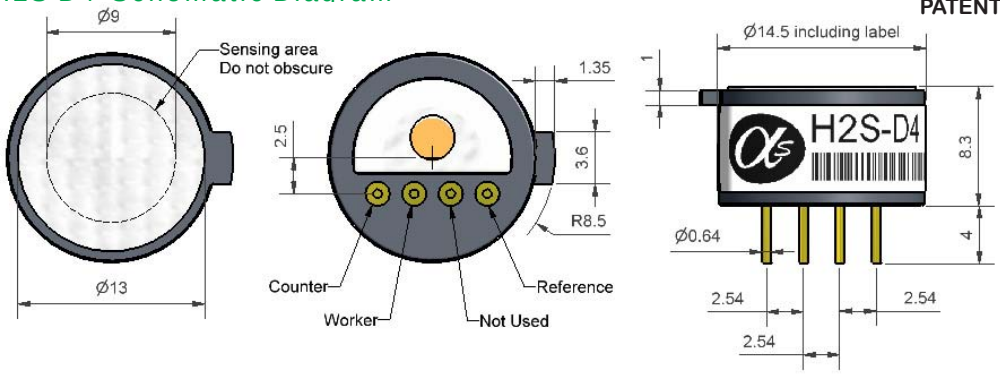
H2S-D4 Hydrogen Sulfide Sensor
Miniature Size

PATENDED and
PATENT PENDING

Technical Specification

Figure 1 H2S-D4 Schematic Diagram



All dimensions in millimetres (±0.1)

Top View **Bottom View** **Side View**

(A three pin version is available on request coded H2S-D1)

PERFORMANCE	Sensitivity	nA/ppm 20ppm H_2S	110 to 160
	Response time	t_{90} (s) from zero to 20ppm H_2S	< 20
	Zero current	ppm equivalent in zero air	< ± 0.4
	Resolution	RMS noise (ppm equivalent)	< 0.3
	Range	ppm H_2S limit of performance warranty	100
	Linearity	ppm error at full scale, linear at zero and 20ppm H_2S	< ± 6
	Overgas range	maximum ppm for stable response to gas pulse	200
LIFETIME	Zero drift	ppm equivalent change/year in lab air	< ± 0.1
	Sensitivity drift	% change/year in lab air, monthly test	< 2
	Operating life	months until 80% original signal (24 month warranted)	> 24
ENVIRONMENTAL	Sensitivity @ -20°C	% (output @ -20°C/output @ 20°C) @ 20ppm	84 to 95
	Sensitivity @ 50°C	% (output @ 50°C/output @ 20°C) @ 20ppm	99 to 110
	Zero @ -20°C	ppm equivalent change from20°C	± 1.5
	Zero @ 50°C	ppm equivalent change from 20°C	± 1.5

CROSS SENSITIVITY	SO_2	sensitivity % measured gas @ 20ppm	SO_2	< 20
	NO	sensitivity % measured gas @ 50ppm	NO	< 12
	NO_2	sensitivity % measured gas @ 10ppm	NO_2	< -25
	Cl_2	sensitivity % measured gas @ 10ppm	Cl_2	< -25
	H_2	sensitivity % measured gas @ 400ppm	H_2	< 1
	C_2H_4	sensitivity % measured gas @ 400ppm	C_2H_4	< 0.1
	CO	sensitivity % measured gas @ 400ppm	CO	< 1.5
	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 (see note below)	15 to 90
	Storage period	months @ 3 to 20°C (stored in sealed pot)	6
	Load resistor	W (recommended)	10 to 100
	Weight	g	< 2

Note: Above 85% rh and 40°C a maximum continuous exposure period of 10 days is warranted. Where such exposure occurs the sensor will recover normal electrolyte volumes when allowed to rest at lower %rh and temperature levels for several days.

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.

Alphasense Ltd, Sensor Technology House, 300 Avenue West, Skyline 120, Great Notley. CM77 7AA. UK
Telephone: +44 (0) 1376 556 700 Fax: +44 (0) 1376 335 899 E-mail: sensors@alphasense.com Website: www.alphasense.com

H2S-D4 Performance Data

Technical Specification

Figure 2 SensitivityTemperature Dependence

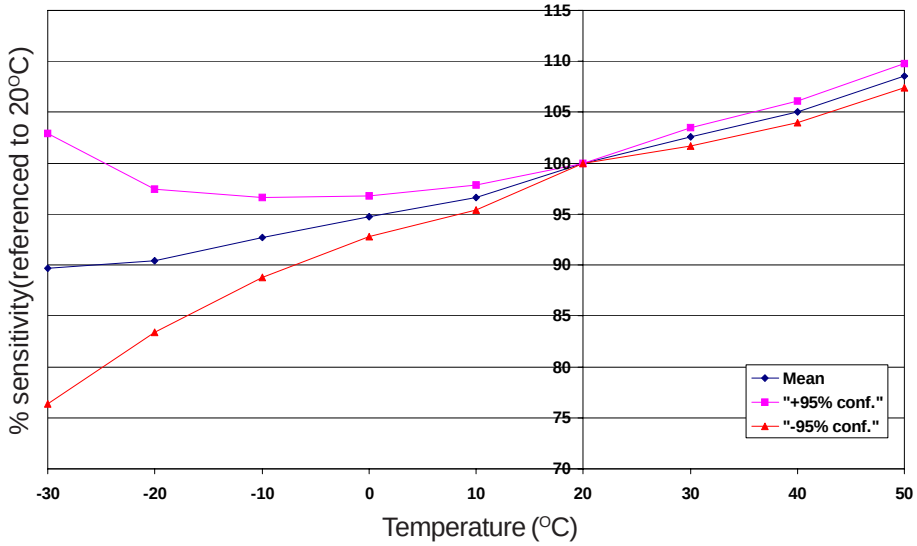


Figure 2 shows the 95% confidence interval for the variation in sensitivity caused by changes in temperature. The repeatable temperature dependence ranges from -30 to + 50°C allows more accurate temperature compensation.

Figure 3 Zero Temperature Dependence

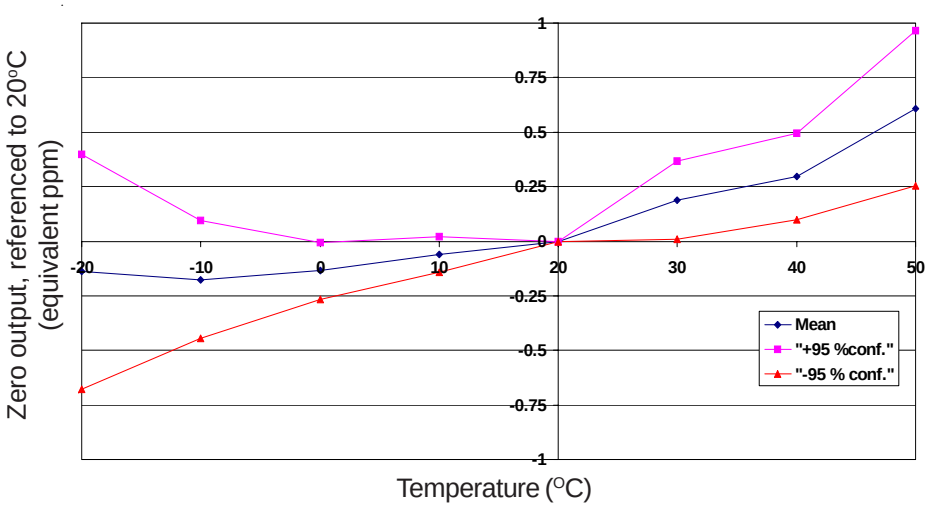


Figure 3 shows the variation in zero output caused by changes in temperature, expressed as ppm gas equivalent.

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

Figure 4 Sensitivity Long Term Stability

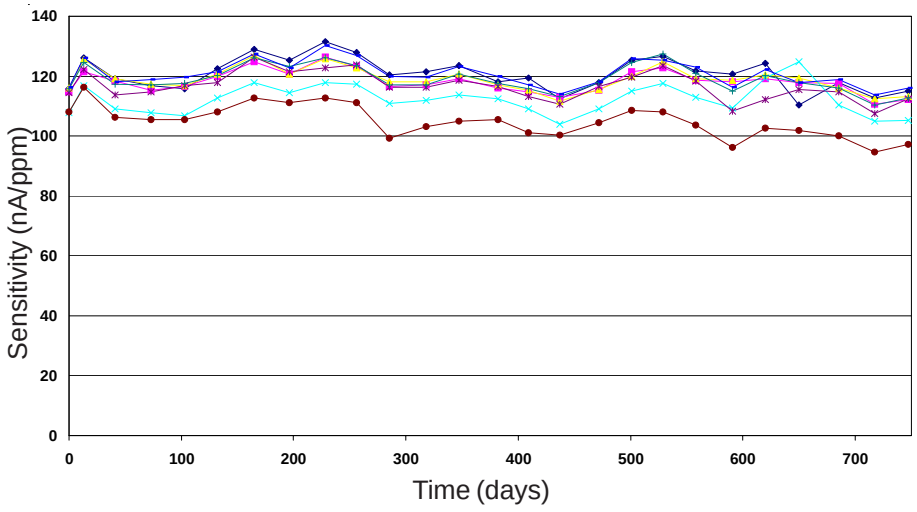


Figure 4 shows the long term stability of the H2S-D4 sensitivity in ambient air.

For further information on the performance of this sensor, on other sensors in the range or any other subject, please contact Alphasense Ltd or access our web site at "www.alphasense.com".