



H2S-A1 Hydrogen Sulfide Sensor



Figure 1 H2S-A1 Schematic Diagram



Technical Specification

| | | | |
|---------------------------|---|--|-------------|
| PERFORMANCE | Sensitivity | nA/ppm in 20ppm H ₂ S | 550 to 875 |
| | Response time | t ₉₀ (s) from zero to 20ppm H ₂ S | < 25 |
| | Zero current | ppm equivalent in zero air | < 0.3 |
| | 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 range | 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 | < 4 |
| | Operating life | months until 80% original signal (24 month warranted) | > 24 |
| ENVIRONMENTAL | Sensitivity @ -20°C | % (output @ -20°C/output @ 20°C) @ 20ppm | 78 to 93 |
| | Sensitivity @ 50°C | % (output @ 50°C/output @ 20°C) @ 20ppm | 100 to 110 |
| | Zero @ -20°C | ppm equivalent change from 20°C | < ± 0.2 |
| | Zero @ 50°C | ppm equivalent change from 20°C | < ± 0.2 |
| CROSS SENSITIVITY | SO ₂ sensitivity | % measured gas @ 20ppm | < 10 |
| | NO sensitivity | % measured gas @ 50ppm | < 4 |
| | NO ₂ sensitivity | % measured gas @ 10ppm | < -20 |
| | Cl ₂ sensitivity | % measured gas @ 10ppm | < -25 |
| | H ₂ sensitivity | % measured gas @ 400ppm | < 0.2 |
| | C ₂ H ₄ sensitivity | % measured gas @ 400ppm | < 0.5 |
| | CO sensitivity | % measured gas @ 400ppm | < 1.5 |
| 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 |
| | 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.



H2S-A1 Performance Data

Technical Specification

Figure 2 Sensitivity Temperature Dependence

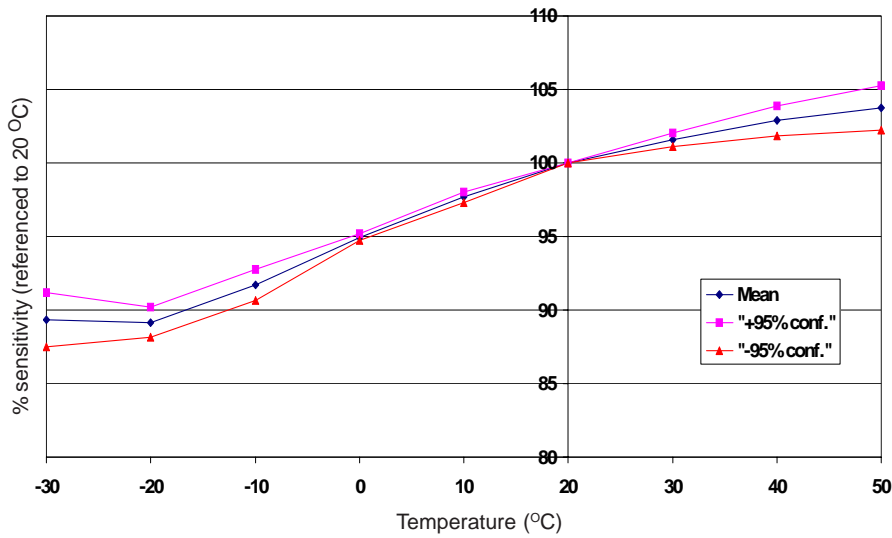


Figure 2 shows the variation in sensitivity caused by changes in temperature.

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

Figure 3 Zero Temperature Dependence

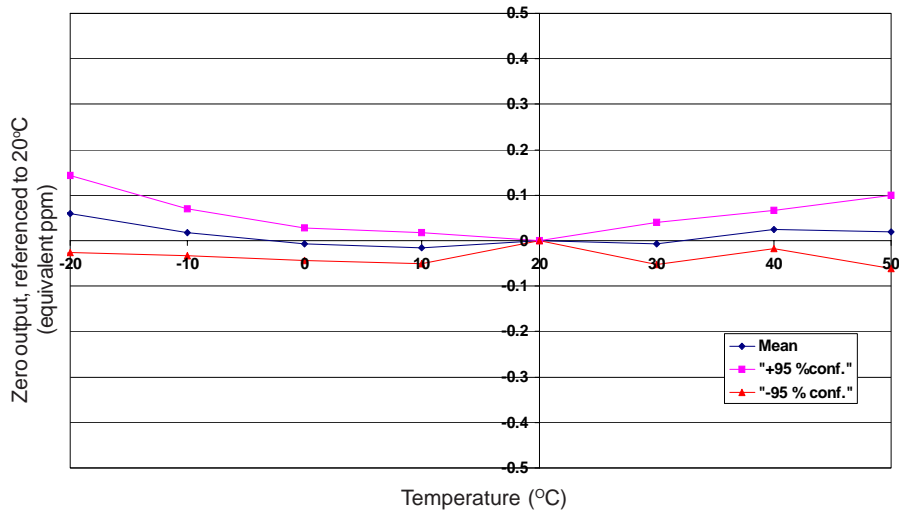


Figure 3 shows the variation in t_{90} response caused by changes in temperature.

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

Figure 4 Sensitivity Long Term Stability

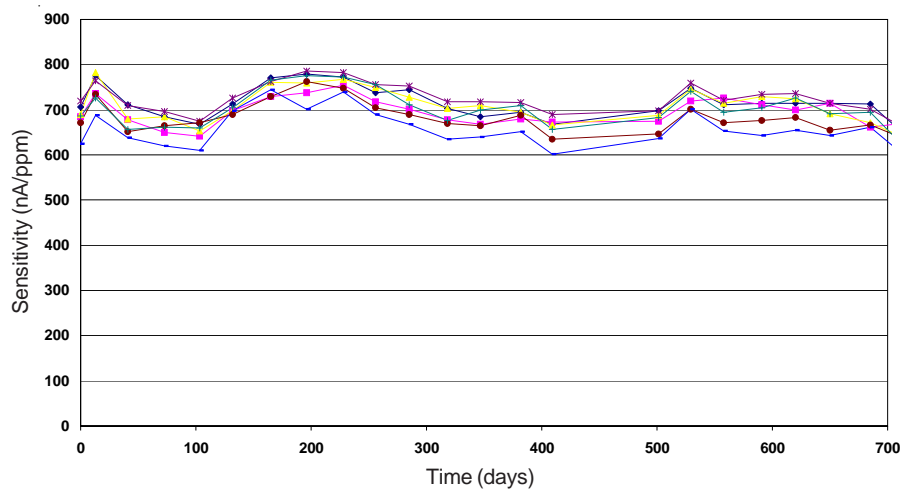


Figure 4 shows the excellent long term stability of the H2S-A1, which results from the combination of a patented design, superior electrochemistry and good process control.

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".

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