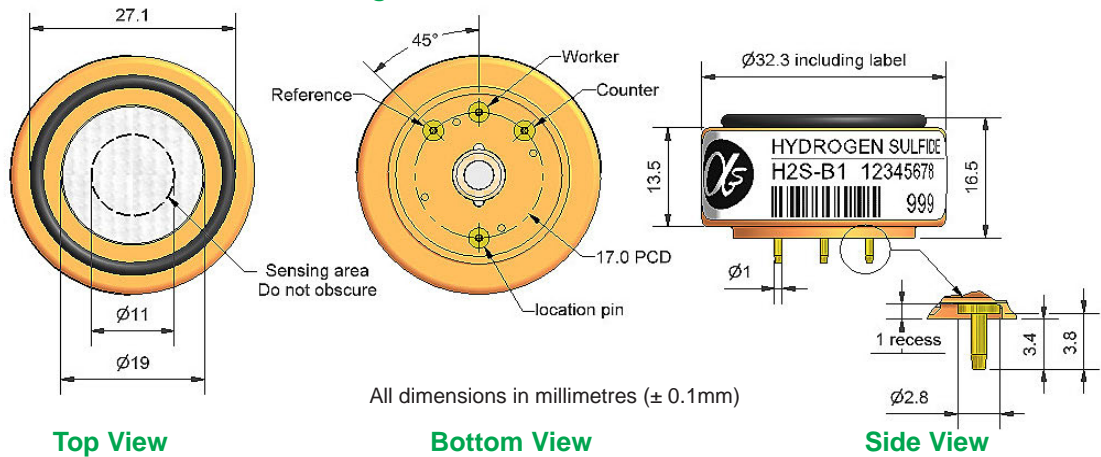


# H2S-B1 Hydrogen Sulfide Sensor



Figure 1 H2S-B1 Schematic Diagram

PATENTED



Technical Specification

|                             |   |  |            |
|-----------------------------|---|--|------------|
| <b>PERFORMANCE</b>          | Sensitivity                               | nA/ppm in 20ppm H <sub>2</sub> S                                   | 300 to 440 |
|                             | Response time                             | t <sub>90</sub> (s) from zero to 20ppm H <sub>2</sub> S            | < 35       |
|                             | Zero current                              | ppm equivalent in zero air   | < ± 0.2    |
|                             | Resolution                                | RMS noise (ppm equivalent)   | < 0.05     |
|                             | Range                                     | ppm H <sub>2</sub> S limit of performance warranty                 | 200        |
|                             | Linearity                                 | ppm error at full scale, linear at zero and 20ppm H <sub>2</sub> S | 1 to -5    |
|                             | Overgas limit                             | maximum ppm for stable response to gas pulse                       | 500        |
| <b>LIFETIME</b>             | Zero drift                                | ppm equivalent change/year in lab air                              | < 0.05     |
|                             | Sensitivity drift                         | % change/year in lab air, monthly test                             | < 3        |
|                             | Operating life                            | months until 80% original signal (24 month warranted)              | > 24       |
| <b>ENVIRONMENTAL</b>        | Sensitivity @ -20°C                       | % (output @ -20°C/output @ 20°C) @ 20ppm                           | 83 to 93   |
|                             | Sensitivity @ 50°C                        | % (output @ 50°C/output @ 20°C) @ 20ppm                            | 102 to 110 |
|                             | Zero @ -20°C                              | ppm equivalent change from 20°C                                    | < ± 1      |
|                             | Zero @ 50°C                               | ppm equivalent change from 20°C                                    | 0 to 1     |
| <b>CROSS SENSITIVITY</b>    | NO <sub>2</sub> sensitivity               | % measured gas @ 10ppm   | < -30      |
|                             | Cl <sub>2</sub> sensitivity               | % measured gas @ 10ppm   | < -25      |
|                             | NO sensitivity                            | % measured gas @ 50ppm   | < 2        |
|                             | SO <sub>2</sub> sensitivity               | % measured gas @ 20ppm   | < 18       |
|                             | CO sensitivity                            | % measured gas @ 400ppm  | < 4        |
|                             | H <sub>2</sub> sensitivity                | % measured gas @ 400ppm  | < 1        |
|                             | C <sub>2</sub> H <sub>4</sub> sensitivity | % measured gas @ 400ppm  | < 0.8      |
|                             | NH <sub>3</sub> sensitivity               | % measured gas @ 400ppm  | < 0.1      |
| CO <sub>2</sub> sensitivity | % measured gas @ 5%                       | < 0.1  |            |
| <b>KEY SPECIFICATIONS</b>   | Temperature range                         | °C   | -30 to 50  |
|                             | Pressure range                            | kPa  | 80 to 120  |
|                             | Humidity range                            | % rh   | 15 to 90   |
|                             | Storage period                            | months @ 3 to 20°C (stored in sealed pot)                          | 6          |
|                             | Load resistor                             | Ω (recommended)  | 10 to 47   |
|                             | Weight                                    | g  | < 13       |



**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-B1 Performance Data

Technical Specification

Figure 2 Sensitivity Temperature Dependence

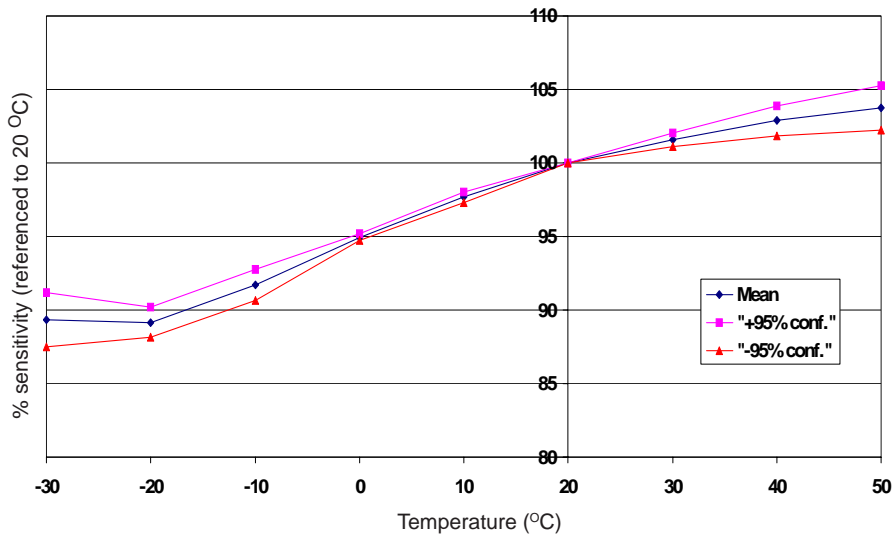


Figure 2 shows the variation in sensitivity caused by changes in temperature.

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

Figure 3 Zero Temperature Dependence

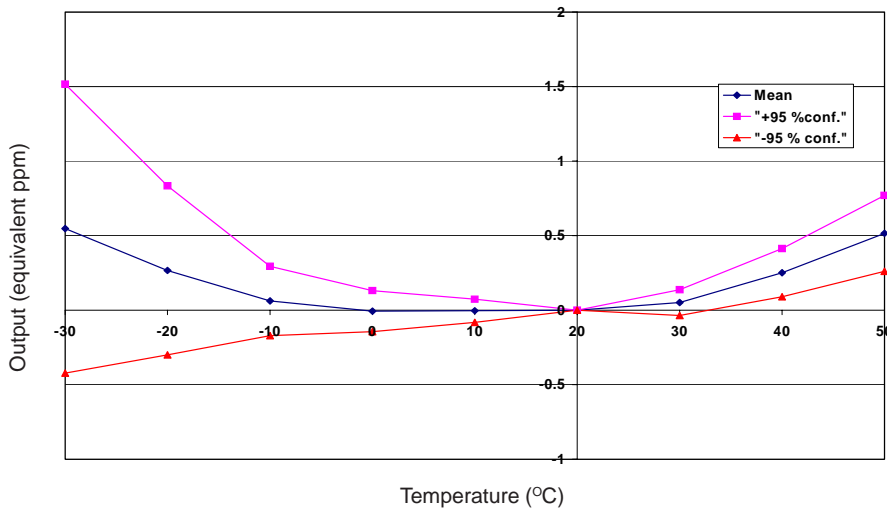
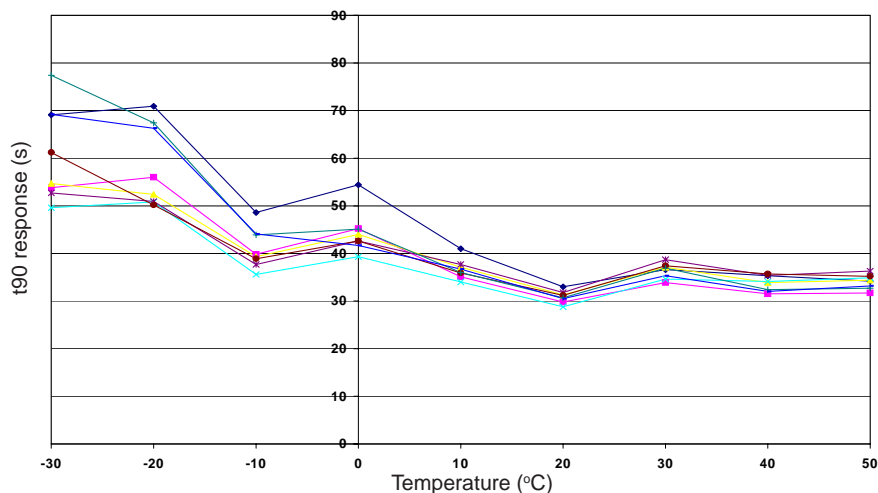


Figure 3 shows the variation in zero output caused by changes in temperature, expressed as ppm gas equivalent.

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

Figure 4 Response Time Temperature Dependence



Electrochemical gas cells respond slower at lower temperatures.

Results are from a standard batch of sensors.