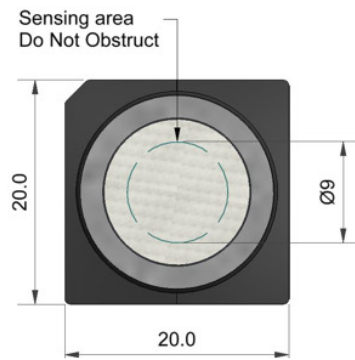


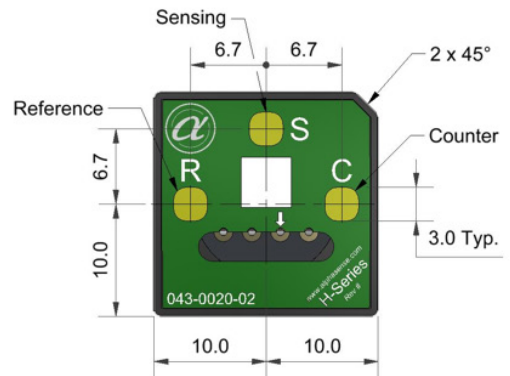
## SO<sub>2</sub>-H4 Sulfur Dioxide Sensor



Side View



Top View



Bottom View

Dimensions are in millimetres (± 0.15 mm).

### Performance

Sensitivity	nA/ppm in 10ppm SO <sub>2</sub>	180 to 420
Response time	t90 (s) from zero to 10ppm SO <sub>2</sub>	< 15
Zero current	ppm equivalent in zero air	± 0.7
Resolution	RMS noise (ppm equivalent)	< 0.2
Range	ppm limit of performance warranty	20
Linearity	ppm error at full scale, linear at zero and 10ppm	< 5
Overgas limit	maximum ppm for stable response to gas pulse	50

### Lifetime

Zero drift	ppm equivalent change/year in lab air	< 0.2
Sensitivity drift	% change/year in lab air, monthly test	< 6
Operating life	months until 80% original signal (24-month warranted)	> 18

### Environmental

Sensitivity @ -20°C	% (output @ -20°C/output @ 20°C) 10ppm	72 to 88
Sensitivity @ 50°C	% (output @ 50°C/output @ 20°C) 10ppm	74 to 95
Zero @ -20°C	ppm equivalent change from 20°C	< ± 0.5
Zero @ 50°C	ppm equivalent change from 20°C	< ± 0.5

### Cross Sensitivity

H <sub>2</sub> S sensitivity	% measured gas @ 20ppm	H <sub>2</sub> S	< 400
NO <sub>2</sub> sensitivity	% measured gas @ 10ppm	NO <sub>2</sub>	< -120
Cl <sub>2</sub> sensitivity	% measured gas @ 10ppm	Cl <sub>2</sub>	< -60
NO sensitivity	% measured gas @ 50ppm	NO	< 3
CO sensitivity	% measured gas @ 400ppm	CO	< 0.5
H <sub>2</sub> sensitivity	% measured gas @ 400ppm	H <sub>2</sub>	< 0.2
C <sub>2</sub> H <sub>4</sub> sensitivity	% measured gas @ 400ppm	C <sub>2</sub> H <sub>4</sub>	< 15
NH <sub>3</sub> sensitivity	% measured gas @ 20ppm	NH <sub>3</sub>	< 0.1
CO <sub>2</sub> sensitivity	% measured gas @ 10%	CO <sub>2</sub>	< 0.1

### Key Specifications

Temperature range	°C	-20 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	Ω (for optimum performance)	22
Weight	g	< 2

**Figure 1 Sensitivity Temperature Dependence**

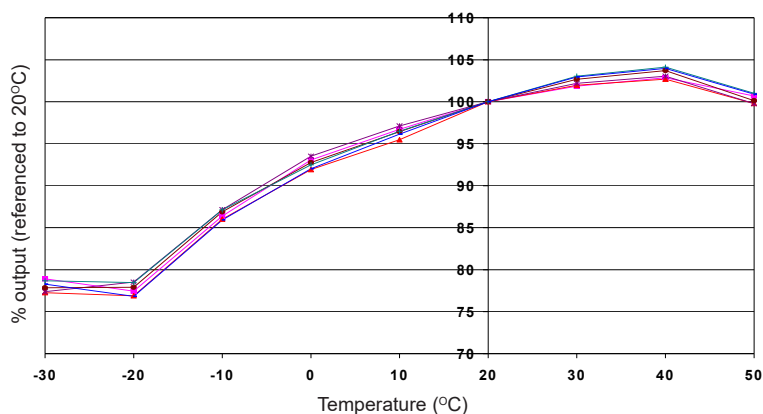


Figure 1 shows the variation in sensitivity caused by changes in temperature.

This data is taken from a typical batch of sensors.

**Figure 2 Zero Temperature Dependence**

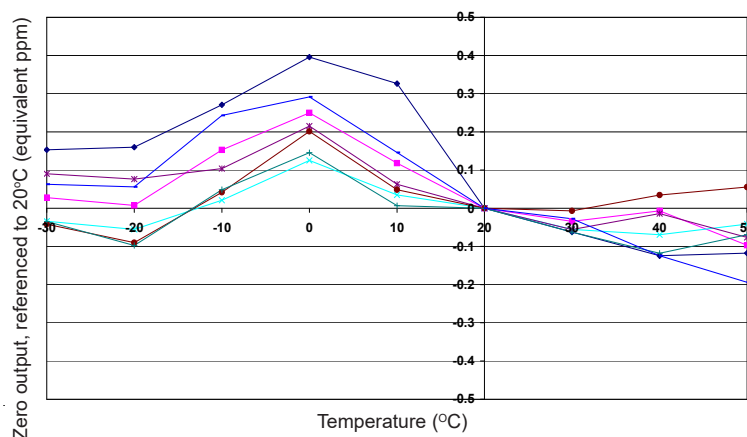
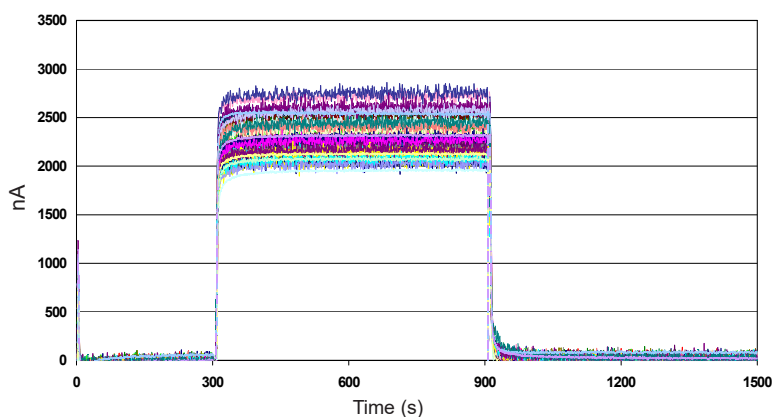


Figure 2 shows the variation in zero output caused by changes in temperature, expressed as ppm gas equivalent, referenced to zero at 20°C.

This data is taken from a typical batch of sensors.

**Figure 3 Response to 10ppm SO<sub>2</sub>**



Typical batch of 64 sensors all respond rapidly and repeatably to 10ppm SO<sub>2</sub>.

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. NOTE: all sensors are tested at ambient environmental conditions 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.

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