

NO2-A1 Nitrogen Dioxide Sensor



Figure 1 NO2-A	1 Schematic Dia	agram	PATENTED
	All dime	Worker Worker Counter NITROGENDI NO2-A1 12345 9 0.7 reco 9 0.7 reco 9 0 0 0 0 0 0	255
Тор	View	Bottom View Side View	
PERFORMANCE	Sensitivity Response time Zero current Resolution Range Linearity Overgas range	nA/ppm in 10ppm NO ₂ t ₉₀ (s) from zero to 10ppm NO ₂ (33Ω Load Resistor) ppm equivalent in zero air RMS noise (ppm equivalent) (33Ω Load Resistor) ppm NO ₂ limit of performance warranty ppm error at full scale, linear at zero and 10ppm NO ₂ maximum ppm for stable response to gas pulse	-400 to -750 < 40 < ± 0.2 < 0.02 20 < 1.5 100
LIFETIME	Zero drift Sensitivitydrift Operating life	ppm equivalent change/year in lab air % change/month in lab air, monthly test months until 80% original signal (24 month warranted	< 0.2 < 4 d) > 24
ENVIRONMENTAL	- Sensitivity @ -20°C Sensitivity @ 50°C Zero @ -20°C Zero @ 50°C	% (output @ -20°C/output @ 20°C) @ 5ppm NO ₂ % (output @ 50°C/output @ 20°C) @ 5ppm NO ₂ ppm equivalent change from 20°C ppm equivalent change from 20°C	76 to 90 101 to 110 < ± 0.1 < 0 to -0.4
SENSITIVITY NO SO2 Cl2 H2 H2 CO	sensitivity sensitivity sensitivity sensitivity sensitivity sensitivity sensitivity		< 0.1 < 0.5 < -2.5 100 < 0.1 < -40 < 0.1 < 0.1
KEY SPECIFICATIONS	Temperature range Pressure range Humidity range Storage period Load resistor Weight	[°] C kPa % rh continuous months @ 3 to 20°C (stored in sealed pot) Ω (for optimum performance) g	-20 to 50 80 to 120 15 to 90 6 33 < 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.



NO2-A1 Performance Data

Figure 2 Sensitivity Temperature Dependence

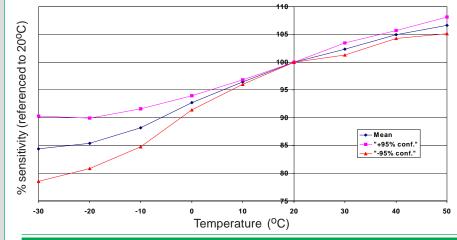


Figure 2 shows the variation in sensitivity caused by changes in temperature.

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



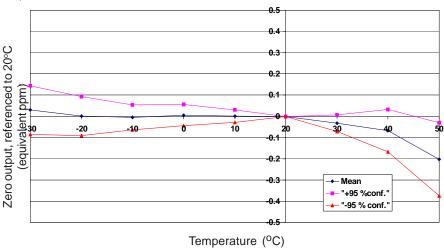


Figure 3 shows the variation in zero output caused by changes in temperature expressed at ppm gas equivalent.

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



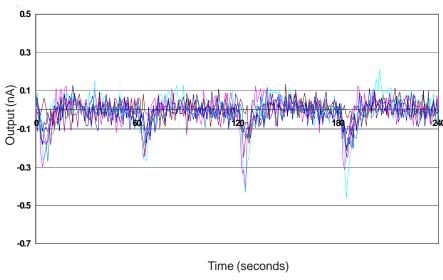


Figure 4 shows typical sensor outputs for a group of sensors exposed to exhaled breath for 4 cycles over 240 seconds.

This is an extreme test for such sensors and the shift in the base line of no more than 0.5 ppm shows a very strong resistance to this test. Therefore the sensor will not give false signals when exposed to transient changes in relative humidity.

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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