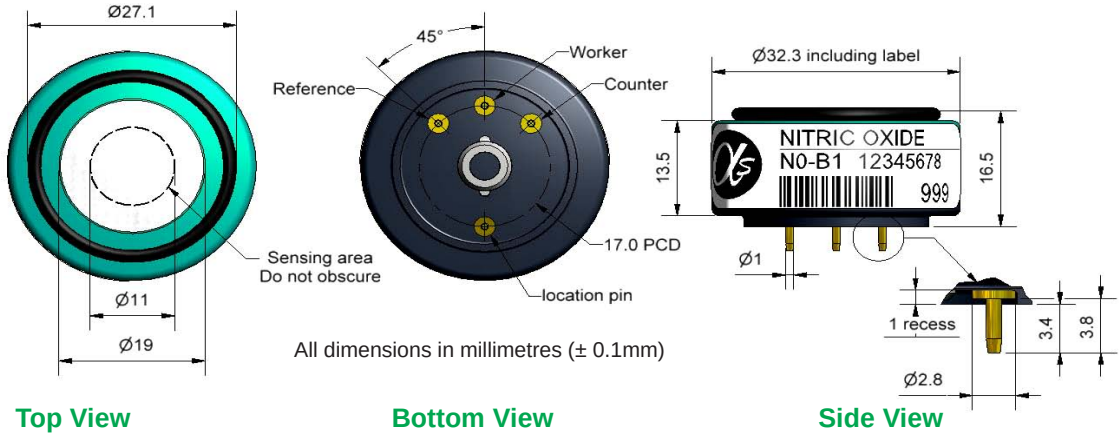
NO-B1 Nitric Oxide Sensor

PATENTED

Technical Specification

Figure 1 NO-B1 Schematic Diagram



All dimensions in millimetres (± 0.1mm)

Top View | Bottom View | Side View

PERFORMANCE	Sensitivity	nA/ppm in 50ppm NO	400 to 620
	Response time	t_{90} (s) from zero to 50ppm NO	< 30
	Zero current	ppm equivalent in zero air	0 to +4
	Resolution	RMS noise (ppm equivalent)	< 0.15
	Range	ppm NO limit of performance warranty	250
	Linearity	ppm error at full scale, linear at zero and 50ppm NO	-20 to -25
	Overgas limit	maximum ppm for stable response to gas pulse	1200
LIFETIME	Zero drift	ppm equivalent change/year in lab air	< 0.3
	Sensitivitydrift	% change/year in lab air, monthly test	< 5
	Operating life	months until 80% original signal (24 month warranted)	> 24
ENVIRONMENTAL			
	Sensitivity @ -20°C	% (output @ -20°C/output @ 20°C) @ 50ppm NO	89 to 98
	Sensitivity @ 50°C	% (output @ 50°C/output @ 20°C) @ 50ppm NO	97 to 104
	Zero @ -20°C	ppm equivalent change from 20°C	< 0 to -2
	Zero @ 50°C	ppm equivalent change from 20°C	< 6 to 20

CROSS SENSITIVITY	H_2S sensitivity	% measured gas @ 20ppm	H_2S	< 60
	NO_2 sensitivity	% measured gas @ 10ppm	NO_2	< 5
	Cl_2 sensitivity	% measured gas @ 10ppm	Cl_2	< 5
	SO_2 sensitivity	% measured gas @ 20ppm	SO_2	< 4
	H_2 sensitivity	% measured gas @ 400ppm	H_2	< 0.1
	CO sensitivity	% measured gas @ 400ppm	CO	< 0.1
	NH_3 sensitivity	% measured gas @ 20ppm	NH_3	< 0.1
	CO_2 sensitivity	% measured gas @ 5% Vol	CO_2	< 0.1

KEY SPECIFICATIONS			
	Bias voltage	mV (working electrode potential is above ground)	+300
	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
	Load resistor	Ω (recommended)	10 to 47
	Weight	g	< 13

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.

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NO-B1 Performance Data

Technical Specification

Figure 2 Sensitivity Temperature Dependence

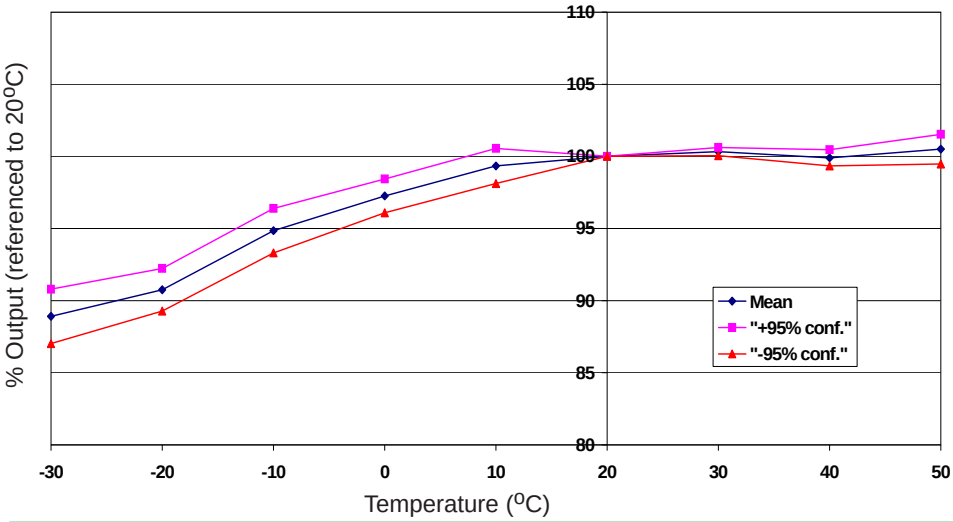


Figure 2 shows the variation in sensitivity caused by changes in temperature.

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

Figure 3 Zero Temperature Dependence

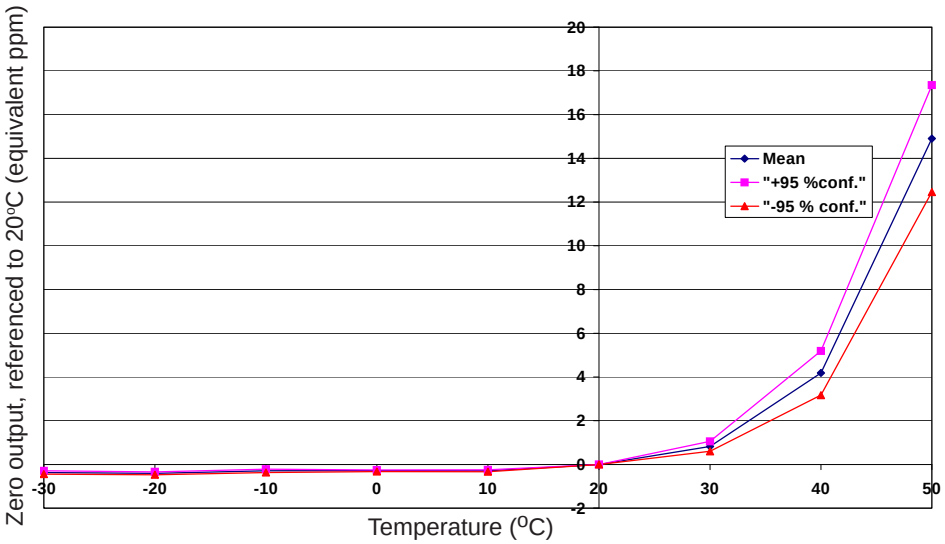
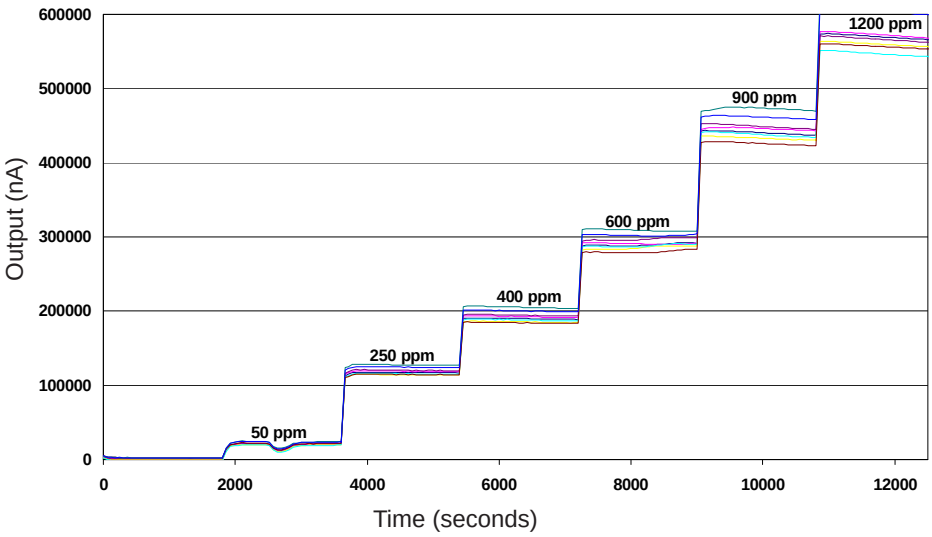


Figure 3 shows the variation in zero output caused by changes in temperature, expressed as ppm gas equivalent, referenced to zero at 20°C.

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

Figure 4 NO-B1 Response to 1,200ppm NO



The NO-B1 responds rapidly to gas concentrations up to 1200ppm NO.

This data is taken from a typical batch of sensors.

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