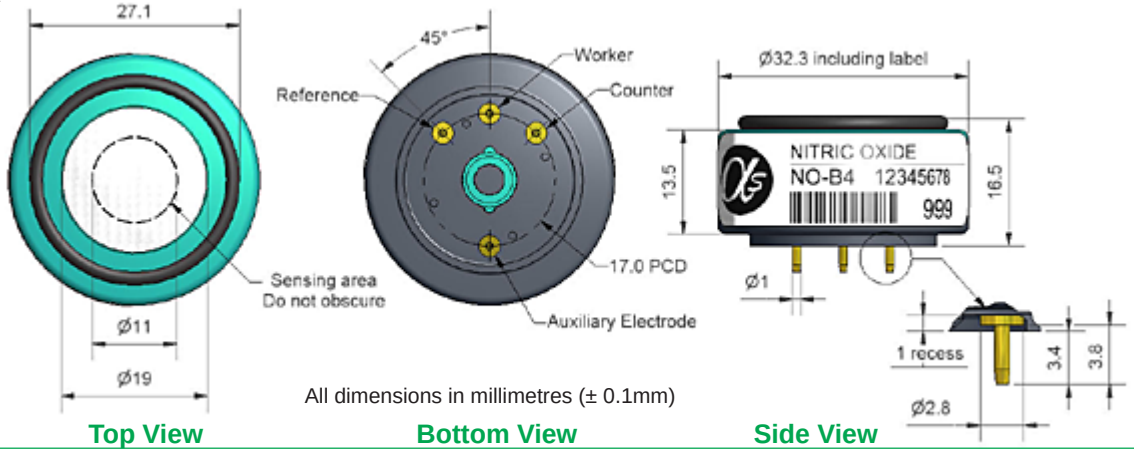
NO-B4 Nitric Oxide Sensor

PATENTED

Technical Specification

Figure 1 NO-B4 Schematic Diagram



All dimensions in millimetres (± 0.1mm)

Top View | Bottom View | Side View

PERFORMANCE

	Sensitivity	nA/ppm in 50ppm NO	200 to 300
	Response time	t_{90} (s) from zero to 50ppm NO	< 25
	Zero current	ppm equivalent in zero air	±1.5
	Resolution	RMS noise (ppm equivalent)	< 0.1
	Range	ppm NO limit of performance warranty	100
	Linearity	ppm error at full scale, linear at zero and 50ppm NO	1 to 2
	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	87 to 95
	Sensitivity @ 50°C	% (output @ 50°C/output @ 20°C) @ 50ppm NO	102 to 107
	Zero @ -20°C	ppm equivalent change from 20°C	0 to -0.4
	Zero @ 50°C	ppm equivalent change from 20°C	6 to 10

CROSS SENSITIVITY

H_2S	sensitivity	% measured gas	@ 20ppm	H_2S	< 60
NO_2	sensitivity	% measured gas	@ 10ppm	NO_2 (after 3 minutes)	< 1.5
Cl_2	sensitivity	% measured gas	@ 10ppm	Cl_2	< 5
SO_2	sensitivity	% measured gas	@ 20ppm	SO_2	< 3
H_2	sensitivity	% measured gas	@ 400ppm	H_2	< 0.1
CO	sensitivity	% measured gas	@ 400ppm	CO	< 0.3
CO_2	sensitivity	% measured gas	@ 5% Vol	CO_2	<0.1
Halothane	sensitivity		@ 100ppm	Halothane	< 0.1

KEY SPECIFICATIONS

	Bias voltage	mV (working electrode potential is above reference electrode)	+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

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.

NO-B4 Performance Data

Technical Specification

Figure 2 Response to 50ppm NO

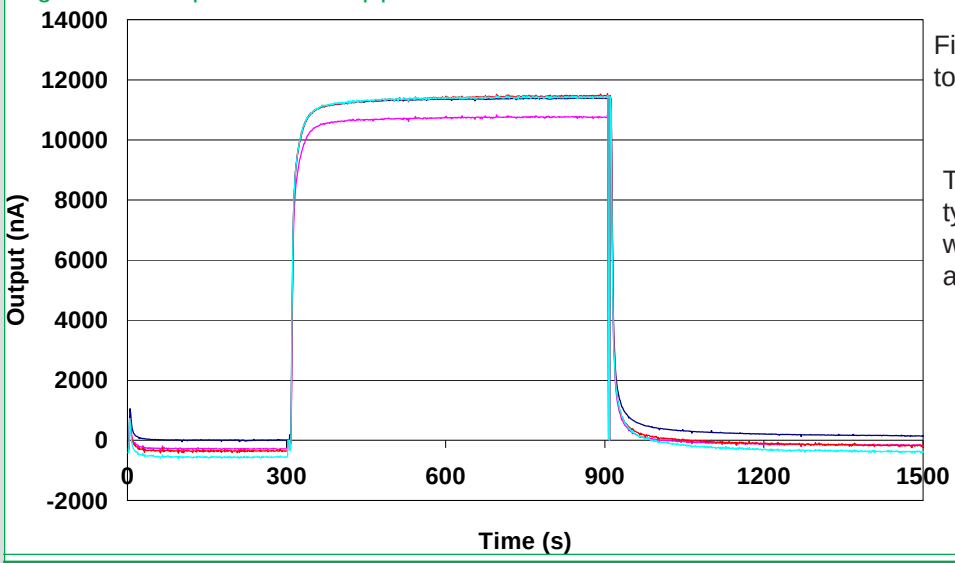


Figure 2 shows the response to 50ppm NO.

This data is taken from a typical batch of sensors. Zero was corrected using the auxiliary electrode.

Figure 3 Sensitivity Temperature Dependence

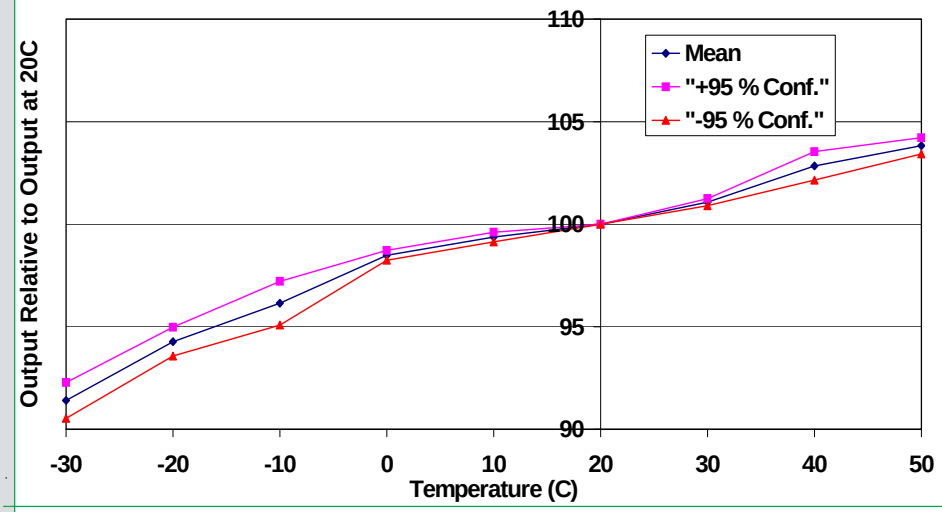


Figure 3 shows the variation in sensitivity caused by changes in temperature expressed as ppm gas equivalent.

This data is taken from a typical batch of sensors.

Figure 4 Linearity to 100ppm NO

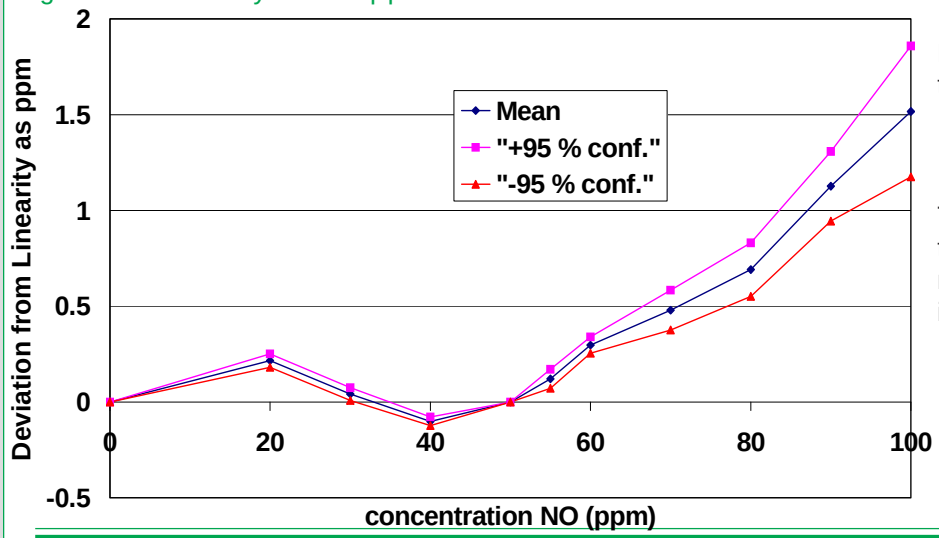


Figure 4 shows non-linearity to 100ppm NO.

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