



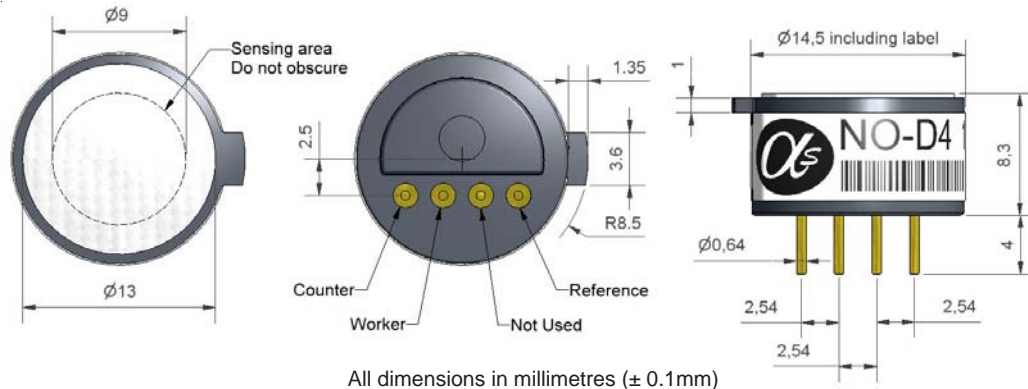
NO-D4 Nitric Oxide Sensor

Miniature Size



Figure 1 NO-D4 Schematic Diagram

PATENTED



Top View

Bottom View

Side View

All dimensions in millimetres ($\pm 0.1\text{mm}$)

PERFORMANCE	Parameter	Specification	Value
	Sensitivity	nA/ppm in 40ppm NO	450 to 600
	Response time	t_{90} (s) from zero to 40ppm NO	< 15
	Zero current	ppm equivalent in zero air	< 0 to 1.5
	Resolution	RMS noise (ppm equivalent)	< 0.1
	Range	ppm limit of performance warranty	100
	Linearity	ppm error at full scale, linear at zero and 40ppm NO	< ± 1.5
	Overgas limit	maximum ppm for stable response to gas pulse	400

LIFETIME	Parameter	Specification	Value
	Zero drift	ppm equivalent change/year in lab air	< 0.4
	Sensitivity drift	% change/month in lab air, monthly test	< 5
	Operating life	months until 80% original signal (24 month warranted)	> 24

ENVIRONMENTAL	Parameter	Specification	Value
	Sensitivity @ -20°C	% (output @ -20°C/output @ 20°C) 40ppm NO	65 to 80
	Sensitivity @ 50°C	% (output @ 50°C/output @ 20°C) 40ppm NO	102 to 115
	Zero @ -20°C	ppm equivalent change from 20°C	< ± 0.5
	Zero @ 50°C	ppm equivalent change from 20°C	< 1.5 to 6

CROSS SENSITIVITY	Gas	Sensitivity	Specification	Value
	H ₂ S	sensitivity	% measured gas @ 20ppm	< 5
	NO ₂	sensitivity	% measured gas @ 10ppm	< 5
	Cl ₂	sensitivity	% measured gas @ 10ppm	< 5
	SO ₂	sensitivity	% measured gas @ 10ppm	< 0.5
	CO	sensitivity	% measured gas @ 400ppm	< 0.1
	H ₂	sensitivity	% measured gas @ 400ppm	< 0.1
	C ₂ H ₄	sensitivity	% measured gas @ 1000ppm	< 0.1
	NH ₃	sensitivity	% measured gas @ 20ppm	< 0.1
	CO ₂	sensitivity	% measured gas @ 5%	< 0.1

KEY SPECIFICATIONS	Parameter	Specification	Value
	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
	Bias voltage	mV (working electrode above ground)	300mV
	Load resistor	Ω (for optimum performance)	10 to 47
	Weight	g	< 2



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, 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-D4 Performance Data

Technical Specification

Figure 2 Sensitivity Temperature Dependence

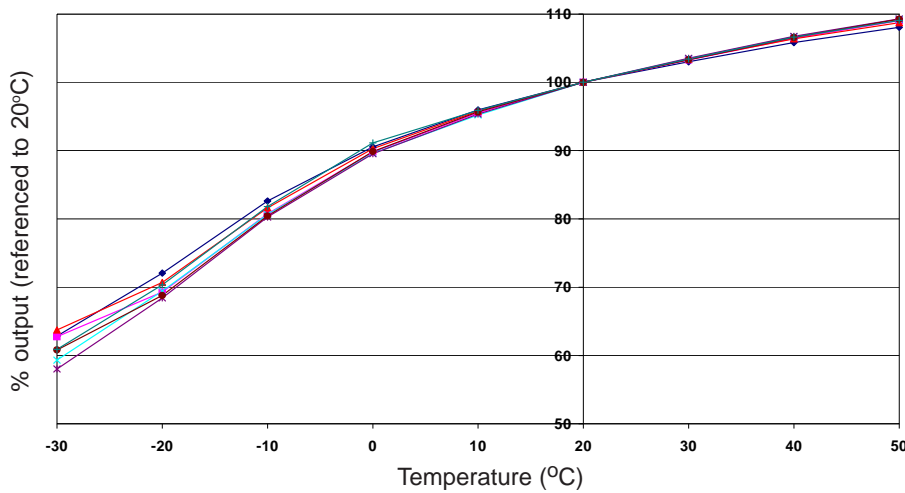


Figure 2 shows the variation in sensitivity caused by changes in temperature.

This data is taken from a typical batch of sensors.

Figure 3 Zero Temperature Dependence

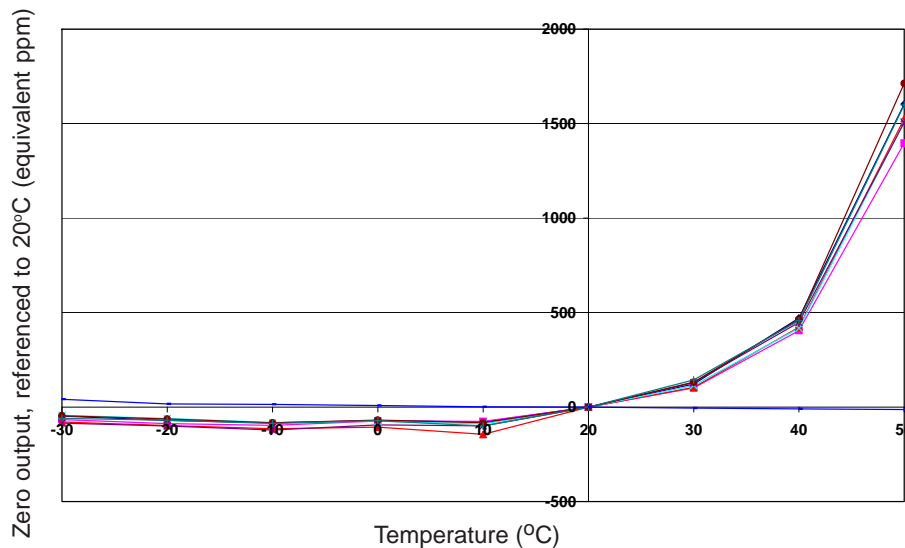
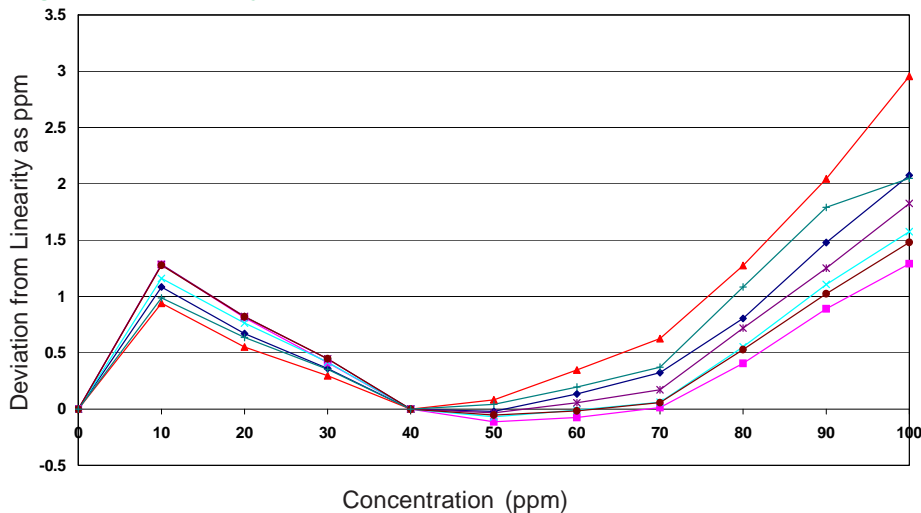


Figure 3 shows the variation in zero output caused by changes in temperature, expressed as ppm gas equivalent, referenced to zero at 20°C.

This data is taken from a typical batch of sensors.

Figure 4 Linearity to 100ppm NO



Sensors show nearly ideal linearity from 0 to 100ppm NO.

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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