

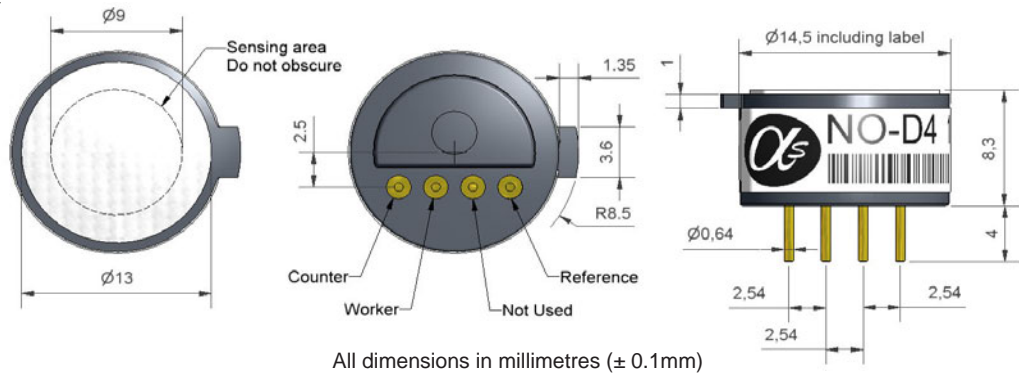
NO-D4 Nitric Oxide Sensor

Miniature Size



PATENTED

Figure 1 NO-D4 Schematic Diagram



Top View

Bottom View

Side View

PERFORMANCE	Parameter	Specification	Range
	Sensitivity	nA/ppm in 40ppm NO	500 to 750
	Response time	t_{90} (s) from zero to 40ppm NO	< 10
	Zero current	ppm equivalent in zero air	0 to 1
	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	200

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 85
	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	3 to 6

CROSS SENSITIVITY	Gas	Sensitivity	Specification	Value
	H ₂ S	sensitivity	% measured gas @ 20ppm	< 30
	NO ₂	sensitivity	% measured gas @ 10ppm	< 5
	Cl ₂	sensitivity	% measured gas @ 10ppm	< 5
	SO ₂	sensitivity	% measured gas @ 10ppm	< 3
	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



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.

Technical Specification

NO-D4 Performance Data

Technical Specification

Figure 2 Sensitivity Temperature Dependence

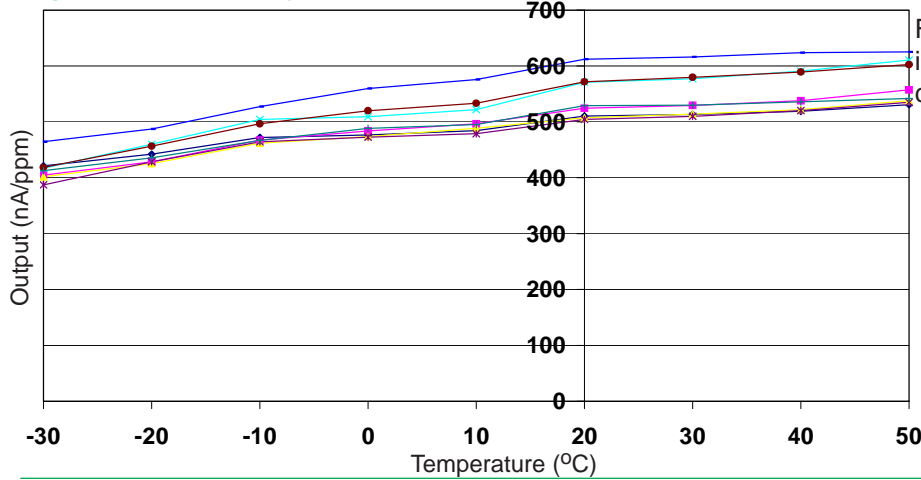


Figure 2 shows the variation in sensitivity caused by changes in temperature.

This data is taken from a typical batch of sensors.

Figure 3 Zero Temperature Dependence

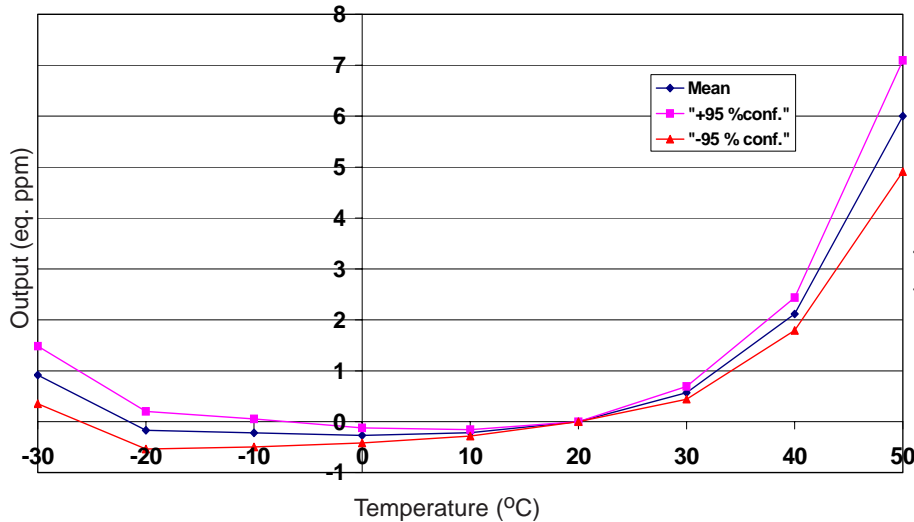
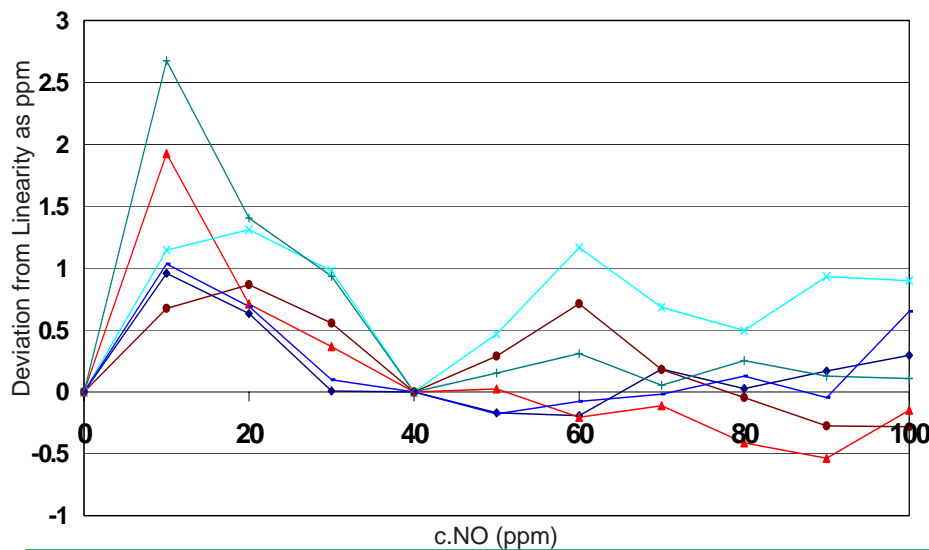


Figure 3 shows the variation in zero output caused by changes in temperature expressed as ppm gas equivalent.

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

Figure 4 Linearity to 100ppm NO



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