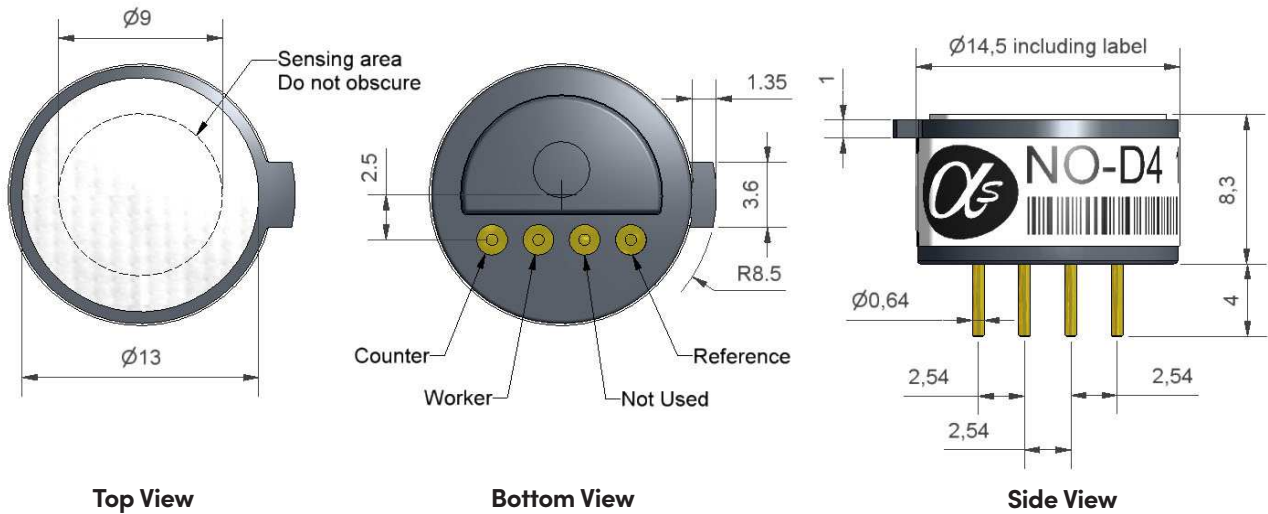


Technical specifications Version 1.0

NO-D4 Nitric Oxide Sensor – Miniature Size



Dimensions are in millimetres (± 0.1 mm).

Performance	Sensitivity	nA/ppm in 40ppm NO	450 to 600	
	Response time	t90 (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	< ± 1.5	
	Overgas limit	NO maximum ppm for stable response to gas pulse	400	
Lifetime	Zero drift	ppm equivalent change/year in lab air	< 0.4	
	Sensitivity drift	% change/year in lab air, monthly test	< 5	
	Operating life	months until 80% original signal (24-month warranted)	> 18	
Environmental	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	H <sub>2</sub> S sensitivity	% measured gas @ 20ppm	H <sub>2</sub> S	< 5
	NO <sub>2</sub> sensitivity	% measured gas @ 10ppm	NO <sub>2</sub>	< 5
	Cl <sub>2</sub> sensitivity	% measured gas @ 10ppm	Cl <sub>2</sub>	< 5
	SO <sub>2</sub> sensitivity	% measured gas @ 10ppm	SO <sub>2</sub>	< 0.5
	CO sensitivity	% measured gas @ 400ppm	CO	< 0.1
	H <sub>2</sub> sensitivity	% measured gas @ 400ppm	H <sub>2</sub>	< 0.1
	C <sub>2</sub> H <sub>4</sub> sensitivity	% measured gas @ 1000ppm	C <sub>2</sub> H <sub>4</sub>	< 0.1
	NH <sub>3</sub> sensitivity	% measured gas @ 20ppm	NH <sub>3</sub>	< 0.1
	CO <sub>2</sub> sensitivity	% measured gas @ 5%	CO <sub>2</sub>	< 0.1
Key Specifications	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	

Figure 1 Sensitivity Temperature Dependence

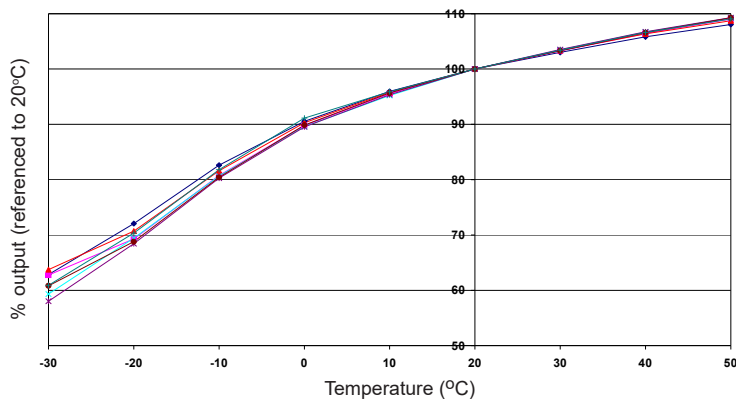


Figure 1 shows the variation in sensitivity caused by changes in temperature.  
This data is taken from a typical batch of sensors.

Figure 2 Zero Temperature Dependence

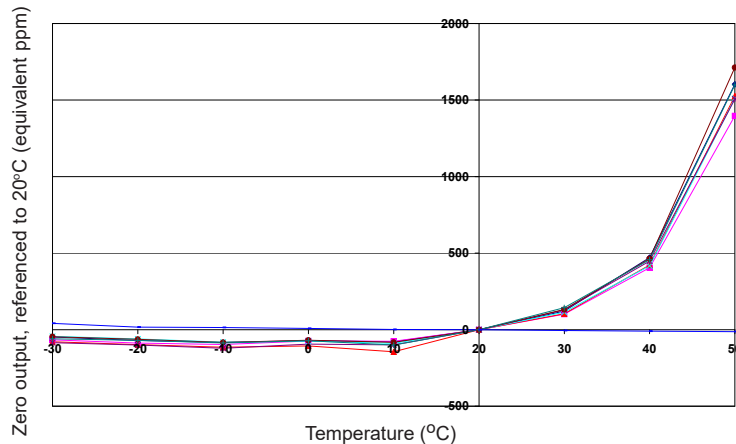
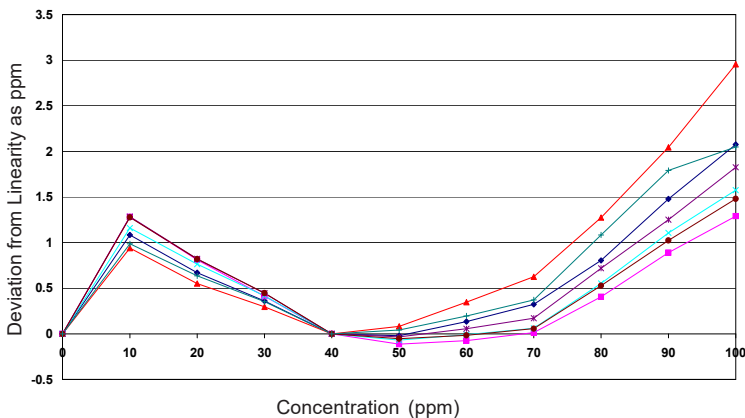


Figure 2 shows the variation in zero output caused by changes in temperature, expressed as ppm gas equivalent, referenced to zero at 20°C.  
This data is taken from a typical batch of sensors.

Figure 3 Linearity to 100ppm NO



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

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.

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 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.

In the interest of continued product improvement, we reserve the right to change design features and specifications without prior notification. The data contained in this document is for guidance only. Alphasense Ltd accepts no liability for any consequential losses, injury or damage resulting from the use of this document or the information contained within.(©ALPHASENSE LTD) Doc. Ref. NO-D4/SEP22