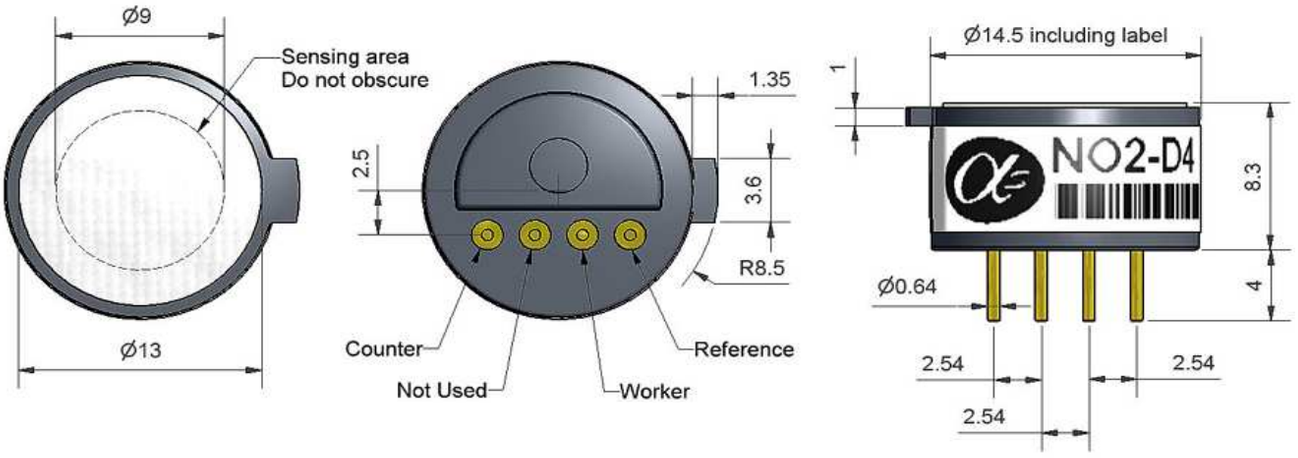
NO2-D4 Nitrogen Dioxide Sensor – Miniature Size



Top View **Bottom View** **Side View**

Dimensions are in millimetres (± 0.1 mm).

Performance	Sensitivity	nA/ppm in 10ppm NO_2		-100 to -350
	Response time	t90 (s) from zero to 10ppm NO_2		< 35
	Zero current	ppm equivalent in zero air		± 0.8
	Resolution	RMS noise (ppm equivalent)		0.1
	Range	ppm NO_2 limit of performance warranty		20
	Linearity	ppm error at full scale, linear at zero and 10ppm NO_2		0 to -0.6
	Overgas limit	maximum ppm for stable response to gas pulse		60
Lifetime	Zero drift	ppm equivalent change/year in lab air		nd
	Sensitivity drift	% change/month in lab air, twice monthly test		nd
	Operating life	months until 80% original signal (24 month warranted)		> 18
Environmental	Sensitivity @ -20°C	% (output @ -20°C/output @ 20°C) @ 10ppm		75 to 95
	Sensitivity @ 50°C	% (output @ 50°C/output @ 20°C) @ 10ppm		90 to 105
	Zero @ -20°C	ppm equivalent change from 20°C		< ± 0.6
	Zero @ 50°C	ppm equivalent change from 20°C		< ± 1.5
Cross-sensitivity	H_2S sensitivity	% measured gas @ 20ppm	H_2S	< -200
	Cl_2 sensitivity	% measured gas @ 10ppm	Cl_2	< 120
	NO sensitivity	% measured gas @ 50ppm	NO	< 0.5
	SO_2 sensitivity	% measured gas @ 20ppm	SO_2	< -3
	CO sensitivity	% measured gas @ 400ppm	CO	< 0.1
	H_2 sensitivity	% measured gas @ 400ppm	H_2	< 0.1
	C_2H_4 sensitivity	% measured gas @ 400ppm	C_2H_4	< 0.1
	NH_3 sensitivity	% measured gas @ 20ppm	NH_3	< 0.1
	CO_2 sensitivity	% measured gas @ 10%	CO_2	< 0.1
	O_3 sensitivity	% measured gas @ 200ppb	O_3	< 70
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
	Load resistor	Ω (for optimum performance)		33
	Weight	g		< 2

For further information on the performance of this sensor, on other sensors in the range or any other subject, please contact Alphasense Ltd. or visit our website at "www.alphasense.com".

Figure 1 Sensitivity Temperature Dependence

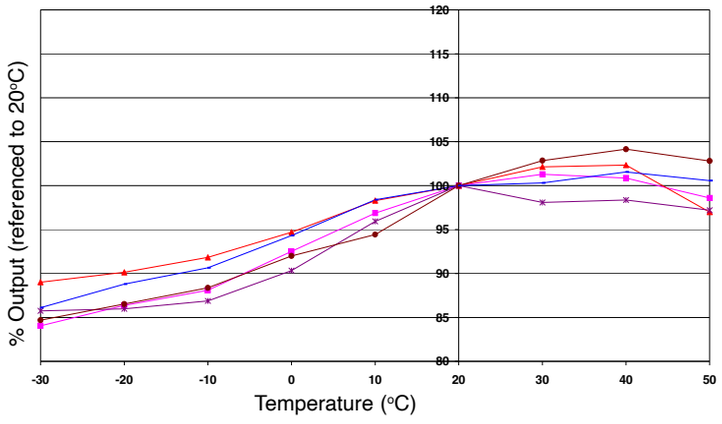


Figure 1 shows the variation in sensitivity caused by changes in temperature.

This data is taken from a typical batch of NO2-D4 sensors. Good repeatability means accurate temperature compensation.

Figure 2 Zero Temperature Dependence

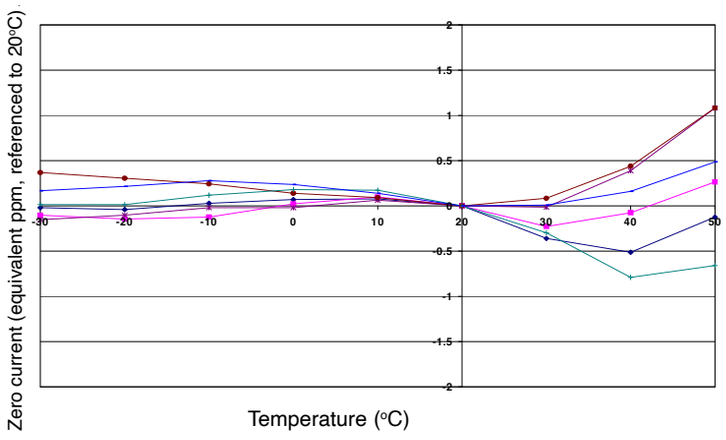
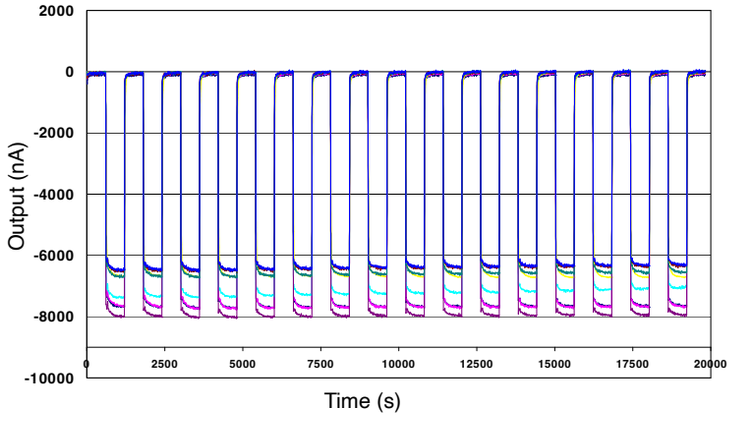


Figure 2 shows the variation in zero output caused by changes in temperature, expressed as ppm gas equivalent, referenced to zero at 20°C.

This data is taken from a typical batch of sensors.

Figure 3 Repeated gassing with 20ppm NO_2



This hysteresis graph shows stable response when gassed repeatedly with 20ppm NO_2.

Note: Above 85% rh and 40°C a maximum continuous exposure period of 10 days is warranted. Where such exposure occurs the sensor will recover normal electrolyte volumes when allowed to rest at lower %rh and temperature levels for several days.

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.