

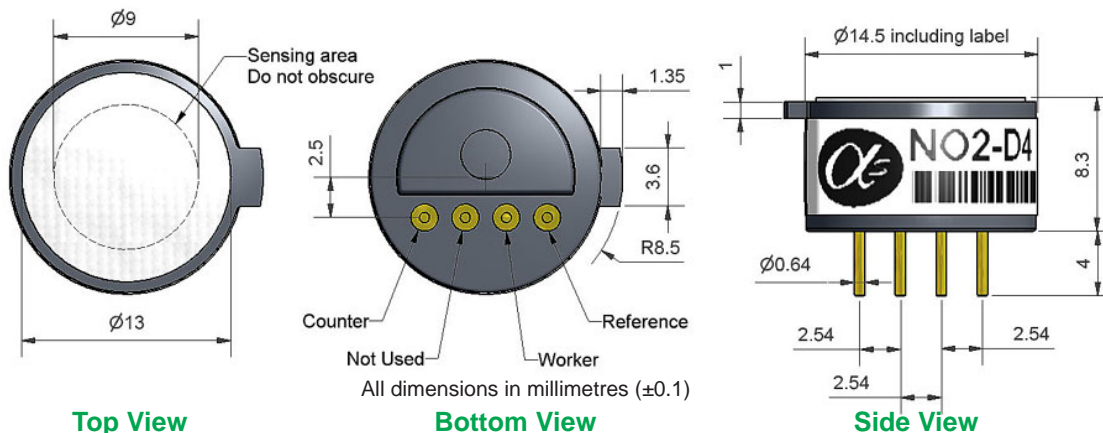
NO2-D4 Nitrogen Dioxide Sensor

Miniature Size



Figure 1 NO2-D4 Schematic Diagram

PATENTED



Technical Specification

PERFORMANCE	Parameter	Value	Unit
	Sensitivity	nA/ppm in 10ppm NO ₂	-250 to -450
	Response time	t ₉₀ (s) from zero to 10ppm NO ₂	< 25
	Zero current	ppm equivalent in zero air	± 0.35
	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	Parameter	Value	Unit
	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)	> 24

ENVIRONMENTAL	Parameter	Value	Unit
	Sensitivity @ -20°C	% (output @ -20°C/output @ 20°C) @ 10ppm	80 to 95
	Sensitivity @ 50°C	% (output @ 50°C/output @ 20°C) @ 10ppm	95 to 105
	Zero @ -20°C	ppm equivalent change from 20°C	± 0.6
	Zero @ 50°C	ppm equivalent change from 20°C	± 0.5

CROSS SENSITIVITY	Gas	Sensitivity	Unit
	H ₂ S	sensitivity % measured gas @ 20ppm	< -20
	CL ₂	sensitivity % measured gas @ 10ppm	< 80
	NO	sensitivity % measured gas @ 50ppm	< 0.5
	SO ₂	sensitivity % measured gas @ 20ppm	< 1
	CO	sensitivity % measured gas @ 400ppm	< 0.1
	H ₂	sensitivity % measured gas @ 400ppm	< 0.1
	C ₂ H ₄	sensitivity % measured gas @ 400ppm	< 0.1
	NH ₃	sensitivity % measured gas @ 20ppm	< 0.1
	CO ₂	sensitivity % measured gas @ 10%	< 0.1

KEY SPECIFICATIONS	Parameter	Value	Unit
	Temperature range	$^{\circ}$ 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 $^{\circ}$ C (stored in sealed pot)	6
	Load resistor	Ω (for optimum performance)	33
	Weight	g	< 2

Note: Above 85% rh and 40 $^{\circ}$ 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.



NOTE: all sensors tested and stored at ambient environments 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.

NO2-D4 Performance Data

Technical Specification

Figure 2 Sensitivity temperature dependence

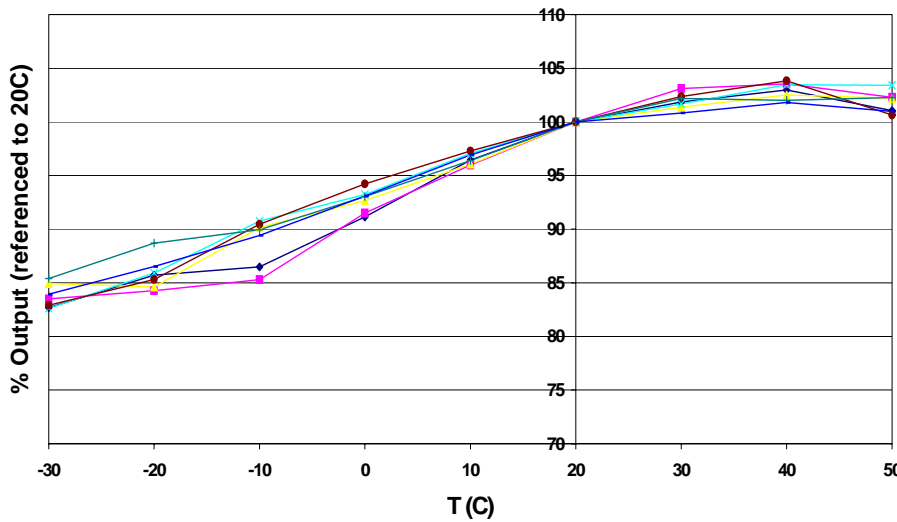


Figure 2 shows the variation in sensitivity caused by changes in temperature.

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

Zero temperature dependence is the same as CL2-D4

Figure 3 Response to 20ppm NO₂

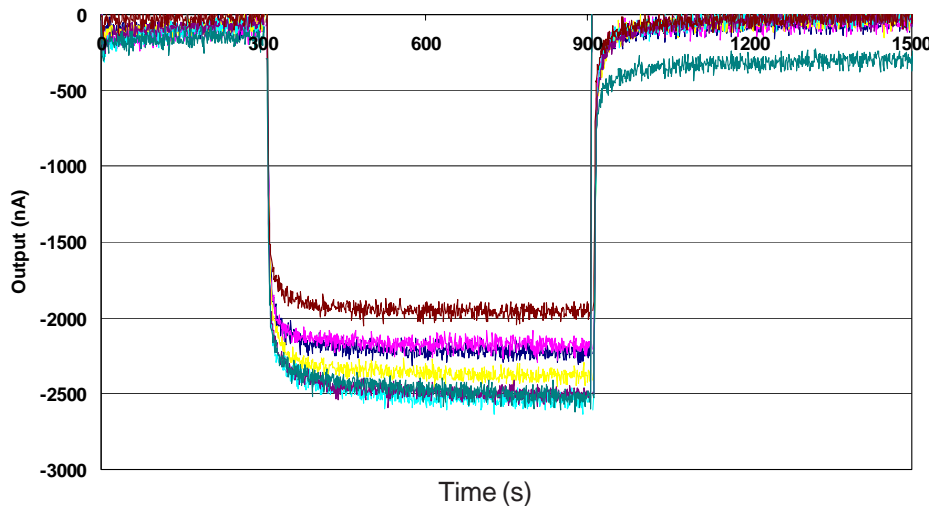
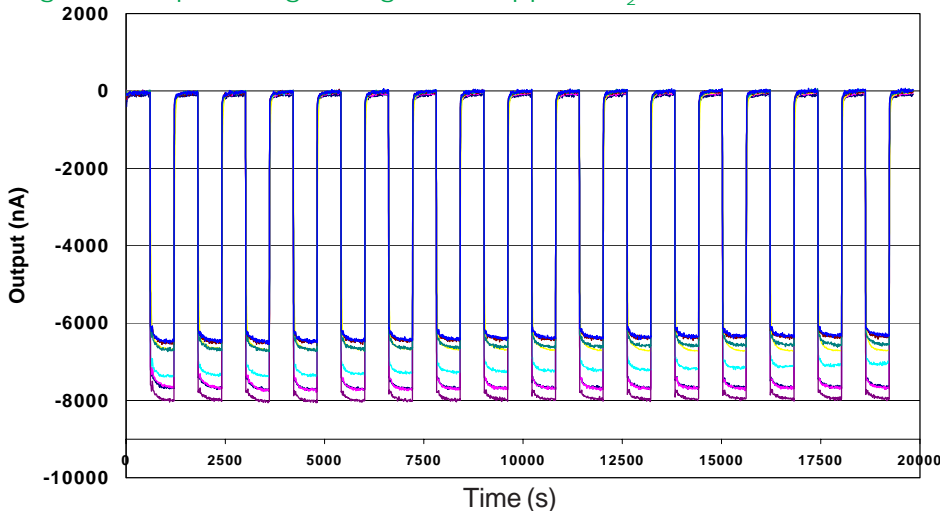


Figure 3 shows response to first zero air, then 20 ppm NO₂ and then zero air.

Fast response time and good zero stability give confidence that the sensor will respond rapidly and reliably to a gas emergency.

Figure 4 Repeated gassing with 20ppm NO₂



This hysteresis graphs shows stable response with repeated gassing of 20ppm NO₂