

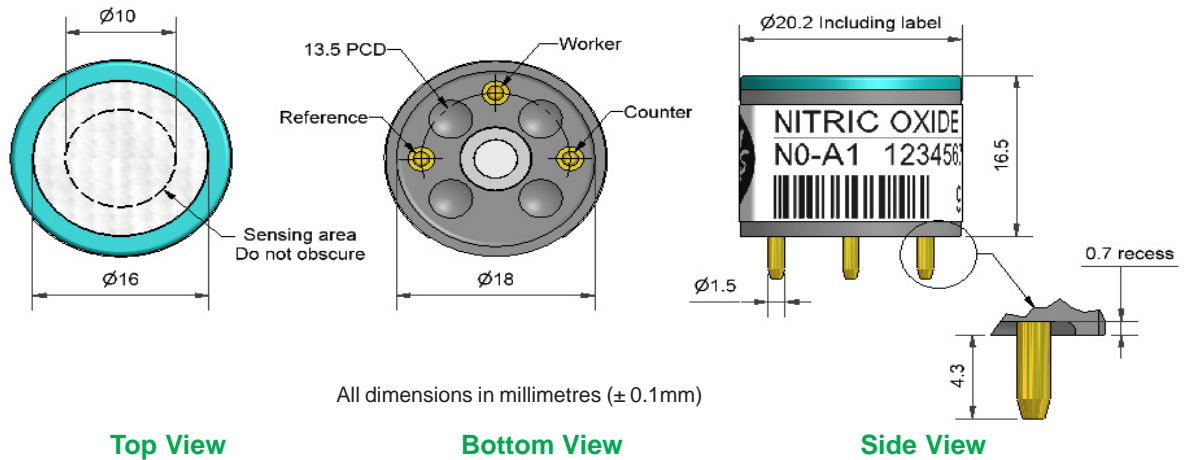


NO-A1 Nitric Oxide Sensor



PATENTED

Figure 1 NO-A1 Schematic Diagram



Technical Specification

PERFORMANCE	Sensitivity	nA/ppm in 50ppm NO	320 to 480
	Response time	t_{90} (s) from zero to 50ppm NO	< 20
	Zero current	ppm equivalent in zero air	3
	Resolution	RMS noise (ppm equivalent)	< 0.2
	Range	ppm NO limit of performance warranty	250
	Linearity	ppm error at full scale, linear at zero and 50ppm NO	+32 to +36
	Overgas range	maximum ppm for stable response to gas pulse	800
LIFETIME	Zero drift	ppm equivalent change/year in lab air	nd
	Sensitivity drift	% change/month in lab air, monthly test	nd
	Operating life	months until 80% original signal (24 month warranted)	> 24
ENVIRONMENTAL	Sensitivity @ -20°C	% (output @ -20°C/output @ 20°C) @ 50ppm	83 to 93
	Sensitivity @ 50°C	% (output @ 50°C/output @ 20°C) @ 50ppm	101 to 105
	Zero @ -20°C	ppm equivalent change from 20°C	± 0.5
	Zero @ 50°C	ppm equivalent change from 20°C	1 to 3
CROSS SENSITIVITY	NO ₂ sensitivity	% measured gas @ 50ppm	< 5
	SO ₂ sensitivity	% measured gas @ 20ppm	< 2
	Cl ₂ sensitivity	% measured gas @ 10ppm	< 15
	H ₂ sensitivity	% measured gas @ 400ppm	< 0.1
	H ₂ S sensitivity	% measured gas @ 20ppm	< 15
	CO sensitivity	% measured gas @ 400ppm	< 0.1
	C ₂ H ₄ sensitivity	% measured gas @ 400ppm	nd
	NH ₃ sensitivity	% measured gas @ 20ppm	< 0.1
	CO ₂ sensitivity	% measured gas @ 5% Vol	0
KEY	Bias voltage	mV (working electrode potential is above reference electrode potential)	+ 300
	SPECIFICATIONS	Temperature range	°C
Pressure range		kPa	80 to 120
Humidity range		% rh continuous	15 to 90
Storage period		months @ 3 to 20°C (stored in sealed pot)	6
Load resistor		Ω (recommended)	10 to 100
Weight		g	< 6

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-A1 Performance Data

Technical Specification

Figure 2 Sensitivity Temperature Dependence

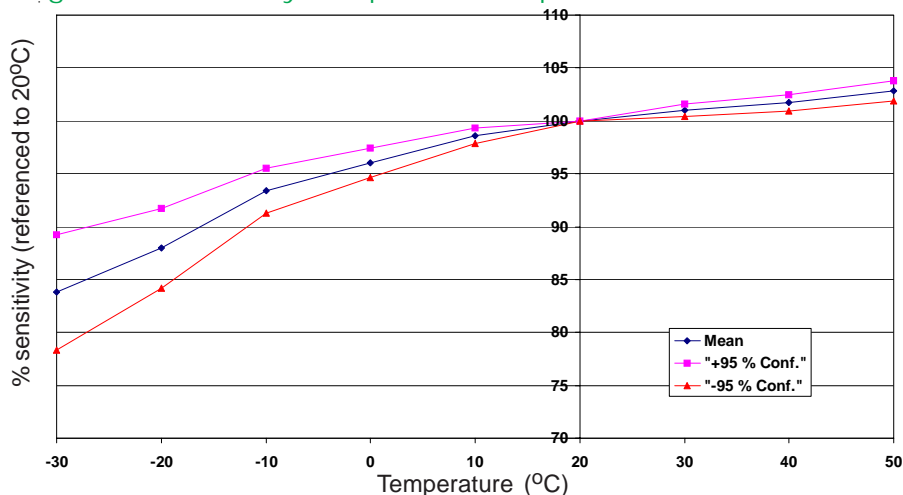


Figure 2 shows the variation in sensitivity caused by changes in temperature.

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

Figure 3 Zero Temperature Dependence

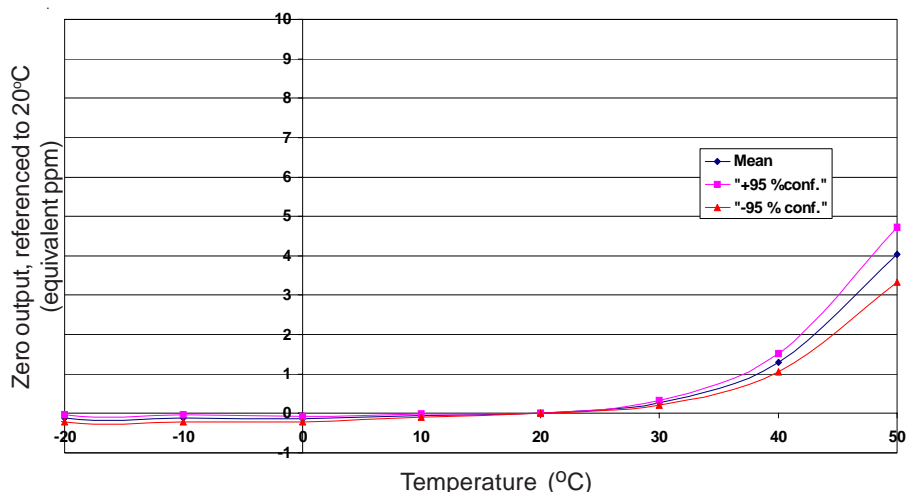
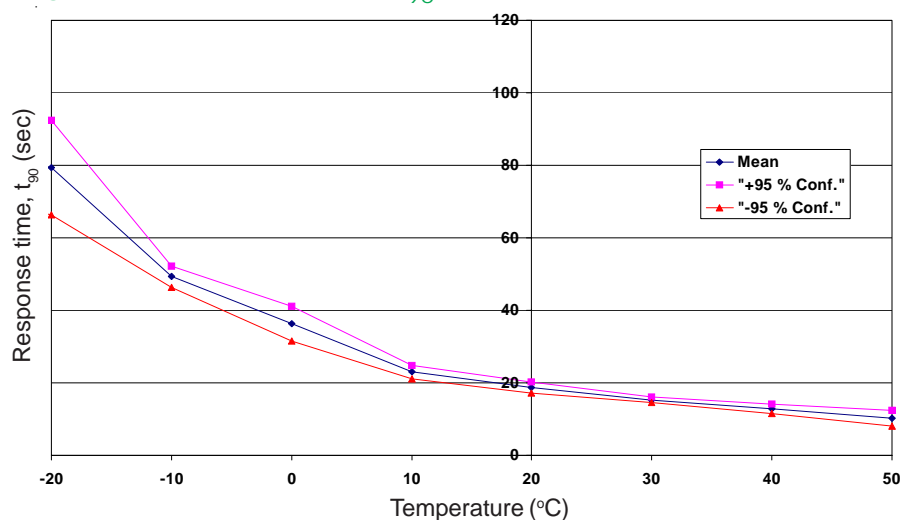


Figure 3 shows the variation in zero output caused by changes in temperature expressed at ppm gas equivalent.

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

Figure 4 Response Time(t_{90}) Temperature Dependence



Sensor response time increases as temperature decreases. Alphasense response time (t_{90}) is quoted at 20°C.

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".