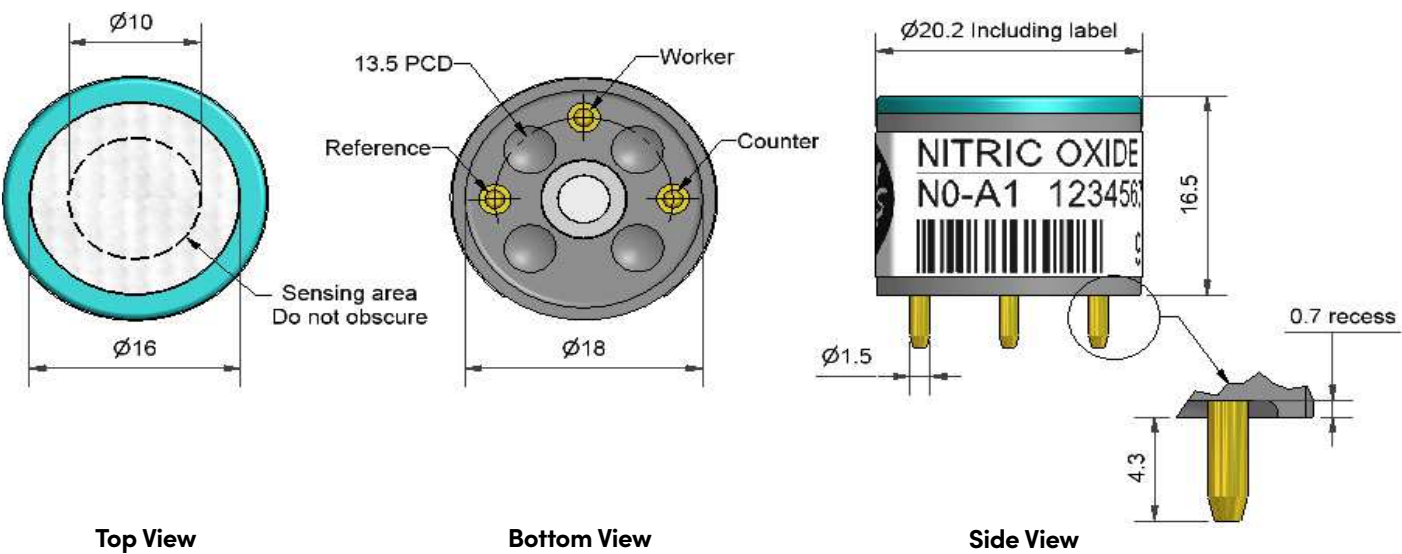


Technical specifications Version 1.0

NO-A1 Nitric Oxide sensor



Dimensions are in millimetres (± 0.1 mm).

Performance	Sensitivity	nA/ppm in 50ppm NO	320 to 480
	Response time	t_{90} (s) from zero to 50ppm NO	< 45
	Zero current	ppm equivalent in zero air	0 to +2
	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	+15 to +25
	Overgas limit	maximum ppm for stable response to gas pulse	800
Lifetime	Zero drift	ppm equivalent change/year in lab air	< 0.3
	Sensitivity drift	% change/year in lab air, monthly test	< 5
	Operating life	months until 80% original signal (24 month warranted)	> 24
Environmental	Sensitivity @ -20°C	% (output @ -20°C/output @ 20°C) @ 50ppm	78 to 90
	Sensitivity @ 50°C	% (output @ 50°C/output @ 20°C) @ 50ppm	98 to 104
	Zero @ -20°C	ppm equivalent change from 20°C	< 0 to -1
	Zero @ 50°C	ppm equivalent change from 20°C	< 3 to 16
Cross sensitivity	H ₂ S sensitivity	% measured gas @ 20ppm H ₂ S	< 10
	NO ₂ sensitivity	% measured gas @ 50ppm NO ₂	< 2
	Cl ₂ sensitivity	% measured gas @ 10ppm Cl ₂	< 1
	SO ₂ sensitivity	% measured gas @ 20ppm SO ₂	< 3
	H ₂ sensitivity	% measured gas @ 400ppm H ₂	< 0.1
	CO sensitivity	% measured gas @ 400ppm CO	< 0.1
	NH ₃ sensitivity	% measured gas @ 20ppm NH ₃	< 0.1
	CO ₂ sensitivity	% measured gas @ 5% Vol CO ₂	< 0.1
Key specifications	Bias voltage	mV (working electrode potential is above ground)	+300
	Temperature range	°C	-30 to 50
	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 47
	Weight	g	< 6

Figure 1 Sensitivity Temperature Dependence

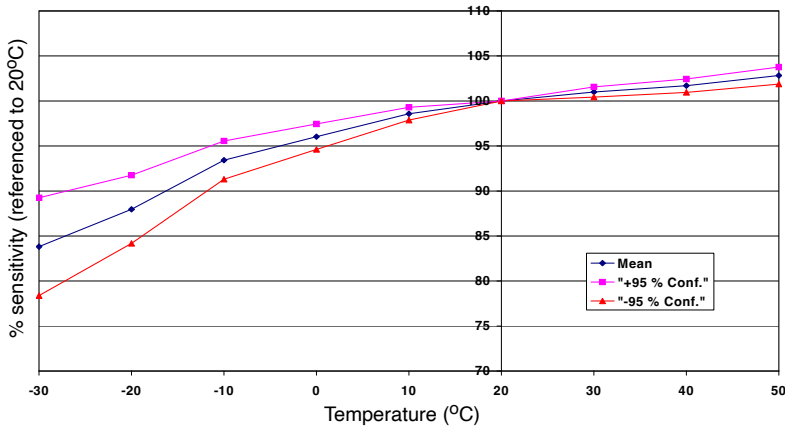


Figure 1 shows the variation in sensitivity caused by changes in temperature.

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

Figure 2 Zero Temperature Dependence

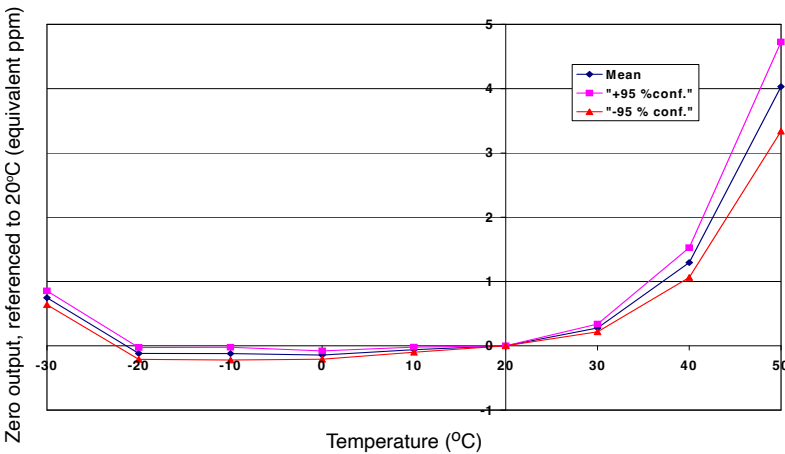
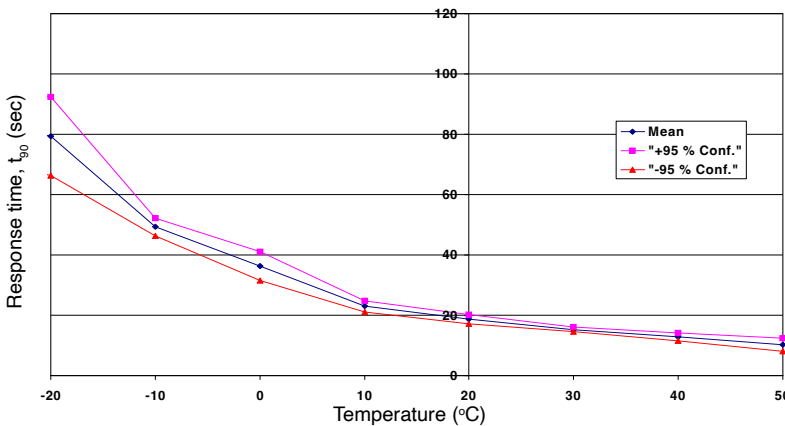


Figure 2 shows the variation in zero output caused by changes in temperature, expressed as ppm gas equivalent, referenced to zero at 20°C.

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

Figure 3 Response Time(t_{90}) Temperature Dependence



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