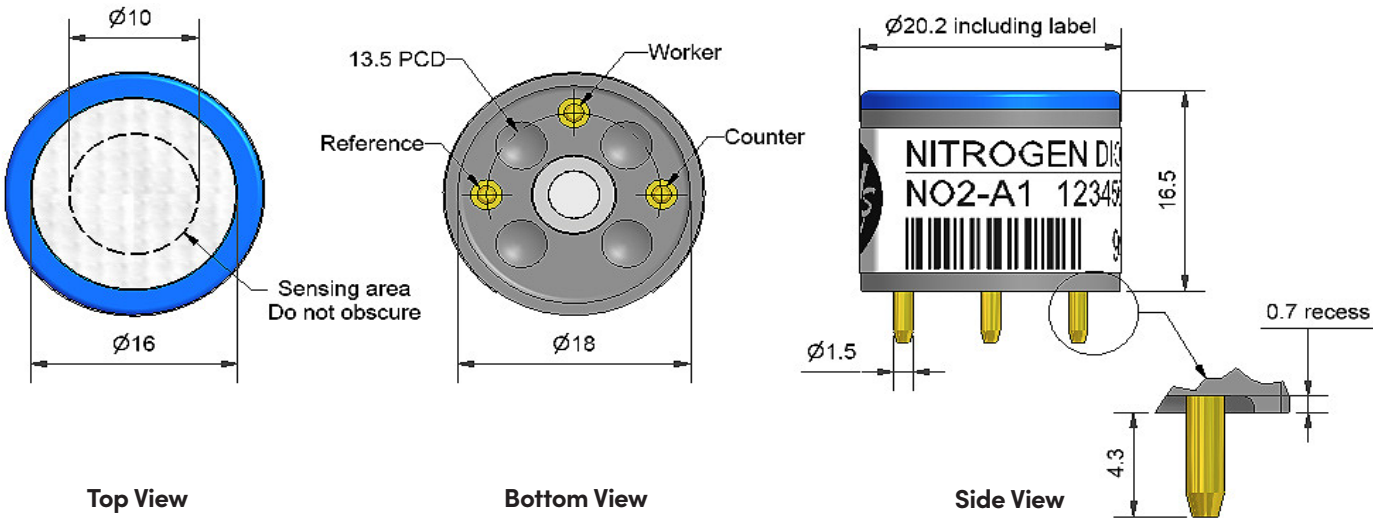


NO2-A1 Nitrogen Dioxide Sensor



Dimensions are in millimetres (± 0.1 mm).

Performance	Sensitivity	nA/ppm in 10ppm NO <sub>2</sub>	-250 to -650
	Response time	t90 (s) from zero to 10ppm NO <sub>2</sub> (33Ω Load Resistor)	< 50
	Zero current	ppm equivalent in zero air	< ± 0.4
	Resolution	RMS noise (ppm equivalent) (33Ω Load Resistor)	< 0.02
	Range	ppm NO <sub>2</sub> limit of performance warranty	20
	Linearity	ppm error at full scale, linear at zero and 10ppm	< 1.5
	Overgas limit	NO <sub>2</sub> maximum ppm for stable response to gas pulse	100
Lifetime	Zero drift	ppm equivalent change/year in lab air	< 0.05
	Sensitivity drift	% change/year in lab air, monthly test	< -20 to -40
	Operating life	months until 80% original signal (24-month warranted)	> 24
Environmental	Sensitivity @ -20°C	% (output @ -20°C/output @ 20°C) @ 5ppm NO <sub>2</sub>	73 to 94
	Sensitivity @ 50°C	% (output @ 50°C/output @ 20°C) @ 5ppm NO <sub>2</sub>	105 to 125
	Zero @ -20°C	ppm equivalent change from 20°C	< ± 0.2
	Zero @ 50°C	ppm equivalent change from 20°C	< 0 to -0.5
Cross-sensitivity	H <sub>2</sub> S sensitivity	% measured gas @ 20ppm	H <sub>2</sub> S < -35
	Cl <sub>2</sub> sensitivity	% measured gas @ 10ppm	Cl <sub>2</sub> < 80
	NO sensitivity	% measured gas @ 50ppm	NO < 5
	SO <sub>2</sub> sensitivity	% measured gas @ 20ppm	SO <sub>2</sub> < -15
	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 @ 50ppm	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% volume	CO <sub>2</sub> < 0.1
	O <sub>3</sub> sensitivity	% measured gas @ 200ppb	O <sub>3</sub> < 120
Key Specifications	Temperature range	°C	-20 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 (for optimum performance)	33
	Weight	g	< 6

Figure 1 Sensitivity Temperature Dependence

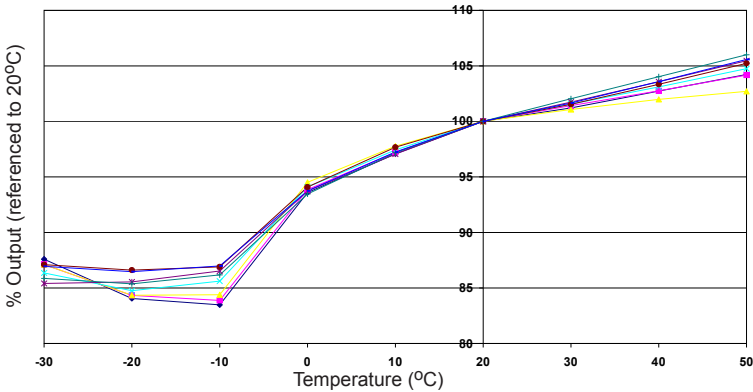


Figure 1 shows the variation in sensitivity caused by changes in temperature.  
This data is taken from a typical batch of sensors.

Figure 2 Zero Temperature Dependence

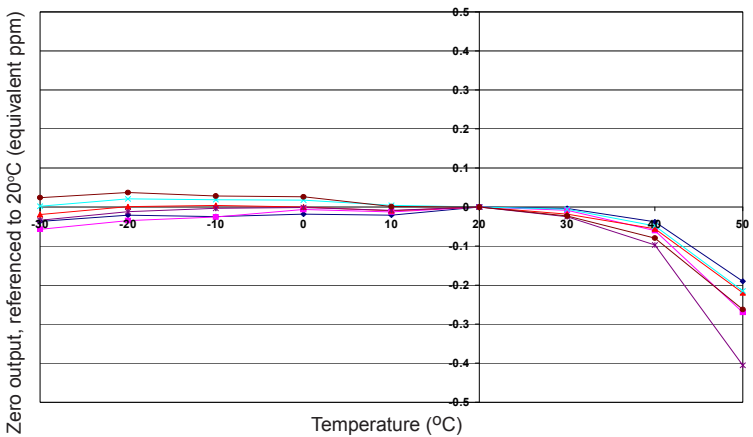


Figure 2 shows the variation in zero output caused by changes in temperature, expressed as ppm gas equivalent, referenced to zero at 20°C.  
This data is taken from a typical batch of sensors.

Figure 3 Humidity plus Temperature Transient Response

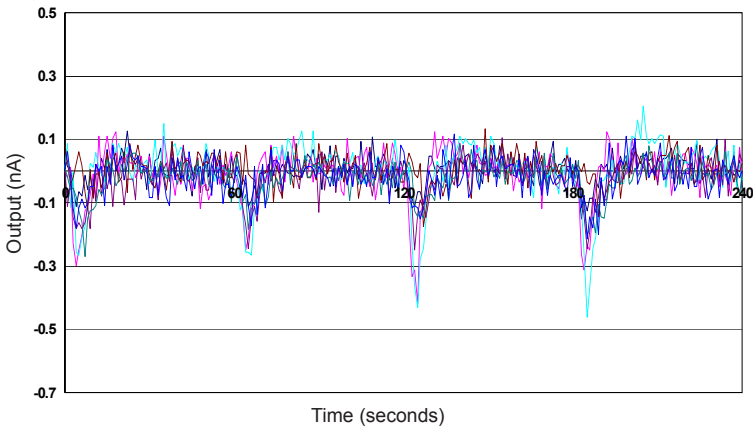


Figure 3 shows typical sensor outputs for a group of sensors exposed to exhaled breath for 4 cycles over 240 seconds.  
This is an extreme test for such sensors and the shift in the base line of no more than 0.5 ppm shows a very strong resistance to this test.