

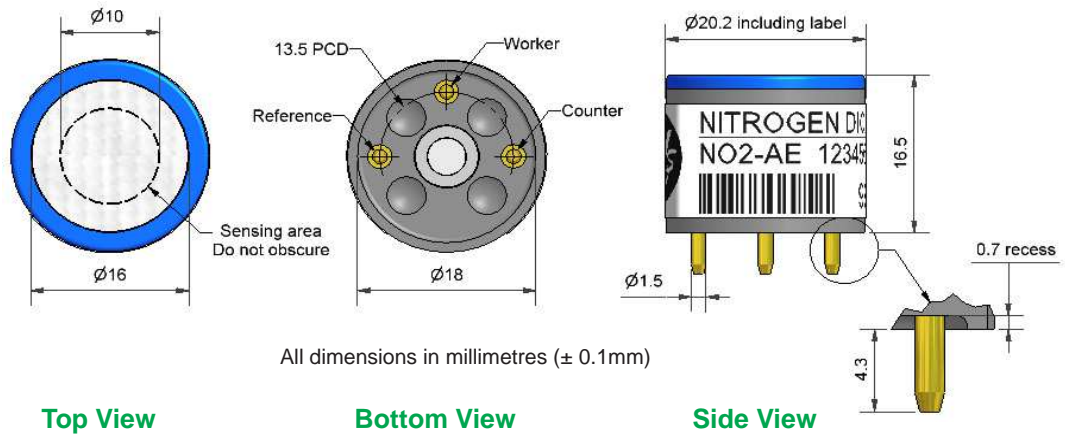


NO2-AE Nitrogen Dioxide Sensor High Concentration



PATENT PENDING

Figure 1 NO2-AE Schematic Diagram



Technical Specification

PERFORMANCE	Parameter	Value	Range
	Sensitivity	nA/ppm @ 20°C in 10ppm NO ₂ (33Ω Load Resistor)	-70 to -170
	Response time	t ₉₀ (s) from zero to 10ppm NO ₂ (33Ω Load Resistor)	< 40
	Zero current	ppm equivalent in zero air	< ± 1.5
	Resolution	RMS noise (ppm equivalent) (33Ω)	< 0.1
	Range	ppm limit of performance warranty	200
	Linearity	ppm error at 200ppm, linear at 30 and 100ppm NO ₂	< 2 to 11
	Overgas limit	maximum ppm for stable response to 10 minute gas pulse	> 1,000

LIFETIME	Parameter	Value	Range
	Zero drift	ppm equivalent change/year in lab air	nd
	Sensitivity drift	% change/month in lab air, twice monthly gassing	< 2
	Operating life	months until 80% original signal (24 month warranted)	> 24

ENVIRONMENTAL	Parameter	Value	Range
	Sensitivity @ -20°C % (output @ -20°C/output @ 20°C) @ 10ppm NO ₂		75 to 95
	Sensitivity @ 50°C % (output @ 40°C/output @ 20°C) @ 10ppm NO ₂		98 to 110
	Zero @ -20°C	ppm equivalent	< ± 0.5
	Zero @ 50°C	ppm equivalent	< 0 to -5

CROSS SENSITIVITY	Gas	Sensitivity	Value	Range
	CO	% measured gas @ 400ppm	CO	< 3.5
	NO	% measured gas @ 50ppm	NO	< 2
	SO ₂	% measured gas @ 20ppm	SO ₂	< -30
	Cl ₂	% measured gas @ 5ppm	Cl ₂	< 90
	H ₂	% measured gas @ 400ppm	H ₂	< -0.8
	H ₂ S	% measured gas @ 200ppm	H ₂ S	< -220
	C ₂ H ₄	% measured gas @ 400ppm	C ₂ H ₄	< 0.1
	NH ₃	% measured gas @ 20ppm	NH ₃	< -1
	CO ₂	% measured gas @ 5% volume	CO ₂	0
	O ₃	% measured gas @ 100ppb	O ₃	< 120

KEY SPECIFICATIONS	Parameter	Value	Range
	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

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, 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.



NO₂-AE Performance Data

Technical Specification

Figure 2 Sensitivity Temperature Dependence

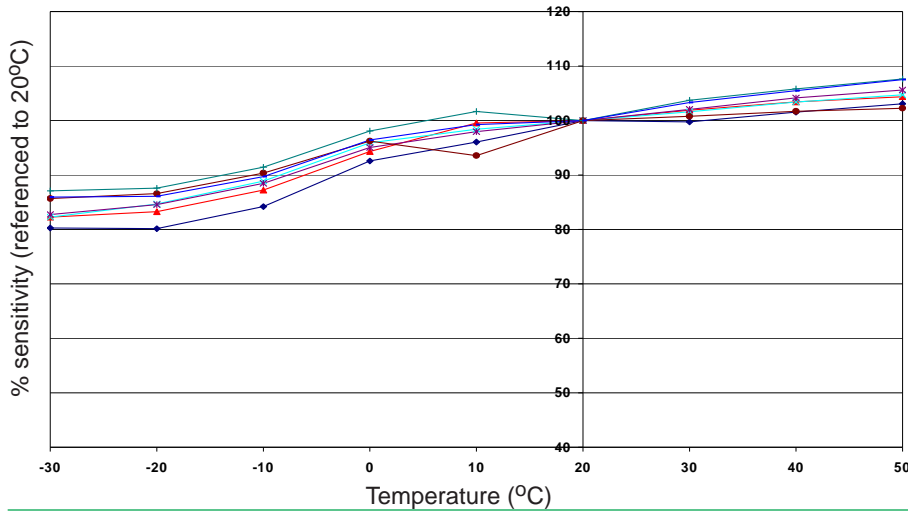


Figure 2 shows the variation in sensitivity caused by changes in temperature. This data is taken from a typical batch of sensors.

Figure 3 Zero Temperature Dependence

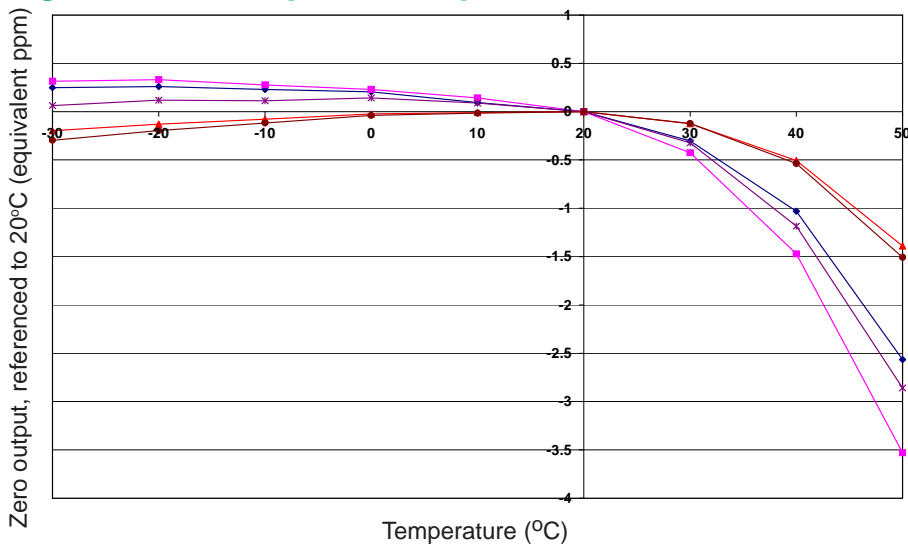


Figure 3 shows the variation in zero output caused by changes in temperature, expressed as ppm gas equivalent, referenced to zero at 20°C. This data is taken from a typical batch of sensors.

Figure 4 Linearity to 200ppm NO₂

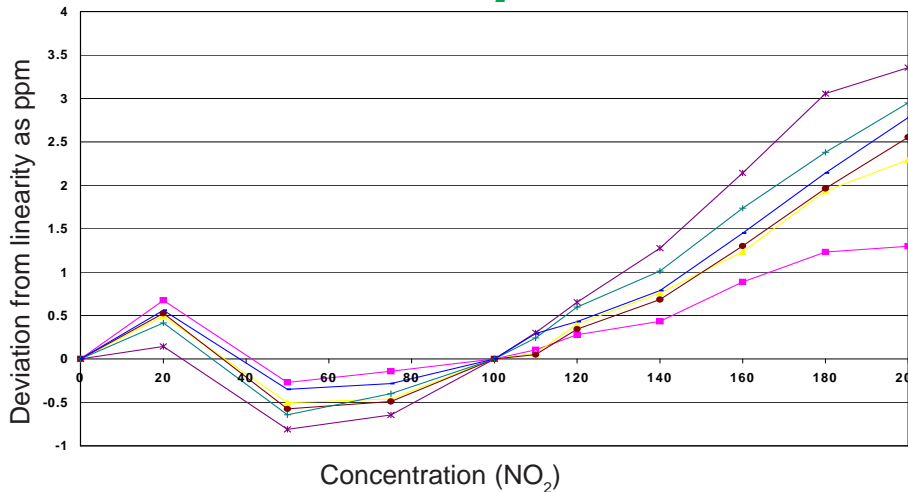


Figure 4 shows excellent and repeatable linearity to 200ppm NO₂ which allows this sensor to be used at high concentrations.

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 web site at "www.alphasense.com"

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