

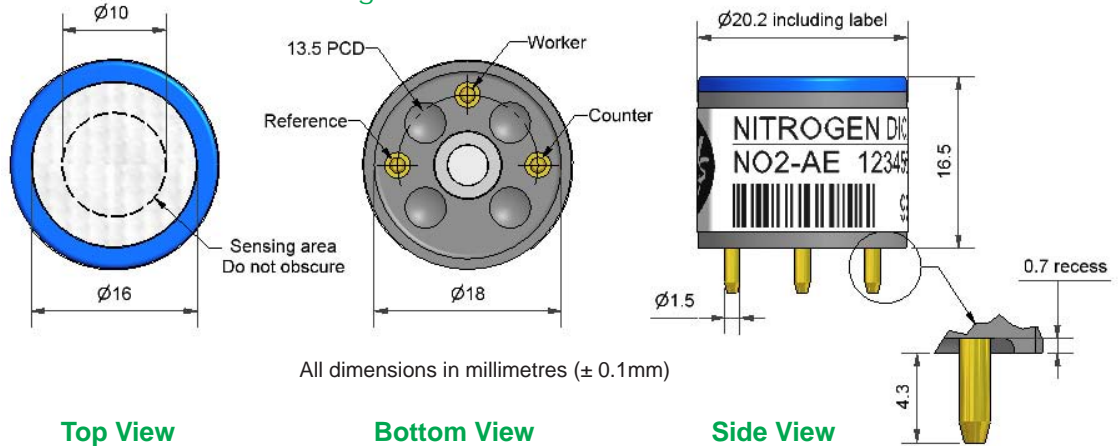


NO₂-AE Nitrogen Dioxide Sensor High Concentration



PATENT PENDING

Figure 1 NO₂-AE Schematic Diagram



Technical Specification

PERFORMANCE			
Sensitivity	nA/ppm @ 20°C in 10ppm NO ₂ (33 Ω Load Resistor)		-100 to -160
Response time	t ₉₀ (s) from zero to 10ppm NO ₂ (33 Ω Load Resistor)		< 40
Zero current	ppm equivalent in zero air		< ± 1.5
Resolution	RMS noise (ppm equivalent) (33 Ω)		< 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			
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			
Sensitivity @ -20°C	(output @ -20°C/output @ 20°C) @ 10ppm NO ₂		85 to 95
Sensitivity @ 50°C	(output @ 40°C/output @ 20°C) @ 10ppm NO ₂		98 to 110
Zero @ -20°C	ppm equivalent		-10 to +10
Zero @ 50°C	ppm equivalent		0 to 60

CROSS SENSITIVITY				
CO sensitivity	% measured gas @	400ppm	CO	< 0.1
NO sensitivity	% measured gas @	50ppm	NO	< 1
SO ₂ sensitivity	% measured gas @	20ppm	SO ₂	< -25
Cl ₂ sensitivity	% measured gas @	5ppm	Cl ₂	< -350
H ₂ sensitivity	% measured gas @	400ppm	H ₂	< -0.1
H ₂ S sensitivity	% measured gas @	200ppm	H ₂ S	< -160
C ₂ H ₄ sensitivity	% measured gas @	400ppm	C ₂ H ₄	< 0.1
NH ₃ sensitivity	% measured gas @	20ppm	NH ₃	< -1
CO ₂ sensitivity	% measured gas @	5% volume	CO ₂	0

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



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 Linearity

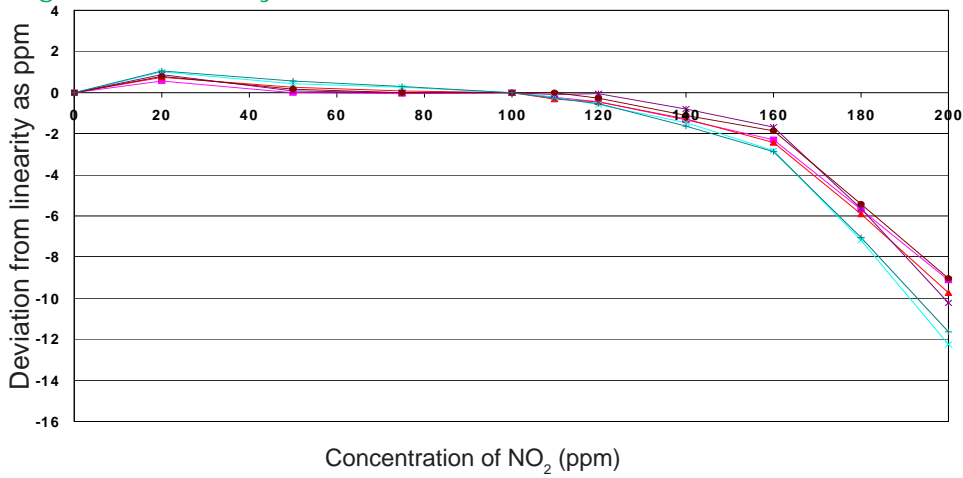


Figure 2 shows the variation in sensitivity at increasing concentrations of NO₂.

Figure 3 Response Profile (t₉₀)

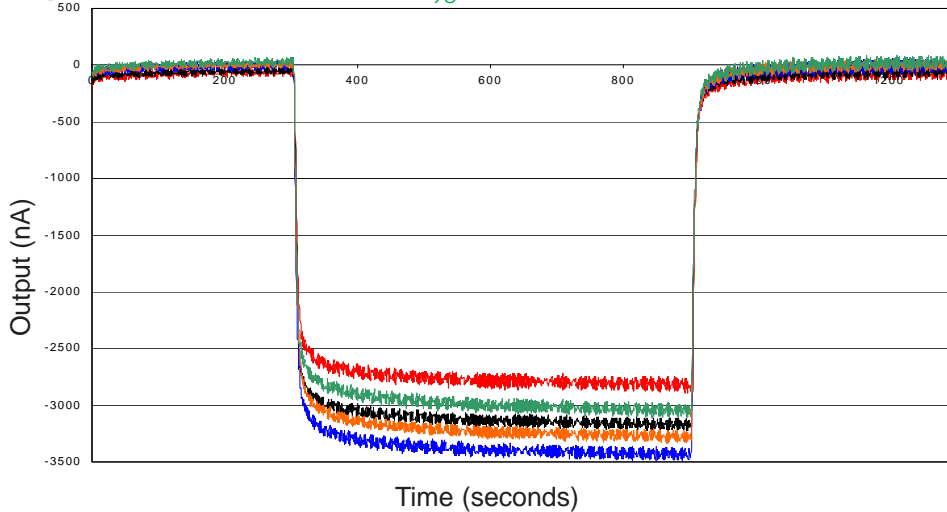


Figure 3 shows the response to 10 ppm NO₂ for typical NO2-A1 sensors.

t₉₀ response time for these sensors is < 40 s. Load resistor is 33 Ω for best noise (< 50ppb).

Figure 4 Zero Temperature Dependence

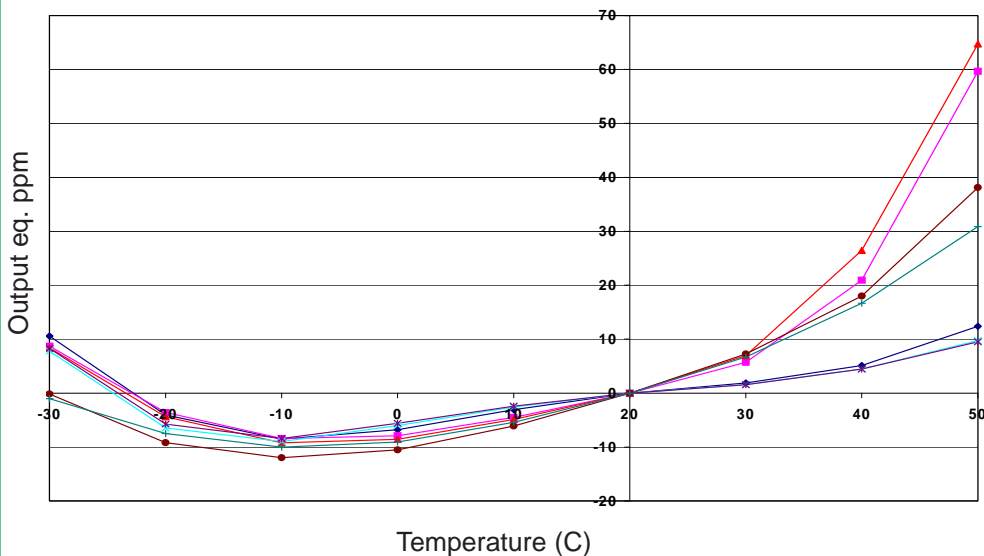


Figure 4 shows the zero current, expressed as equivalent ppm.

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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