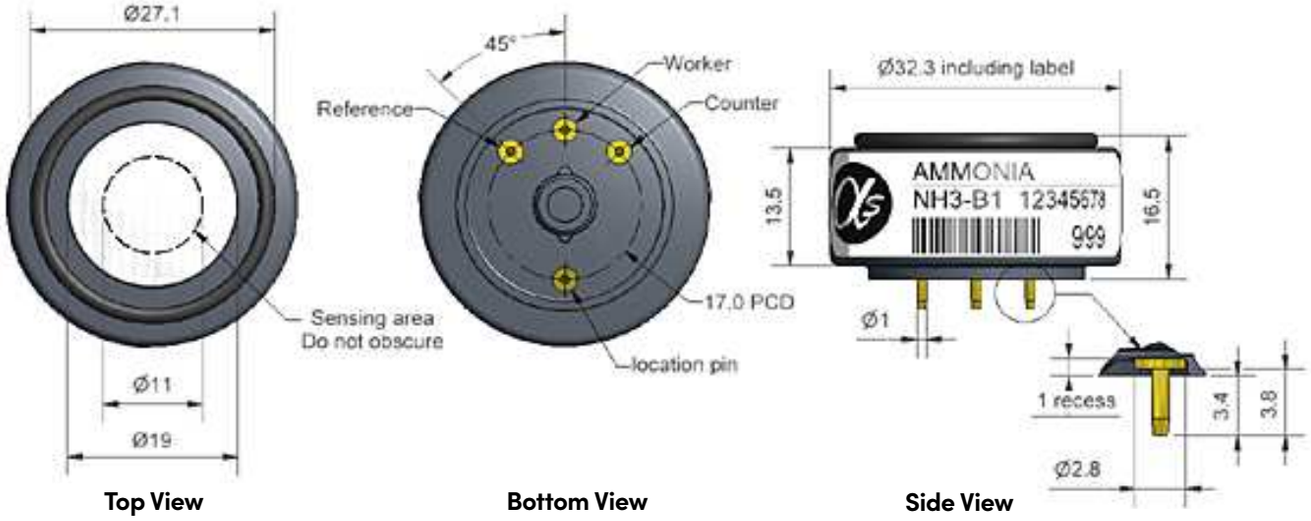
alphasense
AMETEK

NH3-B1 Ammonia Sensor



Top View **Bottom View** **Side View**

Dimensions are in millimetres (± 0.15 mm).

Performance	Sensitivity	nA/ppm in 50ppm NH_3		20 to 60
	Response time	t90 (s) from zero to 50ppm NH_3		< 150
	Zero current	ppm equivalent in zero air		< ± 10
	Range	ppm NH_3 limit of performance warranty		100
	Linearity	ppm error at full scale, linear at zero and 70ppm NH_3		+5 to -5
	Overgas limit	maximum ppm for stable response to gas pulse		200
Lifetime	Zero drift	ppm equivalent change/year in lab air		< 2
	Sensitivity drift	% change/year in lab air, monthly test		< 3
	Operating life	months until 80% original signal (12-month warranted)		> 24
Environmental	Sensitivity @ -20°C	% (output @ -20°C/output @ 20°C) @ 20ppm		nd
	Sensitivity @ 40°C	% (output @ 40°C/output @ 20°C) @ 20ppm		nd
	Zero @ -20°C	ppm equivalent change from 20°C		nd
	Zero @ 40°C	ppm equivalent change from 20°C		nd
Cross-sensitivity	H_2S sensitivity	% measured gas @ 20ppm	H_2S	< -200
	NO_2 sensitivity	% measured gas @ 20ppm	NO_2	< -200
	Cl_2 sensitivity	% measured gas @ 10ppm	Cl_2	< -400
	NO sensitivity	% measured gas @ 50ppm	NO	< -300
	SO_2 sensitivity	% measured gas @ 20ppm	SO_2	< -300
	CO sensitivity	% measured gas @ 400ppm	CO	< 20
	H_2 sensitivity	% measured gas @ 400ppm	H_2	< 15
	C_2H_4 sensitivity	% measured gas @ 400ppm	C_2H_4	nd
	CO_2 sensitivity	% measured gas @ 5%	CO_2	nd
Key Specifications	Bias voltage	mV (Working Electrode potential is above ground)		+200
	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		< 13

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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 website at "www.alphasense.com".

Figure 1 Response to Gas

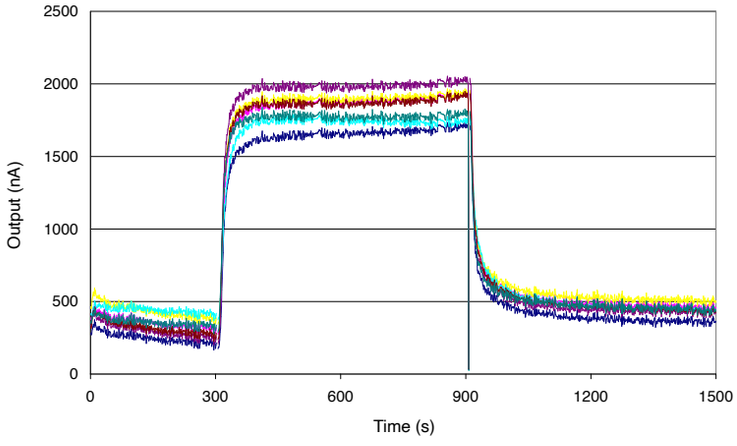

Figure 1 shows the typical response to 50ppm NH_3 at 20°C

t_{50} is significantly faster than t_{90} (30 vs. 150 seconds) and shows the sensor's ability to respond quickly to NH_3.

Figure 2 Linearity

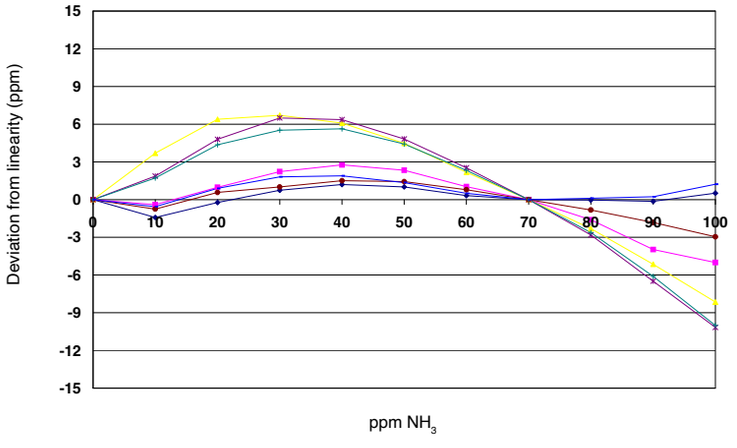

Figure 2 shows the deviation from linear response from 0 to 100ppm NH_3, with 0 and 70ppm reference concentrations.