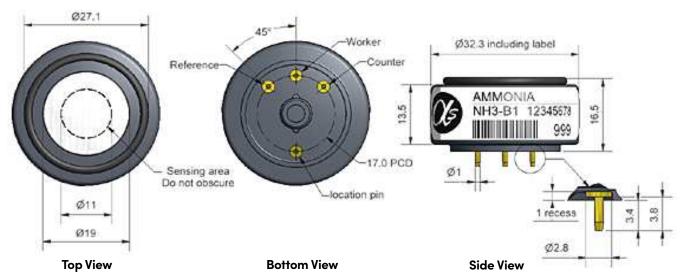


## NH3-B1 Ammonia Sensor



Dimensions are in millimetres (± 0.15 mm).

Sensitivity Response time Zero current Range Linearity Overgas limit	nA/ppm in 50ppm NH <sub>3</sub> t90 (s) from zero to 50ppm NH <sub>3</sub> ppm equivalent in zero air ppm NH <sub>3</sub> limit of performance warranty ppm error at full scale, linear at zero and 70ppm NH <sub>3</sub> maximum ppm for stable response to gas pulse		20 to 60 < 150 < ± 10 100 +5 to -5 200
Zero drift Sensitivity drift Operating life	ppm equivalent change/year in lab air % change/year in lab air, monthly test months until 80% original signal (12-month warranted)		< 2 < 3 > 24
Sensitivity @ -20°C Sensitivity @ 40°C Zero @ -20°C Zero @ 40°C	% (output @ -20°C/output @ 20°C) @ 20ppm % (output @ 40°C/output @ 20°C) @ 20ppm ppm equivalent change from 20°C ppm equivalent change from 20°C		nd nd nd nd
$H_2S$ sensitivity $NO_2$ sensitivity $CI_2$ sensitivity $SO_2$ sensitivity $SO_2$ sensitivity $SO_3$ sensitivity $SO_4$ sensitivity $SO_4$ sensitivity $SO_4$ sensitivity $SO_4$ sensitivity $SO_4$ sensitivity	% measured gas @ 20ppm % measured gas @ 20ppm % measured gas @ 10ppm % measured gas @ 50ppm % measured gas @ 20ppm % measured gas @ 400ppm % measured gas @ 400ppm % measured gas @ 400ppm % measured gas @ 5%	$H_2S$ $NO_2$ $CI_2$ $NO$ $SO_2$ $CO$ $H_2$ $C_2H_4$ $CO_2$	< -200 < -200 < -400 < -300 < -300 < -20 < 15 nd nd
Bias voltage Temperature range Pressure range Humidity range Storage period Load resistor Weight	mV (Working Electrode potential is above ground) $^{\circ}$ C kPa $^{\circ}$ rh continuous months @ 3 to 20 $^{\circ}$ C (stored in sealed pot) $^{\circ}$ (recommended) g		+200 -30 to 50 80 to 120 15 to 90 6 10 to 47 < 13
	Response time Zero current Range Linearity Overgas limit  Zero drift Sensitivity drift Operating life  Sensitivity @ -20°C Sensitivity @ 40°C Zero @ -20°C Zero @ 40°C  H <sub>2</sub> S sensitivity NO <sub>2</sub> sensitivity Cl <sub>2</sub> sensitivity SO <sub>2</sub> sensitivity CO sensitivity CO sensitivity CO sensitivity H <sub>2</sub> sensitivity CO <sub>2</sub> sensitivity H <sub>3</sub> sensitivity CO <sub>4</sub> sensitivity CO <sub>5</sub> sensitivity CO <sub>6</sub> sensitivity CO <sub>7</sub> sensitivity CO <sub>8</sub> sensitivity CO <sub>9</sub> sensitivity CO <sub>1</sub> sensitivity CO <sub>2</sub> sensitivity CO <sub>1</sub> sensitivity CO <sub>2</sub> sensitivity CO <sub>3</sub> sensitivity CO <sub>4</sub> sensitivity CO <sub>5</sub> sensitivity CO <sub>6</sub> sensitivity CO <sub>7</sub> sensitivity CO <sub>8</sub> sensitivity CO <sub>9</sub> sensitivity	Response time Zero current Range Linearity Dvergas limit  Zero drift Sensitivity drift Operating life  Sensitivity @ -20°C Sensitivity @ 40°C Zero @ 40°C Zero @ 40°C  Zero @ 40°C  Zero a sensitivity NO2 sensitivity NO2 sensitivity NO3 sensitivity NO4 sensitivity NO5 sensitivity NO6 sensitivity NO7 sensitivity NO7 sensitivity NO8 sensitivity NO9 sensitivity NO9 sensitivity NO9 sensitivity NO9 sensitivity NO6 sensitivity NO7 sensitivity NO7 sensitivity NO8 measured gas @ 20ppm NO9 sensitivity NO9 sensitivity NO9 sensitivity NO9 sensitivity NO6 sensitivity NO7 sensitivity NO8 measured gas @ 400ppm NO9 sensitivity NO9	Response time Zero current Range ppm equivalent in zero air Range ppm NH <sub>3</sub> limit of performance warranty Linearity ppm error at full scale, linear at zero and 70ppm NH <sub>3</sub> Overgas limit  Zero drift ppm equivalent change/year in lab air Sensitivity drift Sensitivity drift Operating life  Sensitivity @ -20°C Sensitivity @ 40°C Zero @ -20°C Zero @ -20°C Zero @ 40°C  Zero @ 40°C  Zero @ 40°C  Zero @ 40°C  Zero @ sensitivity % measured gas @ 20ppm NO <sub>2</sub> Cl <sub>2</sub> sensitivity % measured gas @ 10ppm SO <sub>2</sub> sensitivity % measured gas @ 20ppm NO SO <sub>2</sub> sensitivity % measured gas @ 20ppm NO SO <sub>2</sub> sensitivity % measured gas @ 20ppm NO SO <sub>2</sub> sensitivity % measured gas @ 20ppm NO SO <sub>2</sub> sensitivity % measured gas @ 20ppm NO SO <sub>2</sub> sensitivity % measured gas @ 20ppm NO SO <sub>2</sub> sensitivity % measured gas @ 400ppm CO H <sub>2</sub> sensitivity % measured gas @ 400ppm CO Sensitivity % measured gas @ 400ppm CO Sensitivity % measured gas @ 400ppm CO H <sub>2</sub> sensitivity % measured gas @ 400ppm CO H <sub>2</sub> sensitivity % measured gas @ 400ppm CO H <sub>2</sub> sensitivity % measured gas @ 400ppm CO H <sub>2</sub> sensitivity % measured gas @ 5% CO <sub>2</sub> Bias voltage Temperature range Pressure range RPa Humidity range % rh continuous Storage period Morking Electrode potential is above ground) Coderesistor Operation in zero air ppm equivalent change from 20°C ppm equivalent change/year in lab air ppm equivalent change from 20°C ppm equivalent change



## Figure 1 Response to Gas

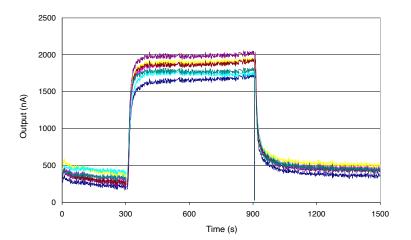


Figure 1 shows the typical response to 50ppm  $\mathrm{NH_3}$  at 20°C

 $\rm t_{50}$  is significantly faster than  $\rm t_{90}$  (30 vs. 150 seconds) and shows the sensor's ability to respond quickly to NH<sub>2</sub>.

## Figure 2 Linearity

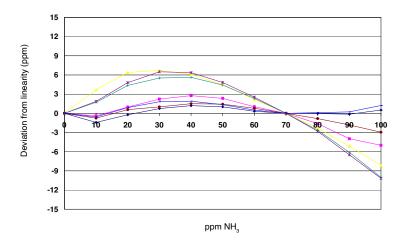


Figure 2 shows the deviation from linear response from 0 to 100ppm NH<sub>3</sub>, with 0 and 70ppm reference concentrations.

NOTE: All sensors are tested at ambient environmental conditions, with 47 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.

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 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.

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