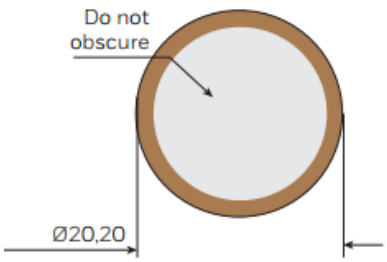
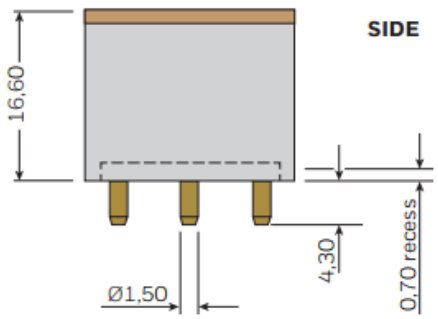
4-NH3-100L AMMONIA SENSOR
0-100PPM NH3

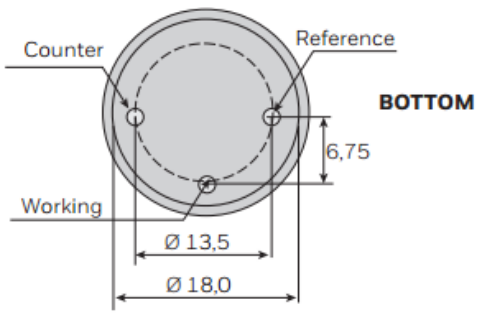
APPLICATIONS

- **Portable & fixed detection monitoring**
- **Outdoor & indoor farming – livestock & poultry**
- **Refrigeration – small, medium & large systems**
- **General industry including food, semiconductor & chemical industries**

DIMENSIONS







All dimensions are in millimetres mm.
All tolerances are +/- 0.2mm.

ADVANTAGES

- **Withstands background levels of NH3 without a compromise in expected lifetime or performance**
- **Extended operating temperature range**
- **Two year operating lifetime**

SPECIFICATION – 4 SERIES

Operating Principle:	Electrochemical, 3-electrode cell
Gas Detected:	Ammonia NH3
Measurement Range:	0 – 100 ppm
Maximum Overload:	200 ppm
Resolution:	< 1ppm
Expected Operating Life:	2 years in fresh air Sensor capacity > 300k ppm/hour (1 year of continuous exposure to 30ppm NH3)
Response Time (T90):	≤ 90 seconds

Note: PCB sockets are recommended for the sensor pin connection. Soldering or using glue with the sensor should be avoided and will invalidate warranty.

All performance specifications are based upon the following environment conditions: +20ºC, 50% relative humidity, 70ml/min flow rate and 1 atm (1013 mBar or ambient pressure).

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SPECIFICATION – 4 SERIES

Temperature Range:	-20ºC to +40ºC (continuous) -40ºC to +50ºC (intermittent)
Humidity Range (non-condensing):	15 – 90% RH
Sensitivity:	30 nA/ppm +/- 20 nA/ppm
Long Term Sensitivity Drift:	< 24% signal per year (continuous exposure)
Linearity at Standard Range:	Linear
Baseline Offset (clean air):	< +/- 200 nA
Baseline Shift (-20ºC to 40ºC):	< 5 ppm equivalent NH3
Pressure range:	91 to 111 kPa
Bias Potential:	0 mV
Warranty Period:	12 months from date of manufacture
Storage Life:	6 months in original sealed container
Storage Temperature:	0ºC to +20ºC
Weight (approx):	5 g
Orientation sensitivity:	None
Part Number:	2112B101240L

Note: PCB sockets are recommended for the sensor pin connection. Soldering or using glue with the sensor should be avoided and will invalidate warranty.

All performance specifications are based upon the following environment conditions: +20ºC, 50% relative humidity, 70ml/min flow rate and 1 atm (1013 mBar or ambient pressure). Output signal can drift below the lower limit over time.

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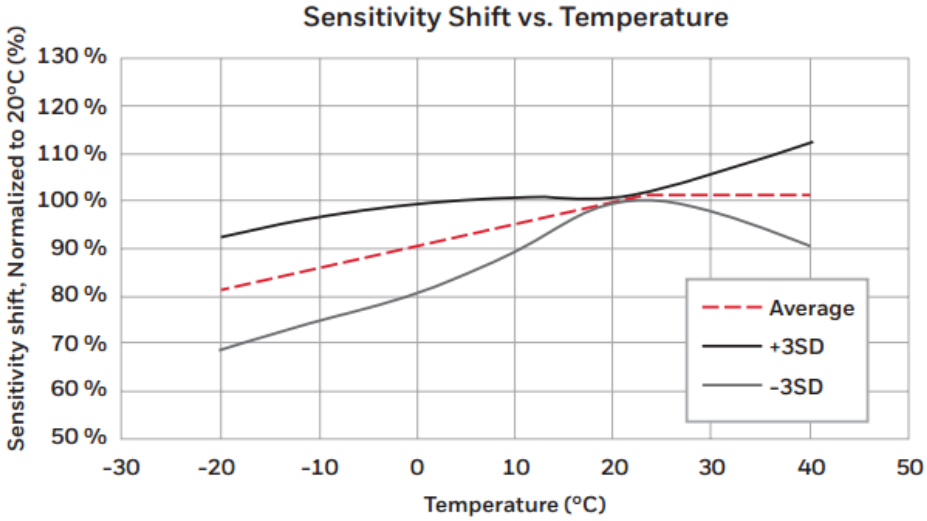
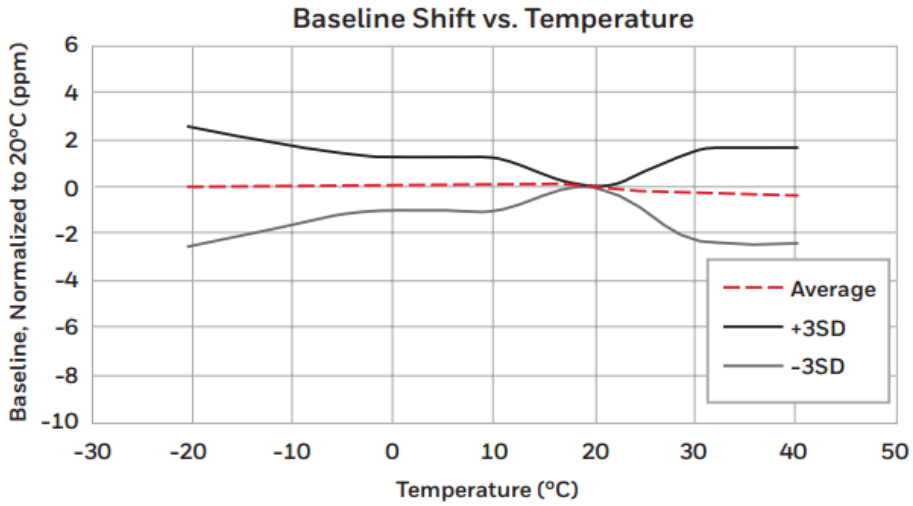
TEMPERATURE DEPENDENCE



	-20	-10	0	10	20	30	40
Average	80.5 %	85.3 %	89.7 %	94.8 %	100.0 %	101.5 %	101.1 %
+3SD	92.3 %	96.2 %	99.1 %	100.5 %	100.0 %	105.5 %	112.0 %
-3SD	68.7 %	74.4 %	80.2 %	89.1 %	100.0 %	97.5 %	90.2 %



	-20	-10	0	10	20	30	40
Average	-0.01	0.06	0.17	0.14	0.00	-0.31	-0.35
+3SD	2.50	1.74	1.26	1.27	0.00	1.50	1.65
-3SD	-2.53	-1.63	-0.92	-1.00	0.00	-2.13	-2.35

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CROSS SENSITIVITY DATA

Gas	Concentration (ppm)	Output signal (ppm NH_3 equivalent)
Carbon Monoxide, CO	10	0
Hydrogen Sulfide, H_2S	20	< 40
Sulfur Dioxide, SO_2	5	-1 to -4
Nitrogen Dioxide, NO_2	5	-1 to -4

Notes: Calibration with cross-sensitivity gas is not recommended. The cross-sensitivity may fluctuate and may differ from batch to batch and within the sensor's lifetime. Values quoted are based on tests conducted on a small number of sensors and any batch may show significant variation. For the most accurate measurements, an instrument should be calibrated using the gas under investigation.

The cross-sensitivities are including but not limited to the above gases. The sensor may also respond to other gases. Sensors may exhibit a response to certain gases in a sample other than the target gas. The sensors have been tested with a number of commonly cross-interfering gases and the results are given above. The table shows the typical response to be expected from a sensor when exposed to a given test gas concentration (relevant to safety, e.g. TLV levels).

The cross sensitivity data shown below does not form part of the product specification and is supplied for guidance only.

Notes: Sensors are designed to operate in a wide range of harsh environments and conditions. However, it is important to avoid exposure to high concentrations of solvent during storage, fitting into instrumentation and operation. When using sensors on PCBs, degreasing agents should be used prior to the sensor being fitted.

By the nature of the technology used, any sensor can potentially fail to meet specification without warning. Euro-Gas makes every effort to ensure reliability of all sensors but where life safety is a performance requirement of the product and, where practical, Euro-Gas recommends that all gas sensors and instruments using sensors are checked for response to gas before use.

The data contained in this document is believed to be accurate and reliable. The data given is for guidance only. Euro-Gas Management Services Ltd accepts no liability for any consequential losses, injury or damage resulting from the use of this datasheet or the information contained in it. Customers should test the sensors under their own conditions to ensure that the sensors are suitable for their own requirements and in accordance with the plans and circumstances of the specific project and any standards/regulations pertaining to the country in which the sensors will be utilised. Performance characteristics on this data sheet outline the performance of newly supplied sensors. Output signal can drift below the lower limit over time. This datasheet is not intended to form the basis of a contract and in the interest of product improvement, Euro-Gas reserves the right to alter design features and specifications without notice. 2503

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