NH3 100 -40°C

Electrochemical Gas Sensor for Ammonia

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3-electrode sensor for industrial safety applications including refrigeration

Class leading stability | Highly selective | Fast response | Very stable baseline

Performance Characteristics	
Measurement Range	0 - 100 ppm
Sensitivity	100 ± 40 nA/ppm
Response Time (T_{90})	≤ 120 s at 4 min gas exposure
Baseline (in clean air)	< ± 150 nA
Baseline (in clean air)	< ± 2 ppm*
Linearity	< 5% of full scale
Repeatability	< 5%

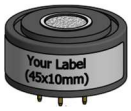
* at midpoint sensitivity

Operating Conditions	
Temperature Range	-40°C to +40°C
Humidity Range	15% to 90% r.h. non-condensing
Pressure Range	800 – 1200 hPa
Recommended Load Resistor	100 Ohm
Bias Voltage	0 V
Recommended Orientation	sensor front pointing downwards or sidewards

* Temporary exposure up to 50°C is acceptable (a few hours per week or a few days per year). Additional bump testing is recommended in case of extended exposure which will decrease lifetime.

Lifetime	
Long Term Output Drift	< 10% per 6 months
Expected Operating Life	> 18 months in air
Recommended Storage conditions	5 – 20°C in sealed container
Warranty	12 months from date of dispatch

Performance and lifetime data are based on conditions at 20°C, 50% r.h. and ambient pressure without NH3 background concentration.

Available Formats	
Name Part Number Weight	**Drawing**
4S AN108400 ~4.6 g	
7S AN108700 ~6.9 g	
Mini AN108000 ~2.4 g	
Classic 4 pin AN108C00 ~3.1 g	
Classic 8 pin compatible AN108B00 ~3.1 g	
Smart 8p with EPROM AN108800 ~3.1 g	
Other customer specific formats upon request	

IMPORTANT NOTE:

Connection should be made via PCB sockets only. Soldering to pins will render your warranty void.

Intrinsic Safety Data / PSDS	
Maximum o/c Voltage	< 1.3 V
Maximum s/c Current	< 1.0 A
Product Safety Datasheet (PSDS)	organic gel electrolyte

SAFETY NOTE

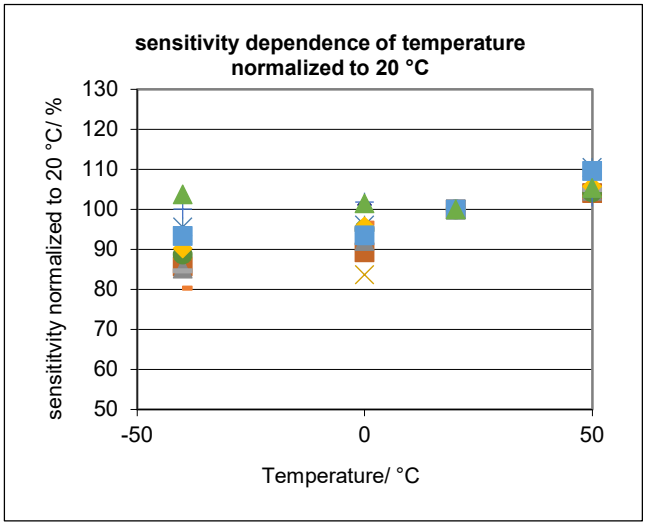
This sensor is designed to be used in safety critical applications. To ensure that the sensor and/or instrument in which it is used, are operating properly, it is a requirement that the function of the device is confirmed by exposure to target gas (bump check) before each use of the sensor and/or instrument. In stationary installations this needs to be repeated regularly according to national and local regulations. Failure to carry out such tests may jeopardize the safety of people and property.

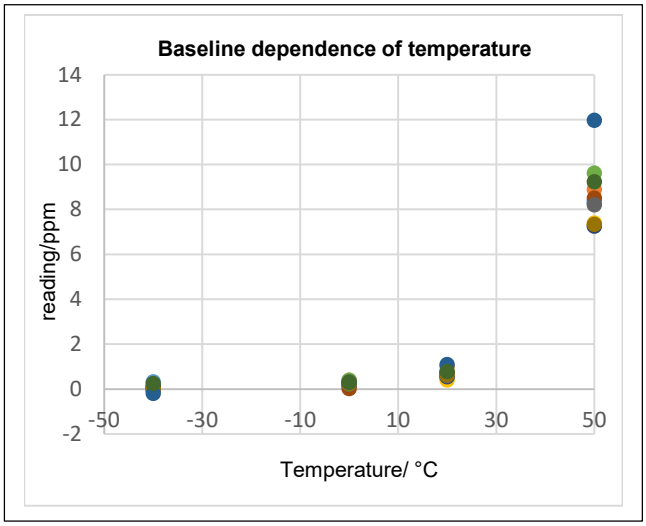
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Temperature performance





Temperature Coefficients		
Temperature	Sensitivity	Zero Current
-40 °C	90.8 %	0,1 ppm
0 °C	95.1 %	0.3 ppm
20 °C	100.0 %	0.7 ppm
50 °C	106.6 %	8.5 ppm

Temperature data are taken from a typical batch.

Cross Sensitivity & Filter	
Gas concentration	Reading after 5 min
Carbon Monoxide 100 ppm	40 ppm
Carbon Dioxide 5000 ppm	0 ppm
Hydrogen Sulfide 20 ppm	25 ppm
Hydrogen 3000 ppm	300 ppm
Alcohols 1000 ppm	Yes
Chemical Filter	None

Signals below baseline are stated as 0

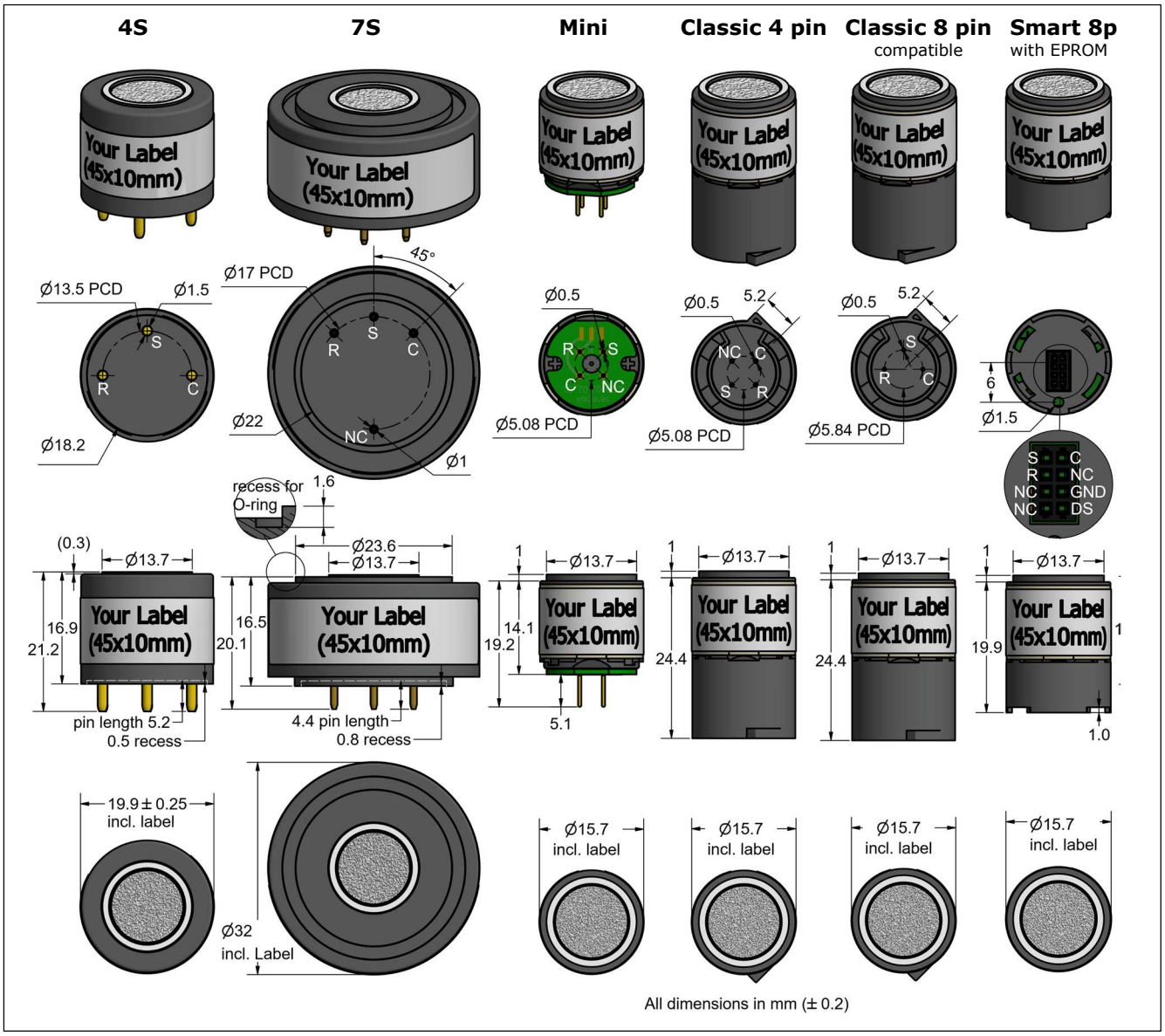
Whilst Sensorix cells are designed to be highly specific to the gas they are intended to measure, they will still respond to some degree to various other gases. The table above is not exclusive and other gases not included in the table may still cause a sensor to react. The cross-sensitivity values quoted are based on tests conducted on a small number of sensors. They are intended to indicate sensor response to gases other than the target gas. Sensors may behave differently with changes in ambient conditions and any batch may show significant variation from the values quoted. Therefore, interfering gases should not be used for calibration.

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Product dimensions



Poisoning

Sensorix cells are designed for operation in a wide range of environments and harsh conditions. However, it is important that exposure to high concentrations of solvent vapors is avoided, both during storage, fitting into instruments, and operation. When using sensors with printed circuit boards (PCBs), degreasing agents should be used before the sensor is fitted.

Recycling

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 or Sensorix for disposal instructions. Sensorix will take back sensors for professional recycling.

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Performance characteristics on this data sheet outline the performance of newly supplied sensors. Output signal can drift below the lower limit over time.