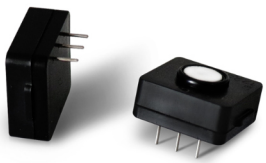
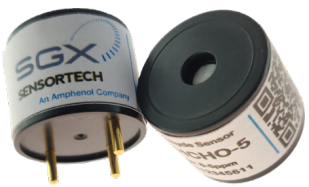
SGX SENSORTECH

An Amphenol Company



PS1-NH3-10



PS4-NH3-10

Ammonia Gas sensor Datasheet

SGX Solid Polymer Electrolyte Gas Sensors

The SGX series of PS1 and PS4 Electrochemical gas sensors are using a revolutionary 'Solid Polymer Electrolyte' technology that is based on the principle of catalytic reaction. The target gas to be measured generates a very small current, proportional to the gas concentration. Our technology offers a stable, high quality and cost-effective manufacturing process. The SGX solid polymer electrolyte gas sensors are available in a very small size, are highly sensitive, do not use power and have very low cross sensitivity from other gases.

Quality, Safety, Responsibility

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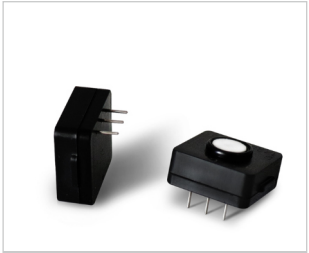
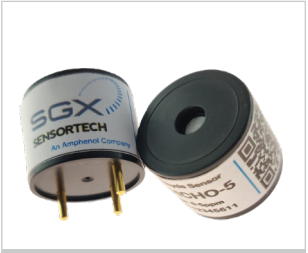
Technical Specifications



PS1-NH3-10



PS4-NH3-10

Performance

Sensitivity	40 ± 10 n A / ppm
Measurement Range	0 – 10 ppm
Zero Current	± 100 nA
Maximum Overload	100 ppm
Response Time	Please see **Note 3** at page 2
Repeatability	< 2%
Output Linearity	Linear
Resolution (16Bit ADC)	0.01ppm

Environmental Details

Temperature Range	-40°C to +55°C
Pressure Range	Atmospheric pressure ± 10%
Operating Humidity Range	15-95% RH
Storage Temperature	0 to 20℃

Lifetime Details

Long-Term Drift	< 10% of measured value per year
Expected Lifetime	2 years in air

Storage conditions	0-20°C
Storage Life	12 months
Warranty	12 months

Operation

Operating Principle	Amperometric
Bias Voltage	0 mV
Recommended Load Resistor	100 Ω
Warm Up Time	< 5 min

Housing

Housing Material	PPO
Weight	PS1-HCN-50 < 0.7g PS4-HCN-50 < 6g

Features

- Small size
- High sensitivity
- Wide temperature range
- Fast response time
- No electrolyte leakage
- Low cost at large volumes
- Strong signal to noise
- Individually calibrated (including test report)

HANDLE WITH CARE

RoHS compliant 2002/95/EC

Key applications

- Coal Mine
- General Gas Detection
- Industry
- Plating
- Storage Room

Important Notes

- All performance is based on conditions at 20°C, 50% RH and 1 atm, flow rate>150qcm/min, using SGX recommended circuitry.
- Sensor performance is temperature dependant; please contact SGX for temperature performance other than 20°C.
- Do not solder to the connector pins as this may damage the sensor and thereby invalidate the warranty.
- Details on recommended connector pins can be found in the Frequently Asked Questions within the Gas Sensor section of the SGX website.

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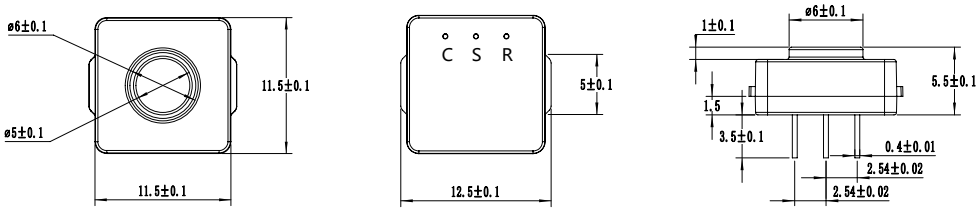
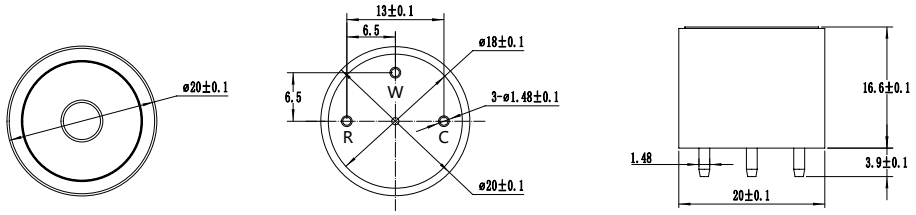
Dimensions



PS1-NH3-10



PS4-NH3-10

Cross Sensitivity

Gas	Formula	Test Concentration	Sensor Reading
Ammonia	NH_3	50ppm	50ppm
Carbon Monoxide	CO	20ppm	1.50ppm
Chlorine	CL_2	10ppm	0ppm
Ethanol	C_2H_6O	50ppm	1.43ppm
Ethylene	C_2H_4	20ppm	0ppm
Ethylene Oxide	ETO	20ppm	0ppm
Hydrogen Chloride	HCL	10ppm	0ppm
Methanol	CH_4O	50ppm	1.61ppm
Nitrogen Dioxide	NO_2	50ppm	0ppm
Sulfur Dioxide	SO_2	20ppm	7.50ppm
Tetrahydrothiophene	C_4H_8S	5ppm	0ppm

Note:
1) The above interference factors may vary due to different sensors and service life, please refer to the actual test results.
2) This table is not complete for all cross gases, other gas please contact with us.

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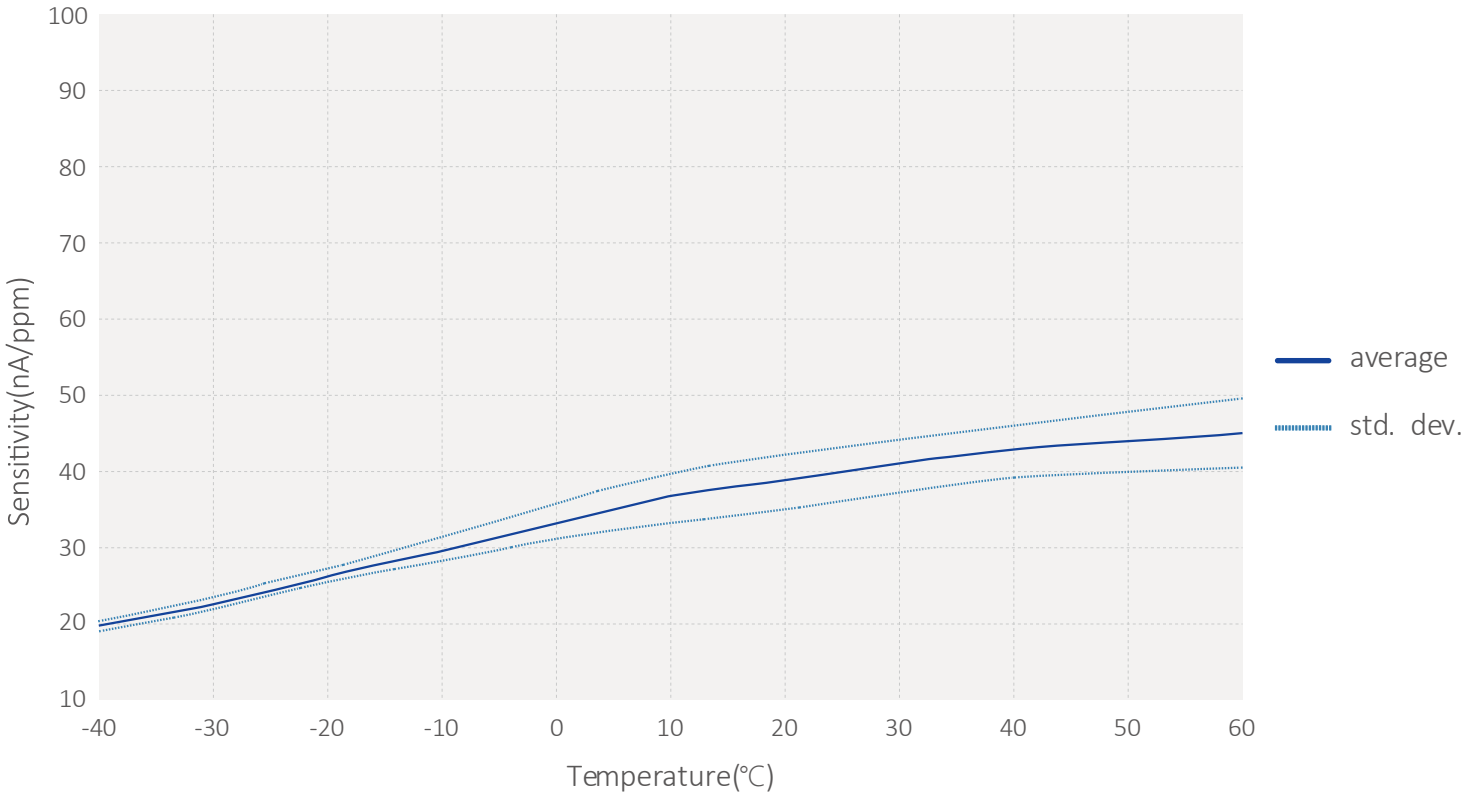
Temperature Curve



DISCLAIMER:
SGX Europe Sp. z o.o. reserves the right to change design features and specifications without prior notification. We do not accept any legal responsibility for customer applications of our sensors. SGX Europe Sp. z o.o. accepts no liability for any consequential losses, injury or damage resulting from the use of this document, the information contained within or from any omissions or errors herein. This document does not constitute an offer for sale and the data contained is for guidance only and may not be taken as warranty. Any use of the given data must be assessed and determined by the user thereof to be in accordance with federal, state and local laws and regulations. All specifications outlined are subject to change without notice.
SGX Europe Sp. z o.o. sensors are designed to operate in a wide range of harsh environments and conditions. However, it is important that exposure to high concentrations of solvent vapours is to be avoided, both during storage, fitting into instruments and operation. When using sensors on printed circuit boards (PCBs), degreasing agents should be used prior to the sensor being fitted. SGX Europe Sp. z o.o. makes every effort to ensure the reliability of its products. Where life safety is a performance requirement of the product, we recommend that all sensors and instruments using these sensors are checked for response to gas before use.

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