



Solid Polymer Electrochemical Gas Sensing Technology

ES1-NH₃-10-01 Ammonia Gas Sensor
Datasheet

Easy Gas Sensor






ES1-NH₃-10 Ammonia



» Part Number

 01-ES1-NH₃-10-01

» Futures

-  Long lifetime
-  Wide temperature range from -40 to 55°C
-  Anti-poisoning
-  Stable zero line
-  Small size

» Typical applications

-  General Industry
-  Livestock House
-  Toilet and Smell Detection
-  Indoor Air Quality Monitoring
-  Outdoor Air Quality Monitoring
-  Leakage Detection
-  Emissions



» Technical Specifications

Performance

Sensitivity	40 nA/ppm ± 10nA/ppm
Zero Current	± 100nA
Range	0-10ppm
Maximum Overload	100ppm
Resolution (16Bit ADC)	0.01ppm
Response Time	Please see Note3
Repeatability	< 2%
Output Linearity	Linear

Environment

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

Operation

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

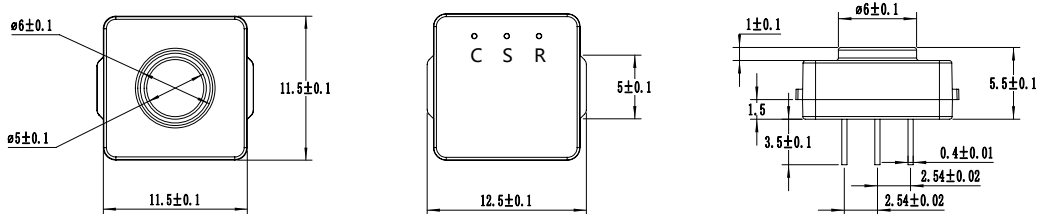
Lifetime

Long-Term Drift	< 10% of measured value per year
Expected Lifetime	2 years in air
Storage Life	12 months
Warranty	12 months

Housing

Housing Material	PPO
Weight	< 0.7g

» Dimensions



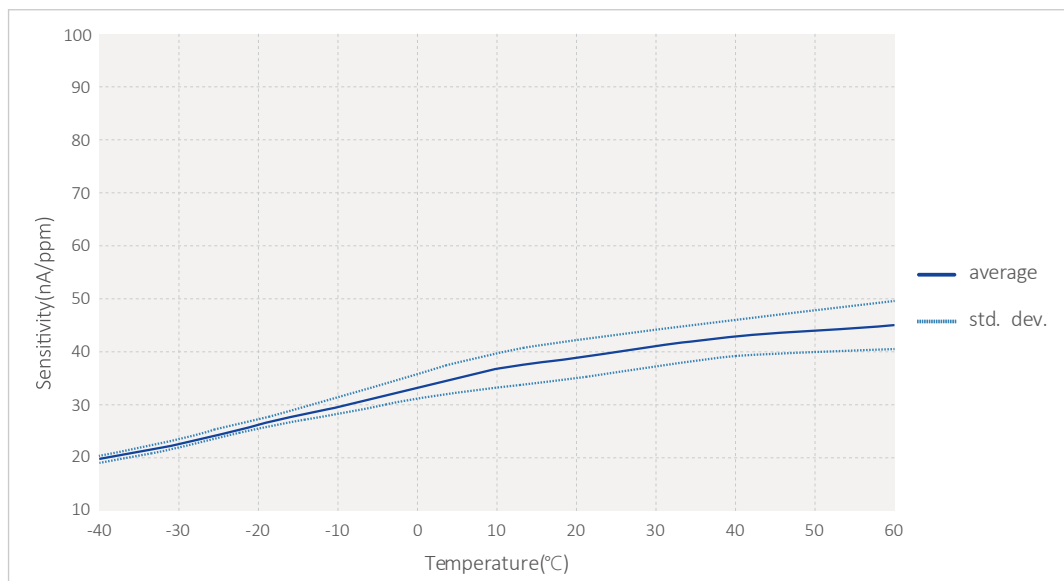
» Cross Sensitivity

Gas	Formula	Test Concentration	Sensor Reading
Ammonia	NH ₃	50ppm	50ppm
Carbon Monoxide	CO	20ppm	1.50ppm
Ethanol	C ₂ H ₅ O	50ppm	1.43ppm
Methanol	CH ₄ O	50ppm	1.61ppm
Ethylene	C ₂ H ₄	20ppm	0ppm
Chlorine	Cl ₂	10ppm	0ppm
Ethylene Oxide	ETO	20ppm	0ppm
Hydrogen Chloride	HCl	10ppm	0ppm
Nitrogen Dioxide	NO ₂	50ppm	0ppm
Sulfur Dioxide	SO ₂	20ppm	7.50ppm
Tetrahydrothiophene	C ₄ H ₈ S	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.
- 3) It is long lifetime sensor, works on back Ammonia concentration continually, below 60s responstime sensor please contact with us.

» Temperature Curve



Note: The above parameters are the test results at a temperature of 25°C, a relative humidity of 50%RH and a normal pressure environment. The performance of the sensor is different under different environmental conditions. If you have any questions, please contact us.

Disclaimer

The EC Sense performance data stated above is based on data obtained under test conditions using the EC Sense gas distribution system and AQS test software. In the interest of continuous product improvement, EC Sense reserves the right to change design features and specifications without notice. We are not responsible for any loss, injury or damage caused by this. EC Sense assumes no responsibility for any indirect loss, injury or damage resulting from the use of this document, the information contained therein or any omissions or errors herein. This document does not constitute an offer to sell. The data it contains are for informational purposes only and cannot be considered a guarantee. Any use of the given data must be evaluated and determined by the user to comply with federal, state and local laws and regulations. All specifications outlined are subject to change without notice.

Warning

EC Sense sensors are designed for use in a variety of environmental conditions. However, due to the principles and characteristics of solid polymer electrochemical sensors and to ensure normal use, users must strictly follow this article during storage, assembly and operation of the module. General-purpose PCB circuit board application methods and illegal applications / violation of the application will not be covered by the warranty. Although our products are highly reliable, we recommend checking the module's response to the target gas prior to utilization to ensure on-site use. At the end of the products service life, please do not discard any electronics in the domestic waste, instead follow the local governments electronic waste recycling regulations for disposal.



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