SGX SENSORTECH

An Amphenol Company

Liquid Electrochemical

SGX-NH3-1000-MOD

Ammonia Module

Datasheet

Quality, Safety, Responsibility

SGX SENSORTECH
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Product note

The ammonia module brings a lot of high-precision detection technology from Germany and the design concept of the German team together. The core sensor uses a liquid electrochemical sensor. This series of sensors has the advantages of long life, anti-poisoning, low power consumption, etc. It is a new generation of electrochemical gas sensors.

The module suses UART digital signal output, eliminating the customer's understanding of the sensor application and the tedious work of calibration.

Features

- Low power consumption and sleeping mode (suitable for and IoT applications)
- Combined with intelligent algorithms, it has stronger adaptability to the environment, more accurate detection, and stable zero point
- Good anti-toxicity
- New microcircuit design, strong anti-electromagnetic interference ability
- Fast response, fast return to zero, plug and play
- RoHS approved eco-friendly design

Application

- Leak detection
- TLV monitoring
- Semiconductor Industry
- Industrial exhaust emission monitoring
- Livestock industry
- Cooling system
- Food and Refrigeration
- Environmental monitoring

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Cross Sensitivity

Gas	Formula	Test Concentration	Sensor Reading
Carbon Dioxide	CO_2	1000ppm	0ppm
Carbon Monoxide	CO	50ppm	0ppm
Chlorine	CL2	10ppm	-1ppm
Hydrocarbons (unsaturated)	/	/	n.e
Hydrogen	H_2	100ppm	0ppm
Hydrogen Cyanide	HCN	10ppm	< -5ppm
Hydrogen Sulphide	H_2S	50ppm	20ppm
Isopropanol	C_3H_7OH	1000ppm	n.e
Nitric Oxide	NO	25ppm	< -3ppm
Nitrogen Dioxide	NO_2	10ppm	-10ppm
Sulphur Dioxide	SO_2	50ppm	0ppm

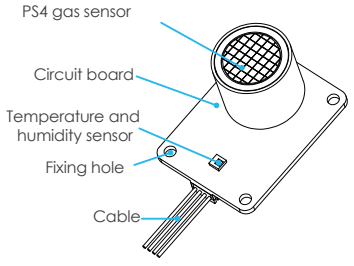
Note: 1) The above interference factors may be different due to different sensors and service life, please refer to the actual test results.
2) This table is not complete for all gases, and the sensor may be sensitive to other gases.

Order Informations

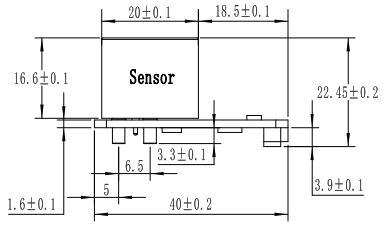
	Part Number	Range	Resolution
Ammonia Gas Module	SGX-NH_3-1000	0-1000ppm	0.1ppm
4Pin Cable	Module 4 PIN cable		

Structure Diagram (unit in mm)

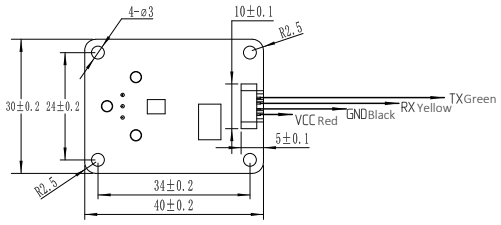
SGX-NH_3-1000 Dimension diagram



Product Schematic

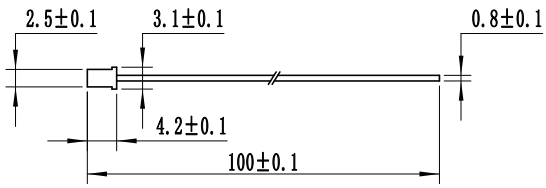


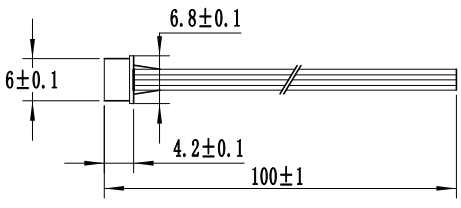
Side View



Bottom View

4Pin cable size diagram





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Specification

Principle	Liquid Electrochemical Detection Technology
Detection of gas	Ammonia Gas
Detection Range	0-1000ppm; Resolution: 0.1ppm
Lowest Detection Limit	1ppm
Full-scale accuracy error	± 5% F.S
Repeatability	<2%
Settling time	Stored in clean air for the first power on < 1 minutes
Response time	T50: <20 seconds; T90: <50 seconds
Calibration Gas	1000ppm measurement range: 500ppm Ammonia gas calibration
	Note: The air distribution standard is based on clean air as the background air, with a humidity of 50%, and a normal temperature environment
Sensor expected life time	>2 years
Output	The standard output is: 3.3V UART digital signal (see below for communication protocol); Optional custom Modbus protocol
	Interface definition: VCC- Red, GND- Black, RX- Yellow, TX- Green;
	Baud rate: 9600 Data bits: 8 bits Stop bits: 1 bit
Get data command	The communication is divided into active uploading and Q & A. The default is Q & A mode after power-on. You can use instructions to switch between the two modes.
	Return to Q & A mode after power off or switch power mode
Working Voltage	3.3-5.5V DC
Working Current	< 5mA
Power Consumption	25mW @ 5V DC
Working temperature	(-40 - 55) ℃
Optimal working temperature	25℃
Working humidity	(15-95) %RH. (Non-condensing)
Optimum working humidity	50% RH.
Working pressure	Atm ± 10%
Circuit board size	40X30X5.6 (mm)
Module size	40 x 30 x 22.45 (mm)
Weight	< 25g
Temperature and humidity sensor Data	Temperature Range: (-40-85) ℃ Relative error: ± 0.2 ℃
	Humidity measurement range: (10-95)% RH. non-condensing Relative error: ± 2%
Warranty	12 months from the date of shipment