



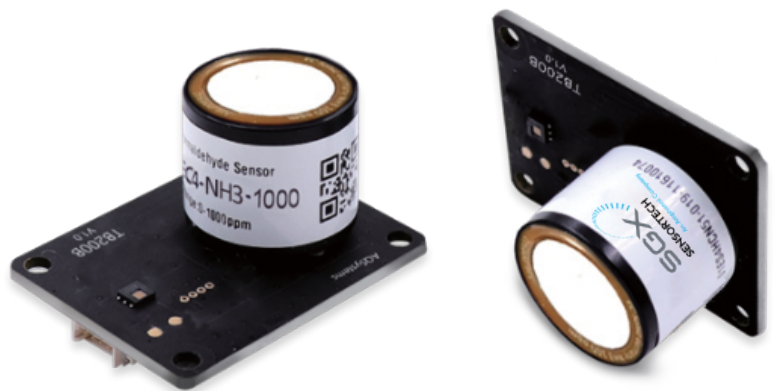
SGX

SENORTECH

An Amphenol Company



Liquid Electrochemical



SGX-NH3-1000-MOD

Ammonia Module Datasheet



Quality, Safety, Responsibility

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 uses 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



Cross Sensitivity

Gas	Formula	Test Concentration	Sensor Reading
Carbon Dioxide	CO ₂	1000ppm	0ppm
Carbon Monoxide	CO	50ppm	0ppm
Chlorine	CL ₂	10ppm	-1ppm
Hydrocarbons (unsaturated)	/	/	n.e
Hydrogen	H ₂	100ppm	0ppm
Hydrogen Cyanide	HCN	10ppm	< -5ppm
Hydrogen Sulphide	H ₂ S	50ppm	20ppm
Isopropanol	C ₃ H ₇ OH	1000ppm	n.e
Nitric Oxide	NO	25ppm	< -3ppm
Nitrogen Dioxide	NO ₂	10ppm	-10ppm
Sulphur Dioxide	SO ₂	50ppm	0ppm

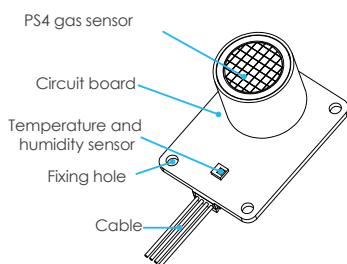
Note: 1) The above interference factors may be different due to different sensors and service life, please refer to the actual test results.
2) This table is not complete for all gases, and the sensor may be sensitive to other gases.

Order Informations

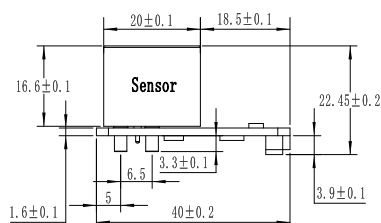
	Part Number	Range	Resolution
Ammonia Gas Module	SGX-NH ₃ -1000	0-1000ppm	0.1ppm
4Pin Cable	Module 4 PIN cable		

Structure Diagram (unit in mm)

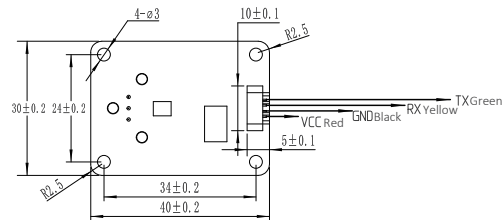
SGX-NH₃-1000 Dimension diagram



Product Schematic

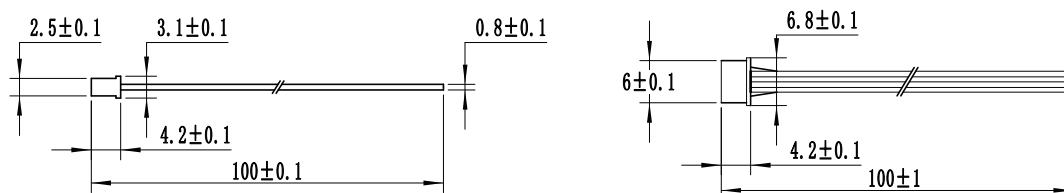


Side View



Bottom View

4Pin cable size diagram



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) °C	
Optimal working temperature	25°C	
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) °C Relative error: ± 0.2 °C	
	Humidity measurement range: (10-95)% RH. non-condensing Relative error: ± 2%	
Warranty	12 months from the date of shipment	

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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