

**Industrial-Grade MODBUS RS485 NH3 Sensor - with
Waterproof Aviation Connector.
S-NH3-01**





PRODUCT DESCRIPTION

S-NH3-01 can measure the ammonia concentration, air temperature and humidity, and output the data through the RS485 Modbus-RTU protocol. The sensor responds quickly, has anti-interference technology, and can be calibrated to ensure measurement accuracy. The equipment is powered by 5VDC, can be used with other equipment without complicated installation, and can easily be integrated into larger systems.

Solid polymer electrochemical technology is a revolutionary innovation in the field of electrochemical detection. This technology is based on the principle of electrochemical catalytic reaction caused by the target gas leading to an electrical signal that is directly proportional to the gas concentration.

The sensor module is composed of three catalytic electrodes, a solid electrolyte, and gas diffusion holes. The gas reaches the working electrode of the sensor through the diffusion holes, an electrochemical redox reaction occurs on the porous micro-surface of the electrode, the solid electrolyte conducts electron transfer, and generates a current signal as an output. The current signal can characterize the gas concentration.

FEATURES

- Electrochemical detection of solid polymers
- Robust design for long-term exposure to environments with high ammonia concentration
- A wide temperature range of -40 to 50 °C
- High-precision measurements even in the most demanding environments
- Measures temperature and humidity
- Easy to install and mount
- Factory calibration also supports

APPLICATION

- Livestock industry
- Smart public toilet ammonia and odor monitoring
- Ammonia monitoring in landfills and sewage treatment plants
- Leak detection & Environmental monitoring
- Other sensor



SPECIFICATIONS

PRODUCT MODEL

Model	S-NH3-01
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GENERAL PARAMETER

Supply Voltage	5 ~ 24V DC (recommended 5V power supply)
Supported Protocol	MODBUS-RTU RS485
IP Rating	IP65 (The equipment should be protected from direct sunlight and rain over long periods of time).
Operating Temperature	15 to 95% RH (non-condensation) (best operating humidity 50%)
Ambient Pressure	Atmospheric pressure $\pm 10\%$.
Cable Length	2 meters

MEASUREMENT PARAMETERS

	Range	Measurement Accuracy	Resolution
Ammonia (NH ₃)	0~100 ppm	typ. $\pm 5\%$ F.S, max $\pm 10\%$ F.S	0.1 ppm
Temperature	-40~50 °C	± 0.5 °C	0.1 °C
Humidity	10~95 %RH	$\pm 5\%$	0.1 %RH

POWER

Operating Current	6mA (Max, 5V DC) ; 3.2mA (typ.12V DC)
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