

INDUSTRIAL PRODUCT DATASHEET

RS485 VOC, NOx, Temperature and Humidity Sensor: Modbus RTU, Indoor Air Quality Monitoring, VOC and NOx Index, Temperature, Humidity and Dew Point Measurement

RS485 Modbus RTU indoor air quality sensor for VOC, NOx, temperature, humidity, and dew point monitoring.

SKU

100089706

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PRICE

\$99.00(Excl. VAT)



Overview



This RS485 indoor air quality sensor monitors VOC index, NOx index, temperature, humidity, and dew point using an integrated Sensirion SGP41 MOX sensor. It supports Modbus RTU over RS485 with configurable calibration, low power consumption, and IP50 wall mounting for applications such as HVAC, air purification, and indoor air quality monitoring.

Key Features

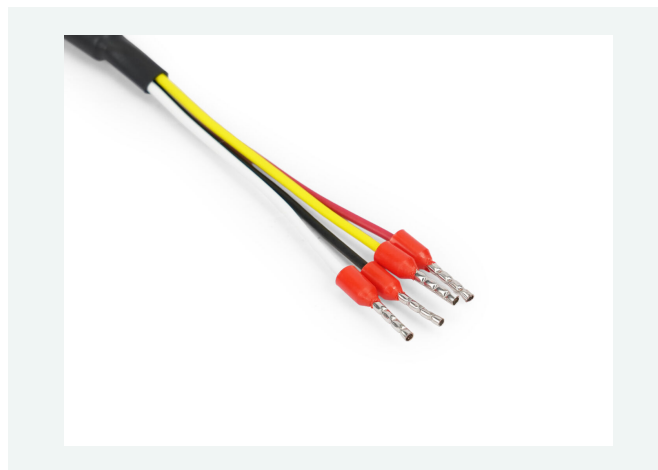
- **Comprehensive Indoor Air Quality Monitoring:** Measures VOC index, NOx index, temperature, humidity, and dew point in a single device. The integrated Sensirion SGP41 MOX sensor provides reliable VOC and NOx index values for evaluating indoor air quality, while the built-in temperature and humidity sensing delivers additional environmental context essential for understanding overall air conditions.
- **High Accuracy with Configurable Calibration:** Provides both original and calibrated values for temperature, humidity, and dew point. Configurable temperature and humidity offset calibration allows users to compensate for installation-specific conditions and improve measurement accuracy in different environments.
 - **Flexible RS485 System Integration:** Uses RS485 Modbus-RTU for reliable long-distance communication and supports multiple sensors on one bus. Configurable device address (0–255), baud rate (1200–38400 bps), parity, stop bits, and data format simplify integration with PLCs, data loggers, controllers, and monitoring systems.
 - **Low-Power Design for Flexible Deployment:** The sensor operates on a wide 5–28V DC power supply with a quiescent current below 5 mA at 12 V DC, making it suitable for energy-efficient and battery-powered applications. The compact IP50 wall-mounted enclosure enables easy installation, while built-in reverse-polarity, surge, TVS, and ESD protection ensure reliable operation.

Note: Please note that this sensor is designed for indoor use and is not suitable for direct outdoor installation. The IP50 enclosure provides protection against dust and is not waterproof, please avoid exposure to rain, water splashes, or high-moisture environments.

SenseCAP S2100 Data Logger can connect to Modbus RS485/Analog/GPIO industrial sensors including the **Grow Your Idea** and transmit data from sensors to the LoRaWAN network. Benefiting from its high robustness and waterproof and dustproof enclosure, the S2100 data logger can work under harsh environments such as high UV exposure, heavy rain, dusty conditions, etc. With built-in Bluetooth, it enables quick setup and OTA updates via the mobile app. It can be battery-powered or connected to a 12V external power supply. When the 12V power supply is connected, the replaceable built-in battery is used as a backup power supply, supporting lower power consumption. This sensor requires a 5–28V power supply. If you use the S2100 for data acquisition, please note that its maximum sensor supply output is only 5V. Therefore, please ensure that the S2100 can provide adequate output voltage for the sensor. The S2100 can be externally powered with a stable 12V DC input. Please ensure that an appropriate supply voltage is selected for each device.

Seeed also provides the **SenseCAP Portal** and **SenseCraft** to help users better manage and check data remotely.

Product Gallery



Specification

General Parameters	
Model	S-AQI-01A
Output Interface	RS485, Modbus-RTU
Default Serial Communication	Slave address: 1; baud rate: 9600 bps; data bits: 8; stop bits: 1;
Power Supply	5-28 V DC
Power Consumption	Quiescent: <5 mA @12 V DC Max: <10 mA @12 V DC
Operating Temperature	-40-80°C
Operating Humidity	0-95% RH, non-condensing
IP Rating	IP50
Cable Length	2 meters
Installation	Wall mounting
Dimensions	Sensor body: 111 * 25.5 mm (Length * Diameter)

Measurement Specifications	
VOC Index	
Range	1-500
Resolution	1
NOx Index	
Range	1-500
Resolution	1
Temperature Measurement	
Range	-40-125°C
Accuracy	±0.2°C
Resolution	0.01°C
Note	Long-term operating temperature range: -40-80°C
Humidity Measurement	
Range	0-100% RH
Accuracy	1.8% RH
Resolution	0.01% RH
Dew Point Measurement	
Range	-100-125°C

Applications

- **Air Purification Systems**
- **HVAC and Ventilation Systems**
- **Indoor Air Quality Monitoring**
- **Laboratory Environmental Monitoring**
- **Warehousing**
- **Science Research**

Part List

RS485 VOC, NOx, Temperature and Humidity Sensor	x1
Mounting Bracket	x1
Plastic Screw	x2
Metal Screw	x2

Compliance & Logistics

HSCODE	9027100090
USHSCODE	9027894590
UPC	
EUHSCODE	9027109000
COO	CHINA

Resource Links

- <https://www.seeedstudio.com/RS485-VOC-NOx-Temperature-and-Humidity-Sensor-p-6947.html>
- [RS485 VOC, NOx, Temperature and Humidity Sensor User Manual](#)

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