

INDUSTRIAL PRODUCT DATASHEET

Industrial MODBUS RS485 Air Temperature and Humidity Sensor

Industrial MODBUS RS485 air temperature and humidity sensor for Smart City, Smart Agriculture, Environmental Monitoring, and other sensor applications with -40~80°C and 0~100%RH measurement ranges.

SKU

101990881

UPDATED

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PRICE

\$45.00(Excl. VAT)



Overview



The Industrial MODBUS RS485 Air Temperature and Humidity Sensor measures air temperature from -40~80°C and humidity from 0~100%RH with high accuracy, fast response, and stability for industrial environment sensing. It is available with either hook-up wires compatible with the SenseCAP LoRaWAN® Data Logger or a waterproof aviation connector compatible with the SenseCAP Sensor Hub 4G Data Logger, and can be paired with a Solar Radiation Shield for outdoor protection.

Key Features

It measures air temperature and humidity ranging from 0~100%RH and -40~80°C. It can be widely used in industrial environment sensing scenarios.

We have two versions of the industrial temperature and humidity sensor. The main difference is the cable connector. Please choose the version that best suits your needs:

- (1) This one is with hook-up wires. It is compatible with [SenseCAP LoRaWAN® Data Logger](#) to connect with the LoRaWAN® network, enjoying the benefits of low-power and long-range communication.
- (2) Another version is with a waterproof aviation connector. That is compatible with [SenseCAP Sensor Hub 4G Data Logger](#), which can collect various sensor data simultaneously and send them via 3G/4G LTE.

It can also be compatible with a [Solar Radiation Shield for Outdoor Sensor Protection](#), and it can be waterproof and reduce temperature buildup when measured outdoors.

- **High Performance:** High accuracy, fast response, and stability
- **Temperature Measurement Range:** Can be used in -40~80°C

Description

This air temperature and humidity sensor contains an algorithm to achieve an extremely high accuracy data collection process. Also, the high-level tolerance for working conditions and low cost of power provide a solution with long working expectations and saving of human resources.

Recommendation for S2100 Data Logger

SenseCAP S2100 Data Logger can connect to MODBUS RS485/Analog/GPIO industrial sensors including the [Seeed Grove Sensors](#) 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. which is ideal for outdoor use. Based on LoRaWAN, it can cover a long transmission range of 2km in urban scenes and 10km in line-of-sight while keeping lower power consumption. Equipped with built-in Bluetooth and app service for OTA configuration and remote management, it enables quick setup and update. 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 set to be used as the backup power supply.

"Apart from working with existing sensor nodes, the S2100 data-logger can also be connected with [SenseCAP S2110 Grove Converter](#) to achieve a plug-and-play outdoor LoRaWAN sensor deployment experience with various selections of Grove Sensors. It is an ideal solution for developing, fast prototyping, and small deployment for DIY Industrial level LoRaWAN Sensors. Moreover, you can use your existing [Seeed Grove Sensors](#) to build your outdoor LoRaWAN sensors without coding. You should try out with this [kit](#)."

Seeed provides the [SenseCAP Portal](#) and [SenseCAP Mate](#) to help users better manage and check data remotely.

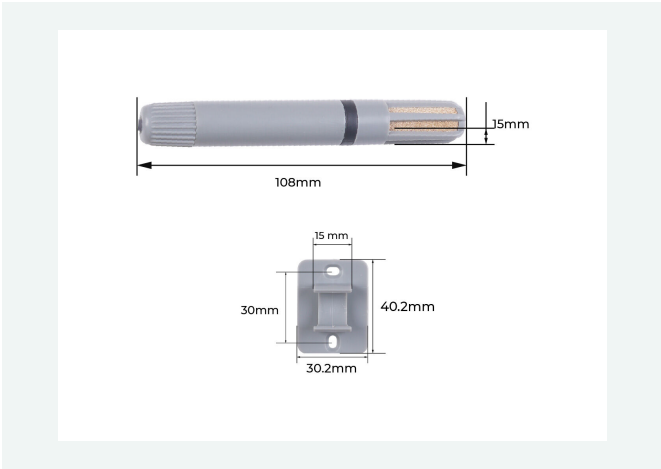
Application

- Smart City
- Smart Agriculture
- Environmental Monitoring
- Other Sensor Applications

Specification

Part list

Product Gallery



Specification

Specification	
Signal Output	RS485 Modbus Protocol
Power supply	3.6-30V/DC
Current Consumption	4mA@24V DC
Humidity Measurement Range	0-100%RH, Resolution 0.01% Accuracy: $\pm 3\%$ RH
Temperature Measurement Range	-40~80°C, Resolution: 0.01°C, Accuracy $\pm 0.3^{\circ}\text{C}$
IP Rating	IP54
Operating Temperature	-40~85°C
Installation Methods	Wall-mounted Installation and Tube installation
Cable Length	2M

Connection Methods

Aviation connector and Hook-up wire

	Equipment	Number
1	Tube Installation Equipment	1
2	Wall-mounted Installation Equipment	1
3	Plastic Screw	2
4	Metal Screw	2

Applications

- Smart City
- Smart Agriculture
- Environmental Monitoring
- Other Sensor Applications

Compliance & Logistics



HSCODE	9025800090
USHSCODE	9025801000
UPC	
EUHSCODE	9013101000
COO	CHINA

FCC Requirement

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

15.21

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses, and can radiate radio frequency energy.

If not installed and used in accordance with the instructions, it may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Resource Links

- <https://www.seeedstudio.com/RS485-Temperature-and-Humidity-Sensor-p-5235.html>
- [RS485-Industrial-grade air temperature and humidity sensor](#)

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