

# RS485 Temperature and Humidity Sensor

SEN0438

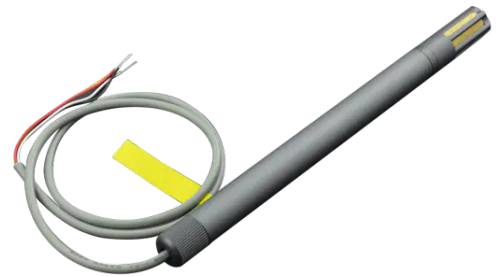
## Product Overview

11-30-2022

For the most up-to-date information, visit [www.mouser.com](http://www.mouser.com) or the supplier's website.

## Description

DFRobot RS485 Temperature and Humidity Sensor is a high-precision industrial-grade RS485 temperature and humidity sensor. This sensor uses a high-quality digital integrated transducer and reliable digital processing circuit to convert the temperature and humidity in the environment into corresponding RS485 signals. The RS485 sensor can reliably perform centralized monitoring jobs with the host computer system. This sensor features a wide measurement range, high detection accuracy, and fast response speed. The module supports -40°C to 120°C temperature range detection and 0%RH to 99.9%RH humidity detection range.



The RS485 sensor offers long-term stability, low latency, high resistance to chemical pollution, and repeatability. This sensor is waterproof and fully wrapped by the aluminum alloy shell, and its heat resistance makes it suitable for harsh environments. The SEN0438 RS485 sensor employs a breathable and dust-proof design that effectively protects the internal circuit board and prolongs the service validity period. Typical applications include building automation, climatology stations in museums and hotels, climate and HVAC automatic control, and closed-loop control of HVAC systems.

## Features

- Standard MODBUS RTU communication protocol
- RS485 signal output signal
- Wire sequence:
  - RS485 A yellow wire
  - Power input red wire
  - GND black wire
  - RS485 B white wire



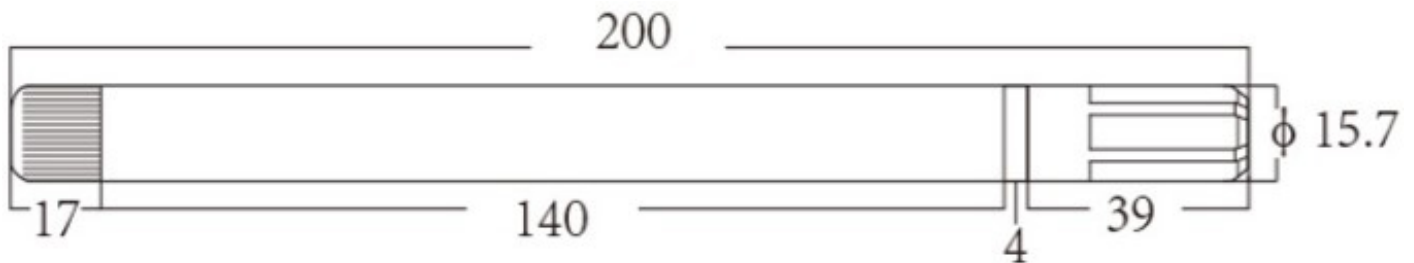
## Specifications

- -40°C to 120°C operating temperature range
- 0%RH to 99.9%RH humidity measurement range
- $\pm 0.3^{\circ}\text{C}$  ( $25^{\circ}\text{C}$ ) temperature accuracy
- $\pm 2\%$  RH ( $25^{\circ}\text{C}$ ) humidity accuracy
- 3 seconds sampling cycle period
- 12VDC to 36VDC power supply voltage range
- 200mm (L) x 15.7mm (D)/ 7.87inch x 0.62inch product size
- 9600 (default) baud rate

## Applications

- Building automation
- Climate and HVAC automatic control
- Climatology stations in museums and hotels
- Closed-loop control of HVAC systems

## Dimension Diagram



Dimension (Unit: mm)

## Kit Overview



## Mouser Part Number

[View Part](#)

To learn more, visit

<https://www.mouser.com/new/dfrobot/dfrobot-sen0438-rs485-temperature-humidity-sensor/>