

# RS485 Temperature and Humidity Sensor

## Instructions



V1.0.6



## Functional Characteristics

- Supports the Modbus RTU protocol
- Supports baud rates from 1200bps to 115200bps
- Supports temperature and humidity sensor chip SHT40
- The temperature measurement range is -40 to 125 °C
- The humidity measurement range is 0 to 100% RH.
- The temperature and humidity sensor adopts a double-layer waterproof and dustproof process
- Features surge protection, transient protection, and power supply reverse connection protection
- Both the length and terminals can be customized (default: 1 meter)

## 1. Product Overview

The serial temperature and humidity sensor communicates via RS485 interface using standard MODBUS RTU protocol, featuring high-precision SHT40 measurement chip for stable performance. Its internal parameters can be configured on-site through software with permanent storage. It is widely applicable to refrigerated trucks, communication equipment rooms, warehouse buildings, and other environments requiring temperature and humidity monitoring for automation applications.

## 2. Model Definition

CS037 Product code: The sensor chip is SHT40  
 Code Communicating protocol  
 M232 RS232 interface, standard MODBUS communication protocol  
 M485 RS485 interface with standard MODBUS communication protocol  
 MTTL TTL interface, standard MODBUS communication protocol

### Code Outershell design

THS1 White perforated shell + PG7 terminal  
 THS2 Copper Sintered + Waterproof Joint M12\*0.75  
 THS3 Copper Sintered + Aviation Joint M12\*0.75  
 THS4 White PE cotton case + PG7 terminal

### Code Sensortype

D Digital temperature sensor  
 S Temperature and humidity sensor  
 N Simulated temperature sensor

### Code Number of sensors

1 1 sensor

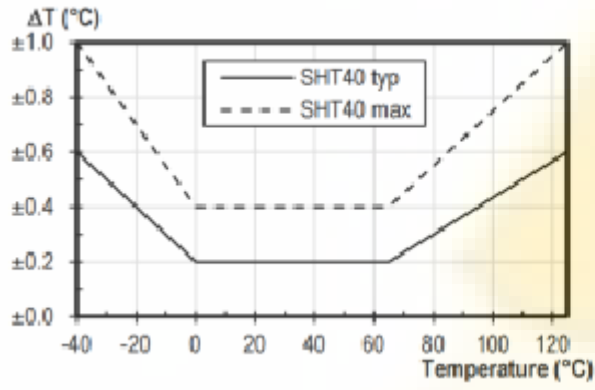
CS037 M485 THS1 1000 Example of selection

For example: CS037-M485-THS1-S1 RS485 probe with perforated housing, 1 SHT40 temperature and humidity sensor, 1-meter cable length.

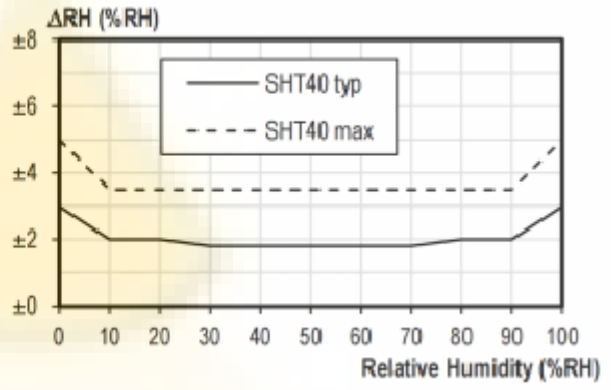
### III. Product Specifications

Rated voltage	6~24VDC
Power dissipation	<3mA
Baudrate	Default:9600(1200bps to 115200bps)
Communicating protocol	Default: Modbus RTU protocol (customizable protocol)
Sensor chip	Sensirion SHT40
Temperature measurement range	-40°C to 125°C (default: -40°C to +85°C)
Humidity measurement range	0~100%RH
Temperature measurement accuracy (@25°C)	±0.2°C (SHT40)
Humidity measurement accuracy (@25°C)	±1.8%RH (SHT40)
Measurement resolution	Temperature:0.1°C, Humidity:0.1%RH
Sampling period	1s
Sensitivity decay	Temperature < 0.1°C, Humidity < 0.1%RH
Sensor line length	Default:1000mm (customizable)
Temperature display unit	Celsius(°C)/Fahrenheit(°F)
Effective working area	Recommended area: 10–20m <sup>2</sup> per animal
Mode of connection	Remove skin and tin (default)

© SHT40 Temperature and Humidity Measurement Error Curve



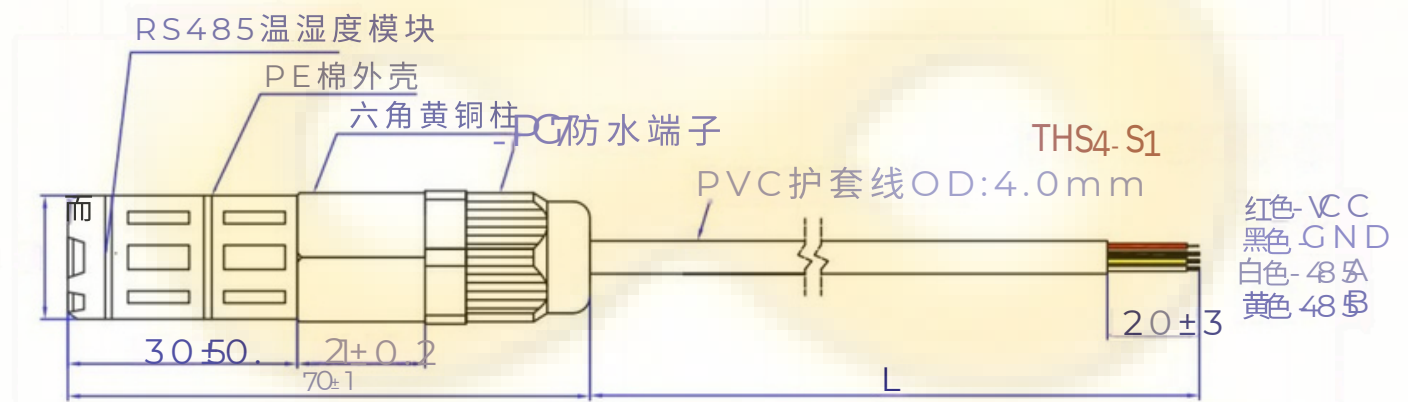
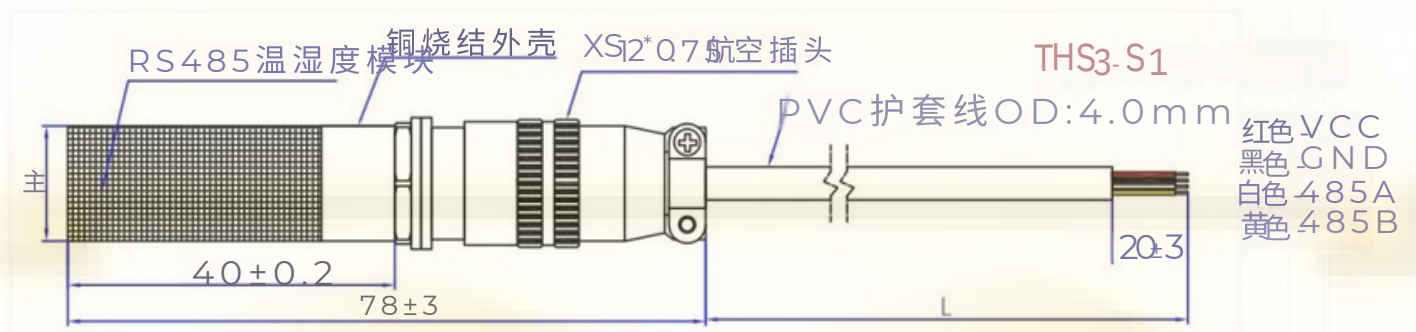
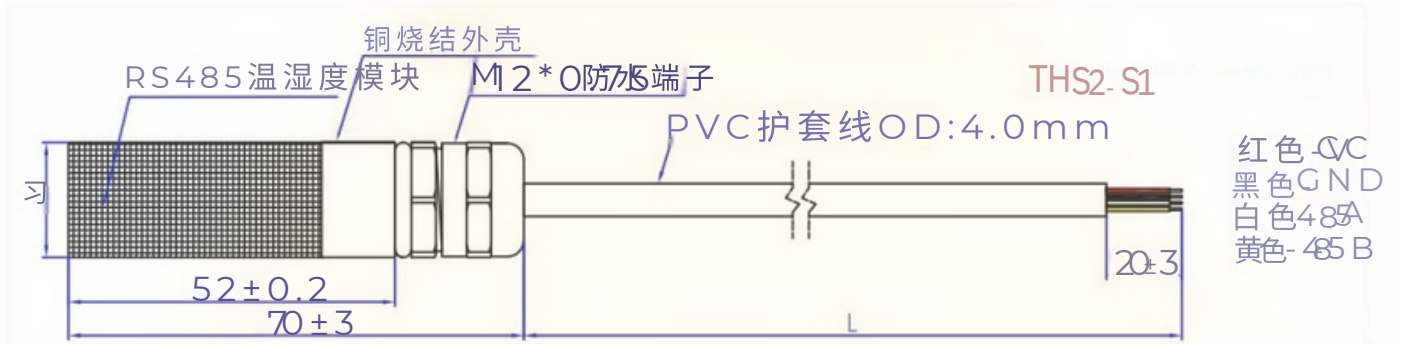
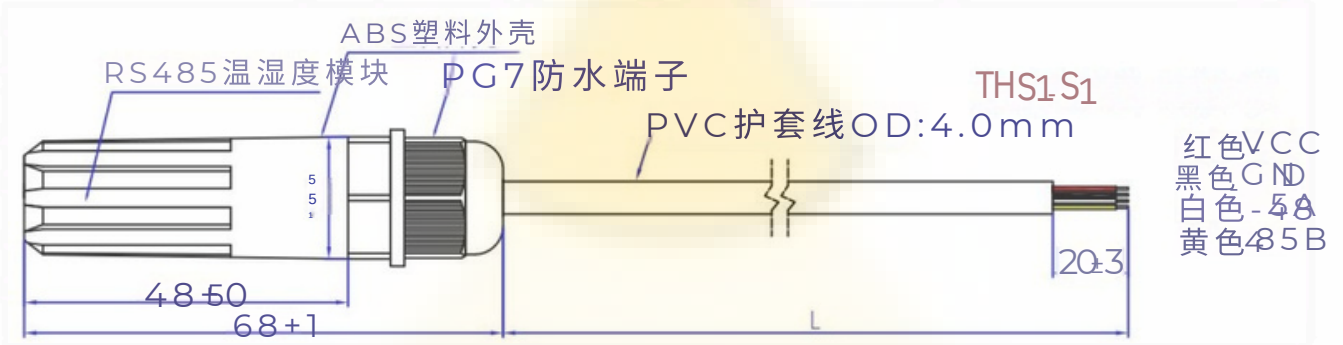
Temperature Error Chart



Humidity error graph



## IV. Product Dimensions and Specifications



## 5. Product Showcase

