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**TRH070**

## HIGH-TEMPERATURE TEMPERATURE & HUMIDITY TRANSMITTER



### FEATURES

- Full range calibration of temperature and humidity, high accuracy;
- Max operating temperature of the sensitive capacitors can reach 180 °C;
- Press buttons, LCD, and relay alarm outputs optional;
- Full metal structure is sturdy and reliable, suitable for harsh working conditions;
- Fast humidity response, small lag time, long-term stable accuracy, strong anti-pollution ability.

### DESCRIPTION

TRH070 Temperature & Humidity Transmitter is a highly reliable product developed for high-precision temperature and humidity measurement in fundamental industrial applications and climate control fields. Its split probe can work in environments with temperatures up to 180 °C. The high-temperature humidity sensitive capacitor has high long-term stability, strong anti pollution ability, and excellent anti electromagnetic interference ability. Comparing to other HVAC transmitters, the innovative metal structure design gives TRH070 the advantage of stronger structure and longer duration in harsh working conditions.

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### TECHNICAL PARAMETER

#### (1) Relative humidity

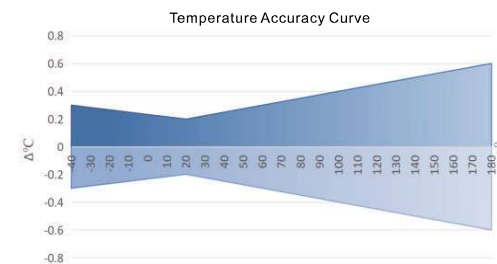
Sensing element	High temp&humidity sensitive capacitor
Range	0-100%
Output	RS485, 0-10V, 4-20mA
Accuracy	≤90%RH@20°C ±2%RH >90%RH@20°C ±2.3%RH
Response time	≤10S

#### (2) Temperature

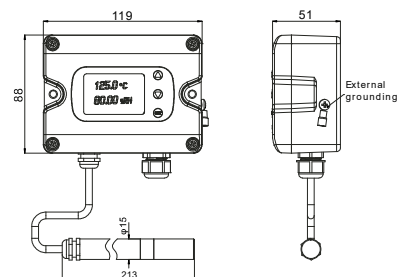
Sensing element	Pt1000
Probe operating temperature	-40~180°C
Output	RS485, 0-10V, 4-20mA
Accuracy	±0.2°C@20°C See accuracy curve chart
Power supply	15-35VDC/24VAC±20%
Operating temperature range of electronic components (with LCD)	-20~60°C
Relay	2×SPDT (3A-30VDC/250VAC)
Output Load	≤500Ω (current output) ≥10KΩ (Voltage output)
Material	ADC12, SUS304
Authentication	IP65, CE

①When using AC power supply for the transmitter, it is recommended to use an isolated AC power supply.

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### DIMENSION(mm)



Split Type

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## FUNCTION INTRODUCTION

### FUNCTION INTRODUCTION

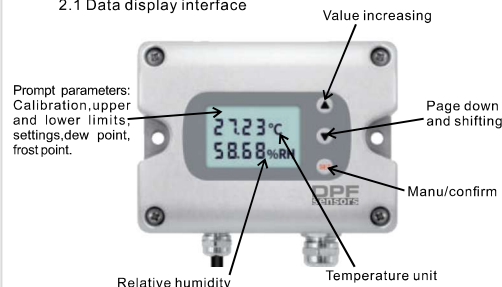
#### 1.Button Description

Button	Function Description	Using Instruction	Remark
	Manu confirm	1.Press and hold the SET key for 3 seconds to enter parameter settings. 2.In the parameter setting interface, press the S button once to select the current parameter setting in order to modify the parameters. The modifiable parameters will flash on the screen. 3.Long press this button to return to the home interface.	
	Value increasing	Press this button to add 1 to the current parameter to be modified. After adding it to 9, press this button again to change the current parameter to 0. Press this button again to change the current parameter to 1, and cycle through this process.	Directly display the upper/lower limit if some parameters exceed the limit.
	Page down and shifting	1. Press this button to select the parameter interface to be modified; 2. Press this button to move the flashing status to the next number.	

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#### 2.Display interface

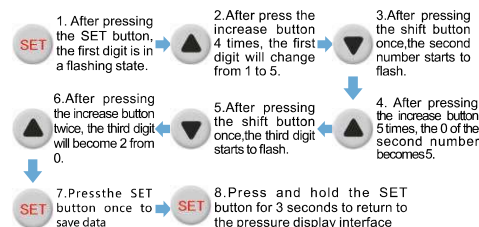
##### 2.1 Data display interface



##### 2.2 Slave address setting interface(Addr)(RS485 version available)

Long press the S button to enter the setting interface, adjust to the slave address setting interface, and the second line of the main display area will display "Addr". Short press the S button and the second line of the screen will flash to display the current slave address. The range of slave addresses that can be set is 1-255, and the default address is 1. The slave address consists of three digits, and the first digit will flash. After pressing the ↓ button, the second digit will flash. After pressing the ↓ button again, the third digit will flash. When the number is in a flashing state, press the ↑ button and the number will +1. After the slave address is modified, press the S button to save the data, and the display will return to "Addr". If you want to continue modifying other parameters, you can continue to press the ↑/↓ buttons to select the interface to be modified. If you don't need modify other parameters, press and hold the S key to return to the data display interface. Modification of other parameters is the same method as the modification of the slave address.

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##### 2.3 Baud rate setting interface (bAud) (RS485 version available)

After entering the baud rate setting interface on the display screen, the second line of the screen will display "bAud". The second line of the screen flashes to display the current baud rate parameters, with four options for baud rate selection: 1/2/3/4.  
1 Corresponding Baud Rate: 9600 (default)  
2 Corresponding Baud Rate: 19200  
3 Corresponding Baud Rate: 38400  
4 Corresponding Baud Rate: 115200  
The default baud rate is 9600, and the default parameter is 1. The modification of parameters is the same method as the modification of the slave address, please refer to 2.2.

##### 2.4 Temperature range high point setting interface(Tr-H) (Analog quantity version available)

When the display screen shows the temperature range high point setting interface, and the first line of the screen will display "Tr-H". The second line of the screen will flash to display the current range high point parameter. The setting range is -40 °C ~180 °C, and the default range high point is 60 °C. The modification of the parameter is the same as the modification of the slave address. Please refer to section 2.2.

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##### 2.5 Temperature range low point setting interface (Tr-L) (analog version available)

When the display screen shows the temperature range low point setting interface, the first line of the screen will display "Tr-L". The second line of the screen will flash to display the current low point parameter of the range. The setting range must be less than the high point value, and the default low point of the range is -20 °C. The modification of the parameter is the same as the modification of the slave address. Please refer to 2.2.

##### 2.6 Alarm enable setting interface (ALen)

When the display screen shows the alarm enable setting interface, the first line of the screen will display "ALen". The second line of the screen will flash to display the current alarm enable parameters. There are two options for alarm enable settings: OFF/on.

OFF: Turn off all alarms

On: Enable all alarms

The default alarm enable parameter is OFF, and the modification of the parameter is the same as the modification of the slave address. Please refer to Chapter 2.2.

##### 2.7 Temperature unit setting interface (Tu)

When the display screen shows the temperature unit setting interface, the first line of the screen will display "Tu". The second line of the screen will flash to display the current temperature unit, with a setting range of C/F, representing Celsius and Fahrenheit temperature units respectively. The modification of parameters is the same method as the modification of the slave address, please refer to Chapter 2.2.

##### 2.8 Humidity parameter setting interface (Hn)

When the display screen shows the humidity parameter setting interface, and the first line of the screen will display "Hn". The second line of the screen will flash to display the current humidity parameters, with a setting range of RH/Td/Tf, representing relative humidity, dew point, and frost point.

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The modification of parameters is the same method as the modification of the slave address, please refer to Chapter 2.2.

## 2.9 Humidity alarm high point setting interface (HA)

When the display screen shows the alarm high point setting interface, and the first line of the screen will display "HA". The second line of the screen will flash to display the current alarm high point parameter, with a setting range of 10-90%. The default alarm high point is 90% RH. Please refer to Section 2.2 for temperature settings. The temperature parameter will display "tA", also set.

Note: The set value of the alarm high point must be less than or equal to the range high point value.

## 2.10 Humidity alarm return difference setting interface (HH)

When the display screen shows the alarm low point setting interface, and the first line of the screen will display "HH". The second line of the screen will flash to display the current alarm return parameter. The setting range is 0-15%, and the default low point of the range is 5% RH. Please refer to Section 2.2 for temperature settings. The temperature parameter will display "tH", also set.

## 2.11 Temperature offset setting interface

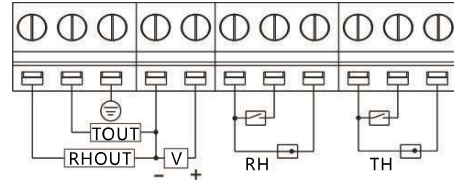
When the display screen shows the alarm enable setting interface, and the first line of the screen will display "ToFF". The second line of the screen will flash to display the current offset, with a setting range of -9.9-9.9 and a default value of 0. Please refer to Chapter 2.2 for humidity settings. The humidity parameter will display "HoFF", also set.

## 2.12 Quickly cancel this alarm

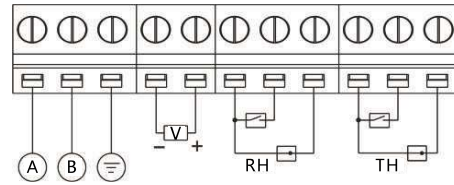
When the measured value of the transmitter meets the conditions and gives an alarm, you can press and hold the key for 3 seconds to cancel the current alarm. When the measured value falls below the lower limit of the alarm, the temporary cancellation terminates, and the product continues to monitor the measured value.

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## WIRING



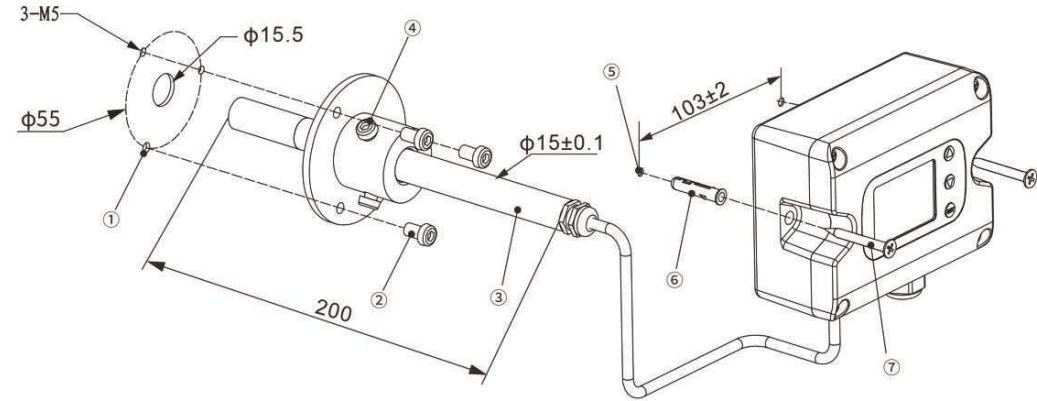
Analog output version



RS485 output version

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## INSTALLATION



Air duct: ① open holes, ② install the flange, lock the screw, ③ install the air pipe and adjust the size, ④ lock the screw

Transmitter box: ⑤ open holes, ⑥ into the expansion tube, ⑦ install the body, locking screws

Grounding method selection: 1. Internal PCB reserved grounding terminal for grounding;

2. Client wiring harness When separated from the grounding wire, the grounding wire is connected to the reserved grounding position outside the shell

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# COMMON FAULTS

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Fault	Solution
No output or no display	Check if the power supply is normal and in the positive and negative directions
Incorrect product output	Check the output type short circuit cap of the main control board
Product error code	Check for strong interference in the surrounding environment. If not, shall be return to the factory for maintenance
No or garbled product display	Check the screen wiring and restart. If not, shall be return to the factory for maintenance
Alarm relay not acting	Check the alarm parameter settings, whether the alarm enable is configured correctly, and whether the quick cancellation alarm function is used



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