

# Temperature And Humidity Recorder-Operating Instruction

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## **Product Overview**

Thank you for purchasing temperature and humidity recorder.

The recorder is mainly used to monitor and record temperature and humidity of products such as food, drugs and chemical supplies in the process of storage or transportation.

## **Notes**

Copying and publishing the contents of the manual is prohibited.

Since the performance and functions of the instrument will be improved continually, in case of any change to the contents in this manual, no further notice will be given.

We ensure that contents in this manual are correct and comprehensive, to our best knowledge. In case of any error or omission, please contact us.

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### **Standard Configuration of Equipment**

One TH-6 temperature and humidity recorder;

One computer software installation CD;

One operation manual;

One USB cable;

### **Optional Accessories**

External temperature probe (1m): it can be automatically switched to external temperature probe after connecting external probe via headphone jack

Note: External temperature probe must be inserted into the bottom for normal temperature collecting

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The recorder is widely applied for monitoring and recording environmental temperature and humidity in production, transportation and storage of food, drug, agriculture, chemistry and cold chain and can realize exporting and printing of PDF and Excel.

92 mm (length) \* 46mm (width)\* 14mm (height)

- Temperature measuring range:  $-20^{\circ}\text{C} \sim +60^{\circ}\text{C}$ ;  
temperature measuring range of optional external probe:  $-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$ ;
- Temperature measuring accuracy:  $\pm 0.5^{\circ}\text{C}$ ;
- Temperature unit:  $^{\circ}\text{C}$ ,  $^{\circ}\text{F}$ , choosing by upper computer software
- Humidity measuring range:  $0 \sim 99\% \text{RH}$ ;

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- Humidity measuring accuracy:  $\pm 3\%RH$  ( $25^{\circ}C$ ,  $20 \sim 90\%RH$ ), residual:  $\pm 4.5\%RH$
- Resolution ratio: temperature  $0.1^{\circ}C$ ; humidity  $0.1\%RH$ ;
- Recording capacity: 16000 sets
- Recording interval:  $10s \sim 24h$
- Data interface: Micro-USB interface (ordinary Android phone charging port).
- Supply power: power supply by internal wide temperature CR2450 or USB interface
- Battery life: under normal temperature environment, taking Nafu battery as a standard, recording interval of 15 minutes, used for one year

### **Instructions for First Installation**

1. Please install the software of TH-6 temperature and humidity recorder, connect the recorder with the

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computer by USB cable and install USB drive according to the hints.

2. After installation, please start the software of TH-6 temperature and humidity recorder, choose Chinese/English interface, choose 57600 for baud rate , 8,N,1 for communication format and find COM port through computer-management-device manager. Configuration information will appear in the bottom Left corner after clicking connecting device .

3. Please click on the icon “system configuration” and the recorder will work normally after parameters are set as needed (all historical data in the recorder will be cleared)

4. Symbol “▶” in the recorder lights steadily indicates that it enters into recording status. You can click on the icon “extracting data” to upload data and

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then check it in the historical data.

5. Please exit the temperature and humidity recorder

### **Obtaining Data in the Recorder**

You may obtain the data information stored in the recorder at any time and in the process data stored in the recorder will not be cleared.

1. Please connect the recorder with the computer by USB cable and the symbol “” on the recorder screen will be lighted after connection.
2. After serial port setup is completed, please click “connecting device”. You can check the data sheet, graph and statement in the historical data after extracting data; you may export EXCEL, PDF files etc..

### **Functional Description**

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The interfaces of the recorder are divided into the following types: temperature and humidity display interface, time display interface, data set display interface, maximum value display interface and minimum value display interface.

The recorder will enter into no display status in case of no key operation for 15 seconds.

You can press any key for short time to enter into temperature and humidity display interface when the recorder is in no display status. The display interface of the recorder will switch in sequence if the key is pressed for short time once again.

Temperature and humidity display interface:  
single temperature recorder: the upper part displays temperature while the lower part displays time(M/H switches into D/M );  
temperature and humidity recorder:

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the upper part displays temperature while the lower part displays humidity.



Symbol “▶” on the display screen lighting steadily indicates that the recorder is in the recording status and symbol “▶” flashing indicates that the recorder is in start delay status or in timing unstart status.

If symbols “▶” and “■” on the display screen do not light up, it indicates that the recorder is in the key unstart status.



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If symbol “**■ ■**” on the display screen lights steadily, it indicates that the recorder is in stop status.

If symbols “**↑**” and “**↓**” on the display screen light up, it indicates that the temperature or humidity measured exceed the upper or lower limit.

Time display interface: single temperature recorder has no separate display interface while temperature and humidity recorder has separate interface with M/D on the upper part and H/M on the lower part.



Data

set display

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interface: when the sign “Log” lights up, it indicates the current stored data sets and the maximum capacity is 16000 sets.



Maximum value display interface: when the icon **Max** lights up, the upper part displays maximum value of temperature measured after starting recording. The lower part displays maximum value of humidity measured after starting recording.



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Minimum value display interface: when the icon **Min** lights up, the upper part displays minimum value of temperature measured after starting recording. The lower part displays minimum value of humidity measured after starting recording.



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## Operation Instruction

### 1.Starting Recording

After parameters of the recorder are set by the upper computer software of the TH-6 temperature and humidity recorder, start modes are divided into 4 types: immediate start, delay start, timing start and key pressing start.

If it is in immediate start mode, symbol “▶” on the display screen lighting steadily indicates that the recorder is in the recording status. If it is in delay start or timing start mode, on the display screen “▶” flashing indicates that the recorder is in delay start or timing unstart status. If it is in key pressing start mode and symbols “▶” and “■” do not light up, it indicates that the recorder is in key pressing unstart mode and please press the key for 3 seconds to enter into start recording status.

Note: The previous historical data will be cleared

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after parameters of the recorder are set by upper computer software, so please read and store historical data before setting.

### 2. Stopping Recording

After parameters of the recorder are set by the upper computer software of the TH-6 temperature and humidity recorder, stop modes are divided into 3 types: full storage stop, key pressing stop and software stop.

Full storage stop: recording will be automatically stopped after storage space is full.

Key pressing stop: recording can be stopped if the key is pressed for 3 seconds or above during recording process.

Software stop: recording can be stopped by the upper computer software of the temperature and humidity recorder.

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Note: pressing the key cannot restart recording after the recorder stops recording and you can only restart it by “system configuration” by the upper computer software.

### 3. Alarm

During recording process, when the temperature measured exceeds the alarm upper limit, symbol “ $\overline{\uparrow}$ ” on the left of the temperature display value under the temperature and humidity display interface will light up which indicates the alarm that temperature exceeds the upper limit; when the temperature measured exceeds the alarm lower limit, symbol “ $\underline{\downarrow}$ ” on the left of the temperature display value under the temperature and humidity display interface will light up which indicates the alarm that temperature exceeds the lower limit.

During recording process, when the humidity

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value measured exceeds the alarm upper limit, symbol “ $\overline{\uparrow}$ ” on the left of the humidity display value under the temperature and humidity display interface will light up which indicates the alarm that humidity exceeds the upper limit; when the humidity measured exceeds the alarm lower limit, symbol “ $\underline{\downarrow}$ ” on the left of the humidity display value under the temperature and humidity display interface will light up which indicates the alarm that humidity exceeds the lower limit.

You may set alarm sound as no sound, 1 sound, 3 sounds or 10 sounds for both temperature and humidity by “system configuration” of upper computer of the TH-6 temperature and humidity recorder.

#### 4. Record Interval

Record interval can be set as minimum 10 seconds and maximum 24 hours by “system configuration” of

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upper computer of TH-6 temperature and humidity recorder.

### 5. Time of Starting Recording

It means the time when the recorder starts recording, which can be checked by connecting the upper computer of temperature and humidity recorder.

### 6. Estimated Stop Time

It means the time when the recorder stops recording after starting recording. When it is set as key pressing stop mode and the key is not pressed to stop, it displays January 1, 1970, which can be checked by connecting the upper computer of temperature and humidity recorder.

### 7. Working Status

Working status of the recorder is divided into two types including stopped and being recording, which can be checked by connecting the upper computer of



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temperature and humidity recorder.

### 8. Reason for Stop

There are 7 reasons for stop including unstop, full storage stop, key pressing stop, software stop, unexpected stop, unstart after key pressing, unstart after timing/delay, which can be checked by connecting the upper computer of Temperature and Humidity Recorder

### 9. Connection Status

When the recorder and the upper computer software connect successfully, it shows “connected”, otherwise, it shows “unconnected”

### 10. Electric Quantity Detection

| Electric Quantity Display | Capacity |
|---------------------------|----------|
| 3 Bars of Electricity     | 40%~100% |
| 2 Bars of Electricity     | 25%~40%  |

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|                      |         |
|----------------------|---------|
| 1 Bar of Electricity | 10%~25% |
| 0 Bar of Electricity | 0%~10%  |

Note: please replace battery timely when the capacity is less than 10%.

### 11. Temperature Sensor Failure

When the temperature measured exceeds the measuring range or short circuit occurs, it shows “Err” in the temperature display area

## **Instructions for Upper Computer Software**

### 1. Serial port setup

After the drive of temperature and humidity recorder is installed, please find the COM port and communication serial port No. corresponding with the recorder through computer- management-device manager and choose the COM port.

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Please choose 57600 for baud rate, 8 bits for data bits, none for check bit and 1 bit for stop bit.

### 2. Connecting device

You must connect device before using upper computer software to configure the recorder.

### 3. System Configuration

You can set the parameters of temperature and humidity recorder. curve plotting interval is set for time interval of real-time collection. System time is current system time of the computer. User name and title cannot exceed 12 words or 24 characters. Start modes are divided into 4 types including immediate start, delay start, timing start and key pressing start. Stop modes are divided into 2 types including full storage stop and key pressing stop .

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Time of timing start can be set effectively only when start mode is timing start. Time of delay start can be set effectively only when start mode is delay start. Recording interval is time when the recorder records data with minimum 10 seconds. Temperature alarm and humidity alarm can be divided into 4 types including no alarm, 1 alarm sound, 3 alarm sounds and 10 alarm sounds.

Unit for upper and lower limit of temperature alarm is  $^{\circ}\text{C}$ . If you want to use  $^{\circ}\text{F}$ , please input  $^{\circ}\text{C}$  calculated from  $^{\circ}\text{F}$  via the calculator on the right side and one decimal will be retained by default. Humidity alarm can be set freely within the scope of 0.0-99.9% and one decimal will be retained by default. Unit of temperature is divided into 2 types including  $^{\circ}\text{C}$  and  $^{\circ}\text{F}$ .

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Temperature and humidity can be calibrated with unit of  $^{\circ}\text{C}$  . If you want to use  $^{\circ}\text{F}$  , please input  $^{\circ}\text{C}$  calculated from  $^{\circ}\text{F}$  via the calculator on the right side within the scope of  $-10.0^{\circ}\text{C} \sim +10.0^{\circ}\text{C}$  and one decimal will be retained by default.

Note: Each parameter item of system configuration is divided into upper and lower parts. The upper part is current parameter of the instrument and the lower part is the parameter to be set.

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## 4. Time Calibration

|                    |                       |  |                                   |                    |
|--------------------|-----------------------|--|-----------------------------------|--------------------|
| System time        | 2018-3-9 15:18:40     | temperature alarm                              | turn on temperature alarm once    |                    |
|                    | 2018-03-09 15:18:45 ▾ |  | turn on temperature alarm ... ▾   |                    |
| User               | SIN                   | humidity alarm                                 | turn on humidity alarm 10 times   |                    |
|                    | SIN                   |  | turn on humidity alarm 10 ti... ▾ |                    |
| Title              | SIN                   | temperature low alarm setting(°C)              | -40.0°C                           |                    |
|                    | SIN                   |  | -40.0                             | Range:-40.0-99.9°C |
| Boot mode          | Start                 | humidity low alarm setting(%)                  | 0.0%                              |                    |
|                    | Start ▾               |  | 0.0                               | Range:0.0-99.9%    |
| Stop mode          | button stop           | temperature high alarm setting(°C)             | 35.0°C                            |                    |
|                    | button stop ▾         |  | 35.0                              | Range:-40.0-99.9°C |
| Timing start time  | 1970-1-1 0:0:0        | humidity high alarm setting(%)                 | 80.0%                             |                    |
|                    | 1970-1-1 0:0:0 ▾      |  | 80.0                              | Range:0.0-99.9%    |
| delayed start time | 0:0:0                 | temperature unit                               | °C                                |                    |
|                    | 0:0:0 ▾               |  | °C ▾                              |                    |
| interrecord gap    | 0:0:10                | clicking save parameters will delete data      |                                   |                    |
|                    | 0:0:10 ▾              | <input type="button" value="save parameters"/> |                                   |                    |

You need to calibrate real-time clock of the recorder.

## 5. Technical Support

You may look up contact number of our company

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### 6. Switch between Chinese and English

You may switch between Chinese and English, but you had better switch before using other function of the software, otherwise, we advise you to restart the software.

### 7. Real-time Monitoring

After you set real-time monitoring time interval (10 seconds by default), it will enter real-time monitoring interface and can display real-time temperature value and humidity value.

### 8. Extracting Data

You can extract historical data stored in the recorder.

### 9. Historical Data

You can check the extracted historical data and export

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statement, data sheet and graph.

You can choose the ascending order or descending order by left or right clicking on the column time, temperature or humidity in data list.

| Time | Temperature (°C) | Humidity (%) |
|------|------------------|--------------|
|------|------------------|--------------|

### 10. Data Backup

You can back up the extracted data.

### 11. Data Recovery

You can recover the backup data and view them in historical data.

### 12. Stopping Recording

You can stop the recording status of the recorder.

## Notes

1. Please inspect whether the packaging and appearance is intact or not and check whether the model



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and specification matches the ordered product after receiving the product.

2. Please carefully read the manual and operate strictly according to the contents before using the product.

3. In case of abnormal phenomenon, unless you have product regulating equipment and skills, please contact after-sales technician of our company.

**(!) Damage to the product caused by failure in operating according to the notes is not included in the scope of warranty.**

### Product Quality and After-sale Service

Warranty period of the product is one year from the delivery date. Within warranty period, in case of any quality problem, the company will provide free maintenance, replacement or return of product.

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### **Specific Contents of Quality Guarantee:**

1. The company shall be responsible for repairing for free if general part or component of the product fails but can be used again after replacement.

2. The company shall be responsible for replacing qualified product with the same model and specification if main part or component of the product fails and cannot be repaired without man-made damage.

3. The company will take back failing product and return payment for goods to the customer when the customer requires returning the product if main functions of the product do not conform to the standards and the requirements stipulated by the contract due to design or manufacturing.

### **Disclaimer**

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Within warranty period, product failure caused by the following reasons is not included in the scope of “three guarantees” services:

1. Product failure caused by improper use by the customer;
2. Disassembly, repair and modification of product by the customer;