

Sinilink XY-WT02 WIFI Remote thermostat module
Temperature controller module cooling and heating High
and low temperature alarm



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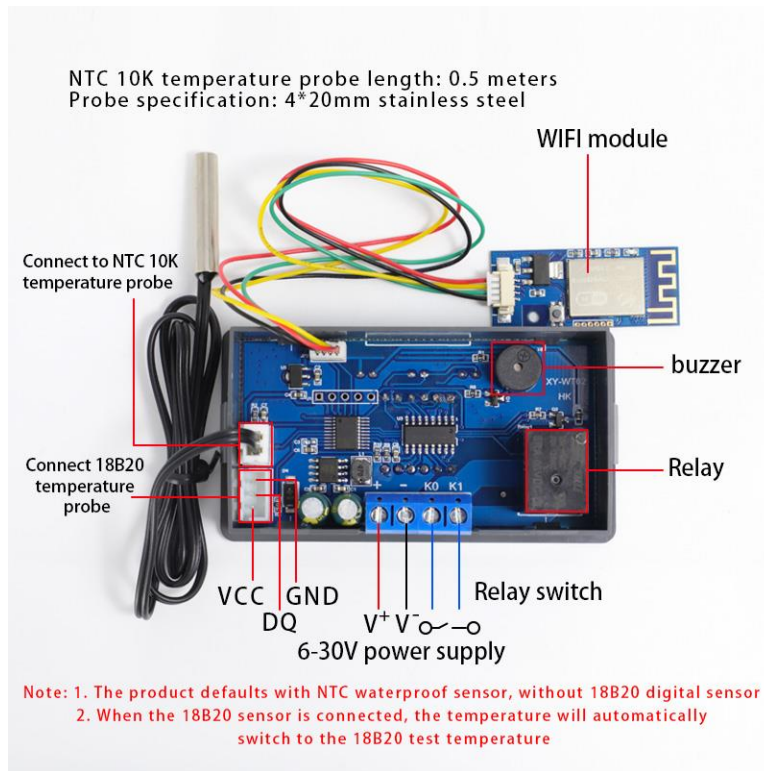
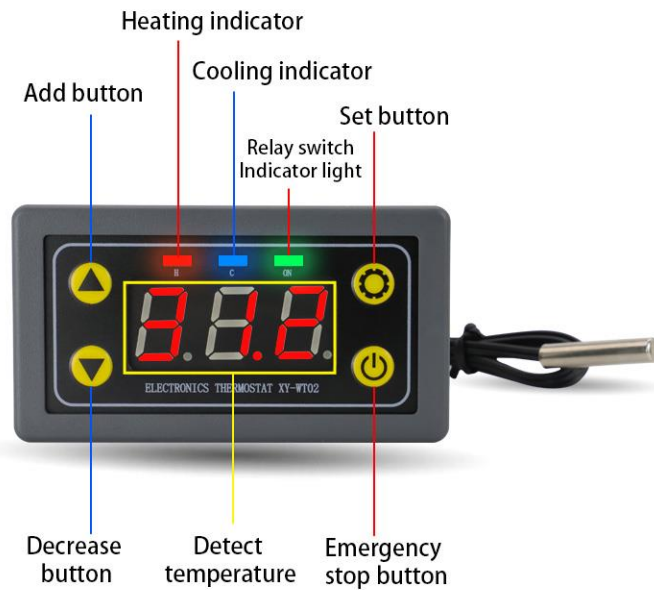
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1.Product parameter



- 1) Power supply voltage: DC6.0V~30V;
- 2) Temperature control range: -40°C~110°C;
- 3) Temperature control accuracy: 0.1°C;
- 4) Measurement input: NTC10K length of 0.5 m, waterproof type, support for 18B20 digital sensor access;
- 5) Refresh frequency: 1 second;
- 6) Output type: 10A relay output (relay is equivalent to switch, only switch and cannot output voltage);

2.Product function description

2.1Heating mode (H)

When $\text{Detect_Temperature}$ (current temperature) $\leq$ $\text{Set_Temperature} - \text{Backlash_Temperature}$, the relay leads on and the heating equipment starts working;

When $\text{Detect_Temperature}$ (current temperature) $\geq$ Set_Temperature , the relay is disconnected and the heating device stops working

Example: Set_Temperature 30°C, $\text{Backlash_Temperature}$ 5°C;

When the temperature is $20^\circ\text{C} \leq 25^\circ\text{C}$ ($30 - 5 = 25$), the relay suction starts to start heating, when the temperature reaches $30^\circ\text{C} \geq \text{Set_Temperature}$ 30°C, the relay is disconnected and the heating is stopped;

2.2Refrigeration mode (C)

When $\text{Detect_Temperature}$ (current temperature) $\geq$ $\text{Set_Temperature} + \text{Backlash_Temperature}$, the relay leads on and the refrigeration equipment starts working;

When $\text{Detect_Temperature}$ (current temperature) $\leq$ Set_Temperature , the relay is disconnected and the refrigeration equipment stops working;

Example: Set_Temperature 30°C, $\text{Backlash_Temperature}$ 5°C;

When the temperature is $36^\circ\text{C} \geq 35^\circ\text{C}$ ($30 + 5 = 35$), the relay suction starts to cool, and when the temperature reaches $30^\circ\text{C} \leq \text{Set_Temperature}$ 30°C, the relay is disconnected and the cooling is stopped;

2.3 Delay startup function(dLY)

If the delay start (unit of seconds) is opened, when one heating or cooling is completed, if the heating or cooling conditions are met again during the delay period, the product will not be executed, and must wait for the delay to be completed;

2.4 Temperature correction function(OFE)

The system may work for a long time, and through this function correction, the current temperature = measures the temperature + calibration value;

2.5 High and low temperature alarm function

buzzer open and off: on, the buzzer will sound after the alarm. After you press the button, the buzzer will stop sounding;

OTP High temperature alarm: After the high temperature alarm is turned on, after the current temperature is higher than the high temperature alarm temperature, the relay is disconnected;

LTP Low temperature alarm: After the low temperature alarm is turned on, after the current temperature is lower than the low temperature alarm temperature, the relay is disconnected;

2.6 Emergency brake function (emergency stop function)

At the product operation interface, press STOP to turn on / off the emergency stop function short. After the emergency stop function is turned on, the corresponding mode indicator light will flash to remind it.

After the emergency stop, the relay will be off in any state; after the emergency stop is off, the relay returns to normal state;

2.7 brightness regulation function

The brightness of digital pipe is divided into 1 ~ and 8 levels. In the product operation interface: short press Up Down key to adjust the brightness level;

2.8 Sleep function

At the operation interface, press STOP 2 seconds to switch, if the hibernation function is on, no button operation for 10 minutes, automatically turn off the backlight;

2.9 Relay status indication

After the relay suction, the relay closing indicator "ON" will turn on to quickly check the working status of the product;

2.10 Modbus protocol

This product supports modbus standard communication protocol, please refer to modbus section for more details;

Conval Address: 1~247

Serial Rate: 0: 9600 1: 14400 2: 19200 3: 38400 4: 56000 5: 57600 6: 115200

3. Description of the product setting system parameters

3.1 How to modify the working mode and working temperature

At the product running interface, pressing SET short can quickly view the current working mode settings;

1. presses the SET key for more than 1 second at the product running interface, and the digital pipe shows the OPE when the product enters the working mode setting interface;

2. short press SET switch parameters, OPE: working mode TEP: set temperature bTE: return

temperature;

3. Short press UP DOWN key to adjust the corresponding parameters, long press SET key for more than 1 second, exit and save;

3.2 How to view and modify the system parameters(OTP LTP ...)

1. presses the SET key for more than 3 seconds at the product operation interface. When the digital pipe displays the OTP, the product enters the system parameter setting interface;

2. short switch parameters by SET, OTP: high temperature alarm; LTP: low temperature alarm; dLY: delay start time; OFE: temperature correction; bEP: buzzer switch; F-C: temperature unit; Add:modbus equipment address

3. Short press UP DOWN key to adjust the corresponding parameters; Long press SET key for more than 3 seconds, exit and save;

3.3 How to turn the high and low temperature alarm function on / off

1. refers to step 3.1 to bring the product to the system parameter setting interface;

2. short press SET switch parameters, OTP: high temperature alarm LTP: low temperature alarm;

3. If OTP/LTP displays "- - -" indicates that this feature is not turned on, you can press STOP to turn it on / off;

4. Short press UP DOWN key to adjust the corresponding parameters, long press SET key for more than 3 seconds, exit and save;

3.4 How to correct the temperature

1. refers to step 3.1 to bring the product to the system parameter setting interface;

2. short press SET to switch parameters, OFE: temperature correction;

3. Short press UP DOWN key to adjust the corresponding parameters, long press SET key for more than 3 seconds, exit and save;

3.5 How to turn the time-lapse start on / off

1. refers to step 3.1 to bring the product to the system parameter setting interface;

2. short press SET to switch parameters, dLY: delay start, per seconds;

3. If dLY displays "- - -" indicates that this feature is not turned on, you can press STOP to turn it on / off;

4. Short press UP DOWN key to adjust the corresponding parameters, long press SET key for more than 3 seconds, exit and save;;

3.6 How to turn on and close the buzzer alarm

1. refers to step 3.1 to bring the product to the system parameter setting interface;

2. short press SET switch parameters, bEP: buzzer switch (ON: open OFF: off)

3. Short press UP DOWN key to adjust the corresponding parameters, long press SET key for more than 3 seconds, exit and save;

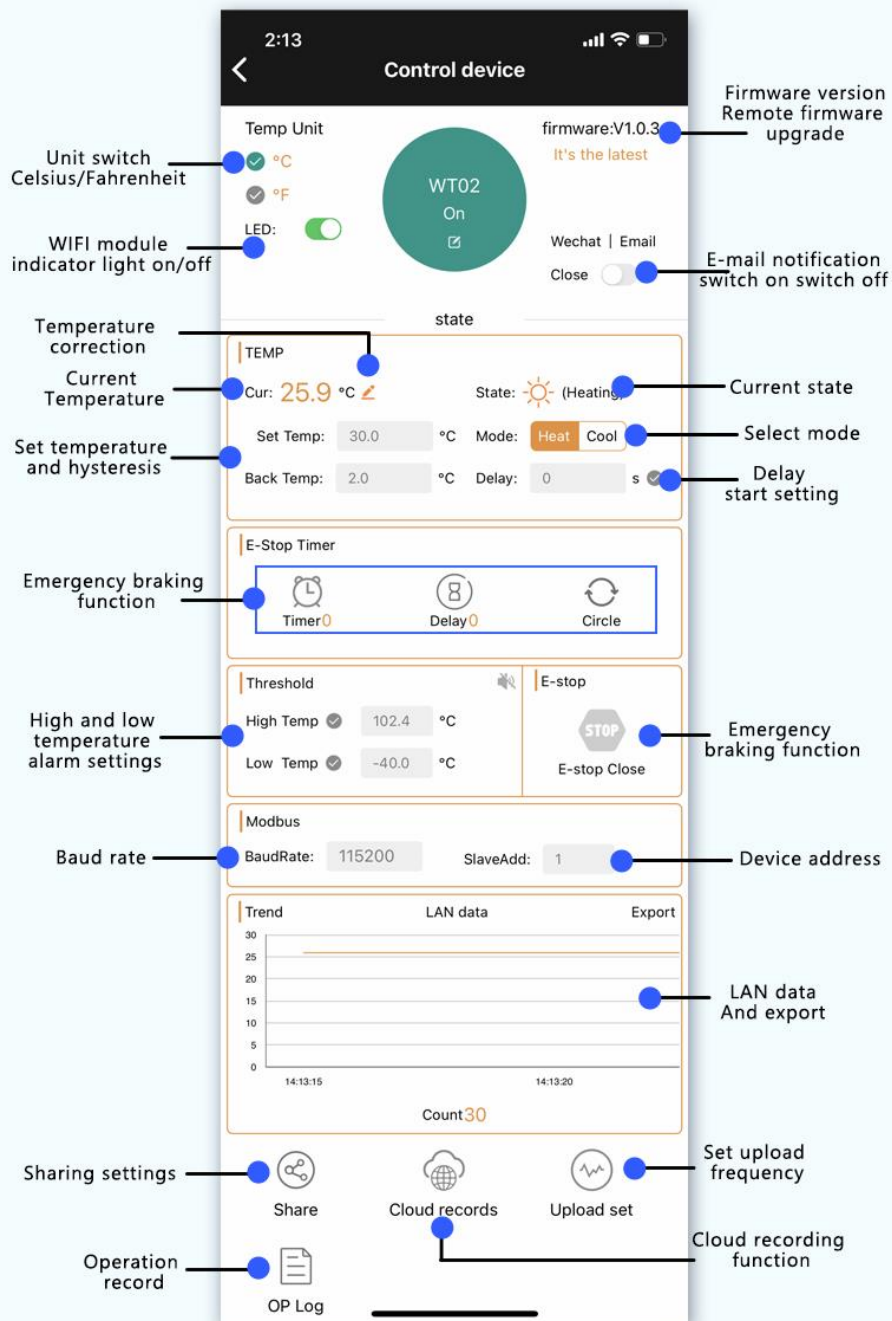
3.7 How to modify the temperature unit

1. Refer to step 3.1 to get the product into the system parameter setting interface;
2. Switch parameters by SET, F-C: temperature per F: ° F C: ° Celsius;
3. Short press UP DOWN key to adjust the corresponding parameters, long press SET key for more than 3 seconds, exit and save;

3.8 How to view / modify the Modbus device address

1. Refer to step 3.1 to get the product into the system parameter setting interface;
2. short press SET to switch parameters, Add: modbus device address;
3. Short press UP DOWN key to adjust the corresponding parameters, long press SET key for more than 3 seconds, exit and save;

4.APP interface function description



4.1 Remote parameter settings

First of all, we should ensure that the "port rate and equipment address" of the app communication column are consistent with the product. After successful communication, the product operation parameters can be set through the app, such as working mode, working temperature, temperature unit, etc., which is convenient and fast;

4.2 Support the timing | delay | cycle function

Timing, delay and cycle can be added through app, and this function controls the state of the emergency stop switch of the product to meet the needs of the timing scene;

4.3 Whether the product can be run offline offline

When the parameters are set, the product can run offline, parameter power is not lost; timing, delay, circulation and other functions need time information, the network cannot be run;

4.4 LAN data export function

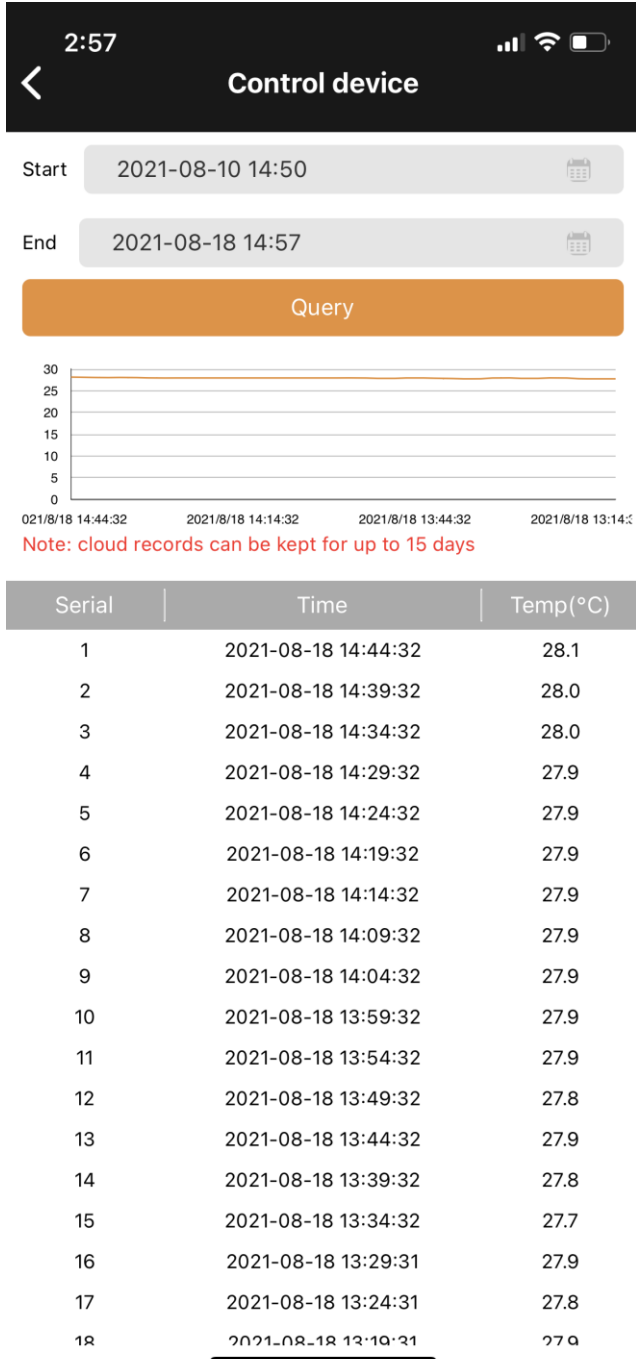
A temperature data will be transmitted from the LAN for 1 second. After clicking "Export", it will be automatically exported to the EXCEL to analyze the temperature data

4.5 Share Settings

You can share with others, realize multiple people to share a device, can control its functions.

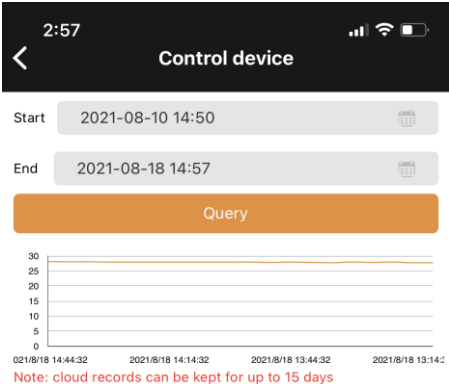
4.6 operation note

All operation records can be stored in the background, and the + timer + button +APP+ heating refrigeration mode to query the operation status of the relay;

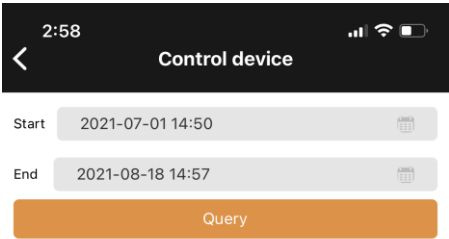


4.7 Cloud recording and upload frequency

Temperature data can be stored in the background, the log upload frequency of can be set, can set 1 second / bar (one default 5 minutes); data can be inquired for any time period at will to retain data within 15 days; cloud data export function can be added to make the next analysis of temperature data;



Serial	Time	Temp(°C)
1	2021-08-18 14:44:32	28.1
2	2021-08-18 14:39:32	28.0
3	2021-08-18 14:34:32	28.0
4	2021-08-18 14:29:32	27.9
5	2021-08-18 14:24:32	27.9
6	2021-08-18 14:19:32	27.9
7	2021-08-18 14:14:32	27.9
8	2021-08-18 14:09:32	27.9
9	2021-08-18 14:04:32	27.9
10	2021-08-18 13:59:32	27.9
11	2021-08-18 13:54:32	27.9
12	2021-08-18 13:49:32	27.8
13	2021-08-18 13:44:32	27.9
14	2021-08-18 13:39:32	27.8
15	2021-08-18 13:34:32	27.7
16	2021-08-18 13:29:31	27.9
17	2021-08-18 13:24:31	27.8
18	2021-08-18 13:19:31	27.9



Note: cloud records can be kept for up to 15 days

Serial	Time	Execute
INCHING	2021-08-18 14:55:51	Relay OFF
APP	2021-08-18 14:55:46	Relay ON
APP	2021-08-17 09:31:36	Relay OFF
APP	2021-08-17 09:31:33	Relay ON
RESTART	2021-08-16 08:04:22	Relay OFF
RESTART	2021-08-09 08:05:55	Relay OFF
APP	2021-08-07 09:43:50	Relay OFF
APP	2021-08-07 09:43:49	Relay ON

Click load more

5.WIFI WIFI module key function and indicator light status

5.1 Keybutton function

Long press for 5 seconds: switch the pairing mode Touch/AP, to let the product enter the pairing state;

5.2 Description of the indicator lamp function

Blue indicator lamp: the network status indicator lamp

1. is not connected to the router: bright 1S out of 0.1S so reciprocating;
2. link router but not connected: flash, flash so backwards;
3. Touch pairing mode: flash 4 times and then wait 1S so reciprocating;
4. AP pairing mode: blue light continuous flash;
5. networking success: the blue indicator light is always on;

6.Mail notification function:

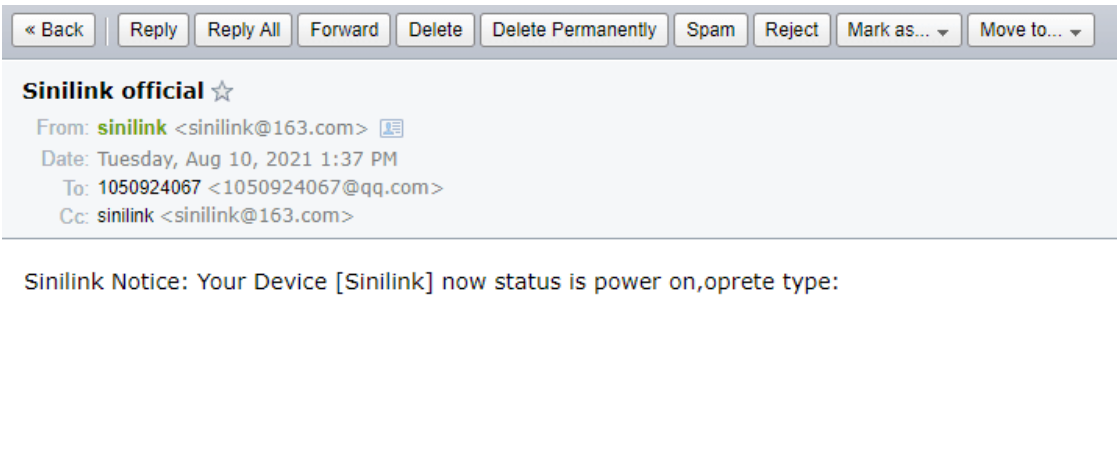
6.1 How to bind a mailbox

- 1) Turn on the mail notification



1. Open the APP into the device operation interface, the top left corner is the switch of the mail notification function; if the email notification is turned on, when the computer status sends the change will send the latest status and operation type of the computer in real time through the mailbox used to register the APP;

Operation types are divided into five types: 1. Equipment power 2. Key operation 3. Timer operation 4.APP operation 5. Point operation operation; as shown in the figure below



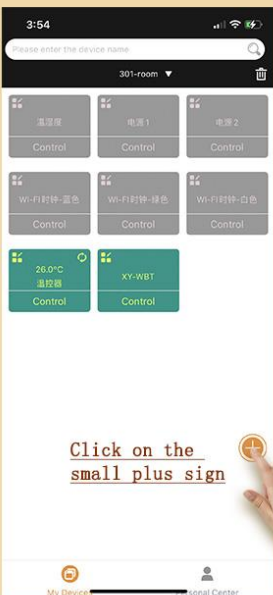
7 How to distribution network

7.1 Touch model

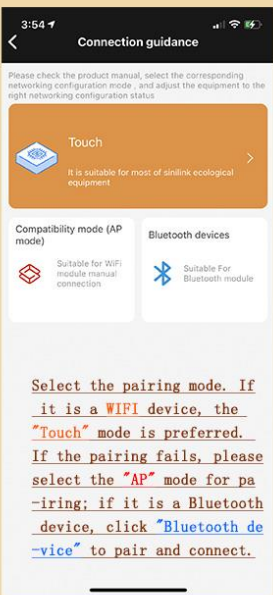
- 1. Press the WIFI module for more than 5 seconds to get the product into Touch pairing (the blue lights flash 4 times and then extinguish 1S)
- 2. The APP operation is shown in Fig:

Product networking steps

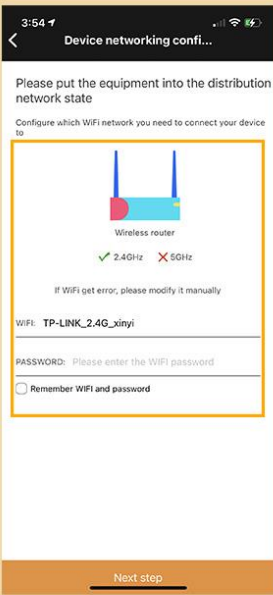
First step



Second step

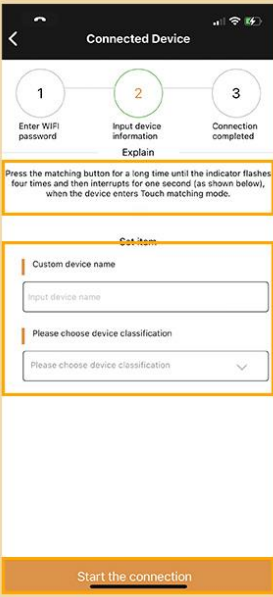


Third step



During the pairing process, the WIFI network must be 2.4G, and the 5G network cannot be paired. (If your WIFI router 2.4G and 5G are network merged, please reconfigure the router, separate it, and select 2.4G network.)

Fourth step



The product enters Touch by default after power-on Pairing mode.

Customize device name and classification.

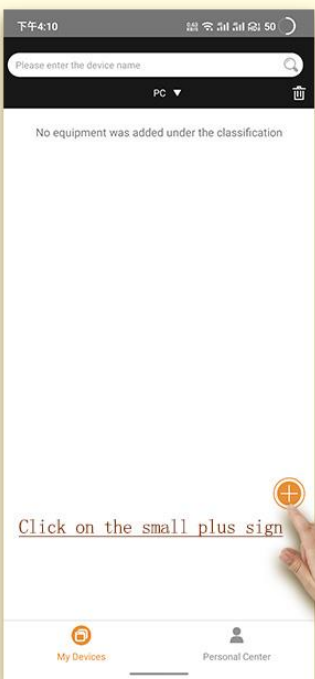
Click "Start Connection".

3. 7.2 AP model

Long press WIFI module for more than 5 seconds to let the product enter compatible mode (AP mode) pairing state (blue light continuous flash)

Product networking steps

First step



Click on the small plus sign

Second step



Please select "AP" mode to pair

Third step



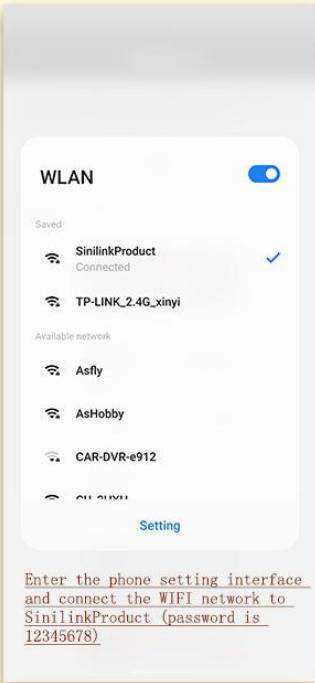
During the pairing process, the WIFI network must be 2.4G. Yes, the 5G network cannot be paired. (If your WIFI router 2.4G and 5G are network mergers Please reconfigure the router, separate it, and select Take 2.4G network

Fourth step



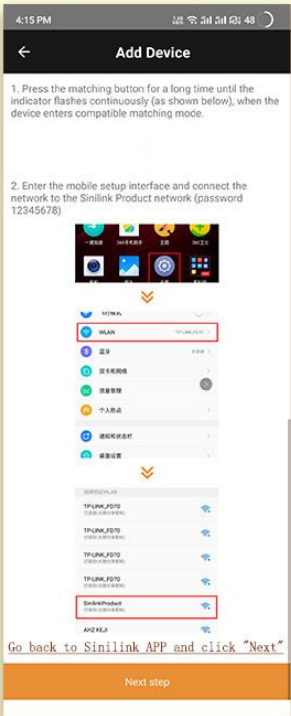
Customize the device name and category, click "start connection"

Fifth step



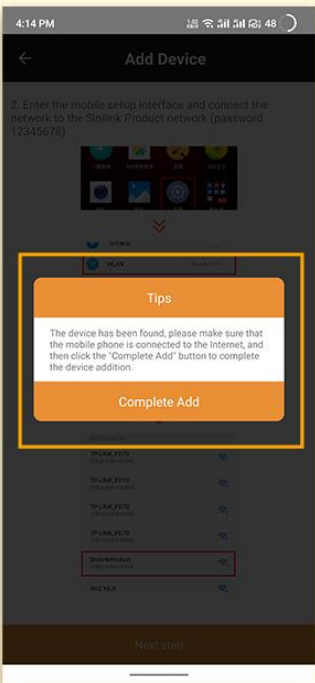
Enter the phone setting interface and connect the WIFI network to SinilinkProduct (password is 12345678)

Sixth step



Go back to Sinilink APP and click "Next"

Seventh step



Click "Finish adding" and waitfor the mobile phone to connect successfully, and then automatically return to the app device interface

8.How to download a mobile APP

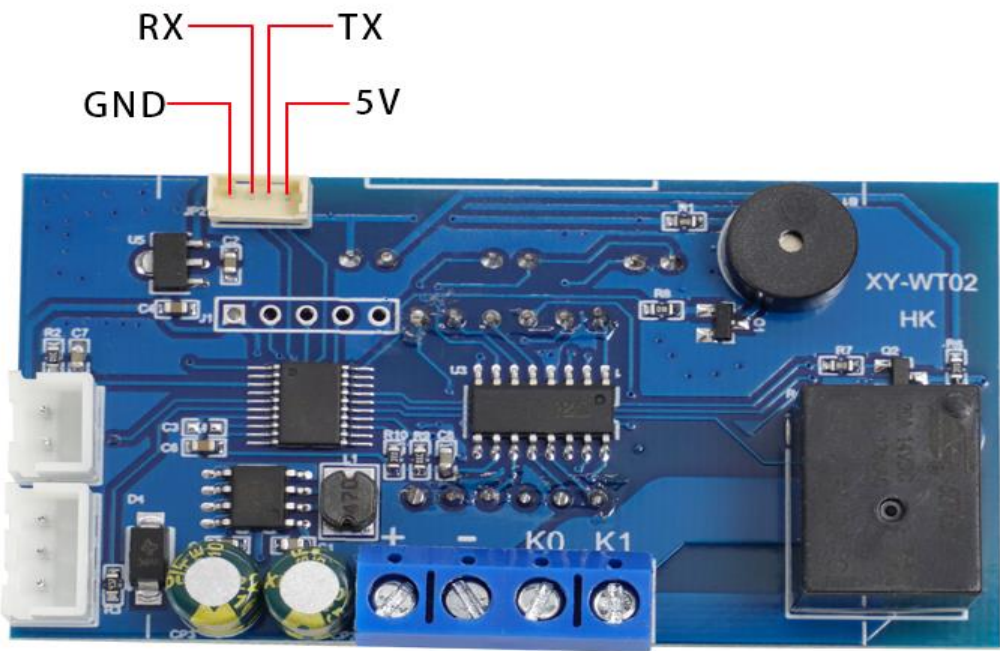
扫码下载APP



Scan Download APP

Scan the code to download APP, foreign customers please download in the Google market, search for 'sinilink' download

9.Modbus Detailed solution of communication protocol



9.1 Protocol profile

Communication protocol is MODBUS-RTU protocol, this product only supports function code 0x03,0x06,0x10; communication interface for TTL serial port;

9.2 Data frame structure:

Data frame interval	address part	function code	data field	CRC checksum
3.5 Bytes and Up	1 Bytes	1 Bytes	N Bytes	2 Bytes

9.3 Example of communication

0x03 Read function host format

address part	function code	Register start address	Number of register addresses n(1~32)	CRC checksum
1 Bytes	1 Bytes	1 Bytes	2 Bytes	2 Bytes

0x03 Read function returns the format from the machine

address part	function code	Register start address	Number of registers n	Register data	CRC checksum
1 Bytes	1 Bytes	2 Bytes	1 Bytes	2*n Bytes	2 Bytes

0x06 Write a single register function host format

address part	function code	Register start address	Register data	CRC checksum
1 Bytes	1 Bytes	2 Bytes	2 Bytes	2 Bytes

0x06 Write a single register function returns the format from the machine

address part	function code	Register start address	Register data	CRC checksum
1 Bytes	1 Bytes	2 字节	2*n Bytes	2 Bytes

0x10 Write in a multiple-register function host format

address part	function code	Register start address	Number of register addresses n(1~32)	Write the number of bytes 2*n	Register data	CRC checksum
1 Bytes	1 Bytes	2 Bytes	2 Bytes	1 Bytes	2*nBytes	2 Bytes

0x10 Write multiple registers from the host format

address part	function code	Register start address	Number of register addresses n(1~32)	CRC checksum
1 Bytes	1 Bytes	2 Bytes	1 Bytes	2 Bytes

9.4 Register introduction

Protocol register introduction (data within a single register address is double-byte data)

name	instruction	Bytes	decimal	unit	Register type	Register address
RELAY	Current relay status	2	0	-	holding register	0000H
SENSOR	Sensor status	2	0	-	holding register	0001H
TIME	Delay remaining time	2	0	MIN	holding register	0002H
TEMP	Current temperature	2	1	℃	holding register	0003H
F_C	degree-day	2	0	-	holding register	0004H
OPE	work pattern	2	0	-	holding register	0005H
TEP	Set the temperature	2	1	℃	holding register	0006H
BTE	Reverse temperature	2	1	℃	holding register	0007H
OTP	High temperature alarm threshold	2	1	℃	holding register	0008H
LTP	Low temperature alarm threshold	2	1	℃	holding register	0009H
DLY	Delay start time	2	0	Min	holding register	000AH
OFE	temperature correction	2	1	℃	holding register	000BH
ALARM	Alarm status	2	0	-	holding register	000CH
BEP-SW	The buzzer switch	2	0	-	holding register	000DH
OTP-SW	High temperature alarm switch	2	0	-	holding register	000EH
LTP-SW	Low temperature alarm development	2	0	-	holding register	000FH
DLY-SW	Delay start switch	2	0	-	holding register	0010H
STOP	emergency stop	2	0	-	holding register	0011H
ADDR	From the machine equipment address	2	0	-	holding register	0012H
BAUDRATE	The serial port rate	2	0	-	holding register	0013H
SLEEP	Sleep switch	2	0	-	holding register	0014H
BL	Backlight grade	2	0	-	holding register	0015H