RS-WS-WIFI-6 series WIFI temperature and humidity transmitter User manual

Document version：V3.1

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1. product description

RS-WS-WIFI-6 series is an industrial temperature and humidity transmitter for WIFI wireless data transmission. It can collect temperature and humidity data and upload it to the server through WIFI. This series of products make full use of the established WIFI communication network to realize data collection and transmission, and achieve the purpose of centralized monitoring of temperature and humidity data. Can greatly reduce the amount of construction, improve construction efficiency and maintenance costs.

The product uses a large-screen LCD display, with dual control of temperature and humidity upper and lower limits, freely set limits, temperature and humidity calibration by password, and integrated alarm module (buzzer or relay), which can realize high and low temperature alarm and Low humidity alarm. The product adopts the original high-quality temperature and humidity measurement unit imported from Switzerland, which has the characteristics of high measurement accuracy and strong anti-interference ability, which ensures the excellent measurement performance of the product.

This series of products are widely used in computer room monitoring system, power monitoring system, security engineering, medical and health monitoring, energy consumption monitoring system, smart home and other fields.

1.1 Features

1. Original high-quality temperature and humidity measurement unit imported from Switzerland, the probe can be external, and the probe line can be up to 30 meters in length

2. Upload data through WIFI, support intra-LAN communication, cross-gateway WAN communication, support secondary development

3. Support dynamic domain name resolution DNS

4. Equipment parameters are configured through 485, which is simple and convenient

5. Temperature and humidity acquisition frequency 2S / time, data upload frequency 1S ~ 10000S / time can be set

6.Built-in alarm function, which can set the upper and lower limits of the alarm and the return difference.

7. With 2 channels of normally open contacts, can be associated with any alarm output (optional)

8.Built-in one buzzer, external sound and light alarm (optional)

9. Access to free local monitoring software platform and environmental monitoring cloud platform (www.0531yun.cn) and YY version of cloud platform (yy.0531yun.cn)

10.The equipment is suitable for DC10 ~ 30V wide voltage power supply

1.2 Technical Parameters

powered by	10~30V DC	
Power consumption	0.7W	
Communication Interface	Standard WIFI wireless (2.4GHZ)	
IP address	Support static IP address, automatic IP address acquisition, cross-gateway, domain name resolution, and WAN connection	
WIFI communication parameters	Supports 802.11b / g / n wireless standards	
WIFI encryption performance	Support support WPA / WPA2 security mode	
A quasi accuracy	Humidity ± 2% RH (5% RH ~ 95% RH, 25 ℃)	Humidity ± 2% RH (5% RH ~ 95% RH, 25 ℃)
	Temperature ± 0.4 ℃ (25 ℃)	Temperature ± 0.4 ℃ (25 ℃)
B quasi accuracy	Humidity ± 3% RH (5% RH ~ 95% RH, 25 ℃)	Humidity ± 3% RH (5% RH ~ 95% RH, 25 ℃)
	Temperature ± 0.5 ℃ （25 ℃）	Temperature ± 0.5 ℃ （25 ℃）
(default)	-20 ℃ ~ + 60 ℃ ， 0% RH ~ 80% RH	
	-40 ℃ ~ + 120 ℃, default -40 ℃ ~ + 80 ℃	
Transmitter circuit operating temperature	0% RH-100% RH	
Probe working temperature	0.1 ℃	
Probe working humidity	0.1% RH	
Temperature display resolution	1s	
Humidity display resolution	Humidity ≤1% RH / y	Humidity ≤1% RH / y
Temperature and	Temperature	Temperature ≤0.1 ℃ / y

humidity refresh time	re ≤0.1 ℃ / y	
Long-term stability	Humidity ≤8s (1m / s wind speed)	Humidity ≤8s (1m / s wind speed)
	Temperature ≤25s (1m / s wind speed)	Temperature ≤25s (1m / s wind speed)
Response time	Default 20S / time, 1S ~ 10000S can be set	
	Recording period can be set from 1 minute to 24 hours, recording capacity: 65000 groups	

2. Product selection

RS-					Company code
	WS-				Temperature and humidity transmission, sensor
		WIFI-			WIFI type
			6-		Large LCD case
			6J-		Large LCD case (no relay output)
			DC-6-		Large LCD case with built-in battery type (no relay output)
				4-	Built-in hardcover probe
				5-	External hardcover probe
				6-	External waterproof probe
				B-	External wide temperature probe

3. Panel and configuration instructions
3.1 Panel description
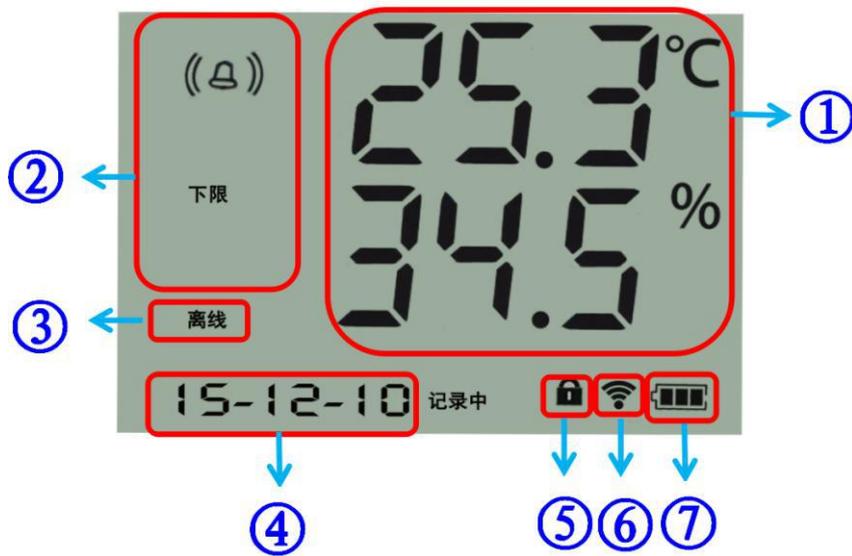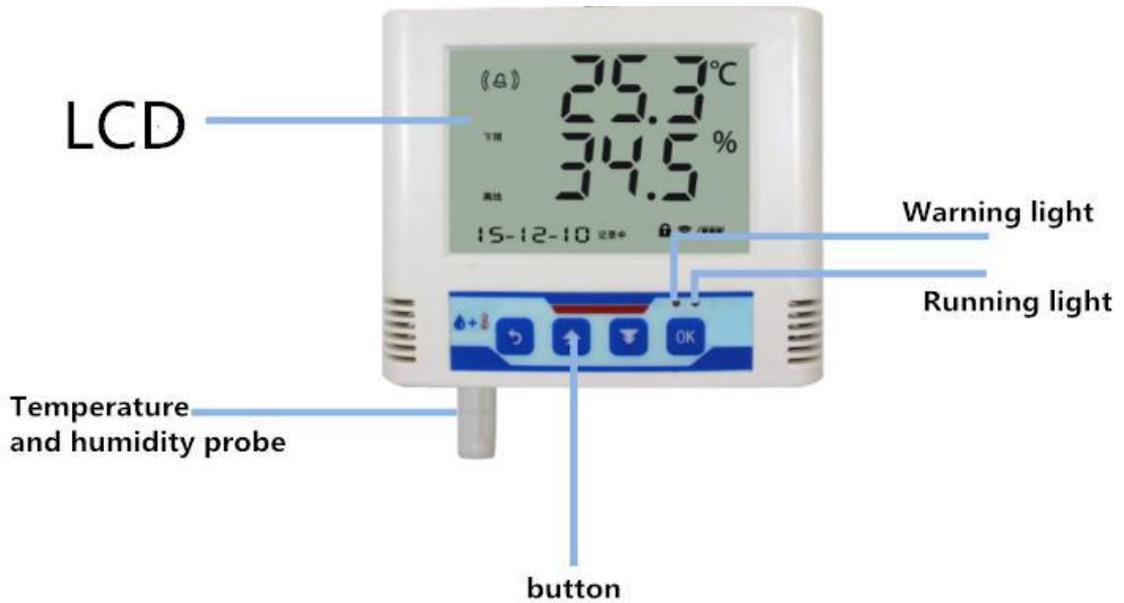
Serial number	Description
①	Real-time temperature and humidity display
②	Temperature or humidity alarm
③	Network communication disconnection prompt
④	Rotate the stored amount, system time
⑤	Prompt whether you are in parameter modification mode
⑥	Wireless signal strength indicator
⑦	Remaining power display, external power products show full power

3.2 Configuration instructions

Plug into the computer
USB port configuration
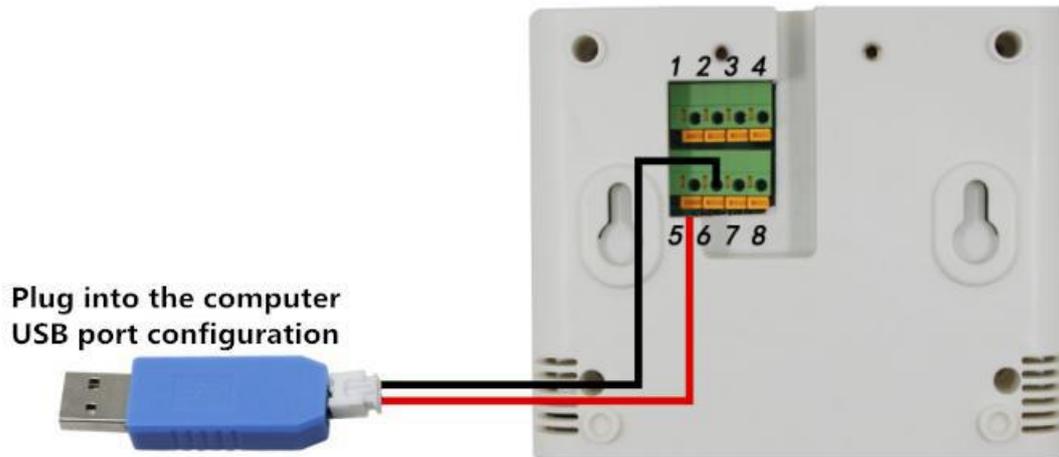
1. Connect the sound and light alarm or other alarm equipment as required (this step is not required);

2. Connect USB to 485 to the computer, power on the device, and configure the device;

3. After configuration, USB to 485 will be unplugged;

4. After the device is powered off and restarted, the data can be uploaded to the monitoring platform in the LAN or WAN.

4．Equipment installation instructions

4.1Check before equipment installation

1 temperature and humidity transmitter equipment

2.12V / 1A waterproof power supply 1

3.USB to 485

4. Certificate of conformity, warranty card, calibration report, etc.

5. 1 pair of wall mount buckles, 2 expansion plugs, 2 self-tapping screws, 2 countersunk screws

6. Sound and light alarm (optional)

4.2.Dimensions

4.3Interface Description
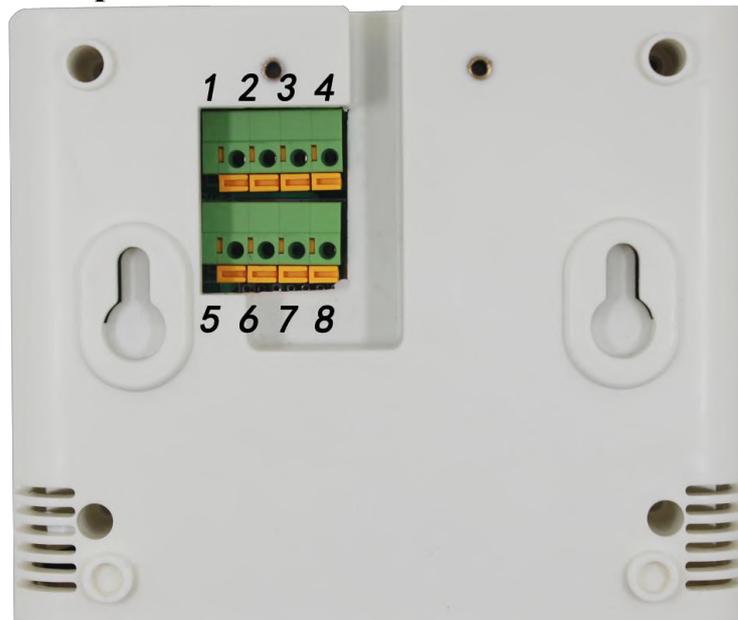
Serial number	Description	Serial number	Description
1	Power supply (10 ~ 30V DC)	5	485-A (configuration A line)
2	Negative power	6	485-B (configuration B line)
3	Normally open point of the first relay (optional)	7	Normally open point of the second relay (optional)
4		8	

Special Note:

1) Power can be supplied from the power jack or screw-free terminals.

2) The two relays are normally open contact outputs, which can be associated with any alarm item.

For details, please refer to the button setting section of the manual.

4.4 Installation Notes

In order to facilitate on-site construction, our company provides two equipment installation methods:

1) Hoist hole installation

Note: The self-tapping and expansion screws are driven into the fixed position on the wall, and the wall-hung method is connected to the hoist hole.
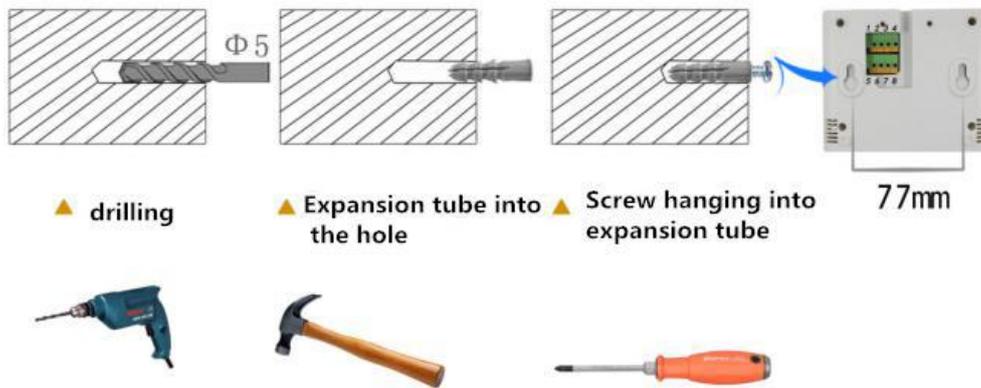
2）**Wall mount buckle installation**

Note: One side of the hook is mounted on the wall with countersunk screws, the other side is mounted on the device with screws, and then the two parts can be hung together.
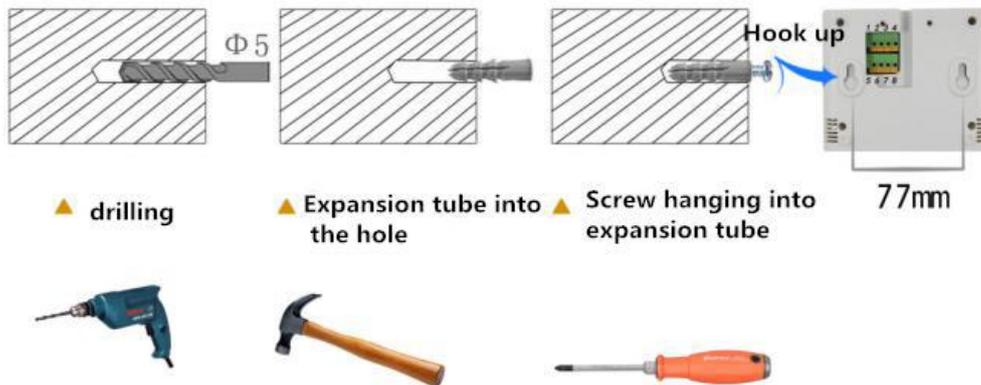
5. Configuration software instructions

5.1 Configuration software instructions

1) Before using RS-WS-WIFI-6 series configuration software, make sure that the device is connected to the computer via USB to 485 and powered on; after opening the software, select and open the serial port to put the device into configuration mode; generally, follow the parameters to read first- -"Modify-" the principle of saving; after all the parameters are configured, click the "Enter Work Mode" button, and the device will automatically enter the work mode.

2) Double click Open the software。
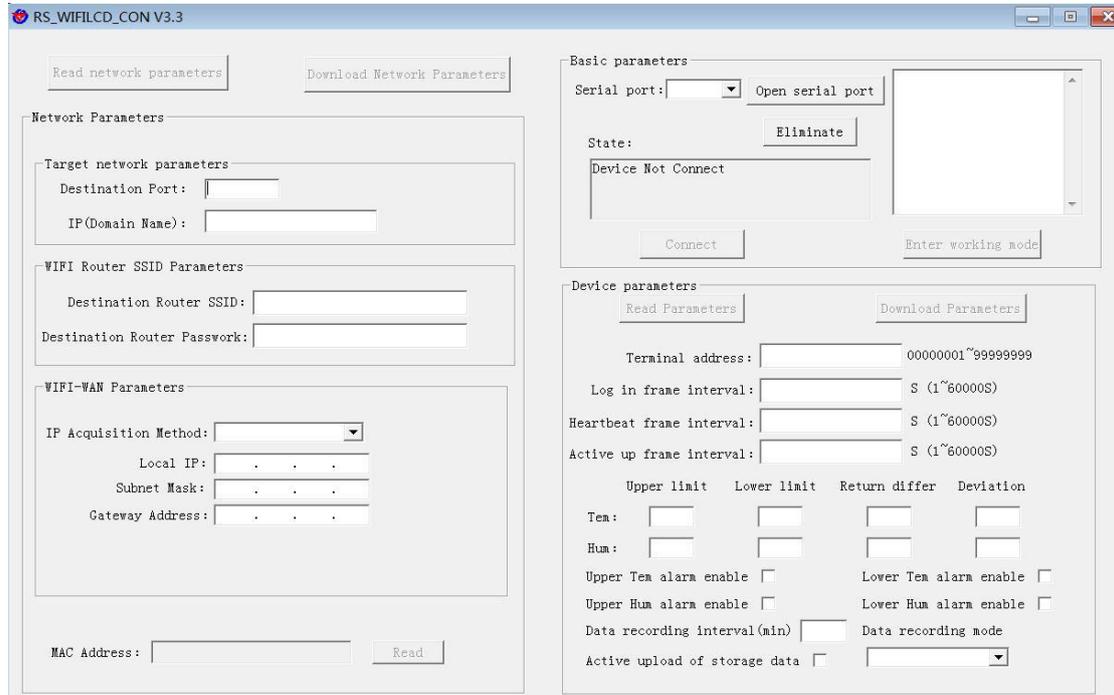
2）Select the serial port number and open the serial port
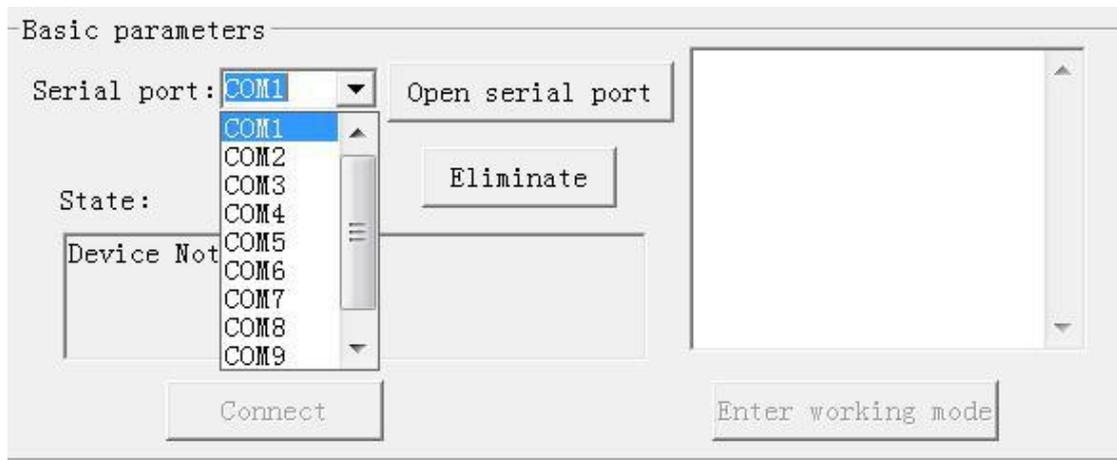
The serial port number should select the serial port provided by the USB conversion module provided here, which can be viewed in the device manager. The specific steps are: right-click "My Computer" and select "Manage", then select "Device Manager" to find "Port", confirm the serial port number.

3) Click the "Connect Device" button. If the device is successfully connected, the normal connection status of the device will be displayed in the status bar as shown. The first line indicates whether the device is connected to the configuration software; the second line indicates whether the device is ready; the third line indicates that the device is in configuration mode.

Device working mode description:

Configuration mode: When you click to enter configuration mode, the device will pop up to enter configuration mode. In the configuration mode, you can configure the device operating parameters and network parameters.
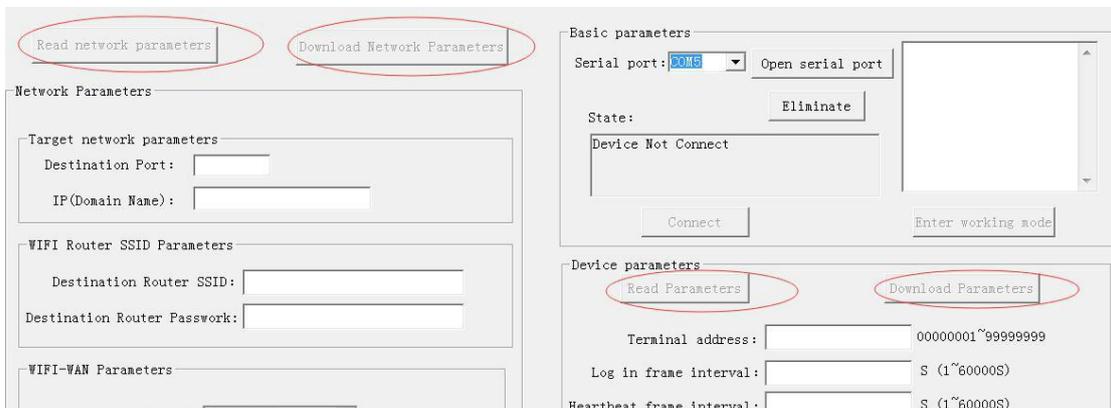
5.2 Reading and configuration of operating parameters

1) After the device successfully enters the configuration mode, you can click the "Read Operation

Parameters" button to read the operation parameters, and click "Configure Operation Parameters" to download and store the operation parameters.

Terminal address: It is the unique address of the device. The software monitoring platform distinguishes different devices based on this address.

Login frame interval time: The interval between login frames sent by the device during registration. The default is 5S, and users do not need to modify it.

Heartbeat packet interval: If there is no data on the link, the device maintains the link link time, that is, the device sends a heartbeat packet every interval. The default interval is 60S, and users do not need to modify it.

Active frame sending interval: The time interval for the device to actively send data. This time is the temperature and humidity update time. If the user has higher requirements for temperature and humidity time, this time can be set short. If the user wants to reduce For network load, you can set this time to a long time. The time range is 1 ~ 10000S, but it should be less than the heartbeat packet interval time. Generally, it can be set to 10.

Upper temperature limit and upper humidity limit: It is the upper limit of the temperature alarm and the upper limit of the humidity alarm of the device.

Lower temperature limit and lower humidity limit: It is the lower limit of temperature alarm and lower limit of humidity of the device.

Temperature hysteresis and humidity hysteresis: Hysteresis for temperature and humidity control when the device is used as a controller.

Temperature deviation and humidity deviation: It is used to adjust the temperature and

humidity value for the equipment on site.

Enable temperature upper limit alarm, temperature lower limit alarm enable, humidity upper limit alarm enable, humidity lower limit alarm enable: enable or disable the corresponding upper limit alarm function.

The above temperature upper and lower limits can be used as alarms. When the temperature and humidity exceed the limit, the device alarm indicator will flash, and the built-in buzzer will continue to alarm. The temperature and humidity return difference is used as a control to achieve temperature and humidity return difference control.

Device data recording interval: The device can be built-in storage. This parameter is the recording interval of the data stored in the device. The setting range is from 1 to 10,000 minutes.

Data recording mode: "Do not store" is to turn off the storage function; "Automatic storage" is to automatically store when the device is disconnected from the software platform, the device stops storing after connecting to the software platform, and automatically uploads the data to ensure that the data is permanently No loss; "Continuous storage" means that the device will always store data at the storage interval regardless of whether the software platform is connected.

Active upload of data stored in the device: If checked, the device first uploads the data stored in the device after connecting to the software platform. If not checked, the data stored in the device is waiting for the software platform to call for testing.

5.3 WIFI network parameter reading and configuration

1) Click the "Read Network Parameters" button to upload the device network parameters. If the prompt fails to read the network parameters, check whether the device is powered on and whether the configuration port wiring is correct. You can restart the device and enter the configuration mode again to read the network parameters.

```
Read network parameters          Download Network Parameters

┌─Network Parameters────────────────────────────────────────────┐
│                                                                │
│  ┌─Target network parameters──────────────────────────┐       │
│  │   Destination Port:  [2404      ]                   │       │
│  │                                                      │       │
│  │    IP(Domain Name):  [192.168.2.44      ]           │       │
│  └──────────────────────────────────────────────────────┘     │
│                                                                │
│  ┌─WIFI Router SSID Parameters────────────────────────┐       │
│  │   Destination Router SSID: [RKMCU            ]      │       │
│  │                                                      │       │
│  │ Destination Router Passwork: [160160160       ]     │       │
│  └──────────────────────────────────────────────────────┘     │
│                                                                │
│  ┌─WIFI-WAN Parameters────────────────────────────────┐       │
│  │                                                      │       │
│  │  IP Acquisition Method: [Static IP      ▼]          │       │
│  │          Local IP: [192 .168 . 2  . 55 ]            │       │
│  │       Subnet Mask: [255 .255 .255 . 0  ]            │       │
│  │   Gateway Address: [192 .168 . 2  . 0  ]            │       │
│  │                                                      │       │
│  └──────────────────────────────────────────────────────┘     │
└────────────────────────────────────────────────────────────────┘
```

2) Network target parameter configuration

Target port: The target port of the temperature and humidity monitoring platform to which the RS-WS-WIFI-6 device is connected should be the same as the monitoring port started by the temperature and humidity monitoring platform. The default monitoring port of our software platform is 2404, and the cloud platform monitoring port For 8020.

Target IP (domain name): The IP address or domain name of the computer or server where the monitoring platform is located. If both the device and the monitoring platform are in a local area network, the target address can fill in the IP address of the computer of the monitoring platform. If the device uploads data to our cloud platform, the target address should be 182.92.194.239 or www.0531yun.cn, and upload the YY version of the cloud platform target address to yy.0531yun.cn.

3) SSID parameters of WIFI target router

Target router SSID: The identifier of the WIFI router network to which the RS-WS-WIFI-6 series equipment is connected. Here we take the TP-LINK router as an example: enter the configuration interface of the WIFI router through the web page, which is generally in the "running state" You can see the SSID number under the label. Fill in the content of the label into the SSID number of the target router.

SSID number lookup in wireless router

Device target router SSDI number setting

Target router login password: This device supports WPA / WPA2 security methods, and the encryption type supports WEP / TKIP / AET encryption algorithms.
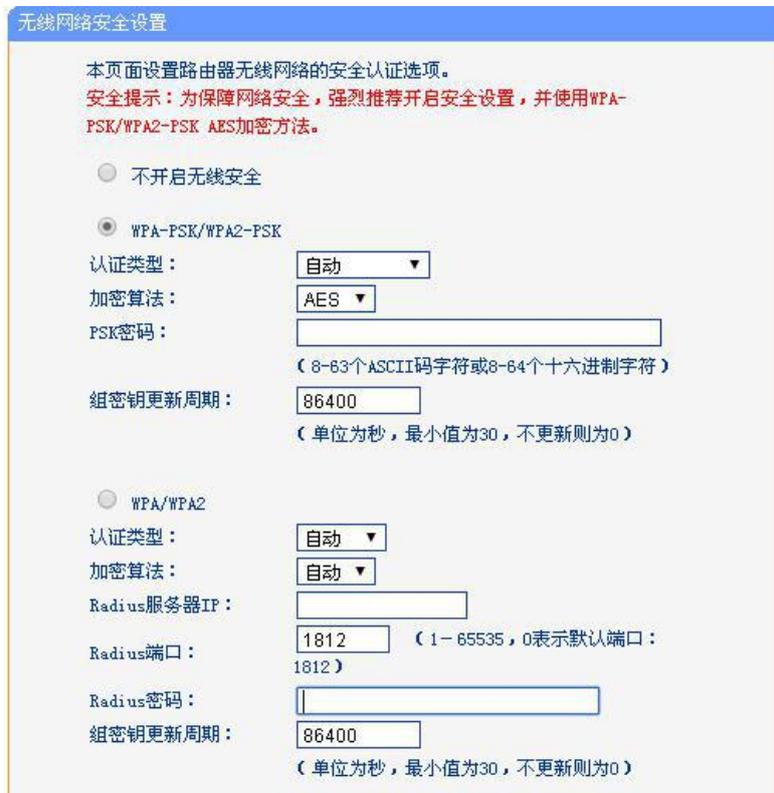
4) WIFI-WAN port parameters

The WAN port parameters of the device are the local network parameters of the device.

Device local IP settings

IP acquisition method: If you select "Static IP, the static IP address, subnet mask, and gateway address of the device must be manually configured; if you select the dynamic IP allocation function, you only need to set the" Dynamic IP acquisition "mode. The device will automatically obtain an IP address from the upper-level network device.

Local IP, subnet mask, gateway address: When the IP acquisition method is set to "StaticIP", you need to set it manually.

5.4 Quickly access equipment to the monitoring platform of the intranet

First complete the preparations for 5.1, set the computer to a static IP, close the windows firewall, and then open the configuration

software.

After configuration, click to enter working mode. See the operating instructions of the monitoring software for details

5.5 Quick access to cloud platforms

Known conditions: The device needs to be connected to the cloud platform, and the cloud platform account password has been assigned by the sales staff in advance. Open the configuration

software according to the requirements of this document 5.1
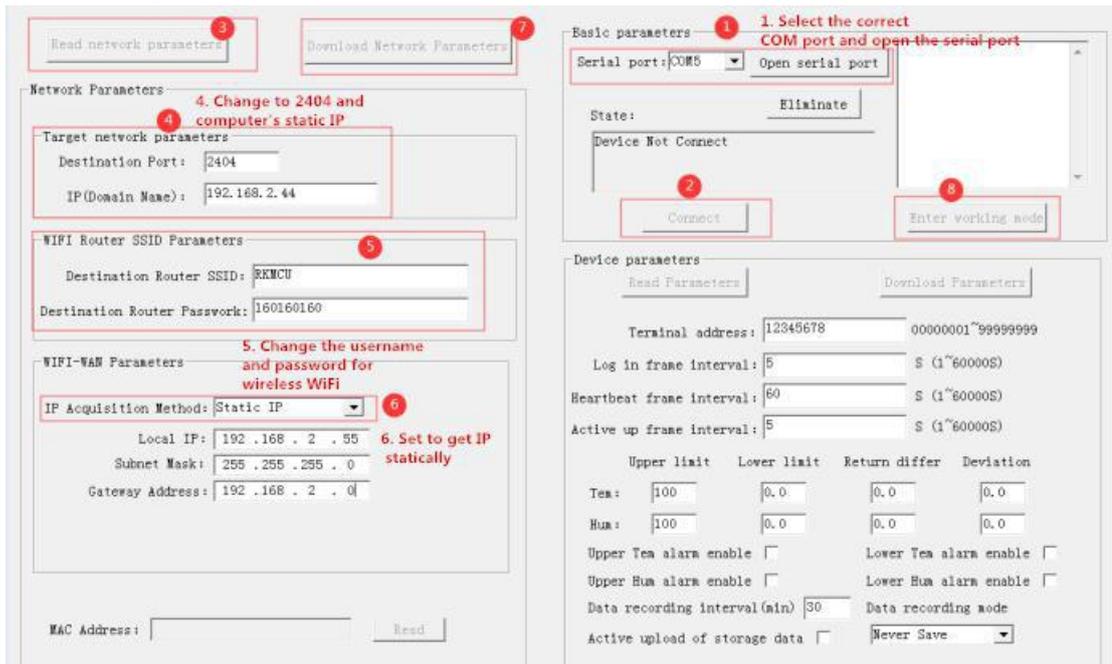
After configuration, click to enter working mode.

6. System menu and settings

6.1 Key function description

button	Features	Description	Button operation mode
	Clear key	●Exit operation during parameter setting	dog
	return key	●Return to the main menu when setting or viewing the interface	dog
	Increase key	●Page forward button when viewing menu	dog
	Page forward	●Page forward button when viewing menu	dog
	turn on	●Shortcut key to open the alarm in the main interface	Press
	Page backward	●Page forward button when viewing menu	dog
	Decrease key	●Data reduction key when parameter is modified	dog
	shut down	●Shortcut key to turn off the alarm on the main interface	Press
	menu	●Enter the menu selection key of the setting interface	dog
	Shift	●Shift key during parameter modification	dog

OK	key		
	Enter	●Confirmation key after parameter modification is completed	Press

6.2 Introduction to key operation

1）dog **OK** Enter password input interface, short press **↑**、**↓**、**OK** Can enter password (default password 888), long press again after input " **OK** " Key to enter the setting main menu after 3s. If the password is wrong, it will return to the main menu.

2）After entering the setting main menu, you can press **↑** or **↓** Page forward and backward, short press **OK** Enter the parameter setting interface。

3）dog **↑**、**↓**、**OK** Parameter can be modified, long press after parameter modification **OK**, The parameter flashes automatically for 3s.

4）Setup process Press **↺** You can discard this setting and press again **↺** Back to the main interface.

Show items	Features	Scope and description	default
密码 888	password	0~999	888

校准　　　　00.0℃	Temperature calibration value	-100~+100	0
校准　　　　00.0%	Humidity calibration value	-100~+100	0
上限　　　　70.3℃	High temperature alarm value	-100~+199	100

	Humidity upper limit alarm value	0~100	100
上限 ... 75.0%			
	Lower temperature limit alarm value	-100~+199	0
下限 ... 50.0℃			
	Humidity lower limit alarm value	0~100	0
下限 ... 15.0%			

00.0℃ 回差	Temperature alarm return difference	0~120	0
回差 00.0%	Humidity alarm return difference	0~100	0
16: 49: 05	Time	hour minute second	

	time	year month day	
15-12-12	High temperature associated relay number	1～2 1: This alarm item is associated with the first relay 2: This alarm item is associated with the second relay When the temperature exceeds the upper limit, the relay associated with the upper limit is closed	1
上限 tHA 1			
下限 tLA 1	Low temperature limit associated relay number	1～2 1: This alarm item is associated with the first relay 2: This alarm item is associated with the second relay When the temperature is	1

		below the lower limit, the relay associated with the lower limit is closed	
上限 rHA 2	Humidity limit associated relay number	1 ~ 2 1: This alarm item is associated with the first relay 2: This alarm item is associated with the second relay When the humidity exceeds the upper limit, the relay associated with the upper limit is closed	1
下限 rLA 2	Lower Humidity Associated Relay Number	1 ~ 2 1: This alarm item is associated with the first relay 2: This alarm item is associated with the second relay When the humidity is below the lower limit, the relay associated with the lower limit is closed	1

上限 tHE 1	High temperature alarm enable	0 ~ 1 0: Disabled 1: represents enable	1
下限 tLE 1	Low temperature alarm enable	0 ~ 1 0: Disabled 1: represents enable	1
上限 rHE 1	Humidity upper limit alarm enable	0~ 1 0: Disabled 1: represents enable	1

下限 rLE 1	Humidity lower limit alarm enable	0 ~ 1 0: Disabled 1: represents enable	1
AtE 002	Alarm storage interval setting	0-1999 minutes	2 minutes
ntE 030	Normal storage interval setting	0 ~ 1999 minutes	30 minutes

	Storage mode setting	1 ~ 3 1: represents closed 2: represents open 3: stands for automatic	3 (Stored only when communication is disconnected)
oFd 3	Whether stored data is enabled for active upload	0 ~ 1 0: Does not open 1: On	0
UPd 0	Clear stored data	0 ~ 1 Set to 1 to clear stored data	0
CLd 0			

7. Access monitoring platform

RS-WS-WIFI-6 series temperature and humidity transmitter can be connected to our company's 2 platforms:

Comparison of two software platforms："■"Delegate has this function;　"□"No such function；

Features	Software platform name	
	RS-RJ-KPeopleSoft Environmental Monitoring Platform	Environmental monitoring cloud platform
Temperature and humidity data background real-time monitoring	■	□
Temperature and humidity data web real-time monitoring	■	■
Upper and lower temperature and humidity settings	■	■
Real-time alarm on monitoring interface	■	■
Mail alarm	■	■
SMS alert	■（Need to cooperate with our SMS cat）	■
WEB front-end export historical data and alarm data	■	■
Customize the unit, name and coefficient of monitoring data	■	■
Equipment sub-authority management	■	■
Resume data in storage device	■	■
Provide software upgrade services	■	■
Customer-built server	Requires customer's own server	No need to build any server

Platform 1: RS-RJ-K software platform. This platform is deployed on the client's computer or server, and the device uploads data to the platform through the WIFI wireless network. For the introduction of specific RS-RJ-K software platform, please refer to the "RS-RJ-K Renke Environmental Monitoring Platform Instruction"

Platform 2: Environmental monitoring cloud platform. If the RS-WS-WIFI-6 series temperature and humidity transmitter sends data to the company's cloud monitoring platform, customers do not need to build their own servers, they only need to connect the device to the on-site WIFI network and configure the local network parameters.

8. Contact

Shandong Renke Control Technology Co., Ltd.

Address: 2 / F, East Block, Building 8, Shun Tai Plaza, High-tech Zone, Jinan City, Shandong Province

Post code: 250101

Phone: 400-085-5807

Website: www.renkeer.com

Cloud platform address: en.0531yun.cn   Or: eniot.0531yun.cn

Web QR:

APP QR:

Android

9. Document history

V1.0 document creation

V2.0 documentation update

V3.0 update selection, relay selection

V3.1 Menu interface increases alarm recording interval