
WTHM IoT Device Documentation

Monigear

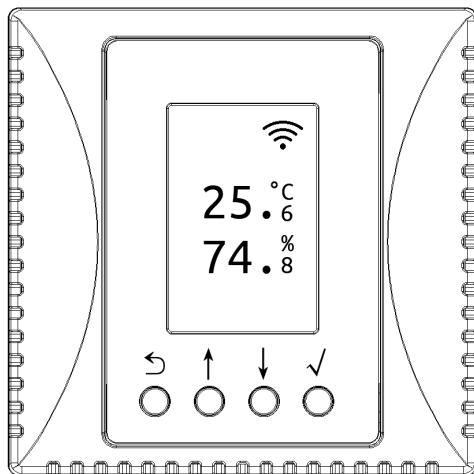
Nov 12, 2025

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CHAPTER
ONE

WELCOME



WTHM series IoT devices are Monigear's self-developed environmental monitoring modules. The main model WTHM can monitor temperature and humidity in real-time. Additional models include WCO2 for carbon dioxide monitoring and WVOC for TVOC monitoring.

WTHM series IoT devices use 2.4G Wi-Fi networks and support standard USB Type-C 5V power supply.

WTHM series IoT devices support multiple industrial standard communication protocols, including Modbus TCP, SNMP, BACnet, and MQTT.

WTHM series IoT devices are compatible with mainstream IoT platforms, including AWS/Azure/Tuya IoT cloud. Support for Home Assistant, IFTTT, Email.

Products are certified by FCC/CE/RoHS.

PRODUCT SPECIFICATIONS

2.1 Product Specifications

2.1.1 Measurement Range and Accuracy

- Temperature measurement range: -25 ~ +65 °C
- Temperature typical accuracy: ±0.2 °C (@ 0 ~ 65 °C), ±0.5 °C (@ full range)
- Temperature maximum error: ±0.4 °C (@ 0 ~ 65 °C), ±0.8 °C (@ full range)

- Relative humidity measurement range: 0 ~ 100 %RH
- Relative humidity typical accuracy: ±2 %RH (@ 10 ~ 90 %RH), ±3 %RH (@ full range)
- Relative humidity maximum error: ±3.5 %RH (@ 10 ~ 90 %RH), ±5%RH (@ full range)

2.1.2 Device Power Supply

- Supports standard USB Type-C 5V power supply. Rated operating current 100mA, peak operating current less than 200mA.
- Supports DC power terminal supply, rated input voltage DC12V, range DC9~28V.

2.1.3 WLAN Wireless Communication

Supports IEEE 802.11 b/g/n standard 2.4 GHz band Wi-Fi network.

2.1.4 TTL 3.3V UART Serial Configuration Interface

| Pin | Function Description |
|-----|----------------------|
| TXD | Transmit pin |
| RXD | Receive pin |
| GND | Signal ground pin |

This interface is generally only used for factory debugging mode.

2.1.5 Device Dimensions

- Length x Width x Height: 86 x 86 x 43mm

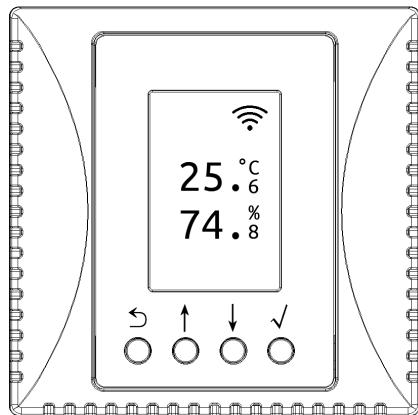
PANEL OPERATIONS

3.1 LCD Display and Button Operations

3.1.1 Normal Display

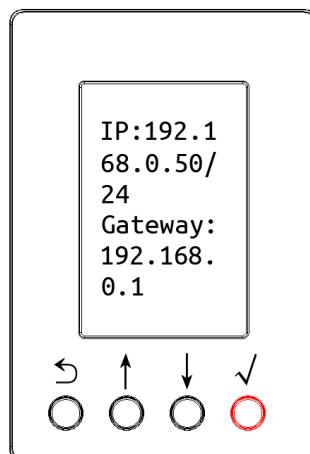
In normal display mode, the device LCD shows temperature and humidity values.

When equipped with different air quality sensors, such as CO₂, TVOC, etc., the device will display the corresponding air quality monitoring values in sequence. You can also press the ↓ or ↑ buttons to switch display content.



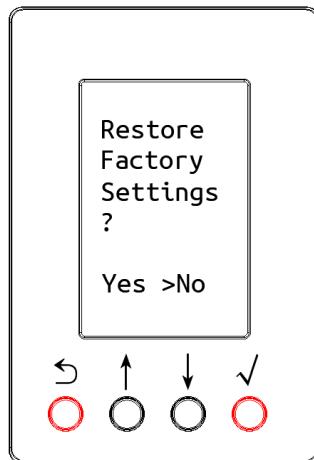
3.1.2 Parameter Interface

Press and hold the button for 1 second to enter the device parameter interface, where you can view parameter information such as IP address, device time, MAC address, Wi-Fi network, firmware version, etc.



3.1.3 Factory Reset

Press and hold the **and** buttons simultaneously for 5 seconds to enter the factory reset interface. The reset and restart process takes about ten seconds.



WI-FI CONFIGURATION

4.1 Wi-Fi Network Configuration Guide

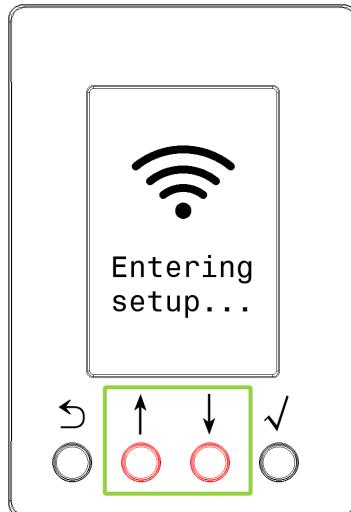
To connect the WTHM device to the internet, you need to configure the available Wi-Fi network information for it, including the network name (SSID) and password of the Wi-Fi AP.

 **Note**

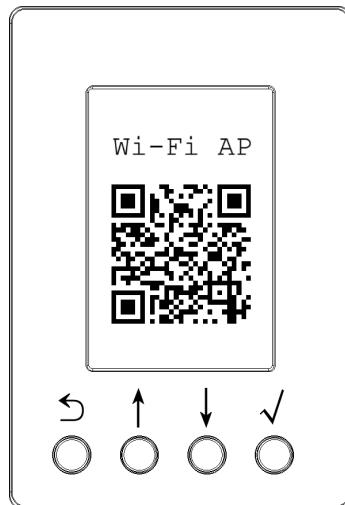
The WTHM device supports IEEE 802.11 b/g/n standard 2.4 GHz band Wi-Fi networks and does not currently support 5G band Wi-Fi networks.

4.1.1 1. Enter Configuration Mode

On the WTHM device panel, **simultaneously** press and hold the \uparrow and \downarrow buttons for 3 seconds to enter the Wi-Fi configuration process. After the LCD displays “Entering setup...”, you can release the buttons.



When the LCD displays the **Wi-Fi AP QR code**, the device has successfully entered Wi-Fi configuration mode.



4.1.2 2. Configure using Mobile Phone (or Pad)

Use your mobile phone (or Pad) to scan the QR code displayed on the device LCD.

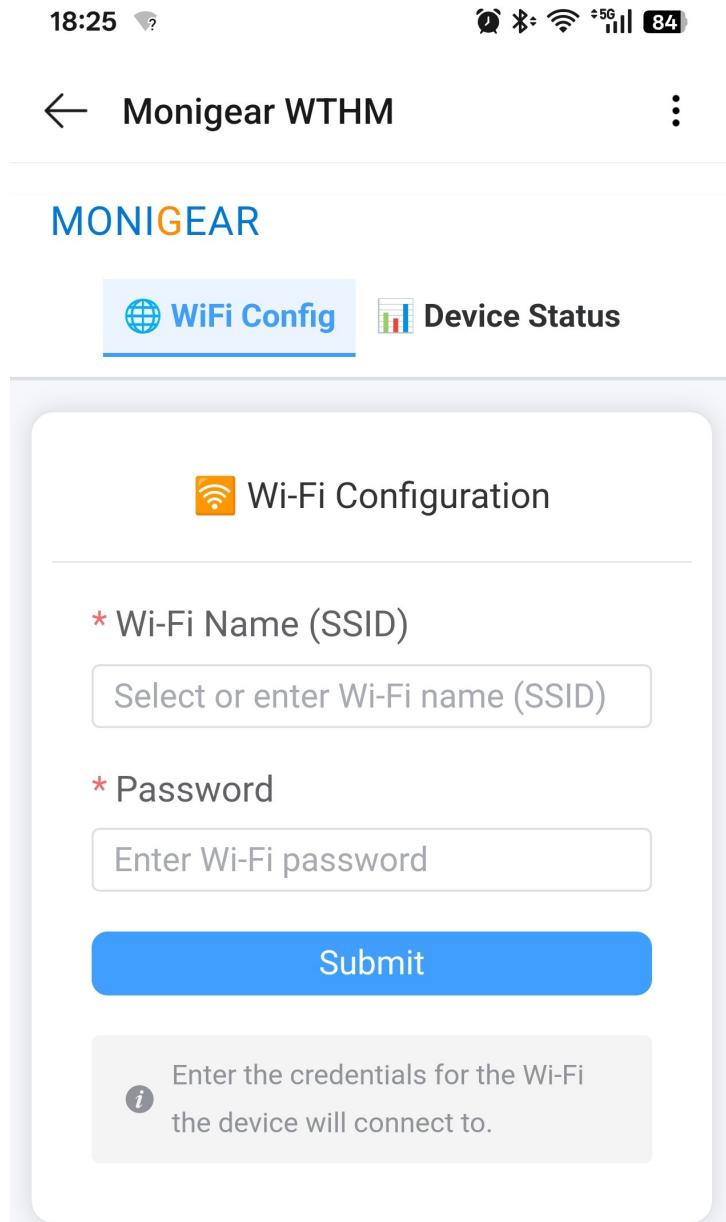
i Note

Please use the iOS / Android **system-level** QR code scanning function. Common options include:

- QR code scanning function in the native camera app
- QR code scanning function in system **Settings -> WLAN**
- QR code scanning function in system browsers

If your phone prompts to connect to the WTHM-xxx Wi-Fi network during QR code scanning, please select **Yes**.

After your mobile phone successfully connects to the WTHM device's Wi-Fi network, most phone systems will automatically redirect to the configuration page.



After entering the Wi-Fi network name (SSID) and password that the device needs to connect to, click **Submit** to submit the configuration.

Note

If your phone fails to redirect to the configuration page, please refer to this [detailed guide](#).

4.1.3 3. Check Wi-Fi Connection Status on Device

After completing the configuration, the WTHM device will automatically exit configuration mode and attempt to connect to the configured Wi-Fi network.

You can check the Wi-Fi network connection status on the device LCD screen.

Note

Wi-Fi Authentication Mode Support Information

In standard configuration mode, this product supports the following Personal Security Protocols for Wi-Fi Access Points (AP):

- WPA-Personal / WPA2-Personal (based on PSK, Pre-Shared Key)
- WPA3-Personal (based on SAE, Simultaneous Authentication of Equals)
- WPA2/WPA3 Mixed/Transition Mode

For connecting to wireless networks using other authentication methods, such as:

- Enterprise Authentication, e.g. WPA/WPA2/WPA3-Enterprise (based on 802.1X/EAP)
- Open Networks (Open / Unsecured Networks)
- Legacy WEP Protocol (Legacy WEP protocol)

Please contact our technical support team for advanced configuration guidelines.

DETAILED INSTRUCTIONS

5.1 Wi-Fi Configuration Detailed Guide

The operation of scanning the QR code displayed on the device LCD screen with a mobile phone (or Pad, same below) essentially first connects the phone to the WTHM device's Wi-Fi network, and then relies on the phone's automatic network detection function to redirect to the configuration page, thus completing the network configuration process.

If your mobile phone fails to redirect to the configuration page normally, please follow the detailed steps below:

1. Please confirm that your phone successfully connects to the WTHM device's Wi-Fi network, as this is the **prerequisite** for the configuration process to work properly. You can check in the phone's **Settings -> WLAN** configuration page whether the current Wi-Fi network name is **WTHM-xxx**. If not, please select one of the following operations:
 - Use the QR code scanning function on the **WLAN** configuration page to scan the QR code on the device LCD to complete network connection.
 - Manually select and connect to the **WTHM-xxx** network in the *Available Networks* list, password is **wangkong**.
2. After confirming that the phone is currently connected to the **WTHM-xxx** Wi-Fi network, check whether there is a prompt such as *Authentication Required/Login* below the network name, or whether there is a prompt such as *Login to WLAN Network* in the system notification bar. Click the *Authentication/Login* prompt to trigger the system to pop up the configuration page.
3. If the steps above still fail to trigger the system to pop up the configuration page, please manually open the **System Browser**, and manually enter <http://wthm.com> in the browser's address bar. The browser will then load and display the configuration page.

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INDICES AND TABLES

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