WTHM IoT Device Manual

None

None

None

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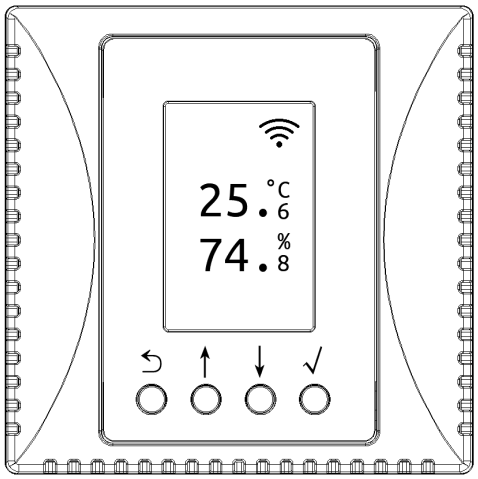
1. Welcome



The WTHM series of IoT devices are environmental monitoring modules independently developed by Monigear. The main model, WTHM, can monitor environmental temperature and relative humidity in real time. There are also series products such as WCO2 that can monitor the concentration of carbon dioxide in the environment, and WVOC that can monitor the concentration of TVOC in the environment.

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

The WTHM series of IoT devices support a variety of industrial standard communication protocols, including Modbus TCP, SNMP, BACnet, and MQTT.

The WTHM series of IoT devices are compatible with mainstream IoT platforms in the market, including AWS/Azure/Tuya IoT cloud. It supports Home Assistant, IFTTT, and Email.

The series of products are certified by FCC/CE/RoHS.

2. Product Specifications

2.1 Measurement Range and Accuracy

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

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

2.2 Device Power

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

2.3 Wi-Fi Wireless Communication

Compatible with 2.4G WLAN 802.11 b/g/n standard.

2.4 TTL 3.3V UART Serial Configuration Interface

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

This interface is generally used only for factory debugging mode.

2.5 Device Dimensions

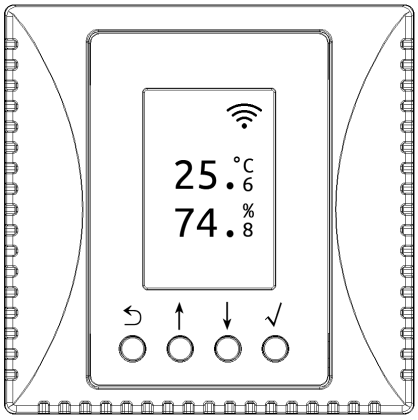
- Length x Width x Height: 86 x 86 x 43mm

3. LCD Display and Button Instructions

3.1 Normal Display

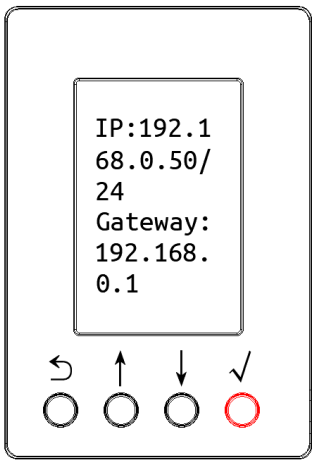
In normal display mode, the device's LCD screen displays the temperature and humidity parameter values.

When equipped with different air quality sensors, such as CO_2, TVOC, etc., it will display each air quality monitoring value in turn. You can also press the ↓ or ↑ buttons to switch the display content.



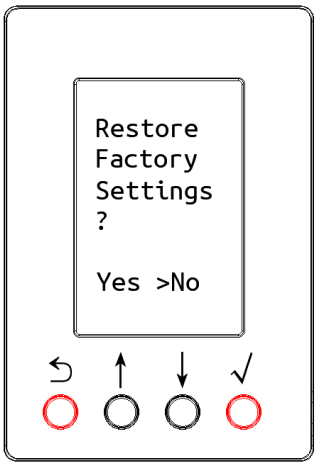
3.2 Parameter Interface

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



3.3 Factory Reset

Press and hold the ↩ and √ buttons simultaneously for 5 seconds to enter the factory reset interface. The process of restoring factory settings and restarting takes about ten seconds.


Restore
Factory
Settings
?
Yes >No

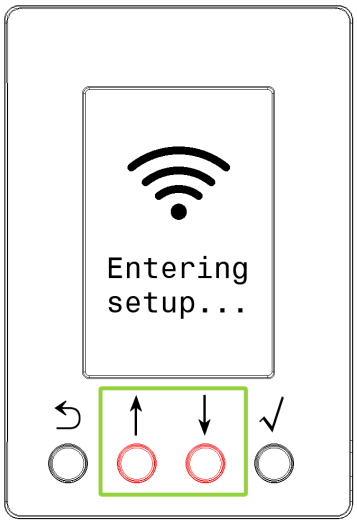
4. Wi-Fi Configuration Instructions

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

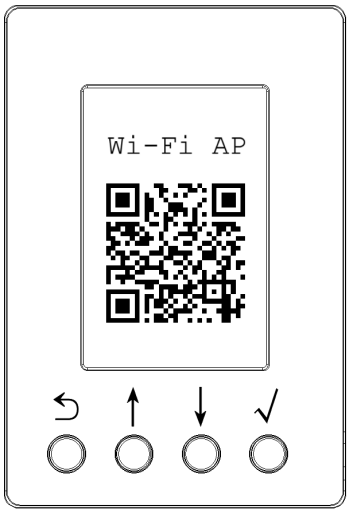
⚠️ **Note**: The WTHM device compliant with IEEE 802.11 b/g/n standard (2.4 GHz band only). and does not currently support 5G Wi-Fi networks.

4.1 1. Enter Configuration Mode

Press and hold the ↑ and ↓ buttons on the WTHM device panel for 3 seconds to enter the Wi-Fi configuration process. You can release the buttons after the LCD screen displays "Entering setup...".



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



4.2 2. Use a mobile phone (or Pad) for configuration

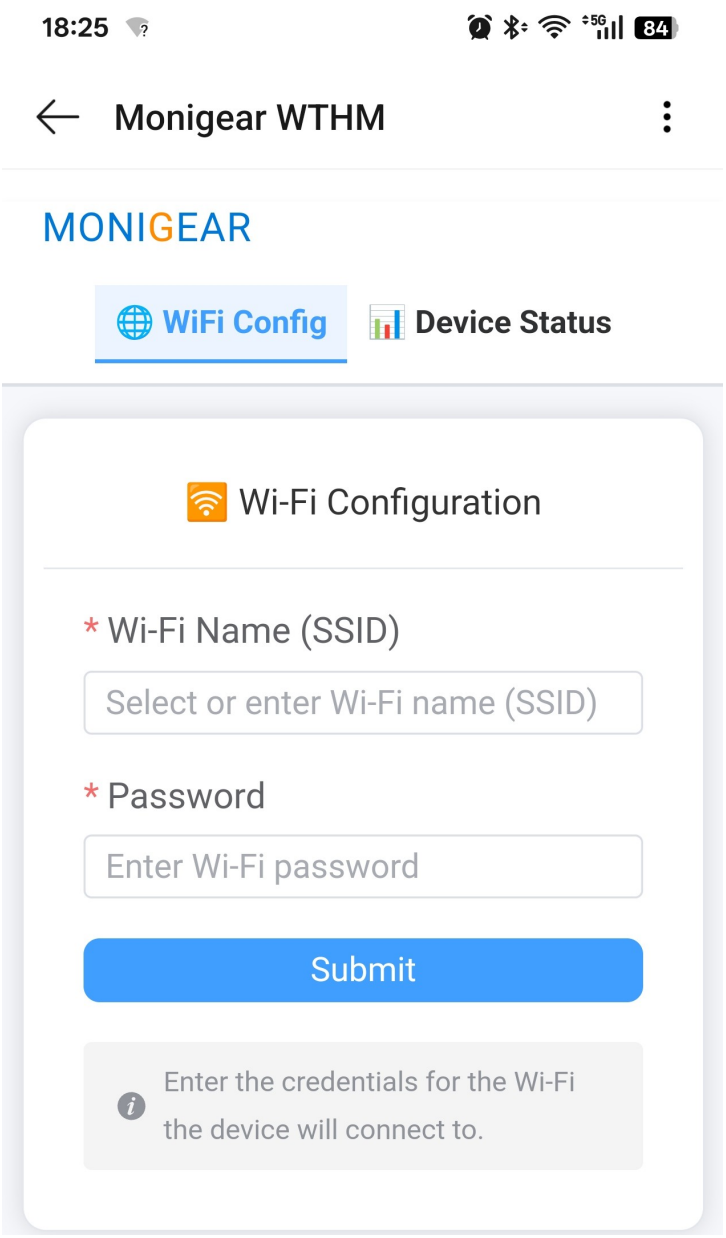
Scan the QR code displayed on the device's LCD screen with your mobile phone (or Pad).

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

- The QR code scanning function in the native camera application
- The QR code scanning function in **Settings** -> **WLAN**
- The QR code scanning function in the system browser

During the process of scanning the QR code, if the mobile phone system prompts you to connect to the "🛜 WTHM-xxx" Wi-Fi network, please select **Yes**.

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



On the configuration page, enter the Wi-Fi network name (SSID) and password that the device is to connect to, and then click **Submit** to submit the configuration.

⚠️ **Note**: If your mobile phone fails to jump to the configuration page normally, please refer to this detailed guide.

4.3 3. Check the Wi-Fi connection status on the device

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

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

Wi-Fi Authentication Mode Support Specification

Under its standard network configuration, the product natively supports Wi-Fi Access Points (APs) that utilize the following personal-grade security protocols:

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

Connection to wireless networks employing other authentication methods, such as:

- Enterprise-grade authentication, e.g., WPA/WPA2/WPA3-Enterprise (802.1X/EAP-based)
- Open (Unsecured) networks
- Legacy WEP protocol

requires an advanced configuration procedure. Please contact our technical support team for detailed guidance.