MN-NTHM Network Temperature/Humidity Transmitter User Manual

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Chapter 1: Product Overview

The MN-NTHM network temperature and humidity transmitter is an environmental monitoring module developed by our company that can measure and display environmental temperature and relative humidity. It is suitable for industries such as government, communication, power, banking, transportation, food, medicine, chemical industry, and environmental protection.

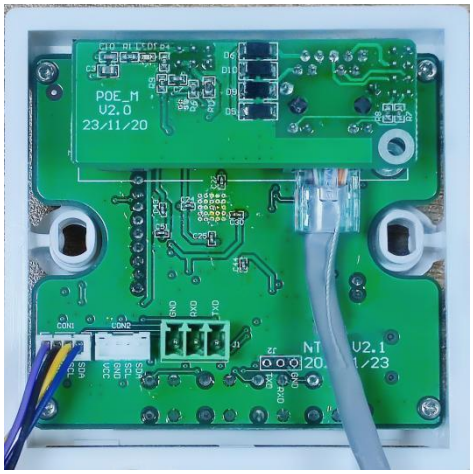
The MN-NTHM provides PoE power supply and TCP/IP network data transmission through the RJ45 Ethernet interface for temperature and humidity monitoring data collection, it works in various environmental monitoring occasions.

The MN-NTHM supports PoE power supply mode, which can directly utilize PoE switch for power supply and communication facilities. Simplified installation requires only one network cable to meet the power supply and communication needs. In addition to simple wiring and centralized power supply management, it also meets the network communication function of temperature and humidity monitoring. Another advantage of PoE power supply is the convenience of deploying UPS centralized power supply systems, avoiding the unreliability of power supply and thus affecting the trouble of uninterrupted monitoring of temperature and humidity in important places.

The MN-NTHM supports multiple communication protocols and is compatible with several major cloud platforms on the market. Data transmission uses secure encryption methods. It can be adapted to various sizes of IoT systems, both for small-scale self-built dynamic environment centralized monitoring systems and for integration into popular cloud platforms to further integrate IoT systems.

Chapter 2: Product Features

- Uses high accuracy digital temperature and humidity sensors.
- External temperature and humidity sensors accurately detect environmental temperature and humidity values in the target area.
- Supports PoE power supply, simplifying installation with only one network cable required for power supply and communication needs. Complies with 802.3af standard PoE PD devices, supporting both Mid-Span and End-Span power supply methods.
- LCD display screen for easy viewing of temperature, humidity monitoring values, and operating parameters such as IP address.
- Dimensions compatible with the standard 86*86 bottom box for easy installation and aesthetic appearance.
- Provide GUI configuration tool, easy to setup the device for complicate network environment. Supports network discovery of devices in LAN.
- The device supports multiple standard communication protocols such as MQTT, SNMP, BACNET, Modbus TCP.



Chapter 3: Performance Parameters

- Measurement Range :
  - Temperature: -20°C ~ 85°C
  - Humidity: 0 - 100% RH
- Measurement Accuracy :
  - Temperature: ±0.3°C @0-65°C
  - Humidity: ±3%@10-90% RH
- Communication Interface : 10/100M Base-Tx Ethernet port

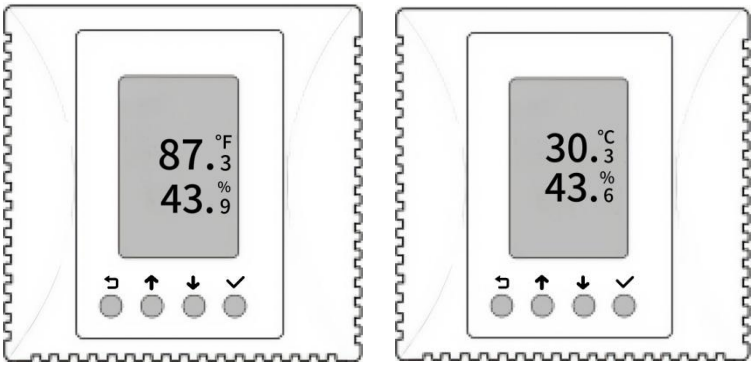
- Communication Protocol : Supports multiple TCP/IP application layer protocols: MQTT/MQTTS, ModbusTCP, BACNET, SNMP.
- Power Supply :

- PoE Power: Compatible with IEEE 802.3af standard.
- Auxiliary Power version: DC12V/DC24V

- Product Dimensions : 86*86*48 mm
- Power Consumption : 0.3W
- Operating Storage Temperature : -20~+85℃
- Operating Storage Humidity : 5~95% RH, non-condensing

Chapter 4: Instructions for Use

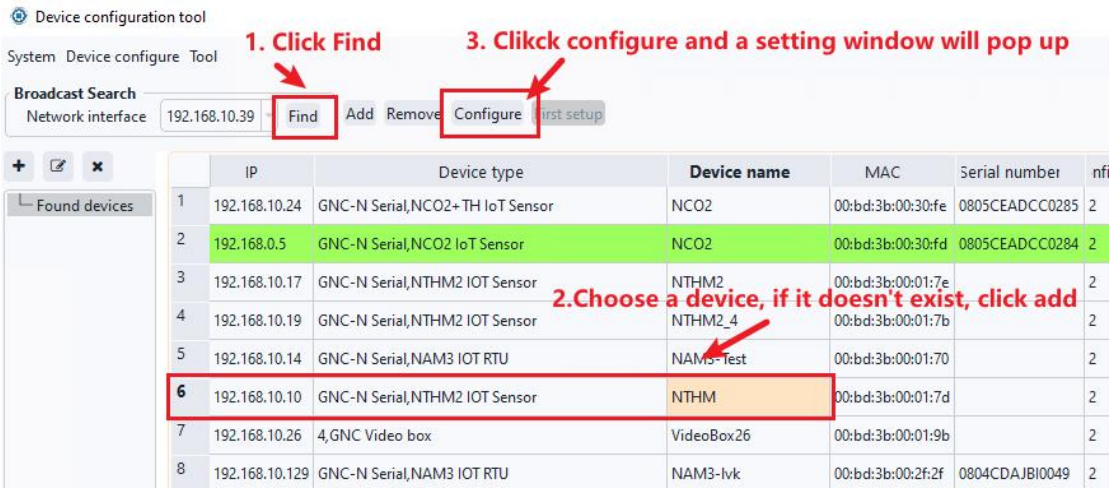
When normally displayed, the temperature and humidity transmitter shows the temperature and humidity page. Press and hold the ↓ and √ buttons simultaneously to view local connection status content, IP address, mask, gateway, firmware version, firmware date, MAC, and other parameter information. Press and hold the ← and √ buttons simultaneously for 5 seconds to enter the restore factory default settings interface.



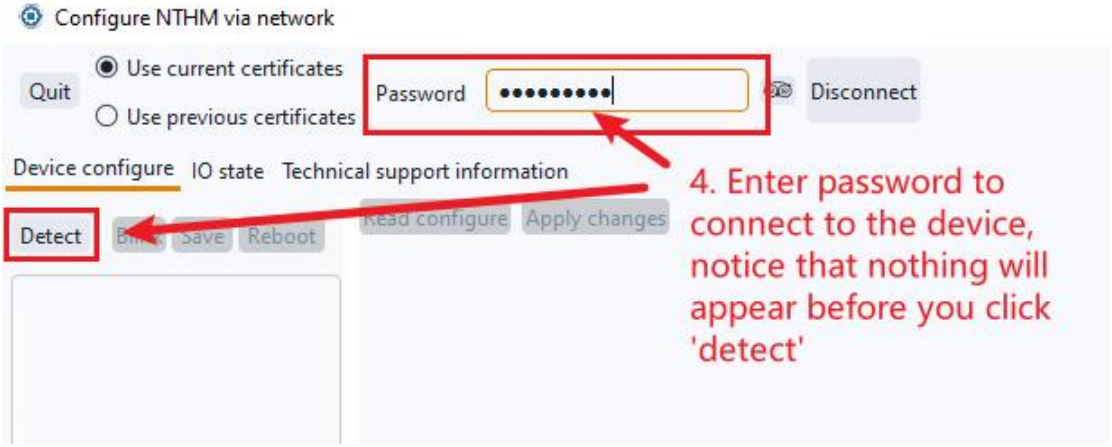
4.1 Connection Methods

4.1.1 Network Connection

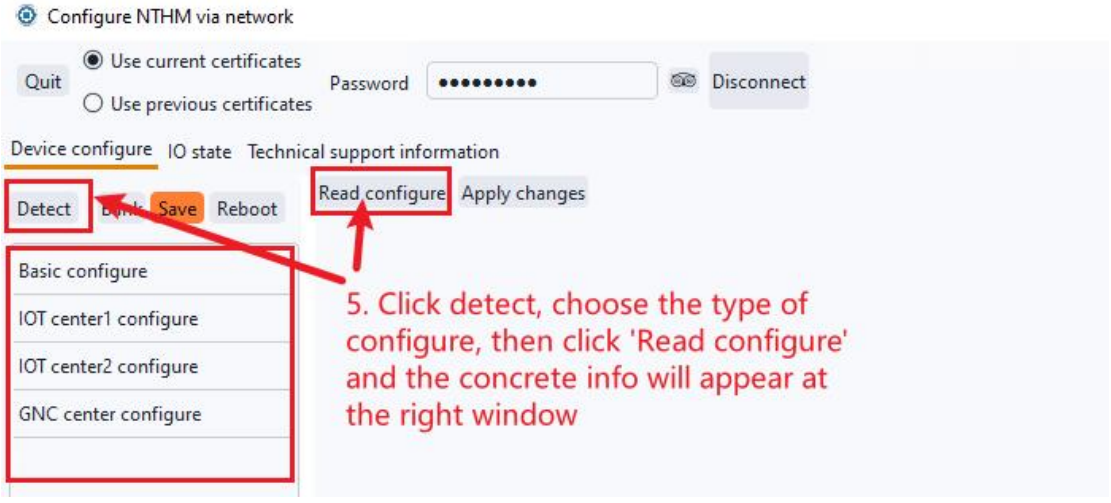
The network connection method between the MN-NTHM and the computer can be through a direct network cable connection or through a switch or router connection. The factory default network configuration of the device uses a fixed IP address "192.168.0.5". The computer network segment can be different. After connecting to the same Layer 2 switch network as the MN-NTHM, open the device configuration tool software, click "Find" device, and you can find MN devices on the current network. If the device and the computer are not on the same network segment, you can click the "Add" button and connect through the specific IP address of the device.After choosing the target device, click "Configure" to enter the setting menu.



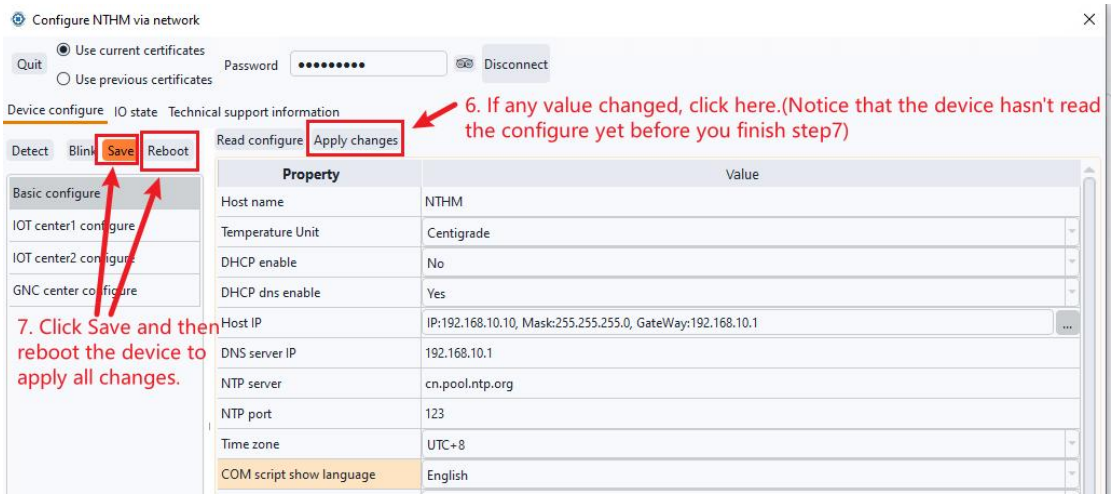
Use the default password "wangkong"to connect to device.



After clicking Detect, choose one of the figure type then click “Read configure”

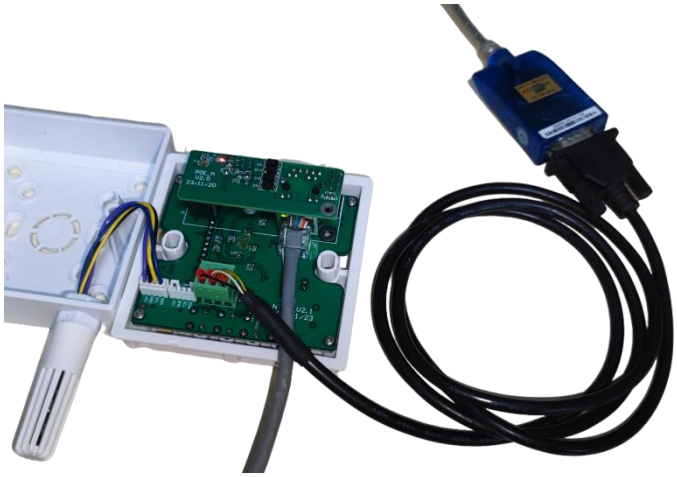


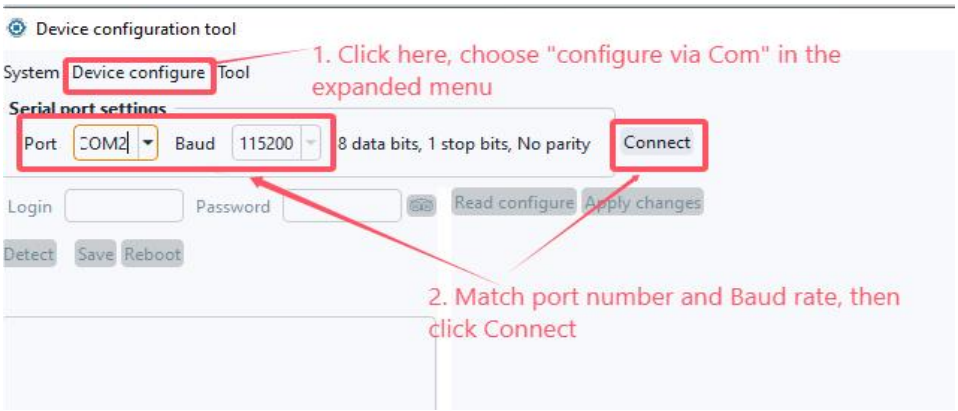
After Setting up the property and value, click apply changes and then click save and reboot the deive.



4.1.2 Serial Connection

To connect the device through the serial port, you need to connect the 232 port of the device to the host. Choose the configuration method through the serial connection, select the serial port and baud rate, click "Connect", enter the username and password of the connected device, and click check. After authentication, you can use the tool to configure the device and query monitoring information.





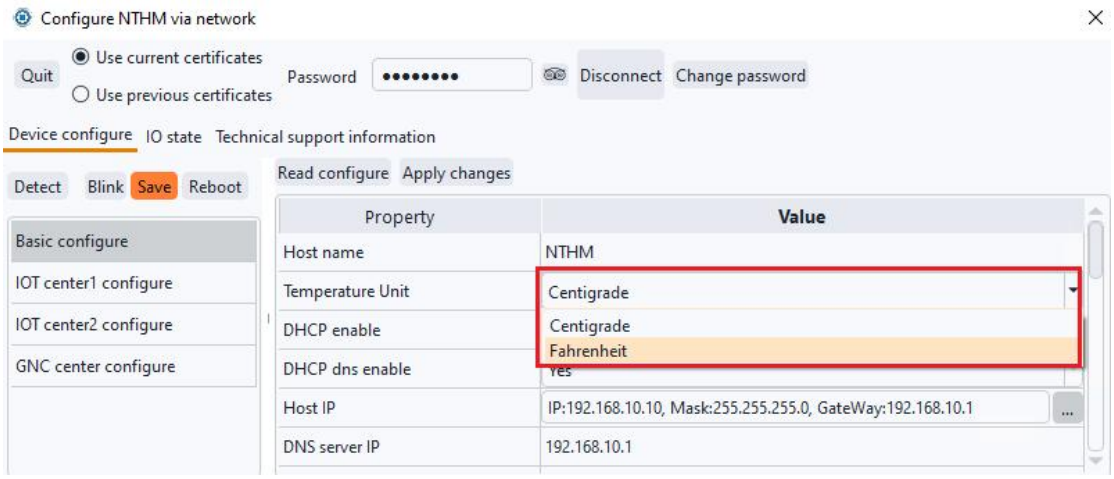
4.2 Device Configuration

Using the device configuration tool, you can discover devices through the network

and perform graphical interface configuration. Click the flashing light to make the LCD screen of the corresponding MN-NTHM device flash.

- Basic Settings : You can set the host name, IP address, DHCP, NTP, SNMP configuration, Modbus TCP configuration, and device information of the MN-NTHM device.

You can switch the temperature measurement unit displayed on the device's physical panel through device configuration, select it, and click 'Apply changes' to modify it.



- IoT Center 1/2 Settings : You can set the disconnection policy, IoT certificate files, timeout, center type, and center configuration of the MN-NTHM device.
- GNC Settings : Set the IP, port, communication key, connection method, TLS, certificate files, report interval of the primary and secondary centers, etc.

After modifying the configuration, click apply modifications, save, and reboot the device like the guidance shown in last page. For further detailed use of the device configuration tool, please refer to our company document: Monigear Network Device Discovery Configuration Tool User Guide.doc.

Chapter 5: Installation

The structure of the MN-HTHM temperature and humidity transmitter consists of: a bottom box, a main body, and a top cover.

Use a screwdriver to gently pry the recessed tooth marks at the bottom of the main body to remove the top cover.

The installation sequence of the temperature and humidity transmitter is:

1. Fix the bottom box first;
2. Install the main body of the temperature and humidity transmitter;
3. Shut the top cover.