EBYTE

成都亿佰特电子科技有限公司

Chengdu Ebyte Electronic Technology Co.,Ltd.

Wireless Modem

USER MANUAL



ME31-XDXX0400

PT100 Thermistor Temperature Acquisition Module

This manual may be updated with product improvements, please refer to the latest version of the manual! Chengdu Ebyte Electronic Technology Co., Ltd. reserves the final interpretation and modification rights for all contents in this instruction!

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I. Product description



1.1 Product introduction

ME31-XDXX0400 is a PT100 thermal resistance temperature acquisition module, which has 4-channel PT100 temperature acquisition function and supports the acquisition of 2/3-wire PT100 temperature sensors. It also has a display screen to facilitate on-site debugging, configuration and temperature viewing. This module supports both network and RS485 communication interfaces, and supports Modbus TCP protocol or Modbus RTU protocol for collection .

It can also be used as a Modbus gateway to automatically send commands with non-native Modbus addresses through the serial port / network port . It supports Modbus TCP and Modbus RTU protocol conversion to facilitate the expansion of Modbus slave devices.

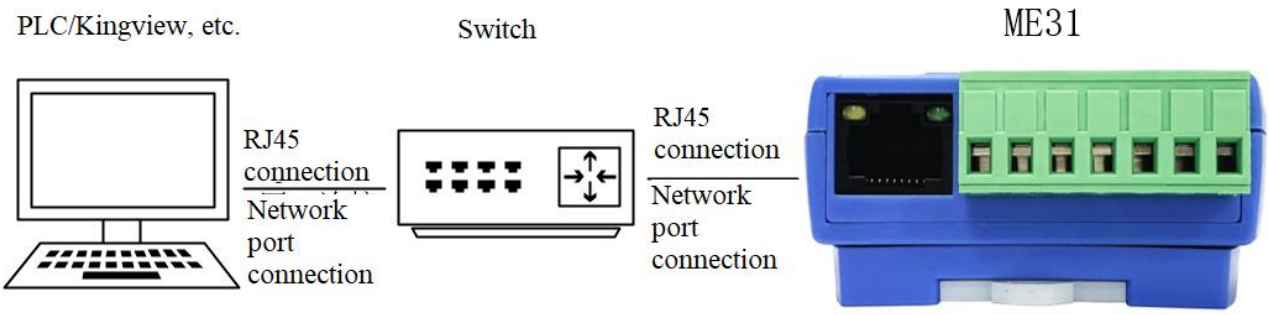
1.2 Features

- Supports 4-channel 2/3-wire PT100 temperature sensor;
- High resolution: 0.1℃;
- High accuracy: ±1℃;
- Wide temperature measurement range: -200~850℃;
- High-precision 16-bit ADC;
- The sensor is not connected to the identification;
- 485 isolation, power isolation, power supply anti-reverse connection, lightning surge protection;
- Support rail installation or screw installation;
- Supports various configuration software/PLC/touch screens;
- Support RS485 Modbus RTU protocol acquisition;
- Supports network Modbus TCP protocol collection and supports 4- way host access;
- Support OLED display to display channel temperature information;
- Support configuring device parameters through buttons;
- Power, communication, and network link indicators;
- Supports rapid configuration of the host computer;
- Support custom Modbus address settings;
- Supports multiple baud rate configurations and verification configurations;
- Support DHCP and static IP;
- Support DNS function and domain name resolution;
- Support Modbus gateway function;

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1.3 Product Application Topology Diagram



Network interface application topology diagram



Serial port application topology diagram

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II. Quick to use

Note:

This experiment needs to be carried out with the default factory parameters.

The host computer can be downloaded from the corresponding device model on the official website. Official website link: www.cdebyte.com

The configuration tool software is driver-free installation, just double-click the .exe file to open it and use it.

2.1 Preparation for use

The following table shows the materials required for this test:

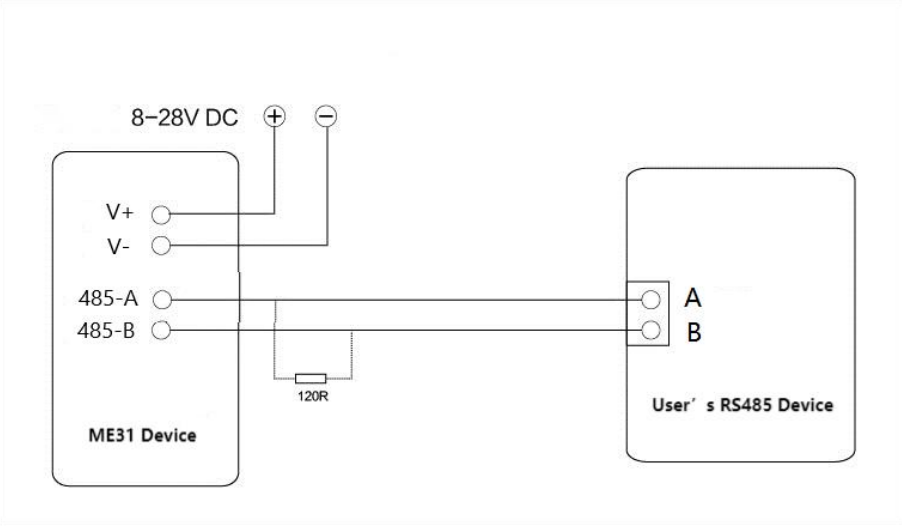
Serial number	Item	Quantity
1	ME31-XDXX0400	1
2	USB to RS485 converter	1
3	Network Cable	1
4	Host computer (can be downloaded from the official website)	1
5	Computer	1
6	Power adapter (12V/1A)	1
7	Slotted screwdriver	1
8	2/3 wire PT100 temperature sensor	1

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2.2 Device connection

2.2.1. Power supply, RS485 wiring method

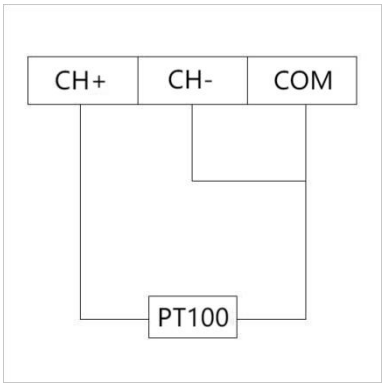


Note: When the 485 bus high-frequency signal is transmitted, the signal wavelength is shorter than the transmission line. The signal will form a reflected wave at the end of the transmission line, interfering with the original signal. Therefore, it is necessary to add a terminal resistor at the end of the transmission line to prevent the signal from being reflected after it reaches the end of the transmission line. The terminal resistor should be the same as the impedance of the communication cable, with a typical value of 120 ohms . Its function is to match the bus impedance and improve the anti-interference and reliability of data communication.

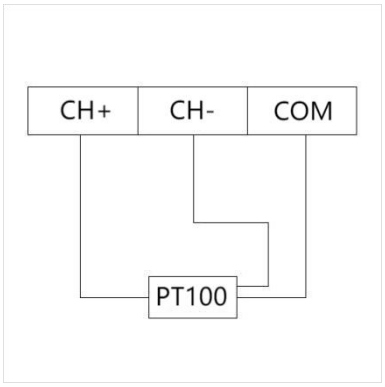
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2.2.2. PT100 sensor wiring

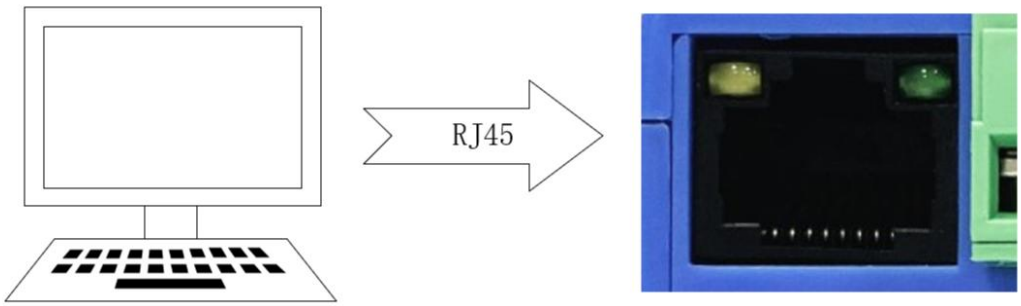


2-wire connection method



3-wire connection method

2.2.3. Simple to use



Wiring: The computer is connected to the RS485 interface of ME31-XDXX0400 through USB to RS485 , A is connected to A, and B is connected to B.
Networking: Plug the network cable into the RJ45 port and connect to the PC.
Power supply: Use DC-12V switching power supply (DC 8~28V) to power ME31-XDXX0400.

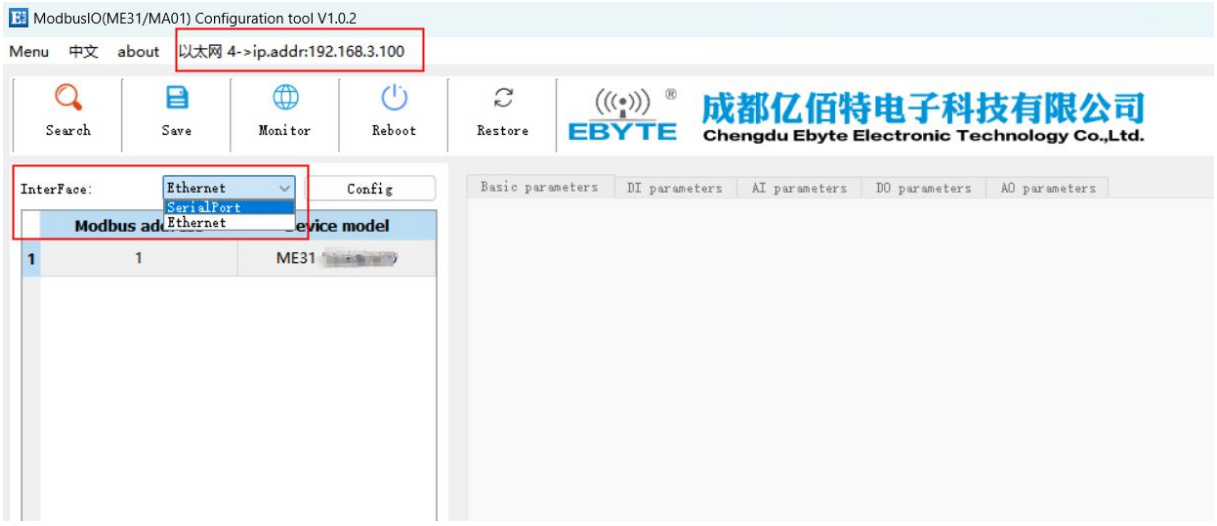
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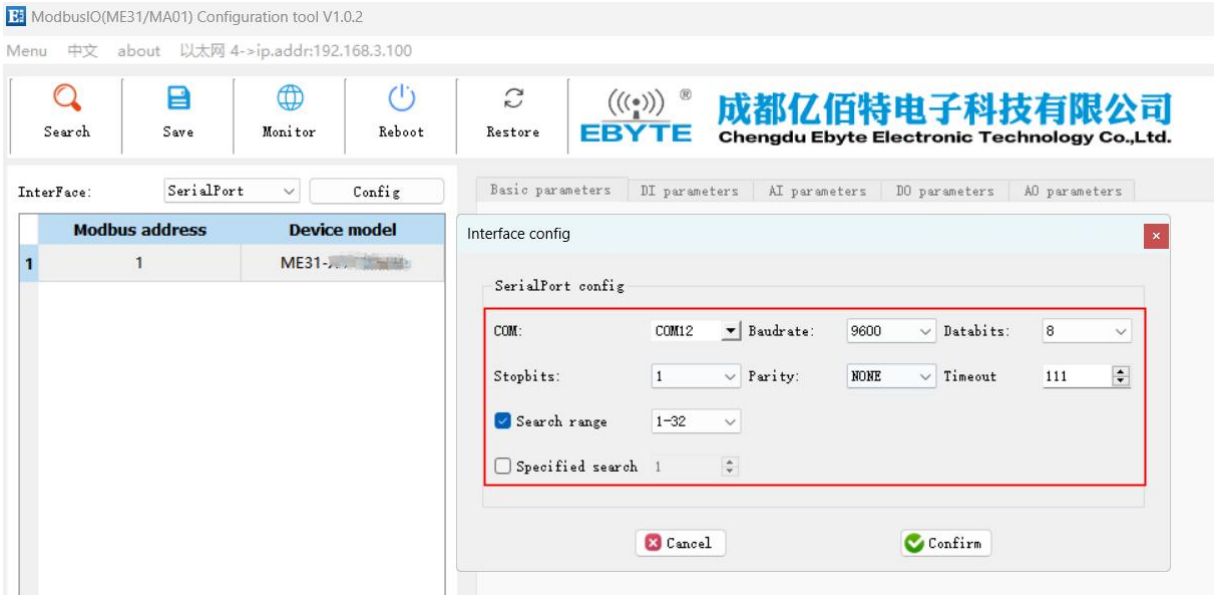
2.3 Equipment temperature collection test

First 1: Connect the device to the host computer.

1) You can configure the device by selecting the interface (serial port/network port); if you select the network port, you must first select the network card and then search for the device.



2) If you select a serial port, you must select the corresponding serial port number, the same baud rate, data bits, stop bits, parity bits and address segment search range as the device, and then search.



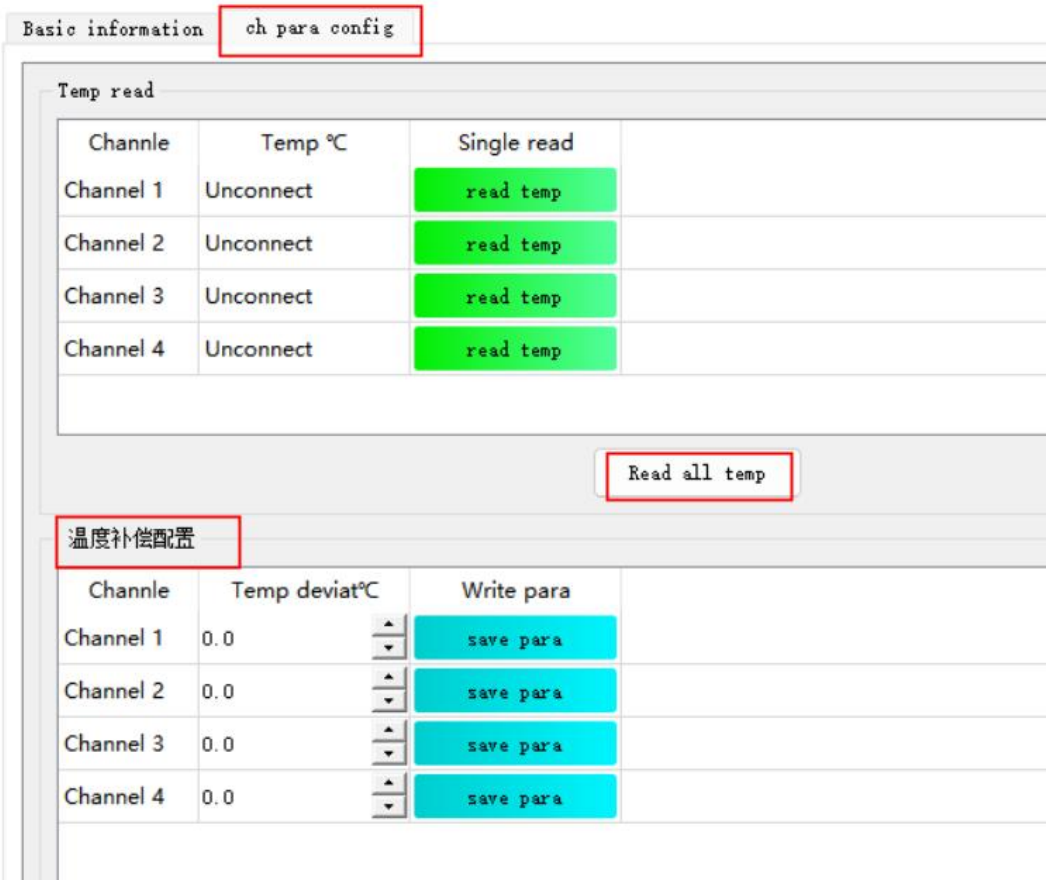
Step 2：Select the corresponding device.

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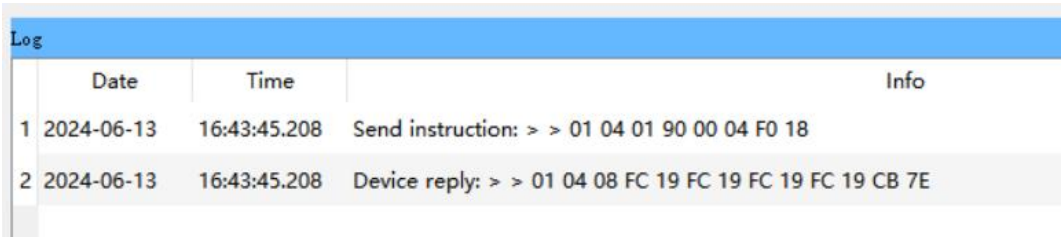
Step 3: Click on the channel parameter configuration to see all the temperature collection channels of this device. Then click on Read all temperatures to collect the temperature value on the channel. You can also set the temperature offset value of the channel in the temperature compensation configuration. For specific usage details, see the product Features.



Note: When clicking Read All, Read, Configuration and other operations, you can view the Modbus instructions in the log area.

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Log

	Date	Time	Info
1	2024-06-13	16:43:45.208	Send instruction: > > 01 04 01 90 00 04 F0 18
2	2024-06-13	16:43:45.208	Device reply: > > 01 04 08 FC 19 FC 19 FC 19 FC 19 CB 7E

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III. Technical Indicators

3.1 Specifications

Category	Name	Parameter
Power supply	Operating Voltage	DC8～28V
	Power indicator	Blue LED indication
Communication	Communication Interface	RJ45, RS485
	Baud rate	1200~115200 bps (default 9600)
	Protocol	Standard Modbus TCP, Modbus RTU protocol
MODBUS	Device address	be modified through Modbus instructions , host computer , and device buttons
Temperature collection	Number of ways	4 way
	Sensor type	2/3-wire PT100 temperature sensor
	Temperature resolution	0.1℃
	Accuracy	Normal temperature (25±5℃) conditions: ±0.1%±1℃ Full temperature (-40~85℃) conditions: ±0.5%±1℃
	Collection frequency	1Hz
	Collection display	O LED screen display
Other	Product Size	121mm * 72mm * 34mm (length*width*height)
	Product weight	140 ±5g
	Working temperature and humidity	-40～+85℃, 5%～95%RH (no condensation)
	Installation method	Rail installation , screw installation

3.2 Device default parameters

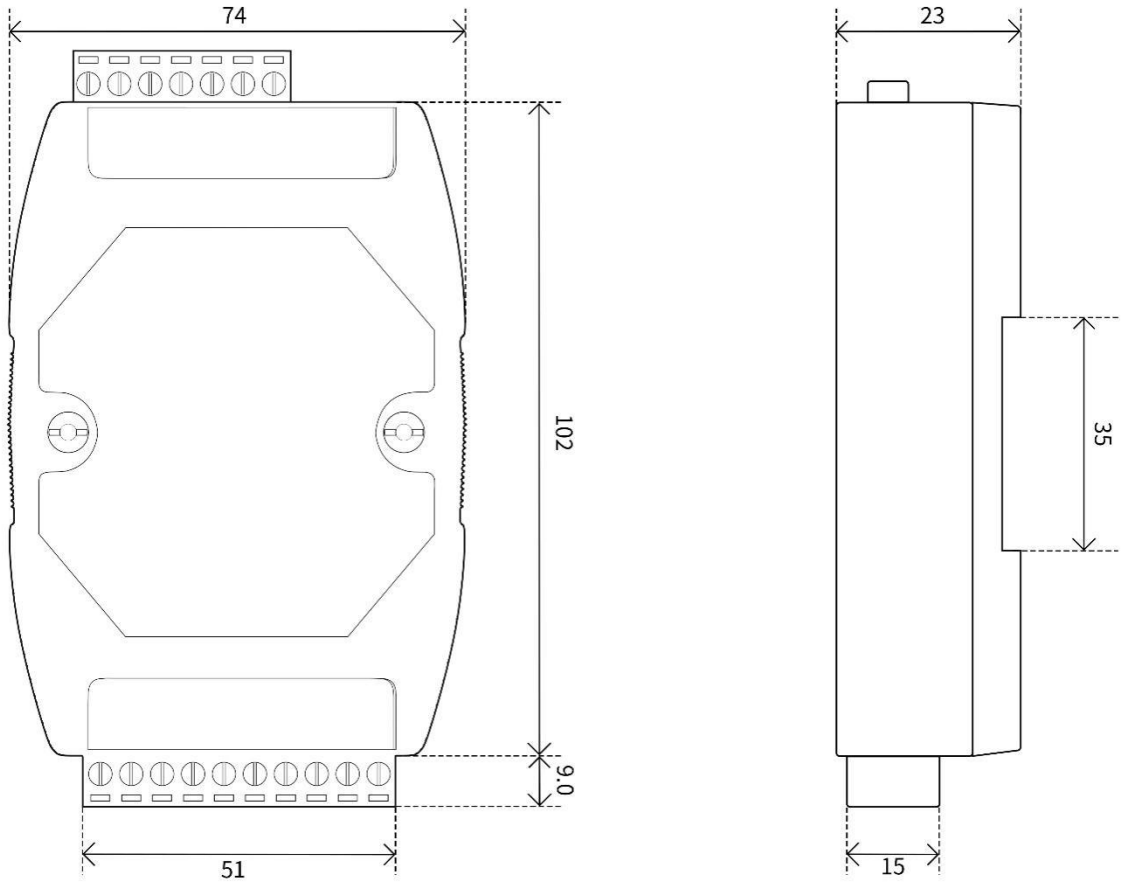
Category	Name	Parameter
Ethernet parameters	Operating mode	TCP server (up to 4 client accesses)
	Local IP	192.168.3.7
	Native port	502
	Subnet mask	255.255.255.0

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	Gateway address	192.168.3.1
	DHCP	Closure
	Native MAC	Determined by chip (fixed)
	Target IP	192.168.3.3
	Target port	502
	DNS server	114.114.114.114
	Actively upload	Closure
Serial port parameters	baud rate	9600bps (8 types)
	Verification method	None
	data bits	8
	Stop bit	1
MODBUS parameters	Modbus master-slave	Slave machine
	Address	1

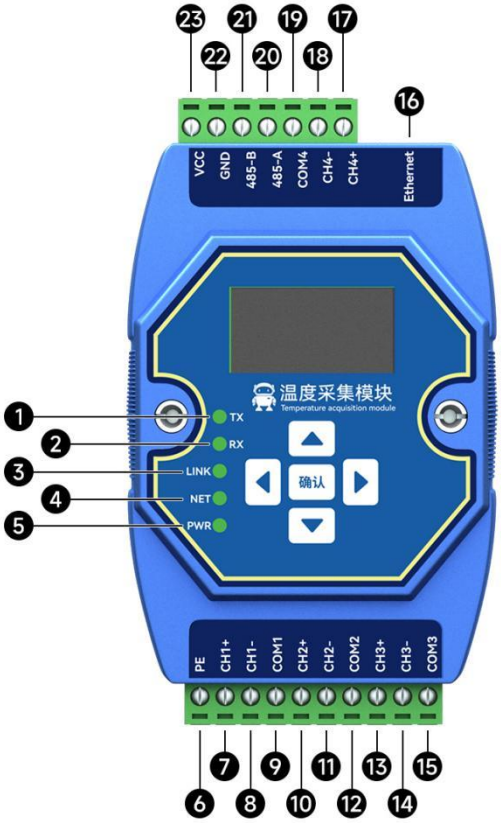
3.3 Mechanical Dimensional Drawing



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3.4 Port and indicator light description



Serial number	Label	Illustrate
1	TX（LED）	Serial port sending data indicator light
2	RX（LED）	Serial port receiving data indicator light
3	LINK（LED）	Network connection indicator light
4	NET（LED）	Network data sending and receiving indicator light
5	PWR（LED）	Power input indicator light
6	PE	Ground, 5.08mm Phoenix terminal.
7	CH1+	The first PT100 temperature acquisition channel, 3-wire PT100+input, 5.08mm terminal.
8	CH1-	The first PT100 temperature acquisition channel is a 3-wire PT100 input. When connecting to a 2-wire PT100, short the CH1- and COM1 terminals to a 5.08mm Phoenix terminal.
9	COM 1	The first PT100 temperature acquisition channel has a 3-wire PT100 common terminal. When connecting to a 2-wire PT100, short the CH1- and COM1 terminals to a 5.08mm terminal.
10	CH 2 +	The second PT100 temperature acquisition channel, 3-wire PT100+input,

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		5.08mm terminal.
11	CH 2 -	The second PT100 temperature acquisition channel is a 3-wire PT100 input. When connecting to a 2-wire PT100, short the CH2- and COM2 terminals to a 5.08mm terminal.
12	COM 2	The second PT100 temperature acquisition channel has a 3-wire PT100 common terminal. When connecting to a 2-wire PT100, short the CH2- and COM2 terminals to a 5.08mm terminal.
13	CH 3 +	Third PT100 temperature acquisition channel, 3-wire PT100+input, 5.08mm terminal.
14	CH 3 -	The third PT100 temperature acquisition channel is a 3-wire PT100 input. When connecting to a 2-wire PT100, short the CH3- and COM3 terminals to a 5.08mm terminal.
15	COM 3	The third PT100 temperature acquisition channel has a 3-wire PT100 common terminal. When connecting to a 2-wire PT100, short the CH3- and COM3 terminals to a 5.08mm terminal.
16	Ethernet	Ethernet interface, standard RJ45 interface.
17	CH 4 +	The fourth PT100 temperature acquisition channel, 3-wire PT100+input, 5.08mm terminal.
18	CH 4 -	The fourth PT100 temperature acquisition channel is a 3-wire PT100 input. When connecting to a 2-wire PT100, short the CH4- and COM4 terminals to a 5.08mm terminal.
19	COM 4	The fourth PT100 temperature acquisition channel has a 3-wire PT100 common terminal. When connecting to a 2-wire PT100, short the CH4- and COM4 terminals to a 5.08mm terminal.
20	485-A	The A of the serial port is connected to the A interface of the external device, 5.08mm Phoenix terminal.
21	485-B	The B of the serial port is connected to the B interface of the external device , 5.08mm Phoenix terminal.
22	V-	Negative pole of power input terminal, DC 8V~28V, 5.08mm Phoenix terminal.
23	V+	Positive power input terminal, DC 8V~28V, 5.08mm Phoenix terminal.

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IV. Product Function Introduction

4.1 Temperature collection

4.1.1. PT100 temperature collection

This product uses an input register to save the collected temperature value. The input register is a read-only register. The value in each register is a 16-bit signed integer or floating point value. A fixed decimal point is used to represent the actual collected temperature value. The sampling frequency is 1Hz.

4.1.2.Integrated value and floating point value of temperature collection.

There are two ways to read the temperature value collected by the device :

(1) Read the temperature shaping value and directly convert it to the temperature value. The starting address of the temperature shaping value register is 0x0190 , the register type is input register, and the read function code is 0x04. The value returned by this method is one register representing 1 channel. The method for calculating the temperature value is

-2000~8500 corresponds to -200 ~ 850℃ .

Temperature value = reading value / 10 ℃

Note: When the temperature is lower than 0℃, the temperature data is uploaded in the form of complement code.

Temperature: 0xFFCE=-50→temperature=-5.0℃

(2) Read the temperature floating point value and use the IEE754 conversion tool to convert the hexadecimal data into floating point numbers to obtain the input temperature . The starting address of the temperature floating point value register is 0x01C2 , the register type is input register, and the read function code is 0x04. This method returns two registers representing 1 channel.

4.2 Temperature offset value

Temperature value = actual temperature collection value + temperature offset value.

The register type of the temperature offset value is a holding register , and the address is 0x 2328 ; the value stored in the register divided by 10 is the temperature offset value (for example, the value in the register is 85, then the temperature offset is 8.5°C) .

Temperature offset value range: -10.0~10.0℃ (-100~100) (accurate to one decimal place).

4.3 Modbus gateway

The device can transparently transmit non-native Modbus commands from the network/serial port to the serial

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port/network, and the local Modbus commands can be executed directly .

4.3.1.Modbus TCP/RTU protocol conversion

After turning on, the Modbus TCP data on the network side will be converted into Modbus RTU data.

4.3.2.Modbus address filtering

This function can only allow the specified Modbus address to pass the two-way protocol conversion between the network and RS485.

When the parameter is 0, the data is transparently transmitted, and when the parameter is 1-255, only the data of the set slave address is passed.

4.3.3.Modbus TCP protocol data frame description

TCP frame format:

Transaction ID	Protocol identifier	Length	Device address	Function code	Initial address	Data segment
2 Bit	2 Bit	N+2 Bit	1 Bit	1 Bit	2 Bit	N Bit

- Transaction identification: It can be understood as the sequence number of the message. Generally, 1 is added after each communication to distinguish different communication data messages.
- Protocol identifier: 00 00 represents Modbus TCP protocol.
- Length: Indicates the length of the next data, in bytes.

For example: Get temperature data

0 0 00	00 00	00 06	01	0 4	0 1 9 0	00 0 1
Transaction ID	Protocol identifier	Length	Device address	Function code	Initial address	Number of channels

4.3.4.Modbus RTU protocol data frame description

RTU frame format:

Device address	function code	data segment	Check code CRC
1 Bit	1 Bit	N Bit	2 Bit

For example: Get temperature data

01	0 4	01 90 00 04	F0 18
Device Modbus address	Function code	data segment	CRC check code

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4.4 Actively upload

The device supports the function of uploading and collecting temperature at fixed time intervals. Setting the corresponding register value can control the interval time and whether to upload.

When set to 0, uploading is turned off. When set to another positive integer value N (the configuration period is 1-65535), uploading is performed at intervals of N seconds.

[Note] The configuration of the device can only be effective when it is in client mode. The register value is non-zero to enable active upload.

4.5 Custom module information

4.5.1.Modbus address

The device address defaults to 1 and supports modification of the address. The address range is 1-247.

4.5.2.Module name

Users can configure the device name for differentiation according to their own needs. It supports English and numeric formats, up to 20 bytes.

4.5.3.Network parameters

Unless otherwise specified: the following network-related parameters default to IPv4-related parameters.

(1) MAC of the device: The user can obtain it by reading the specified register. This parameter cannot be written.

(2) IP address: Device IP address, readable and writable.

(3) Modbus TCP port: The port number of the device, which can be read and written.

(4) Subnet mask: address mask, readable and writable.

(5) Gateway address: gateway.

(6) DHCP: Set the way the device obtains IP: static (0), dynamic (1).

(7) Target IP: When the device is working in client mode, the target IP or domain name to which the device is connected.

(8) Target port: When the device works in client mode, the target port to which the device connects.

(9) DNS server: The device is in client mode and resolves the server domain name.

(10) Module working mode: switch the working mode of the module. Server: The device is equivalent to a server, waiting for the user's client to connect. The maximum number of connections is 4. Client: The device actively connects to the target IP and port set by the user.

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(11) When this parameter is not 0 and the device is in client mode , the collected temperature values will be uploaded according to the configured time period.

4.5.4.Serial port parameters

Parameters used to set serial communication:

Default parameters:

Baud rate: 9600 (03);

Data bits: 8bit;

Stop bit: 1bit;

Check digit:NONE(00);

(1) Baud rate:

Baud rate code value table	
0x0000	1200
0x0001	2400
0x0002	4800
0x0003 (default)	9600
0x0004	19200
0x0005	38400
0x0006	57600
0x0007	115200

(2) Check Digit:

Check Digit	
0x0000 (default)	NONE
0x0001	ODD
0x0002	EVEN

4.6 OLED display and button parameter configuration

The display interface includes an information display page (all channel temperature values) and a parameter setting page (some parameters).

4.6.1.Information display interface

Contains all channel temperature value display pages.

When the channel displays “----” on the screen, it means that the PT100 sensor of the changed channel is not connected or the line is faulty.

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4.6.2. Equipment parameter display interface

Press the left or right button to enter the password input interface. After completing the correct password input, the device parameter information interface will be displayed (password interface: default password: 0000; short press in the middle to verify the password (if the password is incorrect, an error message will be reported, and You need to re-enter the password interface) , press the left and right buttons to switch the password digit, and press the up and down buttons to switch the value of the current digit. The password has a total of 4 digits, and each input range is a number from 0-9):

The parameter display interface from top to bottom is:

1. Modbus address;
2. Baud rate;
3. Data bits;
4. Check Digit;
5. Stop position;
6. CH1 temperature offset value;
7. CH2 temperature offset value;
8. CH3 temperature offset value;
9. CH4 temperature offset value;
10. Native port;
11. Local IP address;
12. Network mode;
13. Gateway;
14. Subnet mask;
15. DNS;
16. MAC address;
17. DHCP;
18. Target IP;
19. Target port;
20. Modbus TCP/RTU protocol conversion;
21. Actively upload;
22. Modbus address filtering;

After successfully entering the parameter display interface, if you want to exit this interface, just press the left or right button.

4.6.3. Device parameter configuration interface

To enter the parameter configuration interface, you need to press and hold the confirmation button to enter the password input interface. After completing the correct password input , you will enter the parameter configuration interface (password interface: default password: 0000; short press the middle to verify the password, and press the left and right buttons to switch passwords digit, press the up and down keys to switch the value of the current digit. The password has a total of 4 digits, and each input range is a number from 0 to 9).

Select setting items : After entering the parameter configuration page, short press the up and down keys to

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switch setting items;

Select the setting item : short press to confirm or right-click, the setting item gets the cursor to indicate that the setting item is selected and entered;

Adjust parameter values: After selecting a setting item, use the up and down keys to change the numerical value or optional value; press the left and right keys to move the cursor within the parameter item;

Determine the parameter value: After adjusting the parameter value, press the confirmation key to exit the current setting item (after the parameter is modified, it needs to be saved and restarted to take effect) .

Save parameter settings and restart: After setting the parameters, move the cursor to Save and Restart, then short press the Confirm key to enter the confirmation save and restart state, short press the Confirm key (press other keys to exit the confirmation state) , that is Parameters can be saved and the device restarted.

Exit without saving parameters: Move the cursor to Exit, then short press the Confirm key to enter the confirmation exit state. Short press the Confirm key (pressing other keys will exit the confirmation state) to exit the parameter configuration interface without saving the parameters. .

Among them, the data bit and stop bit cannot be set. After turning on DHCP mode, the local IP address, gateway, and subnet mask cannot be configured and are only assigned by the router;

The parameter configuration interface from top to bottom is:

1. Modbus address;
2. Network working mode ;
3. Dynamic IP ;
4. Local IP address ;
5. Native port ;
6. Subnet mask ;
7. Gateway address ;
8. DNS ;
9. Target IP address ;
10. Target port ;
11. Serial port baud rate ;
12. Serial port check digit ;
13. Modbus protocol conversion ;
14. Modbus address filtering ;
15. Automatic upload ;
16. CH1 temperature offset value;
17. CH2 temperature offset value;
18. CH3 temperature offset value;
19. CH4 temperature offset value;
20. Language
21. Screen sleep ;
22. Password ;
23. Restore Factory;
24. Save and restart;
25. Quit;

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4.6.4. Screen sleep

The device screen has a sleep function, which is turned off by default. It can be turned on in the parameter configuration interface of the device .

In any interface, when there is no button operation for 180 seconds, the screen will enter sleep mode. At this time, the interface displays Xiaoyi Robot. Press any button to exit sleep mode.

4.7 The sensor is not connected to the identification

The device supports sensor connection status detection . When the sensor is not connected, the channel on the screen will display “----”, and the value stored in the register is 0xFC19 (corresponding to the signed integer -999).

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V. MODBUS parameter configuration

5.1 Temperature value register list

Register function	Register address	Register type	Number	Operate	Data range/remarks	Related function codes
Temperature integer value	0x0190	Input register	4	R	16-bit integer type	R:0x04
Temperature floating point value	0x01C2	Input register	8	R	32-bit floating point	R:0x04
Temperature offset shaping value	0x2328	Holding register	4	RW	16-bit integer type	R:0x03 W: 0x06, 0x10

5.2 Module related registers

Register function	Register address	Register type	Number	Operate	Data range/remarks	Related function codes
Module address	0x07E8	holding register	1	RW	Modbus address, 1 ～ 247 configurable addresses	R:0x03 W: 0x06
Module model	0x07D0	holding register	12	R	Get current model	R:0x03
Firmware version	0x07DC	holding register	1	R	Get firmware version number	R:0x03
Module name	0x07DE	holding register	10	RW	Custom module name	R:0x03 W: 0x10
Module restart	0x07EA	holding register	1	W	Write any value and restart	W: 0x06
Restore factory parameters	0x07E9	holding register	1	W	Write random values to restore factory parameters	W: 0x06
Serial port baud rate	0x0834	holding register	1	RW	See baud rate code table, Default is 9600 (0x0003)	R: 0x03 W: 0x06, 0x10
Serial port check digit	0x0836	holding register	1	RW	0x0000 no verification (default) 0x0001 odd parity 0x0002 even parity	R:0x03 W: 0x06, 0x10

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5.3 Network related registers

Register function	Register address	Register type	Number	Operate	Data range/remarks	Related function codes
Module MAC address	0x0898	holding register	3	R	Device MAC parameters	R: 0x03
Local IP address	0x089B	holding register	2	RW	Default: 192.168.3.7	R:0x03 W: 0x06, 0x10
Native port	0x089D	holding register	1	RW	1～65535, default: 502	R: 0x03 W: 0x06, 0x10
Subnet mask address	0x089E	holding register	2	RW	Default: 255.255.255.0	R:0x03 W: 0x06, 0x10
Gateway address	0x08A0	holding register	2	RW	Default: 192.168.3.1	R:0x03 W: 0x06, 0x10
DHCP mode settings	0x08A2	holding register	1	RW	0x0000 static IP (default) 0x0001 Obtain IP automatically	R:0x03 W: 0x06, 0x10
Target IP/domain name	0x08A3	holding register	64	RW	Store IP/domain name in string format Default IP: 192.168.3.3	R: 0x03 W: 0x06, 0x10
Server port	0x08E3	holding register	1	RW	0-65535, default 502	R:0x03 W: 0x06, 0x10
DNS server IP address	0x08E4	holding register	2	RW	Default 8.8.8.8	R:0x03 W: 0x06, 0x10
How modules work	0x08E6	holding register	1	RW	0x0000 server mode 0x0001 client mode	R:0x03 W: 0x06, 0x10
Actively upload	0x08E7	holding register	1	RW	0x0000 disabled, others: Sent periodically from 1 to 65535s	R:0x03 W: 0x06, 0x10
MOSBUS TCP/RTU Conversion enable	0x08E8	holding register	1	RW	0, close, 1 enable protocol conversion	R: 0x03 W: 0x06, 0x10
MODBUS address filtering	0x08E9	holding register	1	RW	0: Transparent transmission, 1-255: When it is non-local data, check the slave address of the command. If it is the set value, it can be passed.	R:0x03 W: 0x06, 0x10

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5.4 Examples of Modbus command operation instructions

5.4.1.Modbus RTU acquisition

1. Read the temperature value of channel 1 of device address 0x01

For example:

01	04	01 90	00 01	30 1B
Modbus address	Function code	Register first address	Read the temperature value of channel 1	CRC check code

After sending the above command to the device through the 485 bus , the device will return the following value (for example, the temperature read is 30.0°C) :

01	0	02	01 2C	B9 7D
Modbus address	Function code	Number of bytes of data	Returned temperature value data	CRC check code

Other functions can be tested through the commands in the following table :

Function (function code)	Instruction
Read the temperature of channel 1 (0x04)	01 04 01 90 00 01 30 1B
Read the temperature of channels 1~4 (0x04)	01 04 01 90 00 04 F0 18

Note:

The input register read by the demonstration case is the engineering quantity (16-bit integer value, 32-bit floating point value can also be obtained by reading the 0x01C2 register) .

By converting the value read from the input register into decimal and then dividing it by 10 , the actual temperature value collected is obtained .

5.4.2. Modbus TCP acquisition

1. Read the temperature value of channel 1 of device address 0x01

For example:

00 00	00 00	00 06	01	04	01 90	00 01
Transaction ID	Protocol identifier	Length	Device address	Function code	Initial address	Number of channels

the above command to the device through the Ethernet bus , the device will return the following value (for

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example, the temperature read is 30.0°C) :

00 00	00 00	00 05	01	04	02	01 2C
Transaction ID	Protocol identifier	Length	Device address	Function code	Data length	Data

Other functions can be tested through the commands in the following table.

Function (function code)	instruction
Read the temperature of channel 1 (0x0 4)	00 00 00 00 00 06 01 04 01 90 00 01
Read the temperature of channels 1~4 (0x0 4)	00 0 0 00 00 00 06 01 04 01 90 00 04

Note:

The input register read by the demonstration case is the engineering quantity (16-bit integer value, 32-bit floating point value can also be obtained by reading the 0x01C2 register) .

By converting the value read from the input register into decimal and then dividing it by 10 , the actual temperature value collected is obtained .

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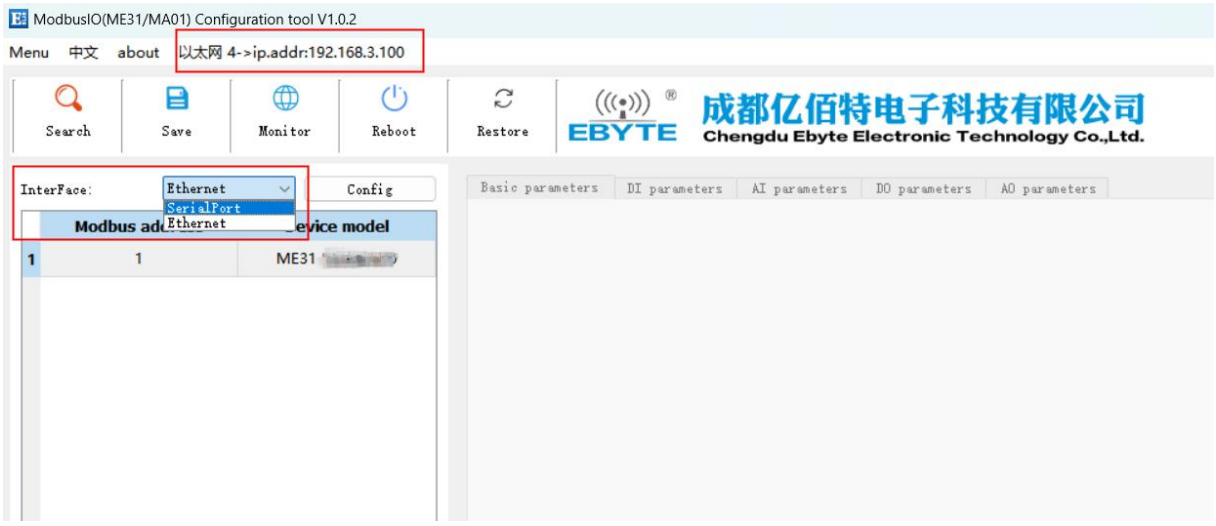
VI. Quick Start with PC

The configuration software can be downloaded from the corresponding device model on the official website. Official website link: https://www.ebyte.com/product-class.aspx
The configuration tool software is driver-free installation, just double-click the .exe file to open it and use it.

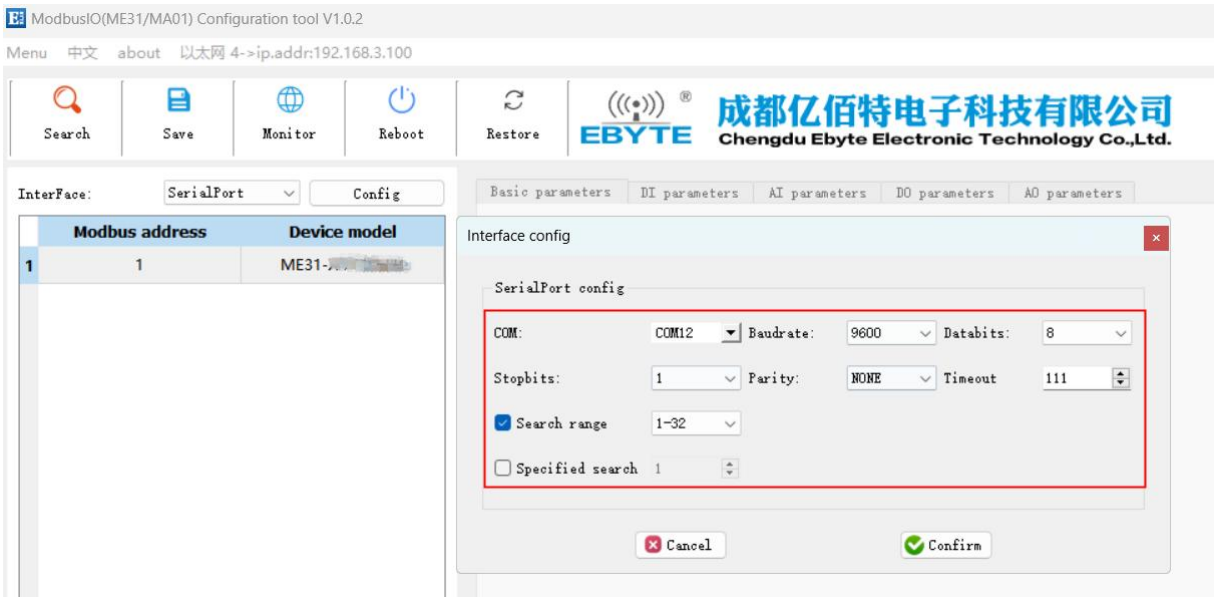
6.1 Temperature collection and monitoring

Step 1：Configuration tool connection equipment

（1）You can configure the device by selecting the interface (serial port/network port); if you select the network port, you must first select the network card and then search for the device.



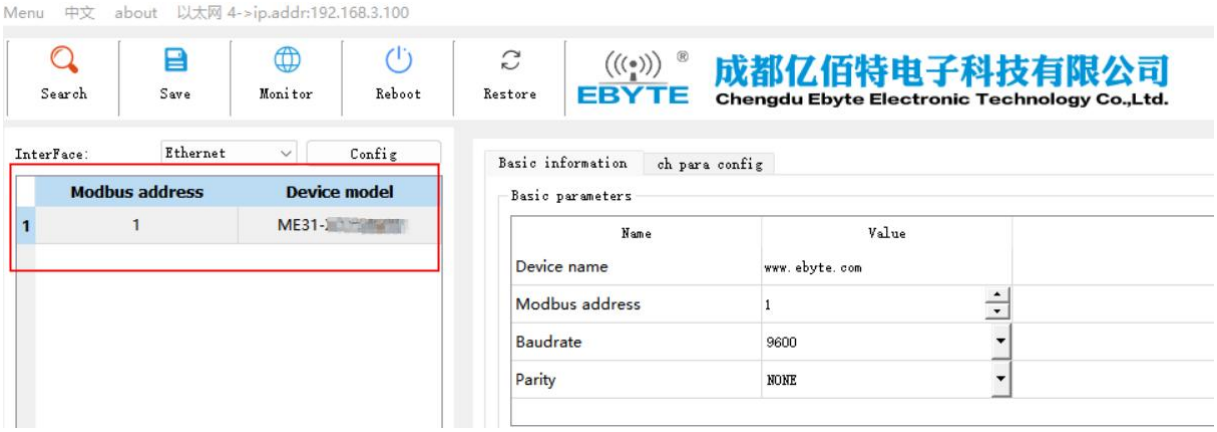
(2) If you select a serial port, you must select the corresponding serial port number, the same baud rate, data bits, stop bits, parity bits and address segment search range as the device, and then search.



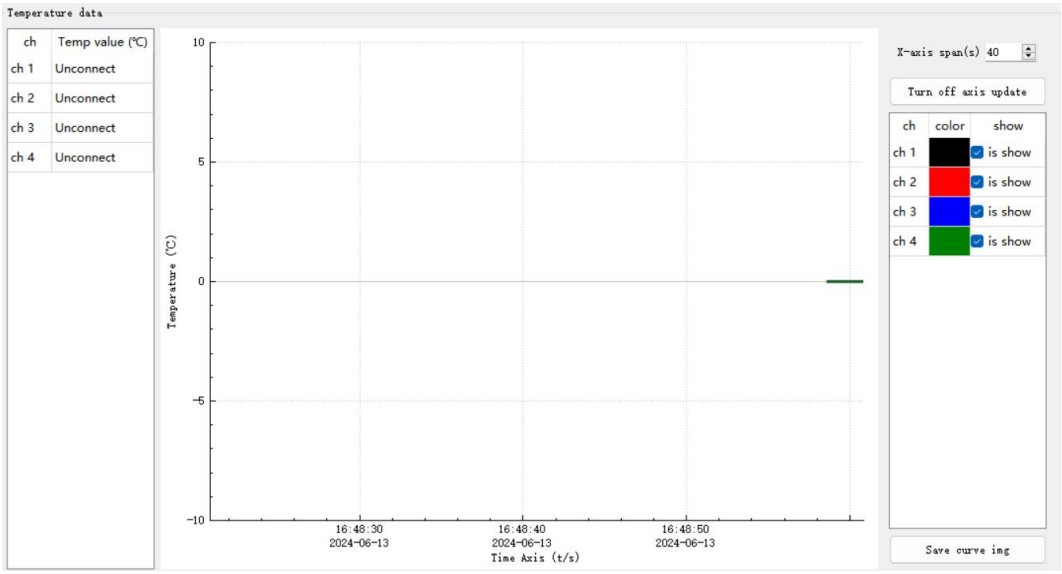
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Step 2: Select the corresponding device.



Step 3: Click the device online to enter the temperature value collection and monitoring. The following is a display of the temperature collection screen.



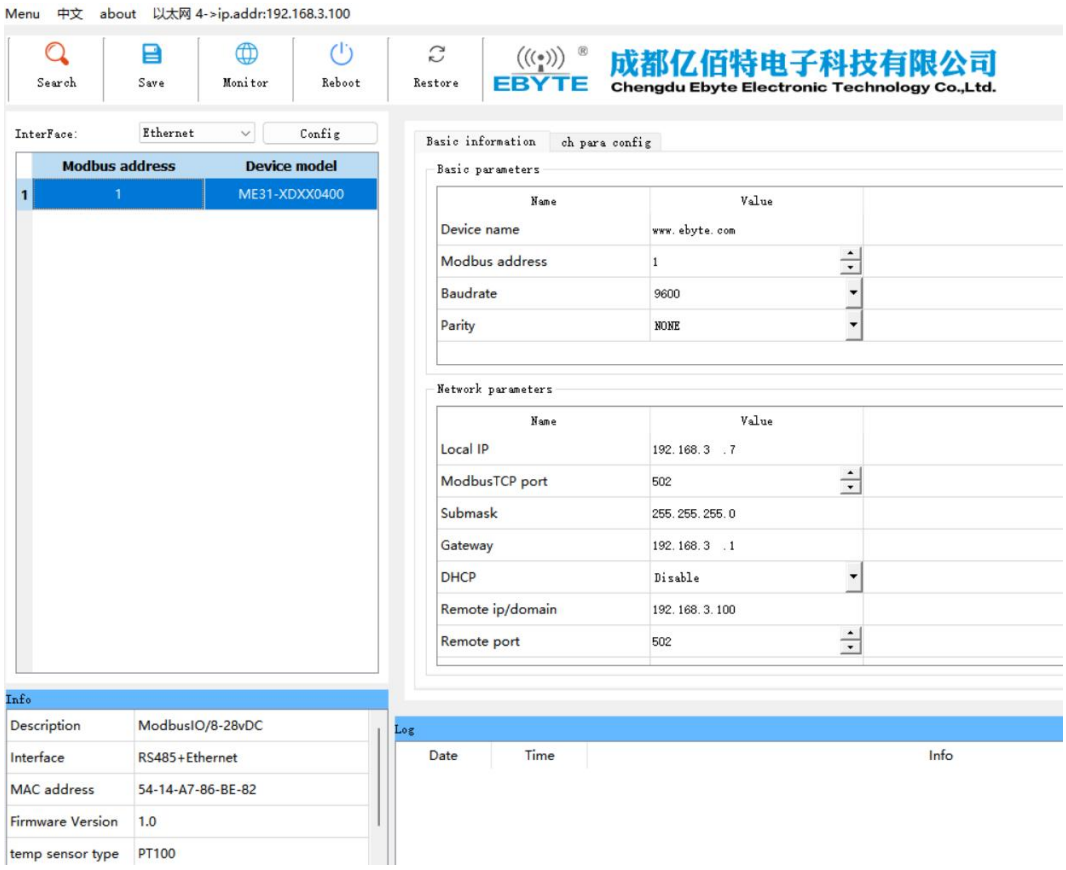
6.2. Parameter configuration interface

Step 1: For connecting devices, refer to " Temperature Collection"

Step 2: Device parameters, network parameters, and temperature offset parameters can be configured.

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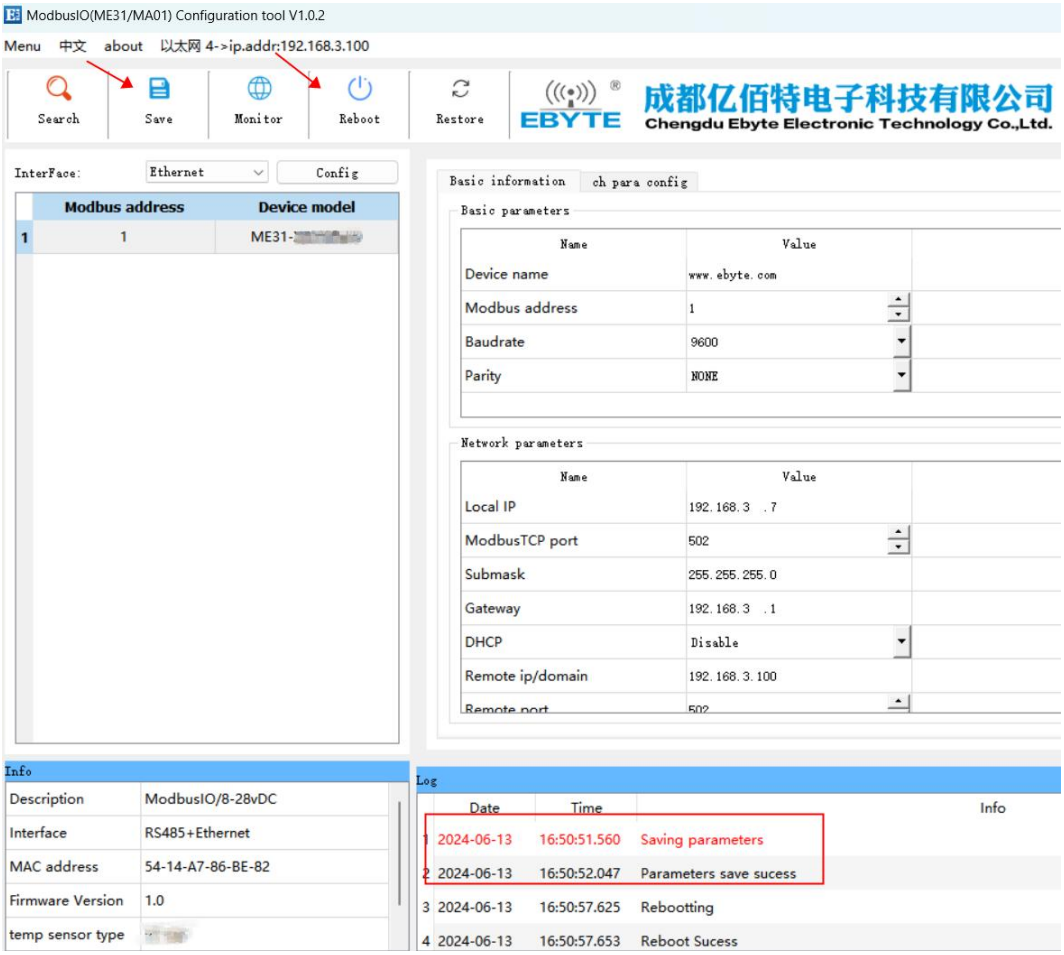
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Step 3: After configuring the parameters, click to download the parameters. When you see the prompt message in the log output that the parameters have been saved successfully, click to restart the device. After the device is restarted, the modified parameters will take effect.

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