



Chengdu Ebyte Electronic Technology Co.,Ltd

Wireless Modem

User Manual



ME31-AXXX8000

I/O Networking Module

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1. Product overview

1.1 Introduction

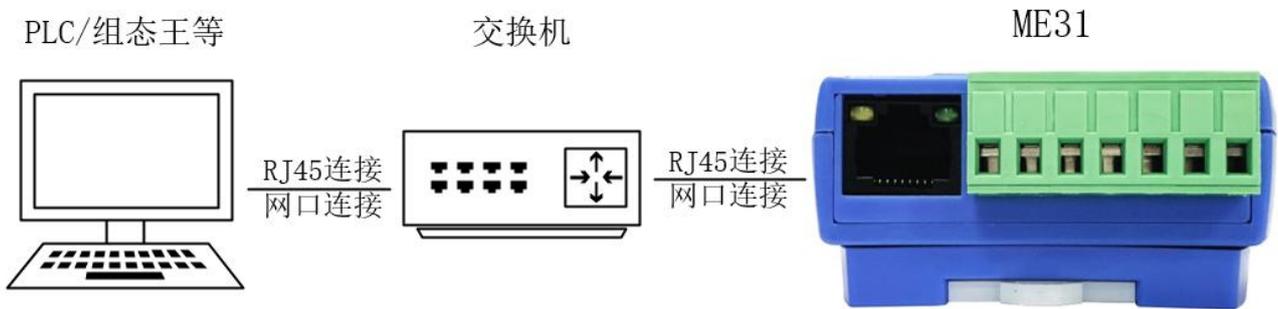
ME31-AXXX8000 is equipped with 8 dry contact input detection, supports Modbus TCP protocol or Modbus RTU protocol for acquisition and control and can be used as a simple Modbus gateway (automatically send commands with non-local Modbus addresses through the serial port/network port).



1.2 Features

- Good for standard Modbus RTU protocol and MODBUS TCP protocol;
- Work with various configuration software/PLC/touch screen;
- RS485 acquisition control I/O;
- RJ45 acquisition control I/O, support 4 channel master access;
- Support OLED display screen to display status information, and device parameters can be configured through buttons;
- 8-channel switch input DI (dry node) ;
- Support custom Modbus address settings;
- Support 8 common baud rate configurations ;
- DHCP and static IP;
- DNS function, domain name analysis;
- Support Modbus gateway;

1.3 Application typology diagram



Network port application topology

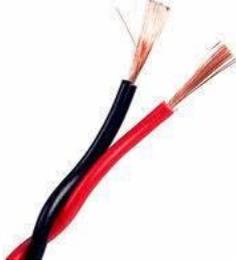


Serial port application topology

2. Quick start

Note: The test need to carry out with factory parameter.

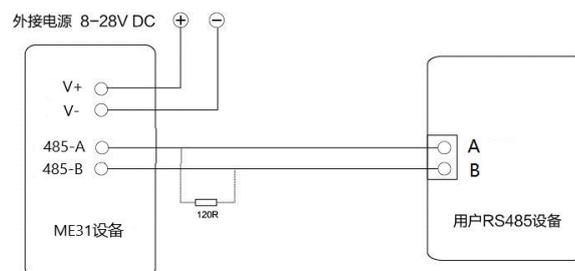
2.1 Devices required

| | | |
|--|---|---|
|  |  |  |
| ME31-AXXX8000 | 12V SMPS | USB to RS485 |
|  |  |  |
| Computer | RJ45 Cable | More cables |

2.2 Device connection

2.2.1 RS485 connection

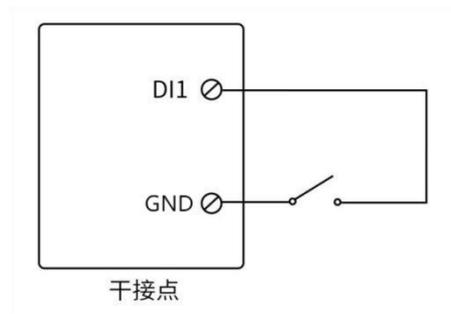
RS485接线图



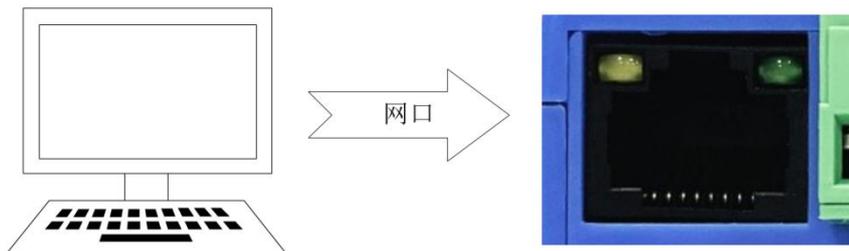
Note: When the 485 bus high frequency signal is transmitted, the signal wavelength is shorter than the transmission line, and the signal will form a reflected wave at the end of the transmission line, which will interfere with the

original signal. Therefore, a terminal resistance must be added at the end of the transmission line to prevent the signal from being reflected after reaching the end of the transmission line. The terminal resistance 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.

2.2.1 DI switch input connection



2.2.2 Simple use



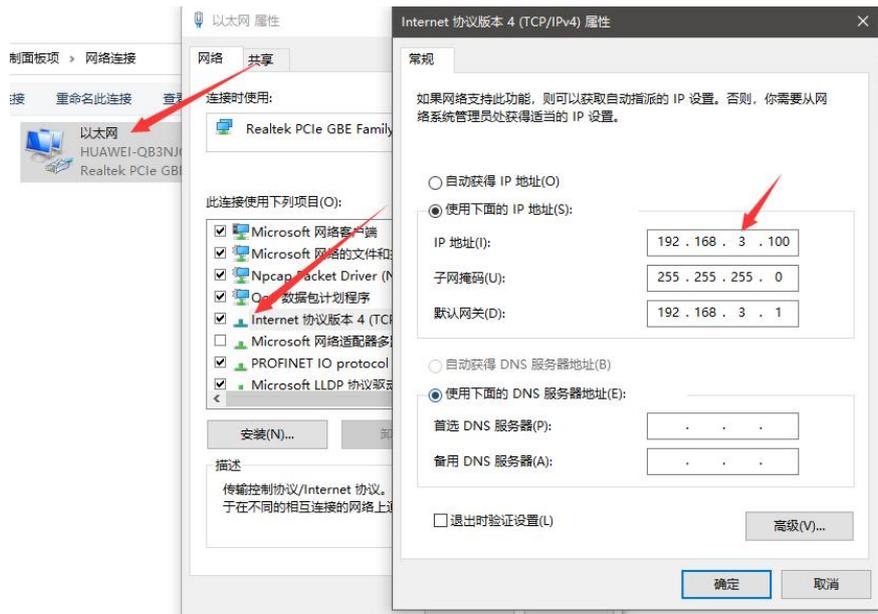
Wiring: The computer is connected to the RS485 interface of ME31-AXXX8000 through USB to RS485, A is connected to A, B is connected to B.

Networking: Insert the network cable into the RJ45 port and connect to the PC.

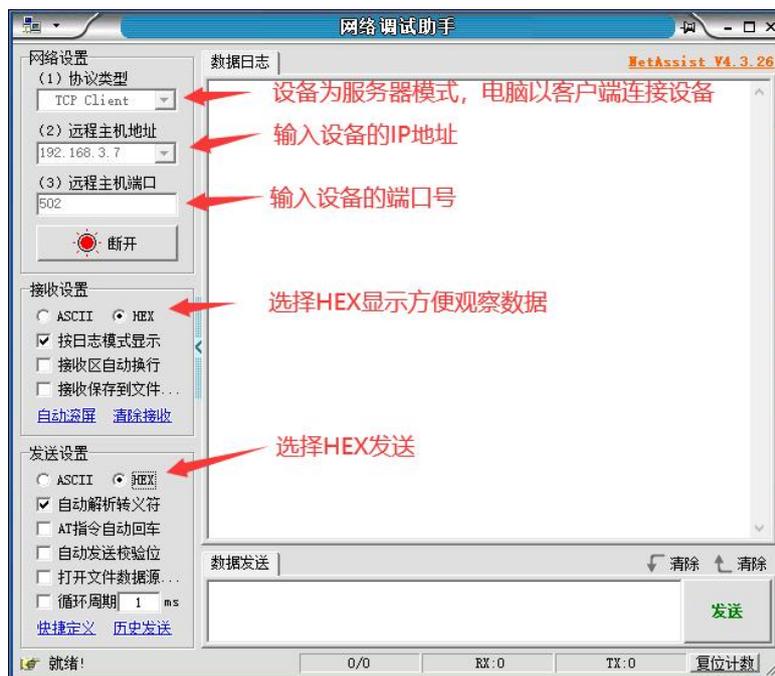
Power supply: Use DC-12V switching power supply (DC 8~28V) to supply power to ME31-AXXX8000.

2.3 Parameter configuration

Step 1: Modify the IP address of the computer to be consistent with the device. Here it is modified to 192.168.3.100 to ensure the same network segment as the device and that the IP is different. Please turn off the firewall and try again if the step failed;



Step 2: Open the network assistant, select the TCP client, enter the remote host IP 192.168.3.7 (default parameters), enter the port number 502 (default parameters), and select HEX to send.



2.4 Control test

2.4.1 Modbus TCP Control

Use network assistant to control ME31-AXXX8000, first channel DO output.

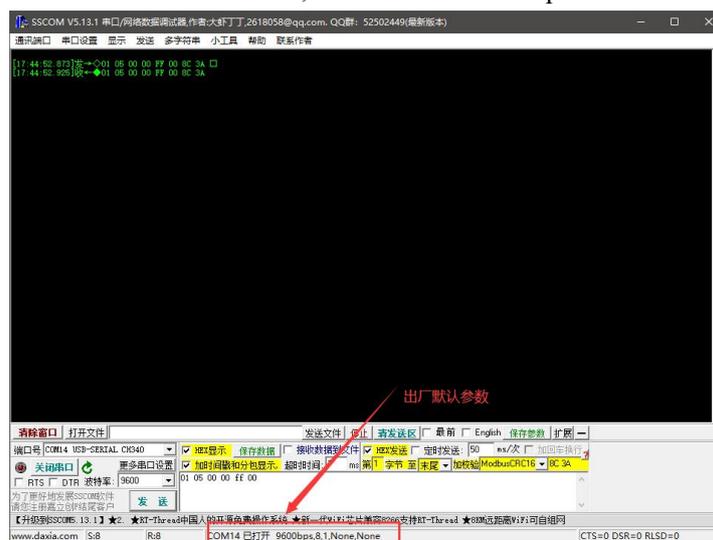


To test other function according to below table

| Function (function code) | Command |
|--------------------------|-------------------------------------|
| Read all DI state (0x02) | 01 00 00 00 00 06 01 02 00 00 00 08 |

2.4.2 Modbus RTU Control

Use network assistant to control ME31-AXXX8000, first channel DO output.



To test other function according to below table

| Function (function code) | Command |
|--------------------------|-------------------------|
| Read all DI state (0x02) | 01 02 00 00 00 08 79 CC |

3 Technical indicator

3.1 Specification and parameter

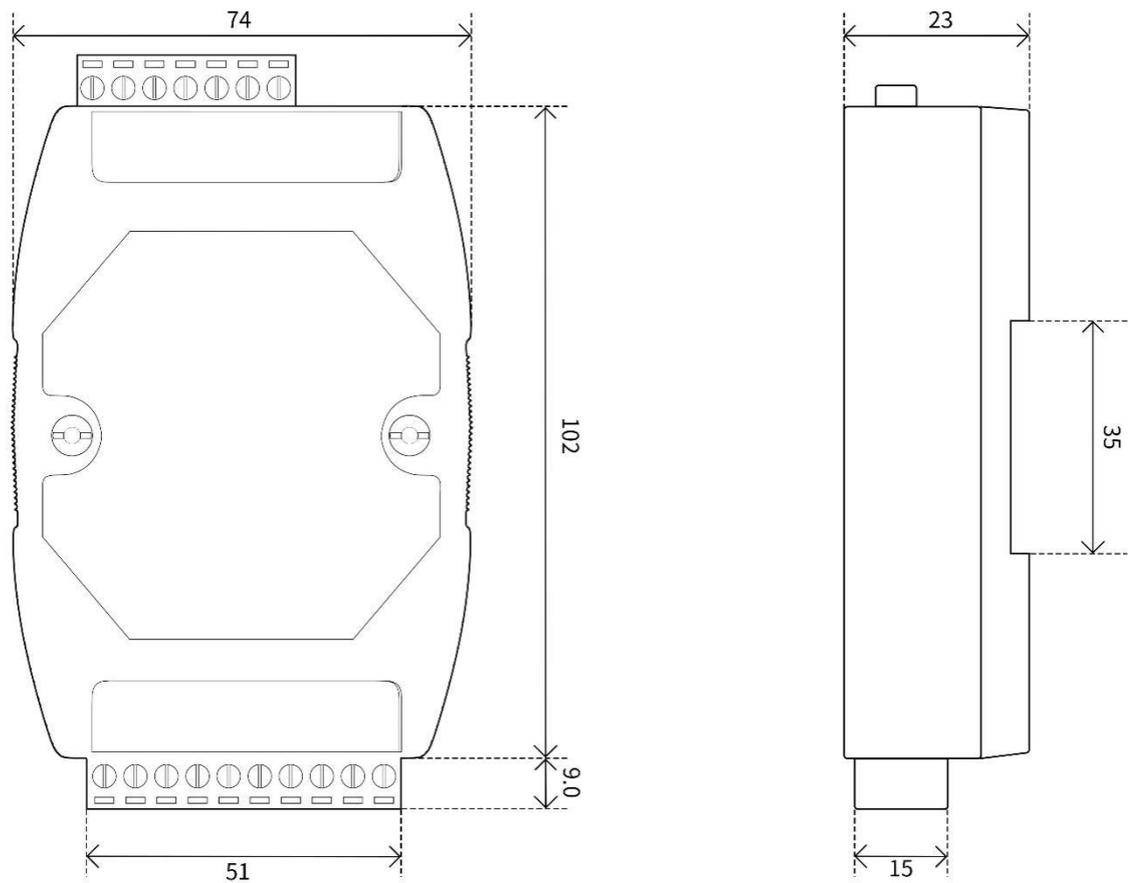
| Category | Name | Parameter |
|--------------|----------------------------------|--|
| Power supply | Operating voltage | DC8 ~ 28V |
| | Power indicator | Blue LED indicator |
| Serial port | Communication interface | RJ45、RS485 |
| | Baud rate | 9600bps (can be defined by user) |
| | Communication protocol | Standard Modbus TCP,Modbus RTU |
| MODBUS | Device address | Modify via Modbus command and computer |
| DI input | DI channels | 8 channel |
| | Input type | Default dry node |
| | Acquisition frequency | 1 kHz |
| | Input indicator | OLED display, red LED |
| Others | Product size | 121mm * 72mm * 34mm |
| | Product weight | 135 ±5 g |
| | Working temperature and humidity | -40 ~ +85°C、5% ~ 95%RH (no condensation) |
| | Storage temperature and humidity | -40 ~ +105°C、5% ~ 95%RH (no condensation) |
| | Installation | Din rail installation |

3.2 Device default parameter

| Category | Name | Parameter |
|--------------------|-----------------|---|
| Ethernet parameter | Working mode | TCP server (Max 4 channel client access) |
| | Local IP | 192.168.3.7 |
| | Local port | 502 |
| | Subnet mask | 255.255.255.0 |
| | Gateway address | 192.168.3.1 |

| | | |
|------------------|---------------------|---------------------------|
| | DHCP | Off |
| | Local MAC | Depending on chip (fixed) |
| | Target IP | 192.168.3.3 |
| | Target port | 502 |
| | DNS server | 114.114.114.114 |
| | Active upload | Off |
| UART parameter | Baud rate | 9600bps (8 type) |
| | Check method | None (default)、Odd、Even |
| | Data bit | 8 |
| | Stop bit | 1 |
| MODBUS parameter | Modbus master slave | Slave |
| | Address | 1 |

3.3 Dimensions



3.4 Ports and indicators



| No. | Sticker | Remarks |
|-----|------------|--|
| 1 | TX (LED) | UART TX data |
| 2 | RX (LED) | UART RX data |
| 3 | LINK (LED) | Network link |
| 4 | NET (LED) | Network data TX and RX |
| 5 | PWR (LED) | Power input |
| 6 | DI1 (LED) | Switch input indicator of channel 1 |
| 7 | DI2 (LED) | Switch input indicator of channel 2 |
| 8 | DI3 (LED) | Switch input indicator of channel 3 |
| 9 | DI4 (LED) | Switch input indicator of channel 4 |
| 10 | DI5 (LED) | Switch input indicator of channel 5 |
| 11 | DI6 (LED) | Switch input indicator of channel 6 |
| 12 | DI7 (LED) | Switch input indicator of channel 7 |
| 13 | DI8 (LED) | Switch input indicator of channel 8 |
| 14 | GND | Negative pole of power input terminal, DC 8V~28V, 5.08mm phoenix terminal |
| 15 | VCC | Positive pole of power input terminal, DC 8V~28V, 5.08mm phoenix terminal |
| 16 | DI5 | Switch input channel 5, support dry contact access , 5.08mm phoenix terminal |

| | | |
|----|----------|--|
| 17 | GND | Channel 5 switch input ground, 5.08mm phoenix terminal |
| 18 | DI6 | Switch input channel 6, support dry contact access , 5.08mm phoenix terminal |
| 19 | GND | Channel 6 switch input ground, 5.08mm phoenix terminal |
| 20 | DI7 | Switch input channel 7, support dry contact access , 5.08mm phoenix terminal |
| 21 | GND | Channel 7 switch input ground, 5.08mm phoenix terminal |
| 22 | DI8 | Switch input channel 8, support dry contact access , 5.08mm phoenix terminal |
| 23 | GND | Channel 8 switch input ground, 5.08mm phoenix terminal |
| 24 | Ethernet | Standard RJ45 interface |
| 25 | DI4 | Switch input channel 4, support dry contact access , 5.08mm phoenix terminal |
| 26 | DI3 | Switch input channel 3, support dry contact access , 5.08mm phoenix terminal |
| 27 | DI2 | Switch input channel 2, support dry contact access , 5.08mm phoenix terminal |
| 28 | DI1 | Switch input channel 1, support dry contact access , 5.08mm phoenix terminal |
| 29 | GND | Channel 1-4 switch input ground, 5.08mm phoenix terminal |
| 30 | 485-A | A of the RS-485 serial port is connected to the A port of the external device , 5.08mm phoenix terminal |
| 31 | 485-B | B of the RS-485 serial port is connected to the B port of the external device , 5.08mm phoenix terminal |

4 Product function introduction

4.1 DI input

4.1.1 Switch input DI acquisition

Switch input DI measurement level signal or edge pulse signal (rising edge, falling edge). Support dry node collection, support DI counting function, the maximum count is 65535 (the count is automatically cleared if it exceeds 65535).

The switch input DI branch has three trigger modes: rising edge, falling edge and level (default rising edge trigger).

The clearing method supports automatic clearing and manual clearing (default automatic clearing).

4.1.2 Input filtering

When the switch input DI collects the signal, it needs to keep several sampling cycles before confirming. Filter parameters can be set in the range of 1 to 16 (default 6 sampling periods, 6*1kHz).

It can be configured with the host computer through instructions.

4.2 Modbus gateway

The device can transmit non local Modbus instructions from the network/serial port to the serial port/network, and the local Modbus instructions can be executed directly.

4.2.1 Modbus TCP/RTU Protocol Conversion

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

4.2.2 Modbus address filtering

This function can be used in certain host software or configuration screens as the host to access the device serial port, and the gateway function of the device is used. When the slave is on the network side and the Modbus TCP to RTU function is enabled, the presence of multiple slaves on the bus may cause data confusion. At this time, enabling address filtering can ensure that only the specified address can pass through the device; When the parameter is 0, data is transmitted through, and when the parameter is 1-255, data is only transmitted through the set slave address.

4.2.3 Modbus TCP protocol data frame description

TCP frame format:

| Transaction ID | Protocol ID | Length | Device Address | Function Code | Data Segment |
|----------------|-------------|---------|----------------|---------------|--------------|
| 2 Bit | 2 Bit | N+2 Bit | 1 Bit | 1 Bit | N Bit |

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

For example: get DI state

| | | | | | |
|----------------|-------------|--------|----------------|---------------|--------------|
| 01 00 | 00 00 | 00 06 | 01 | 02 | 00 00 00 04 |
| Transaction ID | Protocol ID | Length | Device Address | Function Code | Data Segment |

4.2.4 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 DI state command

| | | | |
|-----------------------|---------------|--------------|----------------|
| 01 | 02 | 00 00 00 04 | 79 C9 |
| Device Modbus address | Function Code | Data Segment | CRC check code |

4.3 Active upload

The device supports the function of uploading analog input values at fixed time intervals. Setting the value of the corresponding register can control the interval time and whether to upload or not.

The device with digital input will actively upload once after connecting to the server successfully, and then the digital input will be uploaded following the status change, and the device with analog input will report the status of the analog input according to the configuration of the active upload time period (the configuration period is 1-65535).

When set to 0, the upload is closed, and when set to another positive integer value N, the upload is performed at intervals of N seconds.

[Note] The device can only be valid if it is in the client mode configuration. If the register value is non-zero, active uploading is enabled.

4.4 Custom Module Information

4.4.1 Modbus address

The default address of the device is 1, and the address can be modified. The address range is 1-247.

4.4.2 Module name

Users can configure the device name for differentiation according to their own needs. It supports English and digital formats, and the maximum length is 20 bytes.

4.4.3 Network parameter

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, and this parameter cannot be written.
- (2) IP address: IP address of the device, readable and writable.
- (3) Modbus TCP port: the port number of the device, readable and writable.
- (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 works in client mode, the target IP or domain name of the device connection.
- (8) Target port: When the device works in client mode, the target port to which the device is connected.
- (9) DNS server: When the device is in client mode, it 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, and the maximum number of connections is 4. Client: The device actively connects to the target IP and port set by the user.
- (11) Active upload: When the secondary parameter is not 0 and the device is in the client mode, the discrete input state of the device will be uploaded to the server after the initial connection or input changes, and the analog input will be uploaded according to the configured time period.

4.4.4 UART parameter

Parameters for setting 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(默认) | NONE |
| 0x0001 | ODD |
| 0x0002 | EVEN |

4.5 OLED display and parameter configuration

The display interface includes information display page (DI input status) and parameter setting page (part of parameters).

4.5.1 Information display interface

Including the current input value display page, shortly press the left and right buttons to switch the interface

4.5.2 Device parameter display interface

Press the left or right button to enter the password input interface, complete the correct password input, and display the device parameter information interface (password interface: default password: 0000; short press the middle verification password, left and right buttons to switch password bits, up and down buttons to switch current bit values, a total of 4 digits of the password, with each input range of 0-9 digits):

The parameter setting interface from top to bottom is

1. Modbus address;
2. Baud rate;

3. Data bits;
4. Check digit;
5. Stop bit;
6. Local port
7. Local IP address
8. Network mode
9. Gateway
10. Subnet mask
11. DNS
12. MAC address
13. DHCP
14. Target IP
15. Target port
16. Modbus TCP/RTU protocol conversion
17. Active upload
18. Modbus address filtering

4.5.3 Device parameter configuration interface

Long press the confirm button to enter the password input interface, complete the correct password input, and enter the configuration interface (password interface: default password: 0000; short press the middle to verify the password, left and right buttons to switch password bits, up and down buttons to switch current bit values, a total of 4 digits of password, with each digit entering a range of 0-9 numbers).

Select the setting option, enter the parameter configuration page, and briefly press the up and down keys to switch between the setting options;

Select the setting item, short press to confirm or right-click, and the cursor for the setting item represents the selected item and enters the setting item;

Adjust parameter values: After selecting the setting option, the up and down keys can change the numerical value or optional values; Press the left and right buttons to move the cursor within the parameter item;

Confirm parameter values: After adjusting the parameter values, press the confirm button to exit the current setting.

Save parameter settings and restart: After setting the parameters, move the cursor to save and restart, then short press the confirm button to enter the confirm save and restart state. Short press the confirm button (press other buttons to exit the confirmation state) to save the parameters and restart the device.

Exit without saving parameters: move the cursor to Exit, and then press the OK key briefly to enter the confirmed Exit status. Press the OK key briefly (press other keys to exit the confirmed status) to exit the parameter configuration interface without saving parameters.

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

4.5.4 Screen sleep

The device screen has a sleep function, which is turned off by default and can be set to turn on in the configuration

interface.

In any interface, after 180 seconds of no button operation, the screen will enter sleep mode, and the interface will display Xiaoyi Robot. Press any button to exit sleep mode.

When the screen is dormant, the efficiency of device program operation will be improved.

4.6 MODBUS parameter setting

4.6.1 DI register list

| Register function | Register address | Register type | Quantity | Operation | Data Range/Remarks | Related function codes |
|------------------------|------------------|------------------|----------|-----------|---|-------------------------|
| DI state | 0x0000 | Discrete input | 8 | R | Enter the port state | R: 0x02 |
| DI filter parameters | 0x04B1 | Holding register | 1 | RW | Digital filter parameter, the range is 1~16, the smaller the number, the more sensitive, the larger the more stable, the default is 6 | R: 0x03 W: 0x06、0x10 |
| DI pulse count value | 0x09DF | Holding register | 8 | RW | Enter count value | R: 0x03 W: 0x06、0x10 |
| DI clear way | 0x0A43 | Holding register | 8 | RW | 0x0000 auto clear 0x0001 manual clear | R: 0x03 W: 0x06、0x10 |
| DI manual clear signal | 0xAA7 | Holding register | 8 | RW | The clearing method is manual, and the register writes 1 to clear the count value | R: 0x03 W: 0x06、0x10 |
| DI count way | 0x0B0C | Holding register | 8 | RW | Set DI count way | R: 0x03 W: 0x06、0x10 |

4.6.2 Module related register

| Register function | Register address | Register type | Quantity | Operation | Data Range/Remarks | Related function codes |
|-------------------|------------------|------------------|----------|-----------|------------------------------------|------------------------|
| Module address | 0x07E8 | Holding register | 1 | RW | Modbus address, 1~247 configurable | 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 | R: 0x03 |

| | | | | | | |
|---------------------------|--------|------------------|----|----|--|-------------------------|
| Module name | 0x07DE | Holding register | 10 | RW | Define module name | R: 0x03 W: 0x10 |
| Module reset | 0x07EA | Holding register | 1 | W | Enter any value to reset | W: 0x06 |
| Restore factory parameter | 0x07E9 | Holding register | 1 | W | Enter any value to restore | W: 0x06 |
| Serial baud rate | 0x0834 | Holding register | 1 | RW | See the baud rate code table, Default 9600 (0x0003) | R: 0x03 W: 0x06、0x10 |
| Serial check digit | 0x0836 | Holding register | 1 | RW | 0x0000 none (default) 0x0001 odd 0x0002 even | R: 0x03 W: 0x06、0x10 |

4.6.3 Network related register

| Register function | Register address | Register type | Quantity | Operation | Data Range/Remarks | Related function codes |
|-------------------------|------------------|------------------|----------|-----------|---|-------------------------|
| Module MAC address | 0x0898 | Holding register | 3 | R | Device MAC parameter | R: 0x03 |
| Local IP address | 0x089B | Holding register | 2 | RW | Default: 192.168.3.7 | R: 0x03 W: 0x06、0x10 |
| Local port | 0x089D | Holding register | 1 | RW | 1~65535, default: 502 | R: 0x03 W: 0x06、0x10 |
| Subnet mask | 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 configuration | 0x08A2 | Holding register | 1 | RW | 0x0000 static IP (default) 0x0001 automatically get IP | R: 0x03 W: 0x06、0x10 |
| Target IP/Domain Name | 0x08A3 | Holding register | 64 | RW | Store in strings IP/Domain Name 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 |
| Module operating mode | 0x08E6 | Holding register | 1 | RW | 0x0000 server mode 0x0001 client mode | R: 0x03 W: 0x06、0x10 |
| Active upload | 0x08E7 | Holding register | 1 | RW | 0x0000 prohibited , Other: | R: 0x03 W: 0x06、0x10 |

| | | | | | | |
|---------------------------|--------|------------------|---|----|---|-------------------------|
| | | | | | Send in 1~65535s | |
| MOSBUS TCP/RTU conversion | 0x08E8 | Holding register | 1 | RW | 0,turn off, 1turn on | R: 0x03 W: 0x06、0x10 |
| MODBUS address filtering | 0x08E9 | Holding register | 1 | RW | 0: Transparent transmission, 1-255: When non local data is present, check the slave address of the instruction instruction. When it is set to a value, it can be passed through the | R: 0x03 W: 0x06、0x10 |

4.6.4 Modbus command operation

1. Read coil (DO) status

Use the read coil status (01) function code to read the output coil status, for example:

| | | | | |
|----------------|---------------|------------------------|----------------------|----------------|
| 01 | 01 | 00 00 | 00 04 | 3D C9 |
| Modbus address | Function code | Register first address | Output coil quantity | CRC check code |

After the above command is sent to the device through the 485 bus, the device will return the following values:

| | | | | |
|----------------|---------------|-------------------------|----------------------|----------------|
| 01 | 01 | 01 | 01 | 90 48 |
| Modbus address | Function code | Number of bytes of data | Status data returned | CRC check code |

The above returned status data 01 indicates that the output DO1 is turned on.

2. Control coil (DO) status

Support operation of single coil (05), operation of multiple coils (0F) function code operation. Use the 05 command to write a single command, for example:

| | | | | |
|----------------|---------------|------------------------|-------------------------|----------------|
| 01 | 05 | 00 00 | FF 00 | 8C 3A |
| Modbus address | Function code | Register first address | On: FF 00 Off: 00 00 | CRC check code |

After sending the above command to the device through the 485 bus, the device will return the following values:

| | | | | |
|----------------|---------------|------------------------|------------------|----------------|
| 01 | 05 | 00 00 | FF 00 | 8C 3A |
| Modbus address | Function code | Register first address | Operation method | CRC check code |

DO1 coil conduction

Use the 0F function code as the command to write multiple coils, for example:

| | | | | | | |
|----------------|---------------|------------------|-------------|-------------------------|----------------------|----------------|
| 01 | 0F | 00 00 | 00 04 | 01 | 0F | 7E 92 |
| Modbus address | Function code | Starting address | Coil number | Number of bytes of data | Data of control coil | CRC check code |

After the above command is sent to the device through the 485 bus, the device will return the following values

| | | | | |
|----------------|---------------|------------------|-------------|----------------|
| 01 | 0F | 00 00 | 00 04 | 54 08 |
| Modbus address | Function code | Register address | Coil number | CRC check code |

All coils are conducted.

3. Read Holding register

Use the 03 function code to read one or more register values, for example:

| | | | | |
|----------------|---------------|------------------------|---------------------------|----------------|
| 01 | 03 | 05 78 | 00 01 | 04 DF |
| Modbus address | Function code | Register first address | Quantity of register read | CRC check code |

After the above command is sent to the device through the 485 bus, the device will return the following values:

| | | | | |
|----------------|---------------|-------------------------|---------------|----------------|
| 01 | 03 | 02 | 00 00 | B8 44 |
| Modbus address | Function code | Number of bytes of data | Data returned | CRC check code |

The above 00 00 indicates that DO1 is in level output mode.

4. Operate Holding register

Support operation of single register (06), operation of multiple registers (10) function code operation.

Use the 06 function code to write a single Holding register, for example: set the working mode of DO1 to pulse mode

| | | | | |
|----------------|---------------|------------------|-------------|----------------|
| 01 | 06 | 05 78 | 00 01 | C8 DF |
| Modbus address | Function code | Register address | Write value | CRC check code |

After the above command is sent to the device through the 485 bus, the device will return the following values:

| | | | | |
|----------------|---------------|------------------|-------------|----------------|
| 01 | 06 | 05 78 | 00 01 | C8 DF |
| Modbus address | Function code | Register address | Write value | CRC check code |

If the modification is successful, the 0x0578 register data is 0x0001, and the pulse output mode is turned on.

Use the 10 function code to write multiple holding register commands, for example: set the working mode of DO1 and DO2 at the same time.

| | | | | | | |
|----------------|---------------|------------------------|-----------------|-----------------------------------|--------------|----------------|
| 01 | 10 | 05 78 | 00 02 | 04 | 00 01 00 01 | 5A 7D |
| Modbus address | Function code | Register first address | Register number | Quantity of bytes of written data | Written data | CRC check code |

After the above command is sent to the device through the 485 bus, the device will return the following values:

| | | | | |
|----------------|---------------|------------------|-------------------|----------------|
| 01 | 10 | 05 78 | 00 02 | C1 1D |
| Modbus address | Function code | Register address | Register quantity | CRC check code |

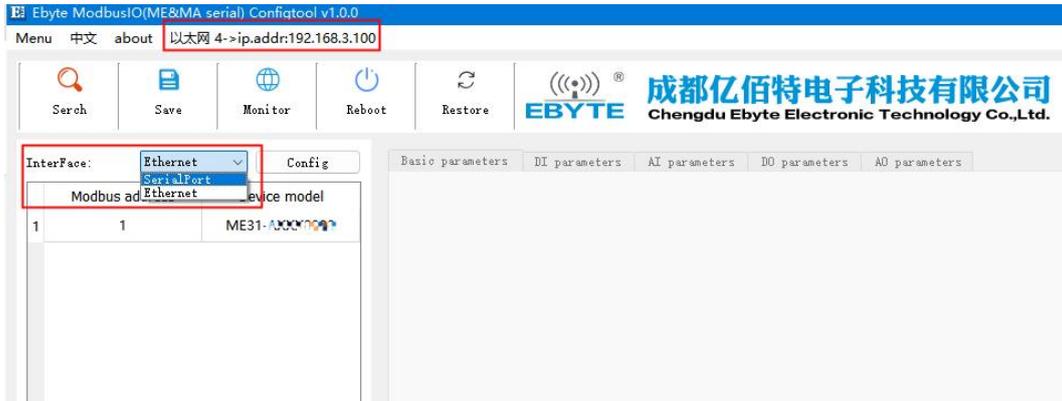
If the modification is successful, the values of the two consecutive registers with 0x0578 as the starting address are 0x0001 and 0x0001 respectively to identify DO1 and DO2 to enable pulse output.

5 Host computer

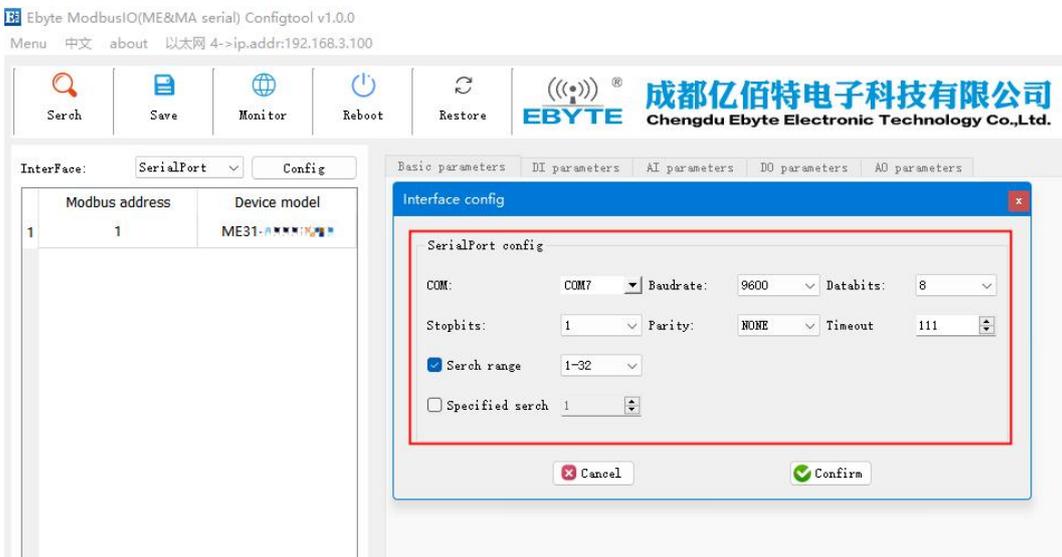
5.1 Acquisition and control

Step 1: Connect the computer to the device

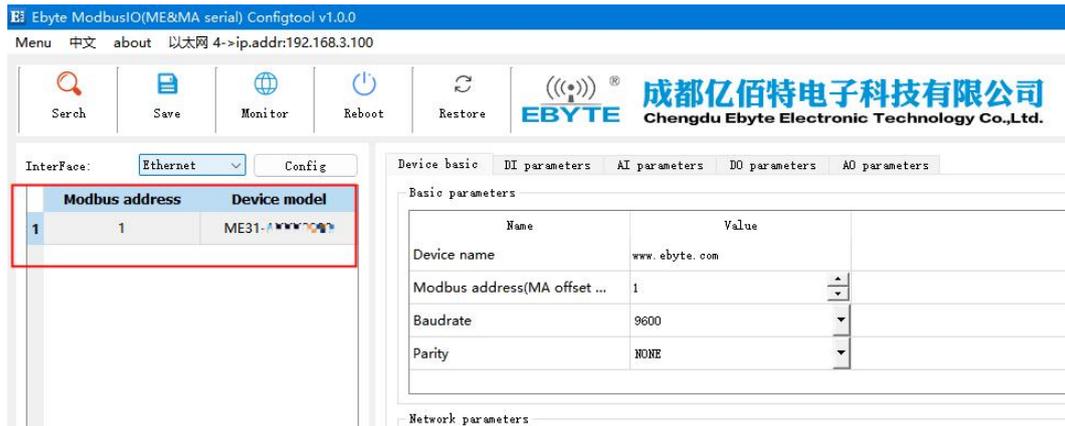
(1) The device can be configured by selecting interfaces (serial/network); If you choose a network port, you need to first select the network card before searching for devices.



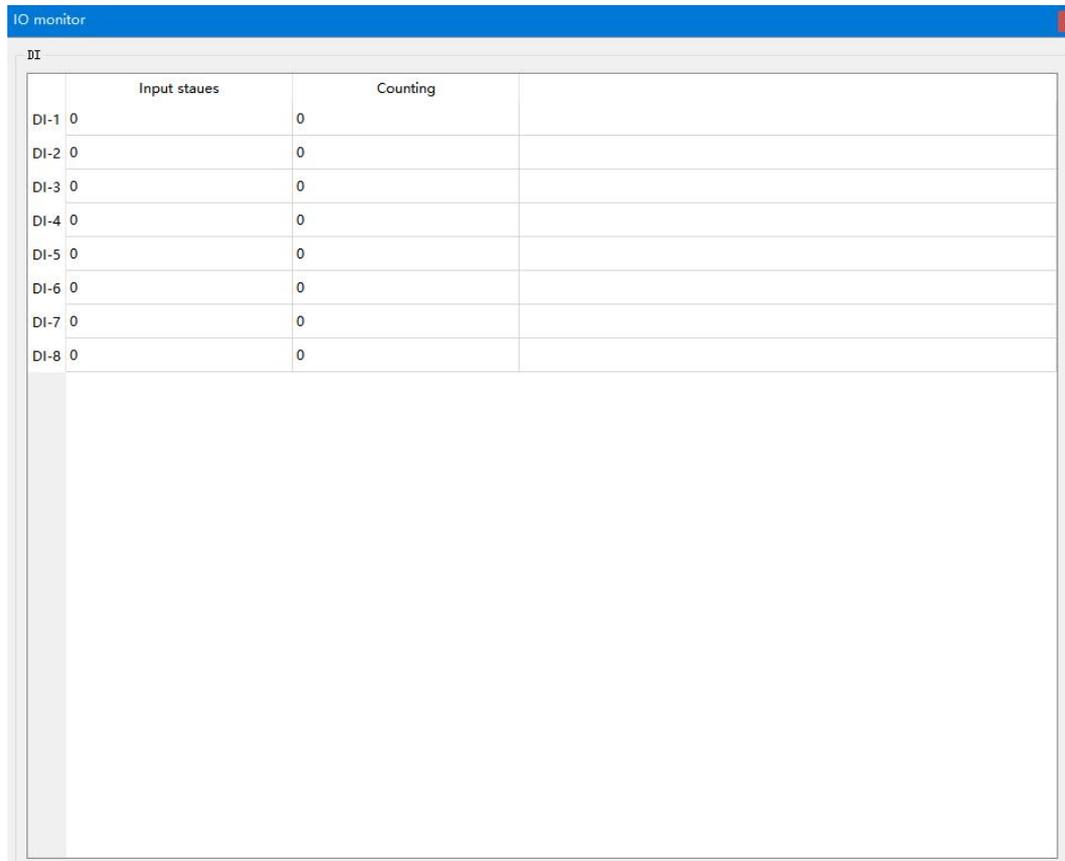
(2) If you select a serial port, you need to select the corresponding serial port number and the same Baud, data bit, stop bit, check bit and address segment search range as the device, and then search.



Step 1: Select the right device



Step 2: Click on the device online to enter IO monitoring. The following is the IO monitoring screen display



5.2 Parameter Configuration Interface

Step 1: Connect the device according to "Collection and Control"

Step 2: You can configure device parameters, network parameters, DI parameters, AI parameters, DO parameters, and AO parameters (for example, if the device does not have AO function, AO parameters cannot be configured)

Device basic DI parameters AI parameters DO parameters AO parameters

Basic parameters

| Name | Value |
|-------------------------------|---------------|
| Device name | www.ebyte.com |
| Modbus address(MA offset ...) | 1 |
| Baudrate | 9600 |
| Parity | NONE |

Network parameters

| Name | Value |
|-----------------------|-----------------|
| Local IP | 192.168.3.7 |
| ModbusTCP port | 502 |
| Submask | 255.255.255.0 |
| Gateway | 192.168.3.1 |
| DHCP | Disable |
| Remote ip/domain | 192.168.3.3 |
| Remote port | 502 |
| DNS server address | 114.114.114.114 |
| Network protocol | TCP Client |
| Auto upload | OS |
| TCP/RTU translation | Enable |
| Modbus address filter | 0 |

Info

| | |
|------------------|-------------------|
| Description | ModbusIO/8-28VDC |
| Interface | Ethernet+RS485 |
| MAC address | 38-38-26-22-A3-A4 |
| Firmware Version | 1.4 |
| DI | 8*/NPN |
| AI | 0*/ |
| DO | 0*/ |

Log

| Date | Time | Info |
|------|-------------------------|---|
| 1 | 2023-07-12 13:51:20.032 | Searching |
| 2 | 2023-07-12 13:51:20.086 | Search for all device..... |
| 3 | 2023-07-12 13:51:21.028 | Uploading parameters>>MAC address:38-38-26-22-A3-A4 |
| 4 | 2023-07-12 13:51:21.812 | uploading parameters success>>Modbus address:1,device model:ME31-AXXX8000 |
| 5 | 2023-07-12 13:51:21.813 | The search is complete>>A total of1devices were found |

Step 3: After configuring the parameters, click to download them. In the log output, you will see a prompt stating that the parameters have been successfully saved. Click to restart the device. After the device restarts, the modified parameters will take effect.

Device basic DI parameters AI parameters DO parameters AO parameters

Basic parameters

| Name | Value |
|-------------------------------|---------------|
| Device name | www.ebyte.com |
| Modbus address(MA offset ...) | 1 |
| Baudrate | 9600 |
| Parity | NONE |

Network parameters

| Name | Value |
|-----------------------|-----------------|
| Local IP | 192.168.3.7 |
| ModbusTCP port | 502 |
| Submask | 255.255.255.0 |
| Gateway | 192.168.3.1 |
| DHCP | Disable |
| Remote ip/domain | 192.168.3.3 |
| Remote port | 502 |
| DNS server address | 114.114.114.114 |
| Network protocol | TCP Client |
| Auto upload | OS |
| TCP/RTU translation | Enable |
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Info

| | |
|------------------|-------------------|
| Description | ModbusIO/8-28VDC |
| Interface | Ethernet+RS485 |
| MAC address | 38-38-26-22-A3-A4 |
| Firmware Version | 1.4 |
| DI | 8*/NPN |
| AI | 0*/ |
| DO | 0*/ |

Log

| Date | Time | Info |
|------|-------------------------|---|
| 5 | 2023-07-12 13:51:21.813 | The search is complete>>A total of1devices were found |
| 6 | 2023-07-12 13:52:41.052 | Saving parameters |
| 7 | 2023-07-12 13:52:41.629 | Parameters save success |
| 8 | 2023-07-12 13:52:48.714 | Rebooting |
| 9 | 2023-07-12 13:52:48.742 | Reboot Success |

Revision history

| Version | Date | Remarks | Issued by |
|---------|------------|---------------|-----------|
| 1.0 | 2023-06-06 | First version | LT |
| | | | |
| | | | |

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