

**maiwe**

Ethernet Serial Port Server

# User Manual

Mport3216-I



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V1.0	2019.06	Create File
V2.0	2020.06	Revise File
V3.0	2020.09	Revise File
V4.0	2021.01	Revise File
V5.0	2021.05	Revise File

# Safe Use Instructions

**This product performance is excellent and reliable in the designed range of use, but it's necessary to avoid man-made damage or destroy for the equipment.**

- Read the manual carefully and keep this manual for reference if need afterwards.
- Do not put the device close to the water sources or damp places.
- Do not put anything on the power cable, it should be placed out of reach.
- To avoid causing fire, do not knot or wrap the cable.
- Power connector and other device connectors should be firmly connected with each other, frequently inspection is needed.
- Please keep the fiber socket and plug clean. Do not look directly at the fiber section when the equipment is working.
- Please keep the equipment clean and wipe it with a soft cotton cloth if necessary.
- Please do not repair the equipment by yourself, unless there is clear instructions in the manual.

**Under the following circumstances, please cut off power immediately and contact us.**

- Equipment water damage.
- The equipment is broken or the casing is broken.
- The equipment works abnormally or the performance has completely changed.
- The equipment produces odor, smoke or noise.



**: Information requiring explanation in use of the managed software.**

Statement



**Attention : Matters requiring specific attention in the use of the managed software.**

# Chapter 1 Product Introduction

## 1.1 Product introduction

Mport3216-I is an industrial-grade isolated serial server device, which has the characteristics of anti-lightning, anti-electromagnetic interference, high reliability and high performance, and is suitable for use in harsh environments. It mainly realizes data transmission between multiple serial ports RS485/422 and Ethernet. It integrates TCP/IP protocol stack inside, and the device serial port can be flexibly configured into RS485/422 mode through WEB webpage, making RS485/422 that cannot be accessed online. The device can also be connected to the Ethernet easily, flexibly, and quickly.

## 1.2 Product features

### ➤ High-performance CPU processing function

- Adopt 32-bit Arm Cortex-M7 core CPU
- Up to nearly 528MHz main frequency

### ➤ Industrial-grade surge protection

- Ethernet interface up to 6KV lightning protection
- RS485/422 interface up to 4KV surge protection

### ➤ High reliability

- External independent hardware watchdog design to prevent crashes

### ➤ Industrial temperature design

- Meet the industrial temperature range of -40°C~+70°C

### ➤ Industrial wide voltage power supply design

- 85~264VAC or 110~370VDC
- Up to 2KV surge protection

### ➤ Isolated design

- Serial isolation voltage 2KVAC or 3KVDC
- Each serial port is independent of each other, does not affect each other, and can be configured into different modes and baud rates

### ➤ Dual Ethernet

- Two 10/100/1000M Ethernet optical and electrical multiplexing ports, electrical and optical ports can be adaptive according to the inserted medium, and when both are plugged in at the same time, the default optical port has priority.
- One port can be connected to the network or server, and the other port can be connected to another Ethernet device. The dual Ethernet ports eliminate the need for devices to be connected to different Ethernet switches separately, thereby reducing wiring costs.
- Can be configured as two independent network segments or cascading ports.

### 1.3 Products Show

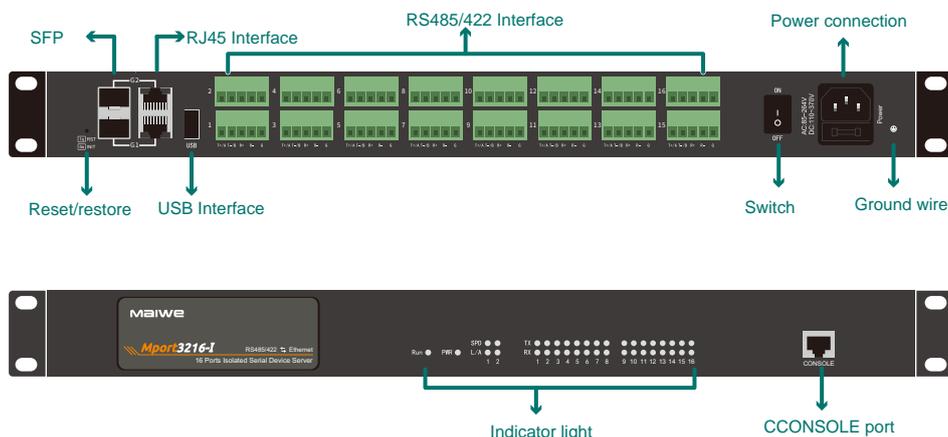


### 1.4 Specifications

Product Model No		Mport3216-I
Power supply	Operating Voltage	85 to 264VAC or 110 to 370VDC
	Power	7.0W@ AC220V
Network port	Network port type	10/100/1000Mbps optical multiplexing port, optical port can be configured with 100/1000Mbps
	Isolation protection	1.5KV isolation protection (electric port)
Serial Port	Number of serial ports	16*RS485/422
	Parameter	300~460800(bps); 1/2 stop bit; 5/6/7/8 data bit; Five verification methods: None/Odd/Even/Mark/Space
	Isolation voltage	2KVAC/3KVDC
Reliability	ESD	±8kV(contact) ±15kV(air)
	Surge	Power supply: ±2kV/common mode ±2kV/differential mode RS485/422: ±4kV/common mode±4kV/differential mode Network port: ±6kV/common mode±2kV/differential
	EFT	Power supply: ±4kV, Communication port: ±4kV
Others	Dimension(L* W*H))	440x210x44 ( mm )
	Working Temperature	-40°C~+70°C 5%~95% RH(no condensation )
	Storage Temperature	-40°C~+70°C 5%~95% RH(no condensation )

Software parameters	Network protocol	IPv4, IP, TCPUDP, ARP, ICMP, DHCP, DNS, HTTP, RFC2217, NTP, TELNET, SNMP, TFTP
	IP obtaining method	Static IP, DHCP
	DNS	Support
	User configuration	Network configuration/CONSOLE port simple network parameter configuration
	Simple transparent transmission method	TCPServer/TCPClient/UDPCClient/UDPMulticast/RealCOM/PairConnection
	Modbus	Modbus RTU/ASCII to Modbus TCP
	Serial port packaging mechanism	Time and length can be set; the default value changes according to the baud rate; the maximum packing length is 1460 bytes
	TCP server connection	Support up to 8 TCP connections
	Network cache	Send: 16Kbyte; Receive: 16Kbyte;
	Serial buffer	Send: 1.5Kbyte; Receive: 1.5Kbyte;
	Heartbeat package	Support TCP Keepalive mechanism, custom heartbeat packet content
	Registration package	Customize the contents of the registration package
	RFC2217	Support
	Httpd	Client support
	WebSocket	Client support
	RealCOM	Support Maiwei, Moxa, Kanghai and other working modes
Average delay	<10ms	
Supporting software	Network management configuration tool, virtual serial port software, MWView, MaxView	

## 1.5 Connectors and indicator lights



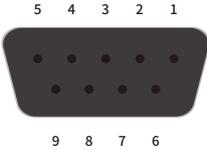
Mport3216-I

### CONSOLE port

Provide 1 RS232 debugging port, using RJ45 interface. When debugging, please use our company's standard RJ45 to DB9 debugging cable to connect to the serial port of the PC. The interface communication standard is 3-wire RS232. The debugging port line sequence description is shown in the table below.

CONSOLE debug serial communication parameters are as follows:

Baud rate: 115200, data bit: 8, parity bit: none, stop bit: 1, flow control: none.

Pin number	DB9 Signal	DB9 female connector icon	RJ45 signal	RJ45 icon
1	NC		NC	
2	TXD		TXD	
3	RXD		RXD	
4	NC		NC	
5	GND		GND	
6	NC		NC	
7	NC		NC	
8	NC		NC	
9	NC		/	

### RJ45 Interface

Mport3216-I: 100Base-TX/1000Base-T adaptive Ethernet RJ45 interface, support automatic MDI/MDI-X connection . Refer to the figure below for the pin distribution of the RJ45 interface, and the pin definitions are shown in the table below.

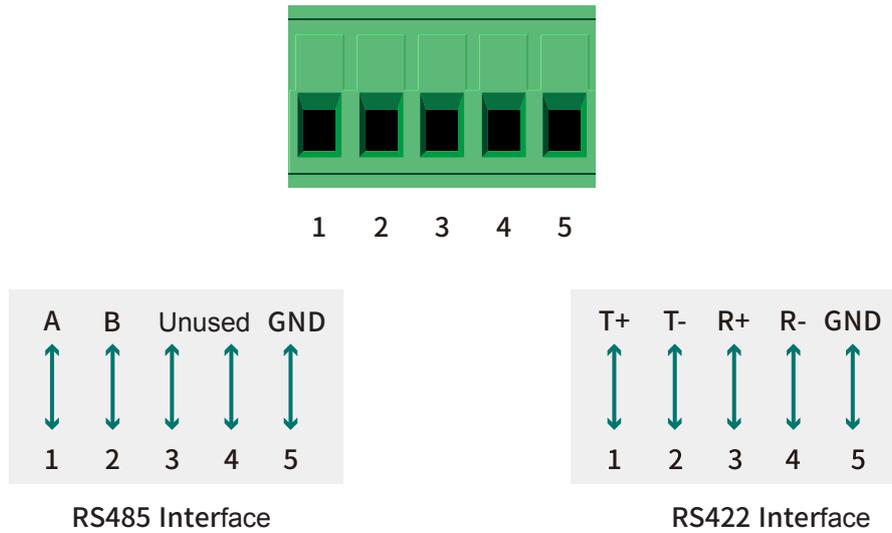
Pin number	MDI signal name	MMDI-X signal name
1	Send/receive data (TRD0+)	Send/receive data (TRD1+)
2	Send/receive data (TRD0-)	Send/receive data (TRD1-)
3	Send/receive data (TRD1+)	Send/receive data (TRD0+)
4	Send/receive data (TRD2+)	Send/receive data (TRD3+)
5	Send/receive data (TRD2-)	Send/receive data (TRD3-)
6	Send/receive data (TRD1-)	Send/receive data (TRD0-)
7	Send/receive data (TRD3+)	Send/receive data (TRD2+)
8	Send/receive data (TRD3-)	Send/receive data (TRD2-)

### ➤ USB Interface

Support USB2.0 protocol, USB port is used as expansion port.

### RS485/422 Serial interface(Mport3216-I)

Equipped with RS485/422 interface (using 5-bit 5.08mm pitch terminal block), refer to the following figure for pin assignment of various interfaces:



### RS485 terminal matching resistance

Each RS485 interface is equipped with a 120 ohm terminal matching resistor at the equipment outlet. When one or more channels do not need this resistance, the shell needs to be disassembled. You can see that there is a corresponding jumper cap near the RS485 interface, as shown in Figure 1. As shown, when the jumper cap is placed in the following position, there is no matching resistance. On the contrary, when the jumper cap is placed in the position shown in Figure 2 below, there is a matching resistance.

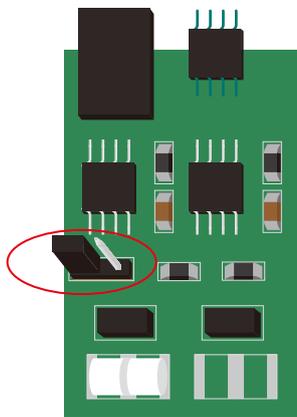


Figure 1 (Matching resistance is not connected)

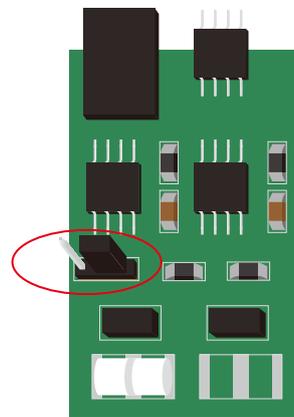


Figure 2 (matching resistor connected)

### Power connector

The power interface supports the product font power socket; The voltage input range is: DC 110~370VDC, AC85~264VAC.

➤ Restart/restore factory settings button

Press and release the button within 1 second, the system resets, the Run light goes out, and the system returns to normal after startup;

Long press for more than 5 seconds, the Run light flashes stroboscopically (flashing once for 0.2s), release the button at this time, the parameters will be restored to factory settings, and the system will be reset;

➤ Switch

ON is the open state, OFF is the closed state.

➤ Ground screw

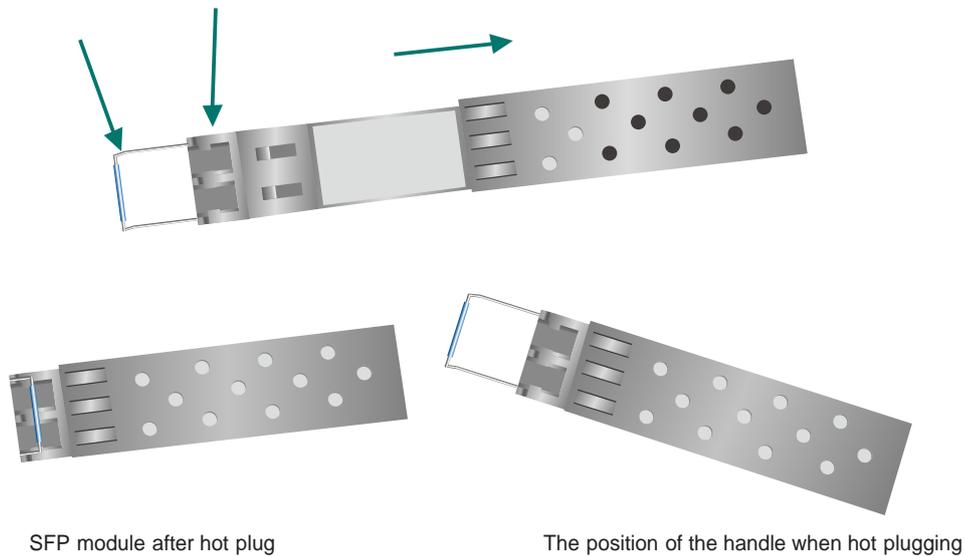
After crimping one end of the grounding wire with the cold-pressed terminal, fix it to the grounding hole of the chassis with a grounding screw, and connect the other end of the grounding wire to the ground.

The cross-section of the grounding wire is not less than 2.5m<sup>2</sup>.

➤ SFP Fiber port

SFP fiber port

Mport3216-I contains two optical ports, specifically 100 or 1000Base-LX full-duplex single-mode/multimode fiber interfaces, using SFP hot-swappable components, and the fiber interfaces using LC interfaces. The fiber interfaces need to be used in pairs (TX and RX are a pair), TX port is the optical transmitting end, connected to the optical receiving end RX of the optical interface of another remote switch; RX port is the optical receiving end, connected to the same optical interface of the same remote switch Optical transmitter TX. The hot plugging steps of Gigabit SFP module are as follows, the schematic diagram is as shown in the figure.



Hot plug steps:

- Observe the end of the SFP module with the gold finger of the PCB.
- Insert the golden finger end into the metal shielding cage of the SFP, and hear a clicking sound to indicate that the device has been inserted in place, and then put the SFP plug-in handle on the normal position parallel to the interface, and you can use it.

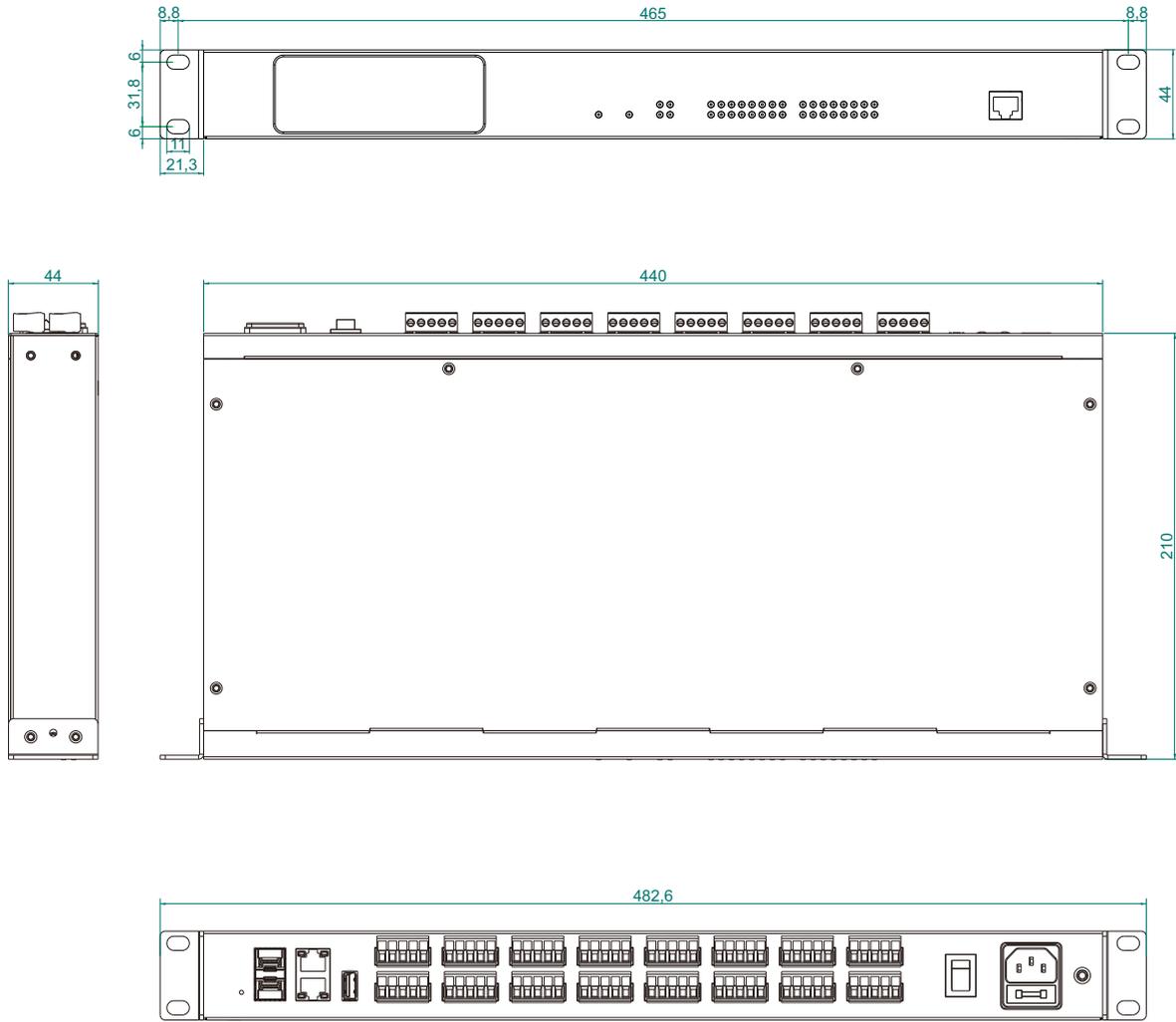
Hot pull steps:

- First, pull the SFP plug-in and pull-out handle perpendicular to the interface. At this time, the optical component should be disconnected from the hook of the SFP shielding cage.
- Pull out the SFP module in parallel.

Indicator light

Indicator light	status	Definition
PWR	On	Power supply is normal
	Off	No power supply or abnormal power supply
Run	Flash	Equipment in normal operation
	on/off	The equipment is operating abnormally
TX	Flash	RS485/422 interface is sending data
	Off	no data
RX	Flash	RS485/422 interface is receiving data
	Off	no data
SPD (Yellow light on the left side of the network port)	On	At this time, the connection is a 1000M network
	Off	At this time, the connection is a 10/100M network
L/A (Green light on the right side of the network port)	Flash	The network port is connected normally and there is data transmission
	On	The connection is normal and there is no data transmission
	Off	Abnormal connection

### 1.6 Product size



Mport3216-I specification size (unit: mm)

## Chapter 2 Management Functions

Mport3216-I serial server has a built-in Web server, which provides a convenient way to access and configure the serial server. You can use IE, Firefox or a song browser to access it.

This chapter is a quick introduction to the Mport3216-I serial server product. It is recommended to read this chapter systematically and follow the instructions once to have a basic understanding of the product. For specific function details and instructions, please refer to the subsequent chapters.

If you need product-related information, you can download the corresponding product manual from the official link:<http://www.maiwe.com>

When accessing the Mport3216-I serial server through the Web, the IP addresses of the serial server and the PC must be in the same segment, so the IP address of the PC must be modified to ensure that it is in the same office as the IP of the serial server. In the domain network. Please refer to the following operations for Windows:

Start→Control Panel→Network and Internet Connection→Network Connection→Local Connection→Properties→Internet Protocol (TCP/IP)

The default IP address of the serial server of this model is: **192.168.16.253**. Set the PC's IP address as: **192.168.16.X** (X is any valid value from 2 to 253 except 253). The specific Windows system operation page is shown in Figure 2-1.

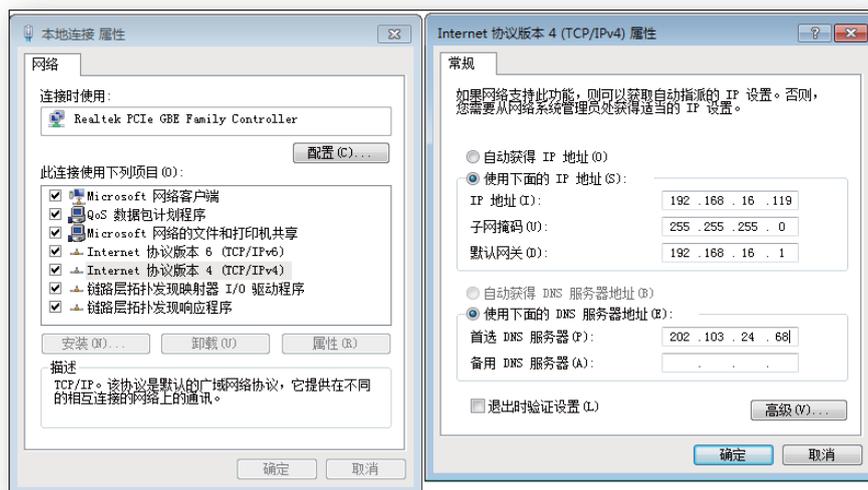


Figure 2-1 IP setting interface under Windows environment

## 2.1 Login WEB

Step 1 Open the browser and enter the default IP address of the serial server in the address bar, as shown in Figure 2-2.

Step 2 Enter the login page as shown in Figure 2-3, enter the user name and password.

Step 3 After successful login, you will enter the main page of the web server, as shown in Figure 2-4.



Figure 2-2 Enter the IP address the address bar



**User Login**

UserName:

Password:

Please use **IE 7** or later to configure the switch, **1024×768** resolution

Figure 2-3 Enter the user name and password interface



**MAIWE** | Serial Ethernet Server (Internet explorer 7.0 or above is recommended) 中文

Device Info	Device Info	Help document
Serial Port Config	Device Type: Mport3216-I-AD220	<p><b>Matters needing attention:</b> Do not refresh the page frequently if the device is transmitting data. This will lead to packet lost in data transmission.</p> <p><b>Device type:</b> Machine type of equipment to distinguish between different types of equipment which can be configured in system information.</p> <p><b>Device name:</b> A network identification of a device for distinguishing between different devices in a network management device, available in systemInformation</p> <p><b>Device ID:</b> The batch number of equipment used to determine the Material number management of equipment.</p> <p><b>System time:</b> The current time of the device, synchronized with</p>
Serial Port Info	Device Name: managed_dev	
Network Address	Device ID: MSM01021317010012	
Safety Management	IP Address 1: 192.168.16.253	
System Info	IP Address 2: 192.168.30.234	
Log Management	System Time: 2021-07-20 11:35:30	
Alarm Management	Hardware Version: V1.0	
Port Management	Software Version: V1.1.4.210512.bin	
System Management	MAC Address 1: 4c93a6cd03fd	
	MAC Address 2: 4c93a6cd03fe	
	Run Time: 3 Minute 7 Second	

Figure 2-4 The main interface of the Web server

Statement

- The login users of this Mport3216-I serial server are divided into three types:
  - General user:** The username and initial password are both "admin", which is used when accessing the Web normally;
  - Visitor:** The username and password are both "none", after logging in, you can only view the configuration of the current serial port server, but cannot configure it;
  - Administrator:** The user name is "user", and the password is the last six digits of the MAC address of the serial port server eth0 network card. When we forget the password of ordinary users, we can log in with the administrator account and modify the local password.
- This serial server has been tested with IE7.0 or above, Firefox, and Google's mainstream browsers, and they can be used normally, but it is recommended to use Google's browser when upgrading the device.

## 1.2 Main Page

The main page of entering the web can be roughly divided into four areas, the upper area displays the logo, the lower left area is the function menu area, the middle area is the main function display area, and the lower right area is the help document area, as shown in Figure 2-5.

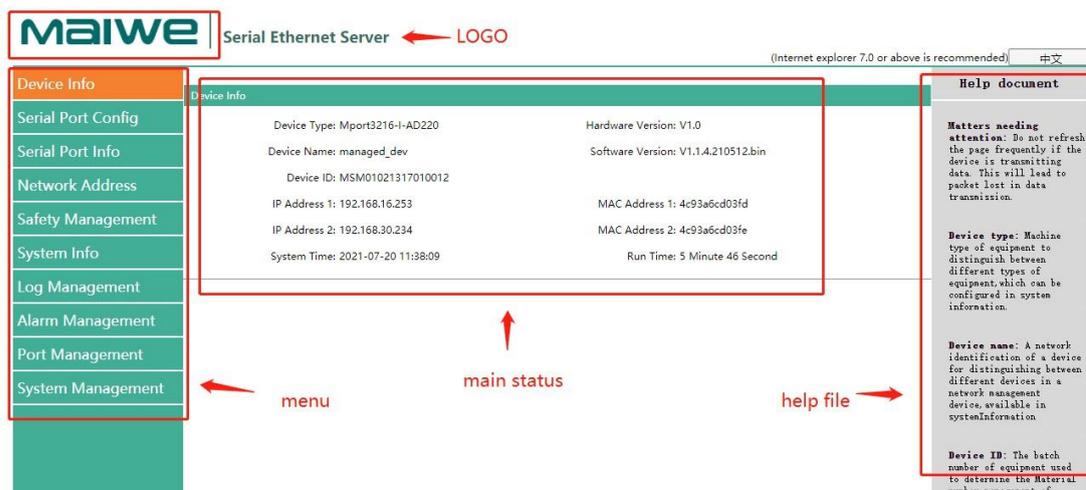


Figure 2-5 Main page

### 2.2.1 Function menu

The left side of the webpage is the function menu area, which displays all the configurable software functions of this Mport3216-I serial port server. The function menus are device information, serial port configuration, serial port information, network address, security management, system information, log management, alarm management, port management and system management. Each function menu contains several sub-functions. Its functions are shown in Table 2-1.

Table 2-1

Item	Bookmark	Page function
Device info	Device Information	Display device information, such as: name, serial number, software version, IP address, etc.
Serial port configuration	Serial server configuration	Configure the basic information of each port, such as: serial port number
	Serial port parameters	Configure the working mode, baud rate, packet length, etc. of each port
	Network parameters	Configure the local port range and heartbeat interval of each port
	Number of network connections	Configure the destination address and remote port of each port
Serial port information	Serial port information	Display the serial port number and the total number of receiving and sending of the serial port
	Network connection mode	Display the working mode of the serial port/local port and other information
Website address	Website address	Configure the device's network address type, IP address, subnet mask, default gateway and DNS server address
Security management	User password	Configure username and password
	Access control	Configure the opening and closing of web, ssh, and telnet console functions
	Filter settings	Configure network data filtering for IP and MAC addresses
System message	System message	Configure the device model, device name, etc. of the device
Syslog	Local storage	Logs are recorded inside the device, allowing the user to export the logs to a PC
	Cloud storage	Transfer logs to a remote TCP server
	U disk storage	Record the log on the USB stick inserted into the serial server device
	Serial log output	Output the log to the PC through the specified serial port
Alarm management	Sender Email Settings	Configure outgoing server, sender email, authorization code and other information
	Recipient email address	Configure recipient mailboxes
	SNMP settings	Configure SNMP related parameters
	Alarm event settings	Configure whether to enable the corresponding event alarm function
Port management	Port restart	Configure the specified serial port to restart
System management	Device restart	Configure the restart function of the device
	reset	Configure the device to restore factory defaults
	Equipment upgrade	Configure the upgrade file for the device
	No data device restart	If there is no data transmission in the network and serial port of the configuration device for a certain period of time, the device restarts
	NTP sync time	Configure the NTP server address and time zone, the device can synchronize time information from the network

## 2.2.2 Help document

The function area at the bottom right is the help document. Click on any main function page in the lower left, and the help document will be displayed in the function area at the lower right corresponding to the main page, as shown in Figure 2-6.

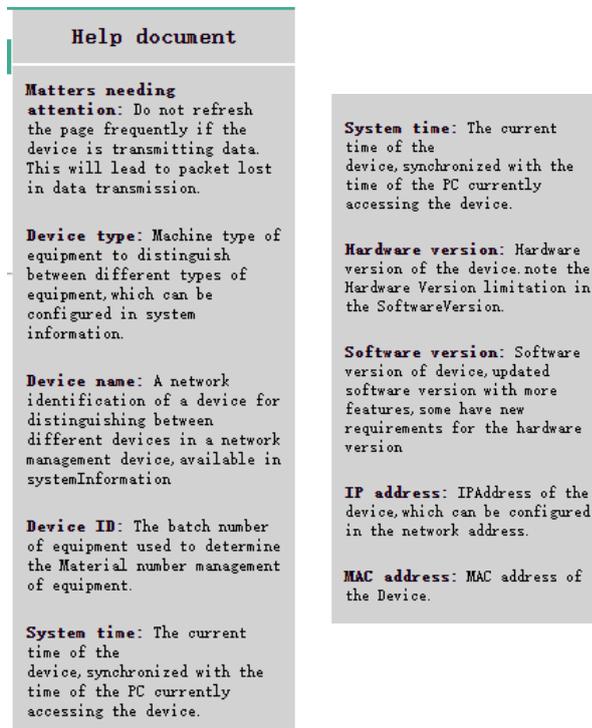


Figure 2-6 Help page

## 1.3 Device Info

The function of the device information part is to display some specific information of the current device, including device model, device name, device number, system time, hardware version, IP address and MAC address, as shown in Figure 2-7.

(Internet Explorer 7.0 or above is)

Device Info	Device Info	
Serial Port Config	Device Type: Mport3216-I-AD220	Hardware Version: V1.0
Serial Port Info	Device Name: managed_dev	Software Version: V1.1.4.210512.bin
Network Address	Device ID: MSM01021317010012	
Safety Management	IP Address 1: 192.168.16.253	MAC Address 1: 4c93a6cd03fd
System Info	IP Address 2: 192.168.30.234	MAC Address 2: 4c93a6cd03fe
Log Management	System Time: 2021-07-20 11:40:13	Run Time: 7 Minute 50 Second
Alarm Management		
Port Management		
System Management		

Figure 2-7 Device info

Device model	The model of the serial server, the user can customize it in the "System Information" page
Device name	The name of the serial server, the user can customize it in the "System Information" page
equipment number	Serial number of the serial server
System time	The current time of the serial server, which is synchronized with the time of the PC accessing the serial server
Operation hours	Serial server running time, from device power-on to current time
Hardware version	The current hardware version of the serial server
Software version	The current software version of the serial server
IP address 1	IP address of serial server network card 1
MAC address 1	MAC address of serial server network card 1
IP address 2	IP address of serial server network card 2
MAC address 2	MAC address of serial server network card 2

## 2.4 Serial Port Configuration

The serial port module includes: serial port server configuration, serial port parameter configuration, network parameter configuration, and network connection number configuration.

### 2.4.1 Serial port configuration

The main function of the serial Ethernet server is to carry out two-way transparent transmission of standard serial bus data (RS-232, RS-485, RS-422) and standard Ethernet data supporting TCP/IP protocol, which is used to solve the problem of common serial devices. Networking problems on the Internet. The serial port server configuration page can configure the parameters of the serial port Ethernet server, as shown in Figure 1-8.

Device Info	Serial ethernet server configuration
<b>Serial Port Config</b>	Serial port No. <input type="text" value="COM1"/> <input type="radio"/> enable <input checked="" type="radio"/> disable
Serial Port Info	Large traffic transmission <input type="radio"/> enable <input checked="" type="radio"/> disable
Serial Port Mangt	Serial port parameters
Network Address	SerialPortOperationMode <input type="text" value="RS485/RS232"/>
User Password	BaudRate <input type="text" value="9600"/>
System Info	DataBits <input type="text" value="8"/>
Log Management	StopBit <input type="text" value="1"/>
System Management	ParityBit <input type="text" value="none"/>
	PackingLength <input type="text" value="500"/> (0-1460)
	PackingInterval <input type="text" value="50"/> (0-255)ms
	Frame head frame tail mode <input type="radio"/> enable <input checked="" type="radio"/> disable
	Start byte <input type="text" value="0x0"/> (HEX:0x00~0xff)
	End byte <input type="text" value="0xff"/> (HEX:0x00~0xff)
	Regpacket Function <input type="text" value="Disable"/>
	Regpacket Content <input type="text" value="bbbbbbbbbbbbbbbbbbbb"/> <input checked="" type="radio"/> HEX <input type="radio"/> ASCII
	Heartbeat Function 1 <input type="text" value="Disable"/>
	Heartbeat Content <input type="text" value="aaaaaaaaaaaaaaaaaaaa"/> <input checked="" type="radio"/> HEX <input type="radio"/> ASCII
	Heartbeat Interval <input type="text" value="30"/> (1~65535)s
	Heartbeat Function 2 <input type="text" value="Disable"/>
	Heartbeat Content <input type="text" value="aaaaaaaaaaaaaaaaaaaa"/> <input checked="" type="radio"/> HEX <input type="radio"/> ASCII

Network parameter			
Working mode		<input type="text" value="UDP"/>	
Local port		<input type="text" value="31501"/>	
<div style="border: 1px solid gray; padding: 5px;">             UDP              UDP Multicast              TCP Server              TCP Client              Modbus RTU Master              Modbus RTU Slave              Modbus ASCII Master              Modbus ASCII Slave              RealCOM_MCP              RealCOM_CCP              RealCOM_MW              Pair Connection Master              Pair Connection Slave              Httpd Client              WebSocket Client           </div>			
Number of network connections			
<input checked="" type="checkbox"/>	Destination address1	<input type="text" value="192.168.30.140"/>	Destination port <input type="text" value="31501"/> (1-65535)
<input type="checkbox"/>	Destination address2	<input type="text" value="192.168.30.140"/>	Destination port <input type="text" value="31502"/> (1-65535)
<input type="checkbox"/>	Destination address3		Destination port <input type="text" value="31503"/> (1-65535)
<input type="checkbox"/>	Destination address4		Destination port <input type="text" value="31504"/> (1-65535)
<input type="checkbox"/>	Destination address5		Destination port <input type="text" value="31505"/> (1-65535)
<input type="checkbox"/>	Destination address6		Destination port <input type="text" value="31506"/> (1-65535)
<input type="checkbox"/>	Destination address7		Destination port <input type="text" value="31507"/> (1-65535)
<input type="checkbox"/>	Destination address8		Destination port <input type="text" value="31508"/> (1-65535)
		<input type="button" value="configuration"/>	<input type="button" value="cancel"/>

Figure 2-8 Configuration page

The configuration parameters of this interface are detailed in Table 2-2.

Table 2-2

Serial Port Server Configuration	
Serial number	Select the serial port to be configured, enable or disable it. Mport3216-I supports 16 serial ports
Enable high-traffic transmission	Choose to enable or disable it based on the amount of data transferred and the connection mode
Serial port parameters	
Serial port working mode	Serial port working mode
Baud rate	The baud rate of serial communication, the unit is bps, the options are: 300, 600, 1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200, 230400 and 460800. The factory default is 9600. The baud rate of each serial port is independent of each other and can be set separately without affecting each other (COM1 and COM9 only support up to 115200bps)
Check Digit	Select the check mode, there are five ways to choose from: None, Odd Check, Even Check, Mark Check, Space Check. The factory default setting is None. The verification methods of each serial port are also independent of each other, and they are set separately without affecting each other.
Data bits	Set the number of valid data bits in serial communication, the machine supports 5-bit, 6-bit, 7-bit and 8-bit data bits
Stop bit	Set the stop bit length in serial communication, you can choose: 1, 2. The factory default setting is 1
Packet length	When the serial port continuously receives data whose length exceeds the value set by the packet length, a transmission operation will be triggered, and the data will be forwarded to the network port. The value ranges from 1 to 1460 bytes.
Packet interval	When the intermittent time of serial port receiving data exceeds this value, no matter how much data has been received, a transmission operation will be triggered, and these data will be forwarded to the network port, the range is 1~65535ms
Frame header and footer mode	After enabling this mode, the serial port will be packetized according to the frame start byte and end byte, and the data not between the head and tail will be discarded
Start byte	Set the range of the starting byte of the serial port to be between 0x00~0xff in hexadecimal
End byte	Set the range of the end byte of the serial port to be between 0x00 and 0xff in hexadecimal
Registration package function	Choose the sending mode of the registration package Disable: Disables the function LINK: The registration packet is sent only once when the network connection is established DATA: The registration package is filled in front of the serial port DATA each time the serial port sends DATA to the network This function can be used only when the network working mode is UDP or TCP Client

Registration Package Contents	The content of the registration package, Hex string, the longest supported is 128 bytes (hexadecimal is 64 bytes)
Heartbeat Packet Function	Choose how to send heartbeat packets Disable: Disable this feature to COM: Heartbeat packets are sent to the serial port to Network: Heartbeat packets are sent to the network port This function is only allowed when the network working mode is UDP, TCP Server and TCP Client
Heartbeat package content	The content of the heartbeat packet, Hex string, the longest supported is 128 bytes (hexadecimal is 64 bytes)
Heartbeat interval	The time interval for sending heartbeat packets, in seconds, the range is 1~65535 seconds, the default is 30 seconds
RFC2217	Enabling this function allows users to dynamically modify parameters such as baud rate, data bits, stop bits and parity bits of the serial port using standard RFC2217 commands on the network side
Network parameters	
Working mode	<p>UDP, UDP Multicast, TCP_Client, TCP_Server Modbus_RTU_Master, Modbus_RTU_Slave, Modbus_ASCII_Master, Modbus_ASCII_Slave, RealCOM MCP, RealCOM CCP ten ways to choose from. Factory default setting is UDP mode</p> <p>When the working mode of the device is UDP, it is required that the remote device must also work in the UDP mode. The device can establish UDP connections with up to 4 remote devices, and the IP address and port number of the remote devices can be configured on the page</p> <p>When the working mode of the device is UDP Multicast, it is required that the remote device must work in the UDP Multicast mode. The device can join up to 4 UDP multicast groups, and the multicast IP address and port number can be configured on the page</p> <p>When the working mode of the device is TCP_Client, it is required that the remote device must work in TCP_Server mode, and its IP address and port number must be configured, which can be configured in the options corresponding to the network connection. The local port number can be ignored without configuration</p> <p>When the working mode of this device is TCP_Server, it is required that the remote device must work in TCP_Client mode. In this mode, up to 8 remote TCP_Client connections are accepted</p> <p>When the working mode of the device is Modbus_RTU_Master, if the Modbus Over TCP function is not enabled, the remote device must work in the Modbus_TCP_Slave mode; otherwise, if the Modbus Over TCP function is enabled, the remote device must work in the Modbus_RTU_Slave mode. This mode supports up to 4 connections</p> <p>When the working mode of the device is Modbus_RTU_Slave, if the Modbus Over TCP function is not enabled, the remote device must work in the Modbus_TCP_Master mode; otherwise, if the Modbus Over TCP function is enabled, the remote device must work in the Modbus_RTU_Master mode. This mode supports up to 8 connections</p> <p>When the working mode of the device is Modbus_ASCII_Master, if the Modbus Over</p>

	<p>TCP function is not enabled, the remote device must work in the Modbus_TCP_Slave mode; otherwise, if the Modbus Over TCP function is enabled, the remote device must work in the Modbus_ASCII_Slave mode. This mode supports up to 4 connections</p> <p>When the working mode of the device is Modbus_ASCII_Slave, if the Modbus Over TCP function is not enabled, the remote device must work in the Modbus_TCP_Master mode; otherwise, if the Modbus Over TCP function is enabled, the remote device must work in the Modbus_ASCII_Master mode. This mode supports up to 8 connections</p> <p>When the working mode of the device is RealCOM MCP or RealCOM CCP, the PC needs to install the corresponding virtual serial port software for use. The virtual serial port software maps the serial port of the remote serial port server to the local serial port, so as to realize the transparent communication between the original serial port software and the serial port of the serial port server. One serial port of the serial server supports up to 8 virtual serial ports for access</p>
Local port	Local port on the network connection side
Heartbeat interval	When the network working mode is in TCP mode, send TCP heartbeat detection packets at the specified interval to test whether the connection exists, if not, it will automatically disconnect, the range is 0~6000 seconds
Overtime time	When the network working mode is in TCP mode, it will detect the idle time of the current connection and the corresponding serial port. When it exceeds the set value, the TCP connection will be disconnected.
Modbus Over TCP	Modbus (s RTU/ASCII) protocol transparent transmission enable
Modbus receive timeout	Modbus serial port receive timeout time
Modbus ID filtering	Modbus slave ID range filtering
Mo pre-db read us from slave	The serial port server automatically performs pre-reading according to the configuration in the Modbus pre-reading instruction table, and supports up to 8 items
When M polls od to poll bu, s slave machine	The interval time when the serial server reads each item according to the pre-reading instruction table
Number of network connections	
Destination address	IP address of the peer end of the network connection
Destination port	The port number of the peer end of the network connection
Number of network connections in Modbus_RTU/ASCII_Master mode	
Destination address	IP address of the peer end of the network connection
Destination port	The port number of the peer end of the network connection
Modbus ID range	The data with the Modbus slave ID in this range will be forwarded to the corresponding destination network address
Modbus_RTU/ASCII_Slave mode Modbus pre-read command table	
Device address	Modbus slave ID
Instruction	Modbus function code for reading data
Register address	The starting address of the slave register to be read
Number of registers	Number of slave registers to read

## 2.4.2 Modbus function usage

The master is simulated by software such as Modbus Poll, and the slave is simulated by software such as Modbus Slave.

### 2.4.2.1 Modbus Master

Take Modbus\_RTU\_Master as an example (the same is true for Modbus ASCII Master):

Configure the "serial port parameter" of the serial server server as 9600-8-N-1, the working mode in "network parameter" is Modbus RTU Master, and the network address in "network connection number" is configured as the IP and port of the slave.

The physical connections are described as follows:

Serial port: connect to the host

Network port: connect to the slave

The screenshot displays the configuration interface for a Modbus server. The left sidebar contains navigation tabs: Device Info, Serial Port Config (highlighted), Serial Port Info, Network Address, User Password, System Info, and System Management. The main content area is titled 'Serial ethernet server configuration' and is organized into several sections:

- Serial Port Config:** Serial port No. is set to COM2. Radio buttons for 'enable' and 'disabled' are present, with 'enable' selected.
- Serial Port Info:** Large traffic transmission is set to 'disabled'.
- Serial port parameters:** SerialPortOperationMode is set to RS232. BaudRate is 9600, DataBits is 8, StopBit is 1, and ParityBit is none. PackingLength is 500 and PackingInterval is 50.
- Network parameter:** Working mode is Modbus RTU Master. Local port is 52001. Modbus Over TCP is unchecked. Modbus Recv Timeout is 150.
- Number of network connections:** A table with three rows:
 

Destination address	Destination port	Modbus ID Range
192.168.30.140	525.01	1 - 1
192.168.30.140	525.02	2 - 2
192.168.30.140	525.03	3 - 3

Figure 2-9 Modbus Web parameter configuration

Modbus Poll software configuration:

Open the Modbus Poll software, go to "Connect" -> "Connect", the connection parameters are configured as follows:

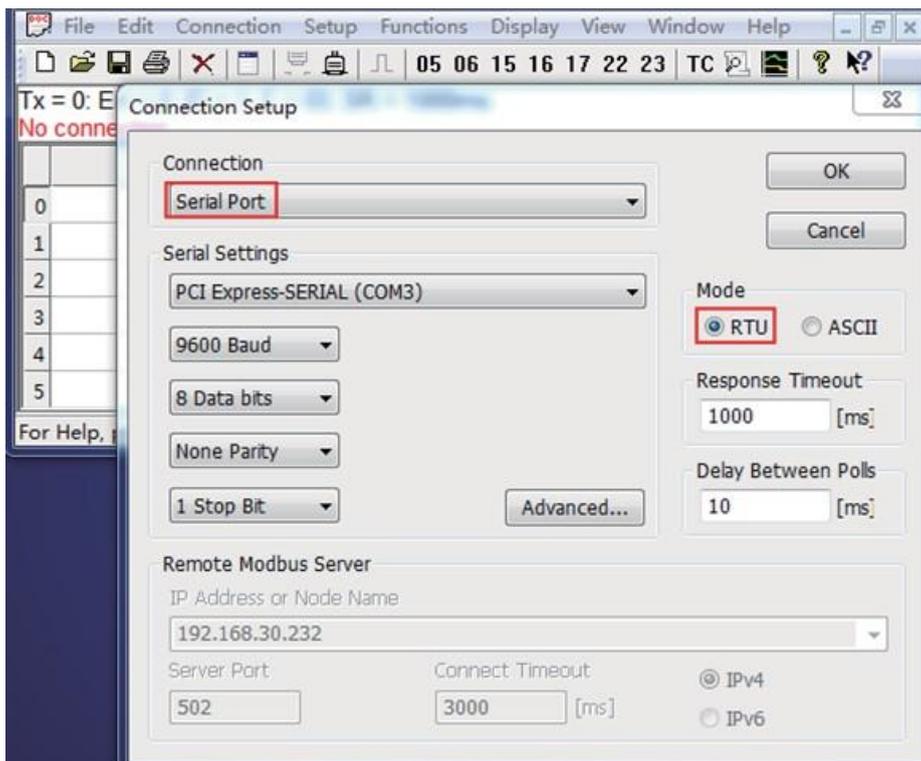


Figure 2-10 Modbus host serial port parameter configuration

Read parameter configuration: the slave ID is 1, the function code is 03, the starting address of the register to be read is 0, the number of registers to be read is 10, and the cyclic reading interval is 1000ms.

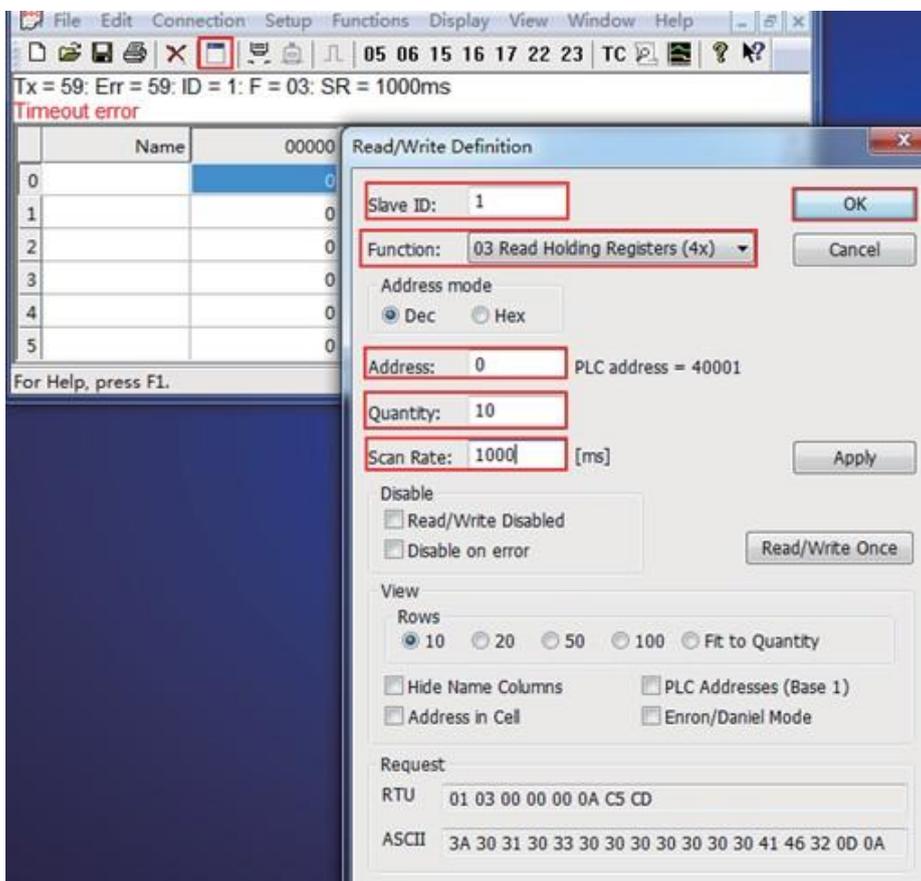


Figure 2-11 Modbus host device attribute definition

Open the Modbus Slave software: go to "Connect" -> "Connect", the connection parameters are configured as follows:

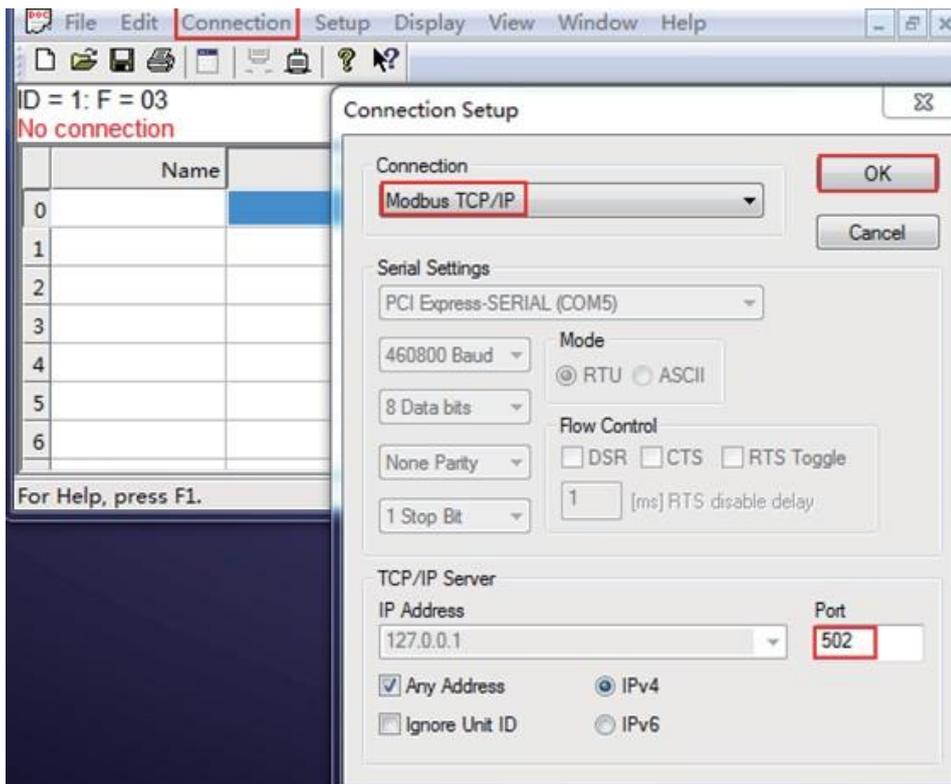


Figure 2-12 Mosbus slave network connection configuration

Slave device definition configuration: the slave ID is 1, the function code is 03, the register start address is 0, and the total number of registers is 200.

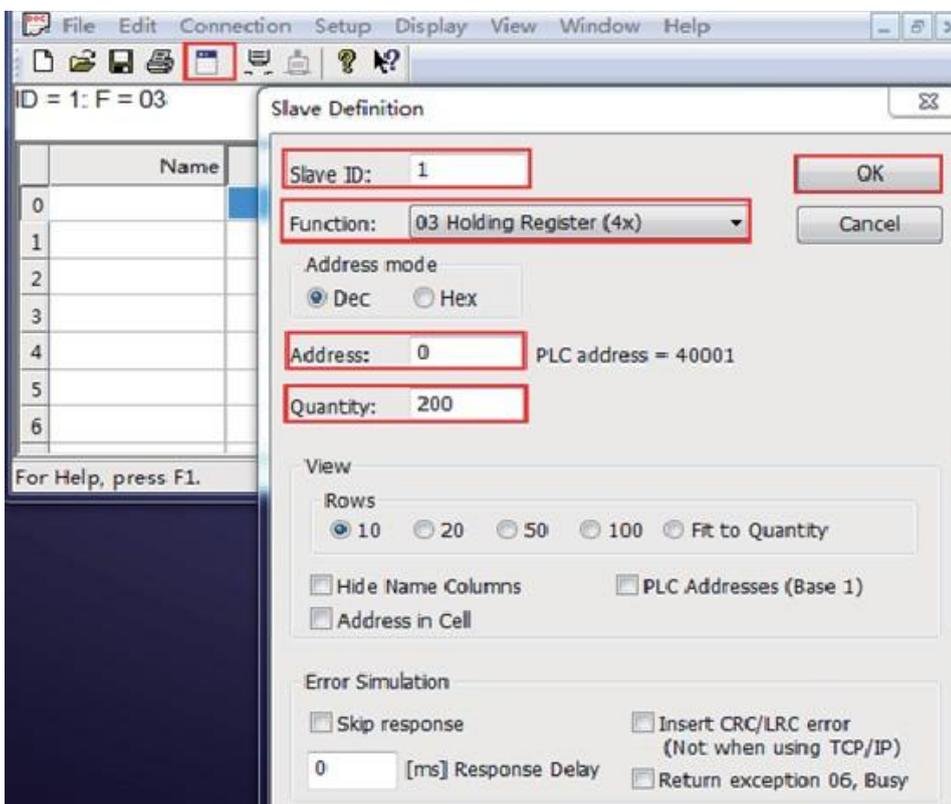


Figure 2-13 Mosbus slave device attribute definition

Double-click the cell of the Modbus Slave software and change it to auto-increment mode. You can see that the register cell of the Modbus Poll software also changes its value automatically, indicating that the device communication is normal.

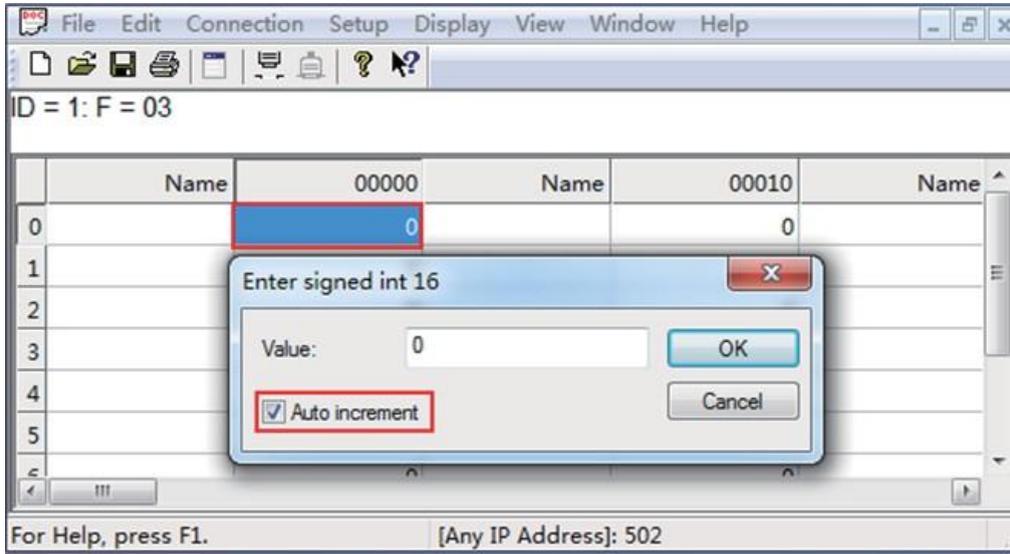


Figure 2-14 The value of Modbus slave register is automatically incremented

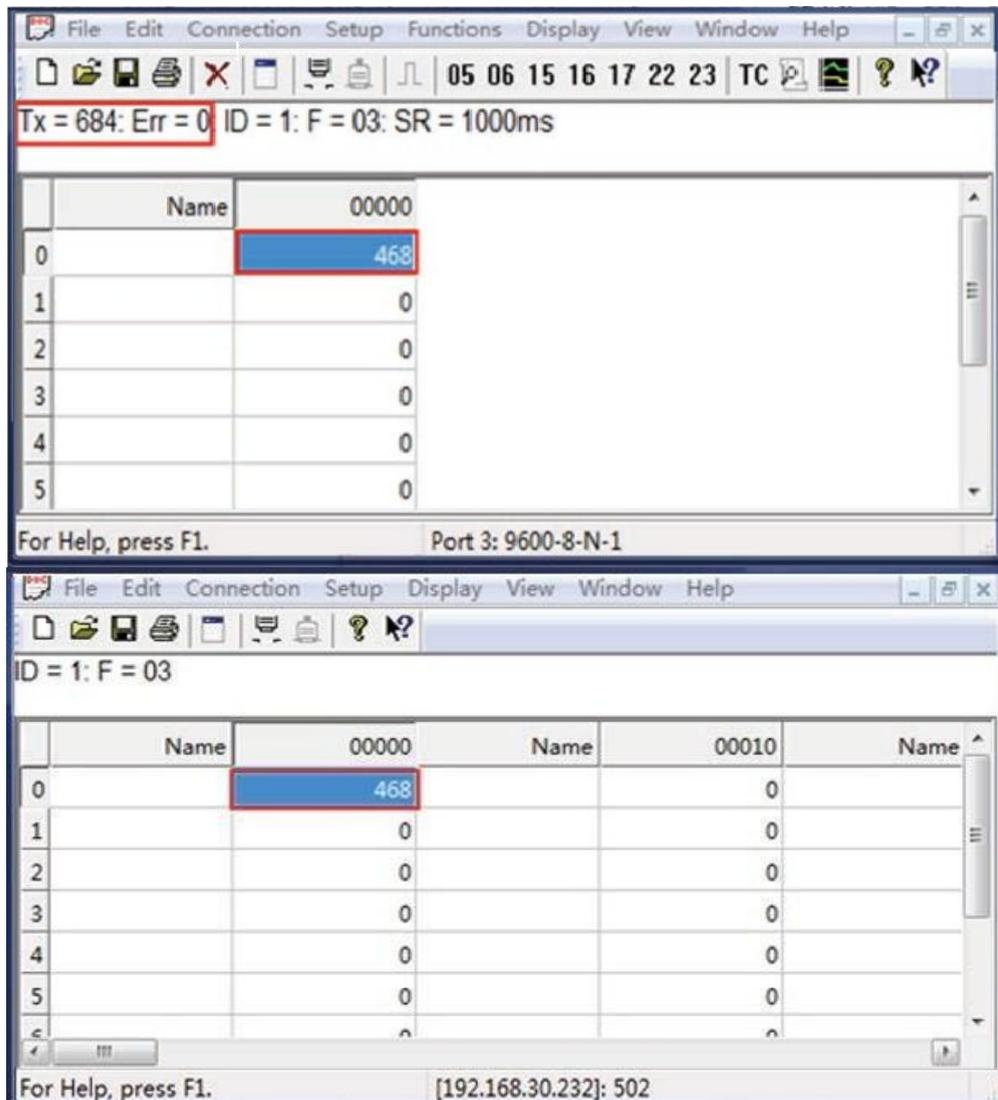


Figure 2-15 Communication is normal, the host can read the register data of the slave through the serial server device

### 2.4.2.2 Modbus Slave

Take Modbus\_RTU\_Slave as an example (the same is true for Modbus ASCII Slave):

Configure the "serial port parameter" of the serial port server as 9600-8-N-1, the working mode in "network parameter" is Modbus RTU Slave, and the local port is 502.

The physical connection is described as follows:

Network port: connect to the host

Serial port: connect to slave

The screenshot displays the configuration interface for a Modbus slave. The left sidebar contains navigation tabs: Device Info, Serial Port Config (highlighted), Serial Port Info, Serial Port Mangt, Network Address, User Password, System Info, Log Management, and System Management. The main content area is divided into sections: 'Serial ethernet server configuration', 'Serial port parameters', 'Network parameter', and 'Modbus Prior Read Command Table'.

**Serial port parameters:**

- Serial port No.: COM1 (dropdown),  Enable  Disable
- Large traffic transmission:  enable  disable
- SerialPortOperationMode: RS485/RS232 (dropdown)
- BaudRate: 9600 (dropdown)
- DataBits: 8 (dropdown)
- StopBit: 1 (dropdown)
- ParityBit: none (dropdown)
- PackingLength: 500 (0-1460)
- PackingInterval: 50 (0-255)ms

**Network parameter:**

- Working mode: Modbus RTU Slave (dropdown, highlighted with a red box)
- Local port: 502 (1-65535)
- Modbus Over TCP:
- Modbus Recv Timeout: 150 (100-9999)ms
- Modbus ID Filter:  1 ~ 247 (1~247)
- Modbus Slave Prior Read:
- Modbus Slave Poll Time: 200 (0-65535)ms

**Modbus Prior Read Command Table:**

MdbNo.	Device Addr	Command	Register Addr	Register Count
<input type="checkbox"/> 1	1 (1~247)	3 (1~255)	1 (0~65535)	1 (1~125)

Figure 2-16 Modbus Web parameter configuration

Open the Modbus Poll software: go to "Connect" -> "Connect", the connection parameters are configured as follows:

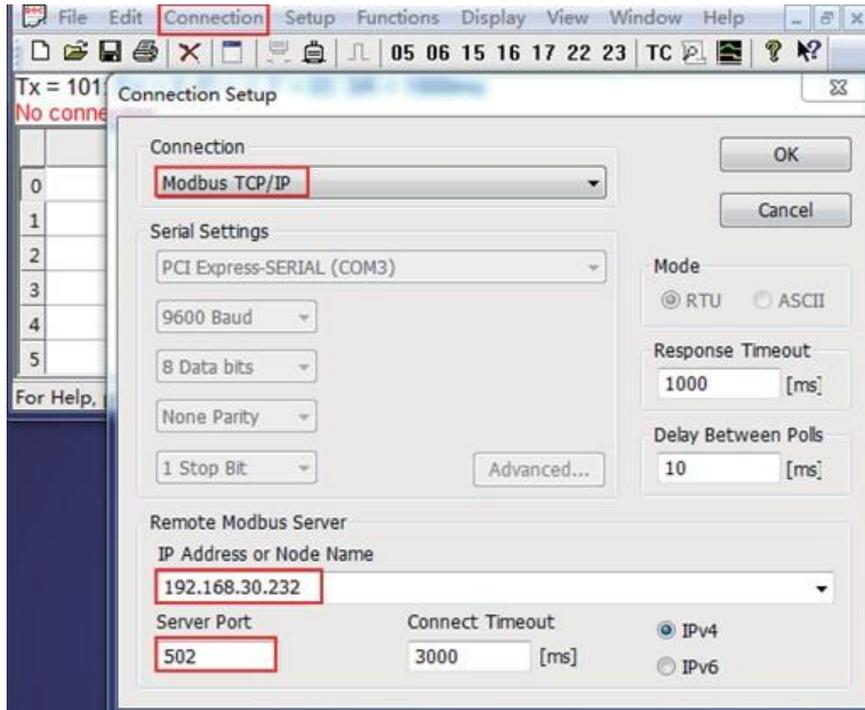


Figure 2-17 Modbus host network connection parameter configuration

Read parameter configuration: the slave ID is 1, the function code is 03, the starting address of the register to be read is 0, the number of registers to be read is 10, and the cyclic reading interval is 1000ms.

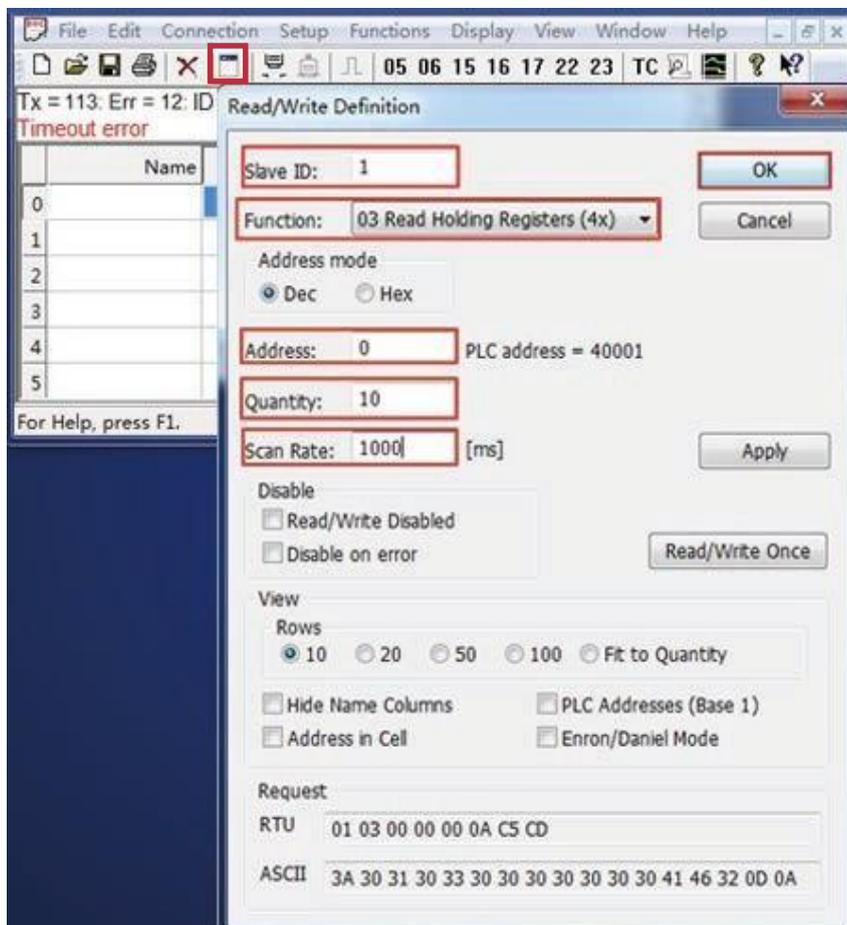


Figure 2-18 Modbus host device attribute definition

Open the Modbus Slave software: go to "Connect" -> "Connect", the connection parameters are configured as follows:

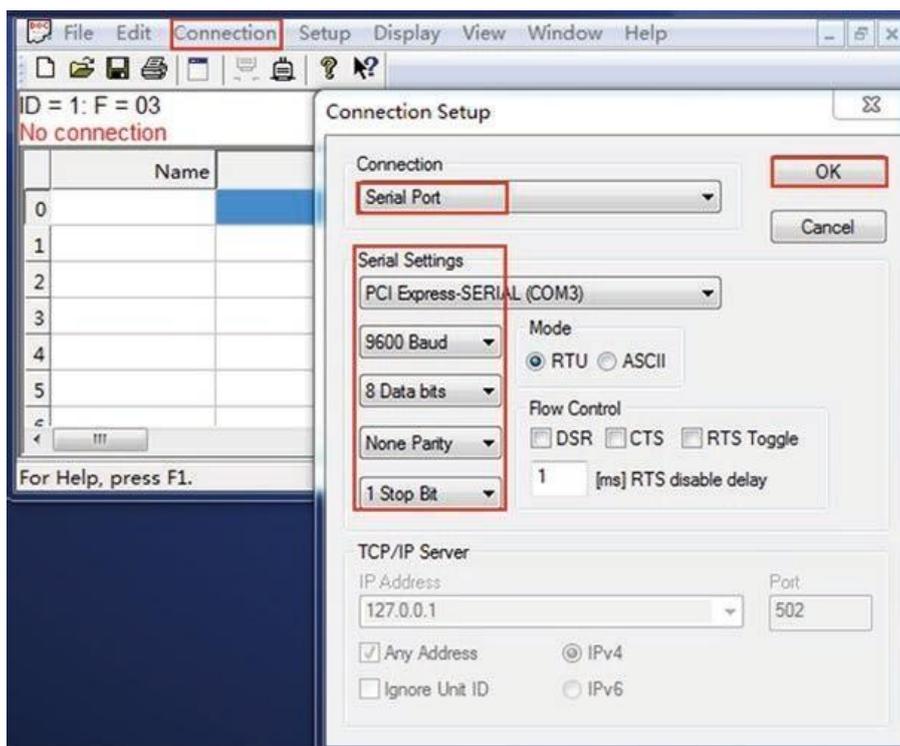


Figure 2-19 Modbus slave serial port parameter configuration

Slave device definition configuration: the slave ID is 1, the function code is 03, the register start address is 0, and the total number of registers is 200.

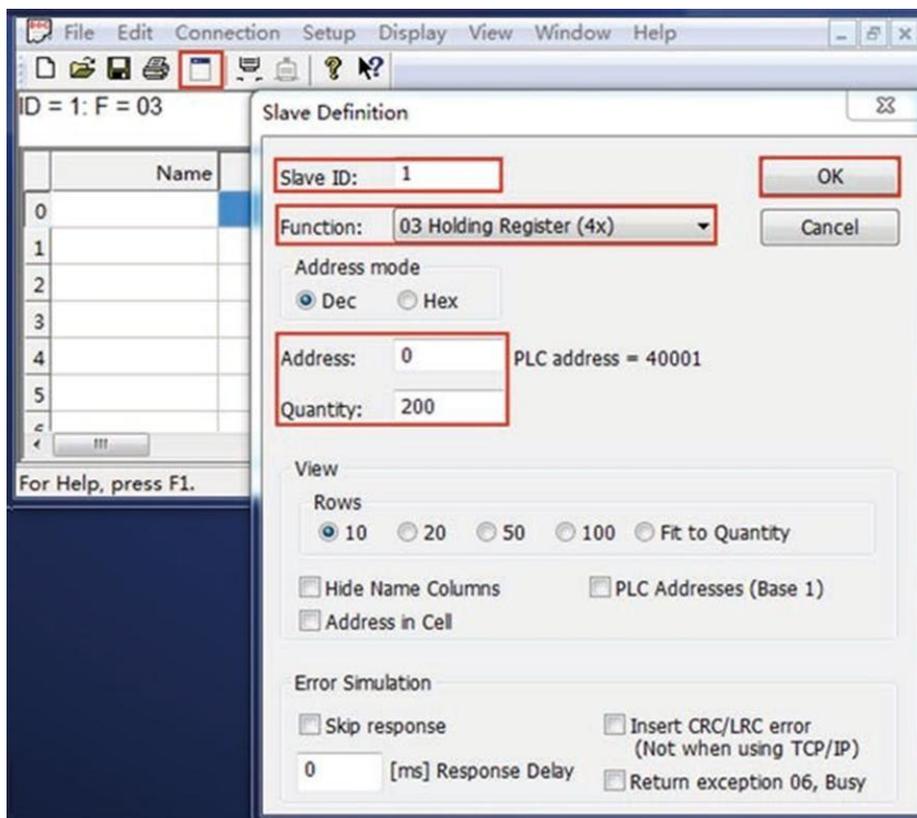


Figure 2-20 Modbus slave device attribute definition

Double-click the cell of the Modbus Slave software and change it to auto-increment mode. You can see that the register cell of the Modbus Poll software also changes its value automatically. Indicates that the device communicates normally.

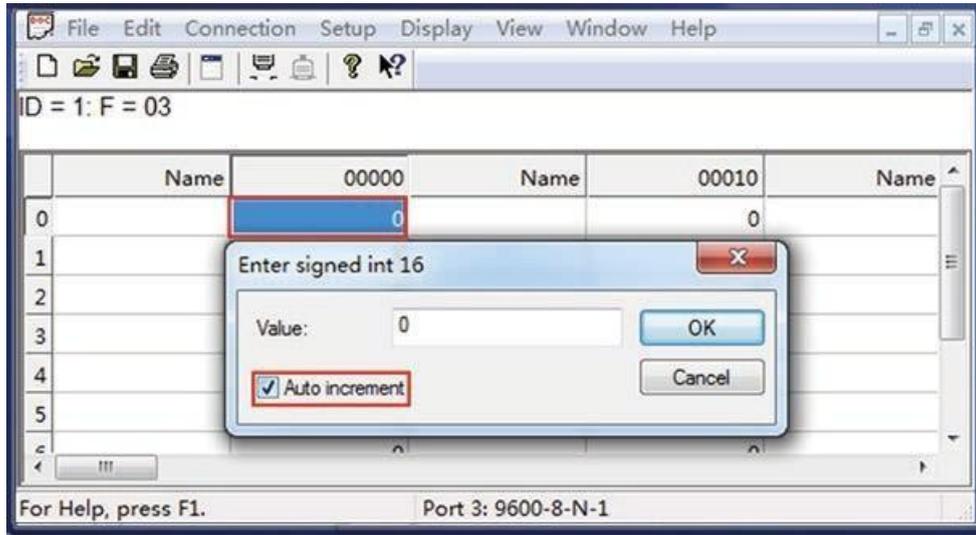


Figure 2-21 Modbus slave register value auto increment

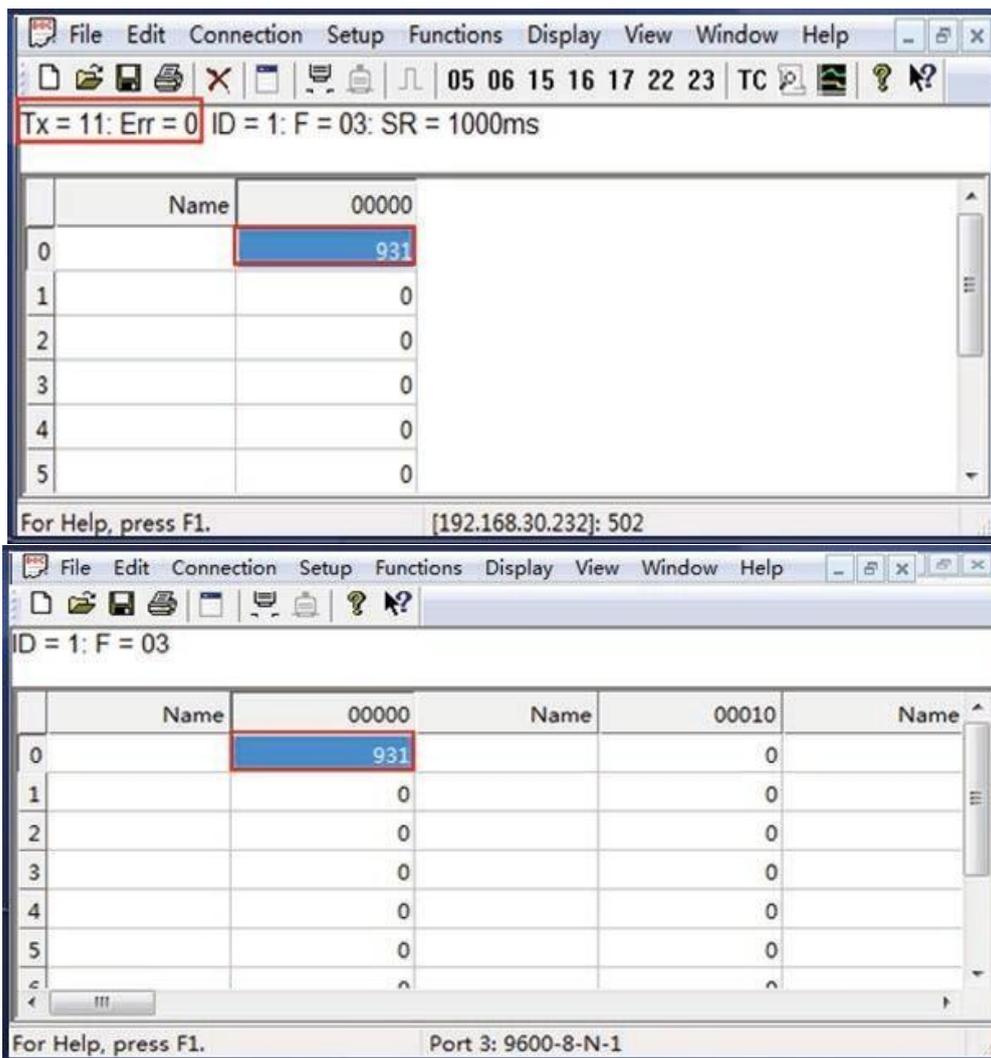


Figure 2-22 The communication is normal, the host can read the register data of the slave through the serial server device

**Attention**

- 
1. The port numbers 4500, 4800, 57050, and 57051 have already been used by the system. Do not reuse them when configuring the port numbers;
  2. The device and the remote device must have the same baud rate, parity bit, data bit and stop bit;
  3. If the working mode of this device is UDP, the remote device must also work in UDP mode; if the working mode of this device is TCP\_Client, the remote device must work in TCP\_Server mode; if the working mode of this device is TCP\_Server, the remote device must work in In TCP\_Client mode;
  4. When you need to use long frame data frequently or have high requirements for data transmission, please adjust the baud rate and lengthen the sending interval appropriately to prevent the slow serial port speed from causing garbled characters or packet loss;
  5. When configuring the device, the user should ensure that the external RS-485/RS-422 device stops sending data to the serial server to avoid garbled characters;
  6. When Modbus\_ASCII\_Master turns on the transparent transmission mode, it only supports the reading of up to 60 registers;
  7. Affected by the serial port rate, when the Modbus data times out, the web should pay attention to configuring the appropriate modbus receiving timeout time, and at the same time the host computer reads The timeout time should also be appropriately extended according to the baud rate;
  8. COM1 and COM9 only support 300~115200bps, other COM ports can support 300~460800bps.
-

### 2.4.3 RealCOM function usage

In RealCOM mode, the serial server cooperates with the operating system installed with RealCOM driver software. The RealCOM driver software maps the serial server's serial port to the host's local COM interface, so that the original serial device software or communication module on the host can be used directly without modification. The RealCOM driver software transparently transmits the data received by the virtual COM interface on the host to the serial server in the form of TCP/IP. The serial server transparently transmits the data received from the serial port to the virtual COM interface of the host computer in the form of TCP/IP.

The serial server supports three RealCOM protocols: RealCOM\_MCP mode is compatible with Moxa's drive management software; RealCOM\_CCP mode is compatible with Kang Hai's serial management tool; RealCOM\_MW mode supports Maiwe's MWVirtualCOM software.

How to use Maiwe RealCOM:

1. The WEB of the serial server is configured as RealCOM\_MW mode;
2. Install and open Maiwei virtual string management software;
3. Click [Add Device], and the add serial mapping interface will pop up;
4. Click [Scan], the software will scan the serial server devices in the local area;
5. According to the MAC address and IP address, select the corresponding serial server device;
6. Click [String Mapping] and wait for the creation of a local virtual string;
7. Connect the string of the serial server with the real string on the host, and use the string debugging tool to open the string created by the virtual string management software and the real string on the host, one of the two Send data to each other for testing.

### 2.4.4 Httpd Client function usage

This function is that the serial server submits the data received by the serial to the HTTP server in the form of HTTP. If the HTTP server has data to be sent, the string server will transparently transmit the data of the HTTP body to the string.

Specific usage method:

1. Select "Httpd Client" as the work mode;
2. Fill in the HTTPD address, that is, the address of the HTTP server, which can be an IP address or a domain name (the ability to connect to foreign countries is required);
3. Fill in the HTTPD port number;
4. The HTTPD method needs to fill in the correct URL path, and select the GET or POST method as needed;
5. Fill in the HTTPD request header as needed;
6. Finally, click the Configure button to save the parameters.

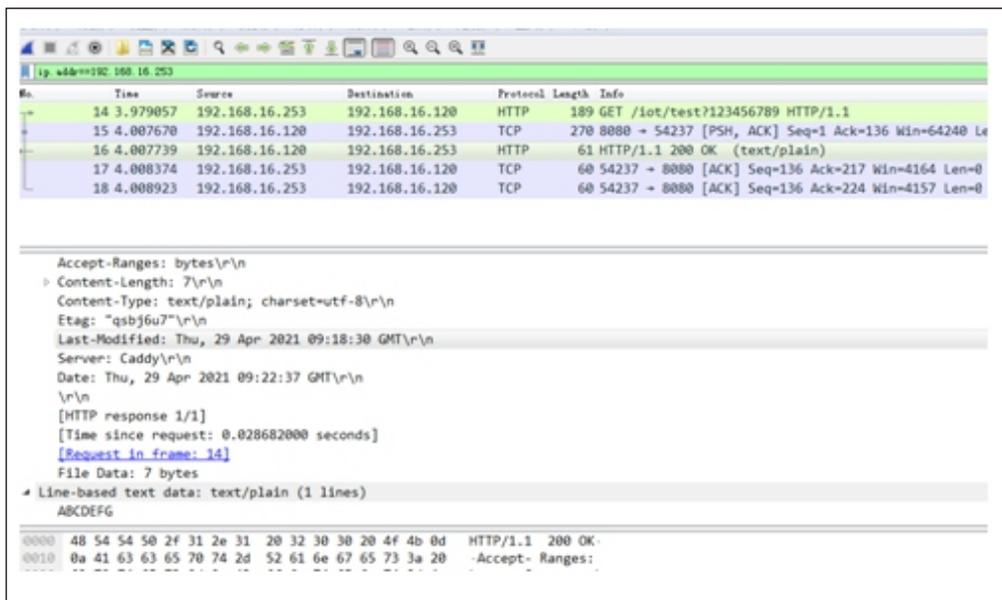


Figure 2-23 Httpd Client communication Wireshark packet capture example

### 2.4.5 WebSocketClient function usage

This function is that the serial server acts as a WebSocket Client, and transparently transmits the data received by the serial to the WebSocket server in hexadecimal format. The WebSocket server can also send data to the serial device at any time.

Specific usage method:

1. Select "WebSocket Client" as the work mode;
2. Fill in the WebSocket server address, which can be an IP address or a domain name (you need to have the ability to connect to the outside world);
3. Fill in the WebSocket server port number;
4. WebSocket method needs to fill in the correct URL path;
5. You can select the WebSocket Ping time interval according to your needs, fill in 0 to indicate not to use the Ping function;
6. Finally click Configure button to save parameters.

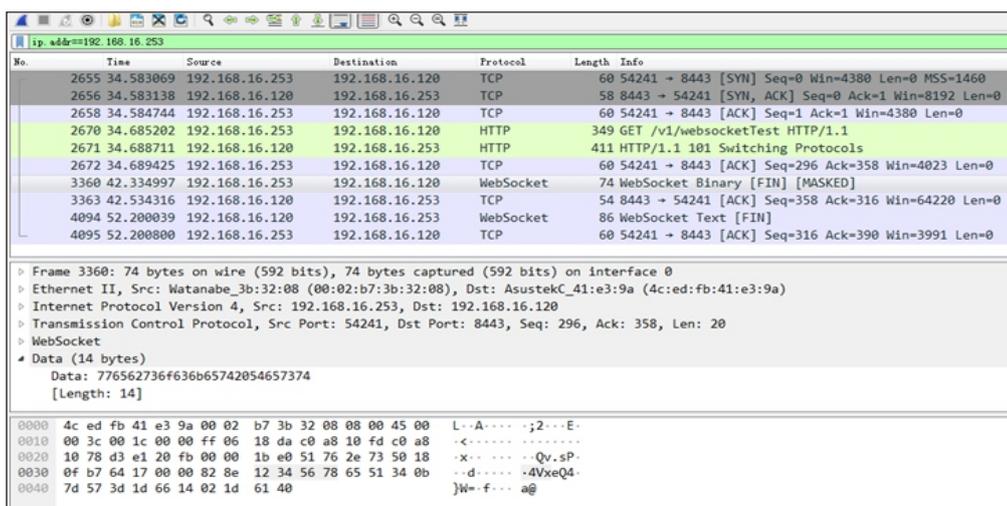


Figure 2-24 WebSocletClient communication Wireshark packet capture example



1. The port number 80, 4500, 4800, 57050, 57851, 57851 has been used by the system. When configuring the port number, please Do not use repeatedly.
2. The device and the remote device must have the same baud rate, parity bit, data bit and stop bit;
3. If the operation mode of this device is UDP, the remote device must also operate in UDP mode; if the operation mode of this device is TCP\_Client, the remote device must operate in TCP\_Server mode; if the device operates The mode is TCP\_Server, and the remote device must work in TCP\_Client mode.
4. If the operation mode of this device is UDP multicast mode, the same multicast address can only be used once, and no multicast address is allowed. The address is used in different serial configurations.
5. When you need to use frame data frequently or have high requirements for data transmission, please adjust the baud rate and the sending interval appropriately. The slower anti-crossover speed causes garbled characters or packet loss.
6. When configuring the device, make sure that the external RS232/485/422 device stops sending data to the serial server to avoid garbled characters.
7. When Modbus\_ASCII\_Master turns on the transparent transmission mode, it only supports reading of 60 registers at most.
8. Mport3101 is affected by the hardware configuration, Modbus ASCII protocol transmission only supports the use below 19200 baud rate.
9. Affected by the serial rate, when Modbus data timeout occurs, the web should be configured with appropriate modbus receiving timeout. At the same time, the read timeout time of the host computer should be appropriately extended according to the baud rate.
10. To use the RealCOM function, the firmware version of the serial server must be V1.x.9.210512 and above, and the software version of the virtual serial tool must be V1.0.300.05 and above.

## 2.5 Serial Port Information

The serial port information module includes two parts: serial port information and network connection information.

### 2.5.1 Serial port information

The serial port information page is used to display the current connection information of the serial port as shown in Figure 2-25:

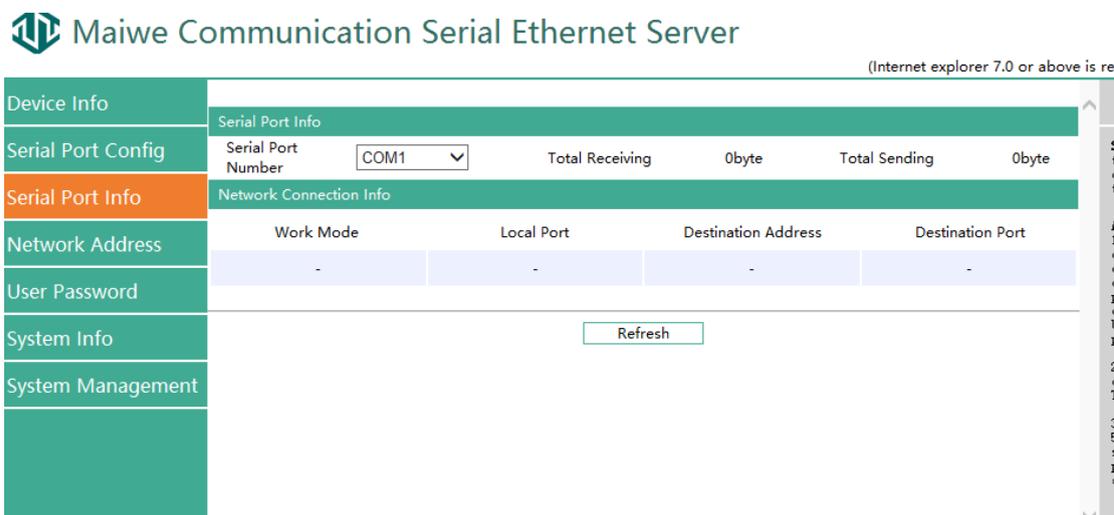


Figure 2-25 Serial port information page

## 2.6 Network Address

The network address module includes: the IP address of the network, the subnet mask, and the default gateway.

### 2.6.1 Network address

The function of this function is to assign a designated IP address to the Mport series serial server.

The default IP address of the serial server when it leaves the factory is 192.168.16.253. The network address configuration page is shown in Figure 2-26.

Figure 2-26 Network address interface

- Network protocol: select static address or DHCP.
- IP address: IP address is a 32-bit address assigned to devices connected to the Internet. The IP address consists of two fields: the network number field (Net-id) and host number field (host-id). The IP address is assigned by the Network Information Center (NIC) of the US National Defense Data Network. In order to facilitate the management of IP addresses, IP addresses are divided into five categories: Class A, B, and C addresses are unicast addresses; Class D addresses are multicast addresses; Class E addresses are reserved addresses for future special purposes. The IP addresses currently in large numbers belong to three types of addresses: A, B, and C.
- Subnet mask: The mask is a 32-bit number corresponding to an IP address. Some of these numbers are 1, and the others are 0. The mask can divide the IP address into two parts: the subnet address and the host address. The part of the IP address corresponding to the 1 bit in the mask is the subnet address, and the other bits are the host address. The mask for class A addresses is 255.0.0.0; the mask for class B addresses is 255.255.0.0; the mask for class C addresses is 255.255.255.0.
- Default gateway: The default gateway in the host is usually called the default route. The default route (Default route) is the route chosen by the router when no other route exists for the destination address in the IP packet. All packets whose destination is not in the router's routing table will use the default route. This route usually connects to another router, and this router also processes data packets. If you know how to route this data packet, the data packet will be forwarded to a known route; otherwise, the data packet will be forwarded to the default Routing to reach another router.
- DNS: The IP address of the DNS server. When the device uses a static IP address, the user is required to fill in this item. If a specific DNS server is not used, the default gateway IP address is generally sufficient. Whenever users modify the address settings, they need to click the button to submit to the Mport series serial server and switch to a waiting page as shown in Figure 2-27.

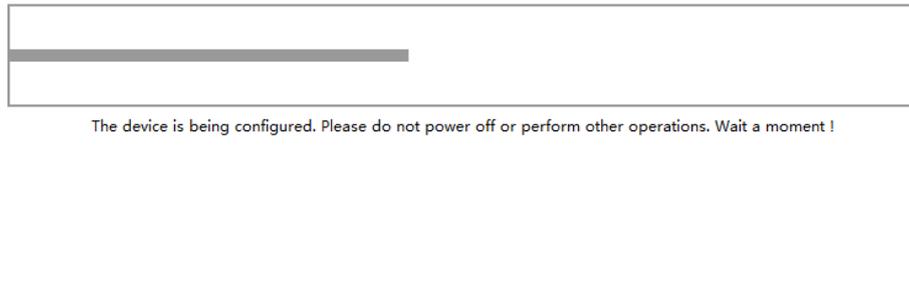


Figure 2-27 The waiting interface diagram after the user modifies the address

When the progress bar in the screen is finished, the Mport series serial server restarts the Web server, and the user needs to log in again.



1. When entering the waiting page after configuring the IP, do not power off or perform other operations to avoid failure of the IP address modification.
2. The configured IP address and the default gateway must be in the same network segment.
3. If the device uses DHCP to obtain an IP address, after the device restarts, the user needs to use the company's network management assistant to search for the device to accurately know the new IP address of the device.

## 2.7 User Password

The user password module is mainly used to modify the password.

### 2.7.1 User password

The Web server of this Mport series serial server provides users with three different permissions. The first type is for visitors, which can only view the current various configurations of the serial server, but cannot modify the configuration. The user name and password are both "none" and cannot be modified; the second is for ordinary users, which can configure various functional parameters of the serial server. The user name is admin and cannot be modified. The initial password is "admin", which can be modified on this page; the third is the administrator, the account has the highest authority, and when the password of a common user is forgotten, the administrator can log in and modify it. The password of this machine, the user name is fixed as "admin", and the password is the last six digits of the machine's MAC address. (If you don't know the MAC address of the machine, you can log in as a guest to view it first).

The login password must be legal characters, consisting of 4-12 English letters (case sensitive) and numbers. When changing the password, you need to enter it twice, and you must ensure that the passwords entered twice are consistent. The page is shown in Figure 2-28.

(Internet explorer 7.0 or above)

Device Info	User Password	
Serial Port Config	Username	<input type="text" value="admin"/>
Serial Port Info	New Password	<input type="text"/> (It consists of 4-12 numbers or letters)
Network Address	Confirm New Password	<input type="text"/> (It consists of 4-12 numbers or letters)
<b>User Password</b>		
System Info		
System Management		

Figure 2-28 User password interface

- User name: The user name of this machine is fixed as "admin" and cannot be modified.
- New password: Set the user password of this group, consisting of 4-12 English letters (case sensitive) and numbers.
- New password confirmation: Repeat the password to prevent entering the password incorrectly.



1. The passwords of ordinary users are modified on this page.
2. For security, it is recommended to change the default password after logging in for the first time.

## 2.8 System Information

The model, name, and number of the device can be configured on the system information page, as shown in Figure 2-29.

Figure 2-29 System Information Interface

- Device model: Users can customize the model of the Mport series serial server.
- Device name: The user can customize the name of the Mport series serial server.
- Device platform: the name of the manufacturer's platform, which cannot be configured by the user.
- Device Number: The serial number of the serial server is not configurable by the user.

## 2.9 System Management

This page can perform some system operations on the Mport series serial server, including restarting, restoring factory configuration, and upgrading. It is recommended that users use it with caution. Improper operation may damage the serial server. The page is shown in Figure 2-30.

Figure 2-30 System Management Interface

- Device restart: This function is used to restart the Mport series serial server by software. Before the serial server is completely restarted, the device does not work and cannot forward any data packets. This restart is different from the hardware reset of power-on restart, but the serial server system software is reset, just like the "warm restart" of the windows operating system. The biggest advantage of this function is to

provide a function of remotely restarting the serial server. As long as the user can access the serial server remotely, it can be restarted remotely. Click on "Start" Button, the page pops up a prompt box, as shown in Figure 2-31, click "OK" to jump to the waiting page, after the progress bar in the page is read, the serial server restarts to complete.

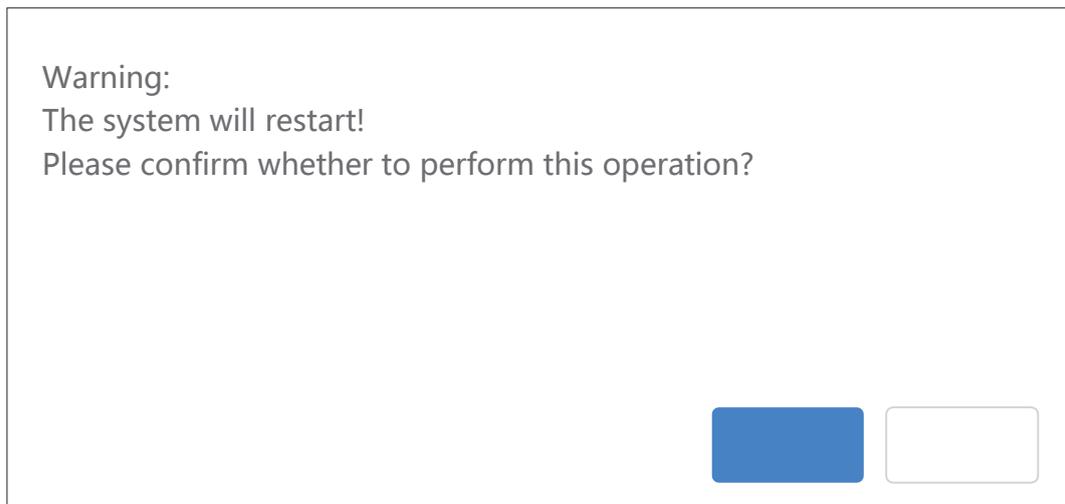


Figure 2-31 Warning message of device restart

- Restore the factory settings of the device: This function is used to restore the Mport serial server to the factory settings and automatically restart the serial server at the same time. Before the serial server restarts successfully, the serial server does not work and cannot forward any data packets. This function is to restore the factory default configuration value once the user sets the wrong parameter and causes the serial port server to work abnormally. There is the option of "Keep the current IP address" on the right. When checked, the current IP address will be retained. If not checked, the IP address will also be restored to the factory default address: 192.168.16.253. Click the "Start" button, and a prompt box will pop up on the page, as shown in Figure 2-32. Click "OK" to jump to the waiting page. After the progress bar in the page is read, the serial port server is restored to its factory configuration.

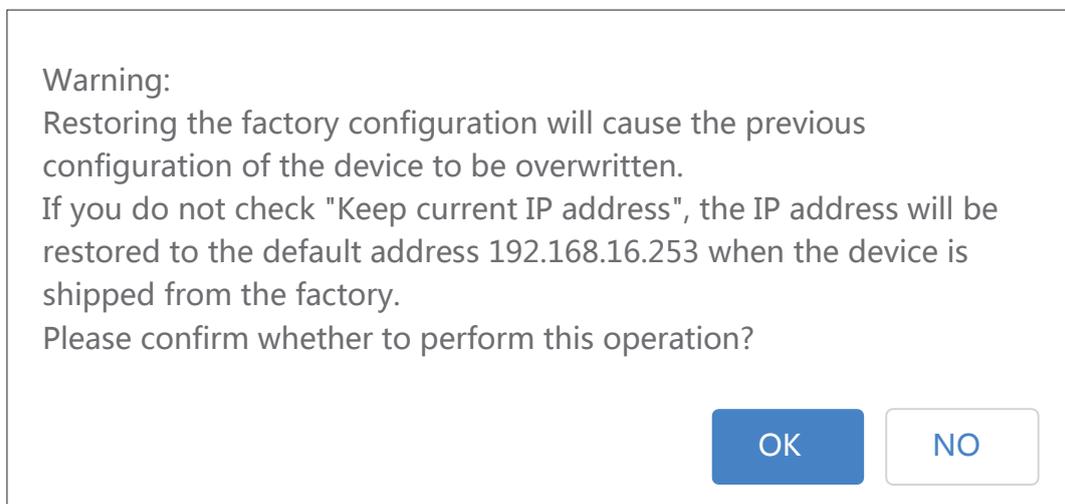


Figure 2-32 The warning message when the device is restored to factory configuration

- Device upgrade: This function is used to upgrade the software of the Mport series serial server. Users can get the upgrade program of the serial server through email or our company's website. Please pay attention to the matching of the device model and version, and use the unmatched upgrade program Will cause the upgrade to fail. After the user gets the upgrade program, click "Browser".

Click the "Start" button to select the upgrade program, and then click the button, the page pops up a prompt box, as shown in Figure 2-33, click "OK" to jump to the waiting page, after the progress bar in the page is read, the serial server software upgrade is completed.

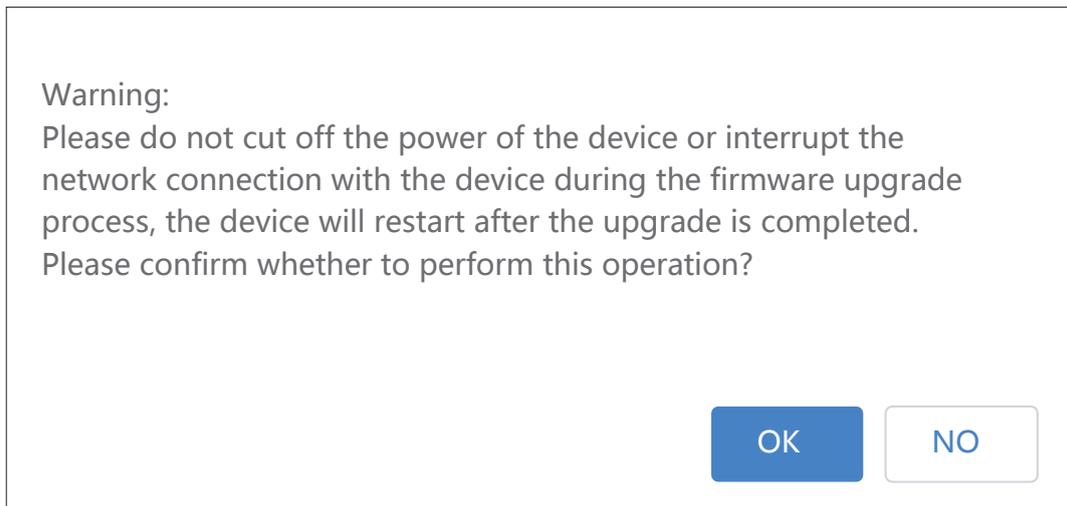


Figure 2-33 Warning message of equipment system upgrade

- Device restart without data: This function is used for the serial port server of the Mport serial server without any data transmission or reception for a long time, and the serial server automatically restarts. If the restart time is set between 0 and 59 seconds, this function does not take effect. Only when the time is set to be greater than or equal to 60 seconds, the restart function of the device without data will take effect. The default value is 3600s, which is one hour.



1. Restoring the factory settings will cause all the settings to be restored to the state just left. If you want to keep the IP, please check the "Retain the current IP address" on the right, otherwise the IP address will also be restored to the default configuration 192.168.16.253.
2. Do not upgrade the device casually. When the device needs to be upgraded, you must make sure that the upgrade file is correct, otherwise it is easy to damage the software of the device and cause the Mport series serial server to malfunction.
3. Please do not operate the Mport serial server during the upgrade process, and it is forbidden to click on the serial server web page. If the upgrade is interrupted due to misoperation, please restart the serial server and try again.
4. Power failure is not allowed during the entire upgrade process. Power failure may cause permanent damage to the Mport series serial server. If the power is interrupted during the upgrade, please mail the product to our company immediately for possible solutions.
5. To set restart parameters for devices with no data, avoid using the Chrome 68 version of Google Chrome, otherwise there will be a problem that the configuration page cannot respond.

## Chapter 3 Maintenance and Service

From the date of product shipment, Wuhan Maiwe Communication Co., Ltd. provides a five-year product warranty. According to the product specifications of Wuhan Maiwe Communication Co., Ltd., during the warranty period, if the product has any malfunction or functional operation failure, Wuhan Maiwe Communication Co., Ltd. will repair or replace the product for the user free of charge. However, the above commitment does not cover damage caused by improper use, accidents, natural disasters, incorrect operation or incorrect installation. In order to ensure that consumers benefit from the series of products of Wuhan Maiwe Communication Co., Ltd., help and problem solving can be obtained through the following methods:

Internet service

Call the technical support office

Product repair or replacement

### 3.1 Internet service

Through the technical support section of Wuhan Maiwe Communication Co., Ltd. website, you can get more useful information and usage skills.

### 3.2 Call the technical support office

Users who use the products of Wuhan Maiwe Communication Co., Ltd. can call the technical support office of Wuhan Maiwe Communication Co., Ltd. Wuhan Maiwe Communication Co., Ltd. has professional technical engineers to answer your questions and help you in the first time Solve the product or usage problems you encountered.

### 3.3 Product repair or replacement

For product maintenance, replacement or return, in accordance with the processing procedures of Wuhan Maiwei Communication Co., Ltd., you should first contact Wuhan Maiwe Communication Co., Ltd.

The technical staff of the company will confirm, and then negotiate with the sales staff of Wuhan Maiwe Communication Co., Ltd. to complete the repair, replacement or return of the product.