



Serial To Ethernet SMD Module NS4





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Chapter 1 Product Introduction

NS 4 is serial to Ethernet server module that realizes serial data and Ethernet data conversion.it provides a variety of Modbus gateway modes and TCP/DUP/MQTT/HTTP IoT gateway modes, which can meet the networking functions of various serial devices/PLCs. The module adopts LCC package, which is convenient for user equipment to be integrated on the PCB board.

The NS 8 -TB test kit comes with a USB-to-TTL circuit that does not require the user to connect an external converter, and leads to reset and factory reset pins for external buttons for easy operation, and also connects the operating status indicator pins to external LEDs for users to observe the status .

Features

- Support 10M Ethernet interface ;
- Support two configuration methods: configuration tool and AT command;
- Server mode supports multiple Socket connections ;
- The baud rate supports 2400~115200bps, and supports multiple verification methods;
- Support configurable domain name resolution service, namely DNS;
- Support timeout restart function, the time can be customized;
- Support short connection function, short connection interval time customization;
- Support serial port cache cleaning function ;
- Support hardware reset to factory settings;
- Support online upgrade, convenient user function customization;
- Support sending multiple registration packets and heartbeat packets, such as connecting to send MAC, connecting to send custom data , etc.;
- Support DHCP to dynamically obtain IP, subnet mask, default gateway, DNS server address;
- Support multiple working modes TCP client, TCP server, UDP client, UDP server, MQTT client, HTTP client;
- Support 4 channels to open the server at the same time, support dynamic allocation of 16 clients, and a single server supports 13 client access ;
- Support a variety of Modbus gateways, which can realize the active reporting of RTU devices, support the interconversion of Modbus TCP and Modbus RTU protocols, and can be configured as a storage mode to automatically collect device data, or use a question and answer multi-host mode;
- Support MQTT gateway function, fast access to Alibaba Cloud and standard MQTT3.1.1 servers

(OneNET, Baidu Cloud, Huawei Cloud, etc.);

• Support Modbus data to actively report to TCP transparent transmission server, MQTT server, etc.;

• Support HTTP client mode, using HTTP/1.1 protocol, can be configured as GET, POST two request methods ;

• Support TCP/IP direct communication or connect communication through "virtual serial port" .

Chapter 2 Quick Start

If there is a problem during use, click the official website link:

https://www.ebyte.com/product-class.aspx

The quick start is suitable for quickly verifying the functions of the device. This chapter uses the NS8-TB test board as an introduction, hereinafter referred to as the device.

2.1 Hardware preparation

One laptop with RJ45 network port ; One NS8-TB ; a network cable ; The specific preparation of hardware equipment is shown in the following figure:



2.2 Software preparation

Serial port debugging assistant (X COM), network debugging assistant (T CP/IP debugging assistant), ebyte network configuration tool (configuration host computer), official website address: www.ebyte.com, product details provide a download interface.

Chengdu Ebyte Electronic Technology Co., Ltd.

r Mickeneologie r Sendar r Gele 200 m Metwork Assistant	Itivita Optio	Ebyte network configuration
121.054.054.701 1000 1000 000 10000 10	Sing hir 1 - Den hir 2 - Part in 6 - P	ie (Kitar Al
-Settings IPIPAscol IDP Server • I2(Loss Hank Add Image: Setting and Amage: Seting and Amage: Setting an	Part 000 1931-51314L 006(~ Paul rate 115200 ~	Verse language and 2.807 (RC.101 2 M T) Dence D Load P Gallowy MC Dence multi Versen Dence type
Natural Assistant	🛗 XCOM V2.6 - 🗆 X	Etyte config tool vid X

[Note] The version of the host computer shown in the manual may be different from the version of the host computer provided by the official website, and the version of the host computer provided by the official website shall prevail.

2.3 Device default parameter test steps

Different channels use the same IP but different local ports. For example, the factory-configured channel 1 corresponds to port 8 001 and channel 8 corresponds to port 8 00 8 in turn . For details, see the chapter " Channel and Serial Port Correspondence ".

2.3.1 Hardware connection



1. Connect the network port of the device and the network port of the computer with a network cable ;

2. Device USB interface _ connect to computer ;

3. After confirming that there is no problem with the status, proceed to the next step of configuration; Note: The test board is used to test the first serial port by default. If other serial ports need to be verified, jumper caps need to be switched.

2.3.2 Device parameter configuration

In order to enable users to quickly have a simple understanding of the device, we use the default parameters for data transparent transmission test. The default parameters of the NS8 module are shown in the table below.

project	default parameters
IP address	192.168.3.7
subnet mask	255.255.255.0
gateway	192.168.3.1
Channel 1 working mode	TCP_SERVER
Local port of channel 1	8 001
Serial baud rate	1 15200
Serial parameters	NONE/8/1/NONE

Make sure that the computer IP and serial server IP are in the same network segment and cannot conflict. The inspection method is shown in the figure below.

 第 1 1<th>😰 网络连接</th><th>🔋 以太网 2 状态</th><th>🔋 以太网 2 属性</th><th>Internet 协议版本 4 (TCP/IPv4) 属性</th><th>×</th>	😰 网络连接	🔋 以太网 2 状态	🔋 以太网 2 属性	Internet 协议版本 4 (TCP/IPv4) 属性	×
· · · · · · · · · · · · · · · · · · ·	Meritzio 第四日注意 第二日 · · · · · · · · · · · · · · · · · · ·	 ♥ UX M 2 KKS 常規 连接 IPv4 连接: IPv6 连接: 媒体状态: 持续时间: 速度: 详细信息: 活动 字节: 	 ● UXM 2 庫性 网络 共享 连接时使用: ■ Realtek PCIe GbE Family Cont 此连接使用下列项目(O): ■ Microsoft 网络客户講 ● Microsoft 网络哈之牌和打印机 ● Microsoft 网络的之体和打印机 ● ● OoS 数据包计划程序 ● Internet 协议版本 4 (TCP/IPv6) ● Internet 协议版本 6 (TCP/IPv6) ◆ 使编控制协议/Internet 协议、该协议 于在不同的相互连接的网络上通信。 	Internet 防以版本 4 (ICP/IP44) 庫住 第規 如果网络支持此功能,则可以获取自动指派的 IP 设置。否则,你需要从网 核系統管理员处获得适当的 IP 设置。 ● 使用下面的 IP 地址(Q) ● 使用下面的 IP 地址(S): IP 地址(U): 192.168.3.100 子网掩码(U): 255.255.0 默认网关(D): 192.168.3.1 ● 自动获得 DNS 服务器地址(B) ● 使用下面的 DNS 服务器地址(B) ● 使用下面的 DNS 服务器地址(E): 首选 DNS 服务器(Q): 當用 DNS 服务器(Q): □ 退出时验证设置(L)	

2.3.3 Turn off the computer firewall

If the communication is unsuccessful, the user can try to turn off the firewall on the computer and try again.



2.3.4 Turn on "Serial Port Assistant"

Select the correct serial port number, configure the correct serial port parameters (115200-8N1), and open the serial port, as shown in the figure below:

XCOM V2.6	°—	
	Port	
	COM3: USB-3	SERIAL CH34Q \sim
	Baud rate	115200 ~
	Stop bits	1 ~
	Data bits	8 ~
	1 vity	None ~
	Operation	Open
	Save Data	. Clear Data
	Hex Hex	DTR
	TS RTS	🗌 自动保存
	🖂 TimeSta	mp 100 ms
Single Send Multi Send Protocol Transmit Help		_
	1	Send
		[]
		Clear Seud
Timing Cycle 1000 MS	Open File Send File	Stop Send
🗌 Hex Send 🔲 Wordwrap	0% 【火爆全网】正点原子DS100	手持示波器上市
🔆 🕶 www.openedv.com S:0 R:0	Current time15	:19:02

2.3.5 Turn on network assistant

Select the "TCP client " mode, configure the remote IP as "1 92.168.3.7 ", and configure the remote port as "8 001 ", as shown in the figure below:

		Network A	ssistant		₩ - □ ×
Settings [1] Protocol TCP Client [2] Remote Host Addr [192.168.3.7 [3] Remote Host Port [8001 Connect Recv Options © ASCII Auto Linefeed Hide Received Data [Save Recv to File	Data log			<u>NetAs</u>	<u>sist V5.0.2</u> ♥ ↔
Send Options	Data Send				✓ ✓ Clear ★ Clear
Use Escape Chars (i) Auto Append Bytes Send from File Cycle 200 ms <u>Shortcut History</u>					Send
🝠 Display in log mode with t	imestamp	0/0	RX:0	TX:0	Reset

2.3.6 Data sending and receiving test

Click the [Send] button on the "Network Debug Assistant " and "Serial Port Debug Assistant " respectively to realize the transparent transmission of network and serial port data, as shown in the figure below.

	Network Assistant	₩ - □ ×	SCOM V2.6	- 🗆 X
Settings (1) Protocol	Data log	NetAssist V5.0.2 🧇 📿	[2022-05-18 15:31:10.167] RX: EBVTE NET SEND	Port
TCP Client	L2022-05-18 15:31:10.051]# SEND ASCII> EBYTE_NET_SEND	-	[2022-05-18 15:31:11 358]	COM3:USB-SERIAL CH34C \sim
(2) Remote Host Addr	[2022-05-18 15:31:11.241]# SEND ASCII>		RX: EBYTE_NET_SEND	Baud rate 115200 \checkmark
(3) Bernote Host Port	EBYTE_NET_SEND		[2022-05-18 15:31:12.093]	Stop bits 1 \sim
8001	[2022-05-18 15:31:11.971]# SEND ASCII>		RX: EBYTE_NET_SEND	Data bits 8 🗸 🗸
🔶 Disconnect			[2022-05-18 15:31:12.719] RX: EBYTE_NET_SEND	Parity None 🗸
	EBVIE_NET_SEND		[2022-06-18 15:31:15.652]	Operation 💽 Close
ASCI HEX	[2022-05-18 15:31:15.555]# RECV ASCII>		TX: EBYTE_UART_SEND [2022-05-18 15:31:16.002]	Curry Data Claum Data
Cog Display Mode	EBYTE_VART_SEND [2022-05-18 15:31:16.004]# RECV ASCII>		TX: EBYTE_VART_SEND	Hex DIR
Auto Linereed Hide Received Data	EBYTE_UART_SEND [2022-05-18 15:31:16.444]# RECV ASCII>		TX: EBYTE_UART_SEND	□ RTS □ 自动保存
Save Recv to File	EBYTE_UART_SEND [2022-05-18 15:31:17.865]# RECV ASCII>		TX: EBYTE_VART_SEND	☑ TimeStamp 100 ms
AutoScroll Clear	EBYTE_VART_SEND	~	Single Send Multi Send Protocol Transmit Help	
Send Options	Data Send	√ Clear 🗶 Clear	EBYTE_UART_SEND	Send
🔲 Use Escape Chars 🛈	EBYTE_NET_SEND			
Auto Append Bytes Send from File		Sand		Ulear Send
Cycle 200 ms			Timing Cycle 1000 ms Open File	Send File Stop Send
Shortcut <u>History</u>			□ Nex Send □ Wordwrap 0% 【火爆全网】]	点原子DS100手持示波器上市
🕼 Ready!	4/5 RX:60	TX:80 Reset	🌞 🔹 www.openedv.com S:60 R:64 CTS=0 DSR=0 DCD=0 Cur	rent time15:32:04

Chapter 3 Product Overview

3.1 Product specification

Product number	product type	Socket Connecti ons	Operating mode	Working voltage (V)	Product Size (mm)
EBT3001	Single serial port chip	6 way		DC 2.1~3.6	5 x 5
EBT3002	Eight serial port chip	1 6 way		DC 2.4~3.6	10 x 10
NS1	Single serial port patch	6 way		DC 3.0~5.5	17×19
NS2	Dual serial port patch	1 6 way		DC 3.0~5.5	27 × 27
NS4	Four serial port SMD	1 6 way	TODO	DC 3.0~5.5	27 × 27
NS8	Eight serial port patch	1 6 way	TCP Server TCP Client	DC 3.0~5.5	27 × 27
NS1 -TB	Test base	6 way	UDP Server	DC 3.0~5.5	71 × 27
NS8-TB	Test base	1 6 way	M OTT Client	DC 3.0~5.5	103 × 49
NT1	single serial pin	6 way	H TTP Client	DC 3.0~5.5	35 x 22 x 20
NT1-B	single serial pin	6 way		DC 3.0~5.5	35 x 22 x 20
NA111	Single serial port	6 way		DC 8~28	110 ×66×30
NA111-A	rail	0 way		AC 85~265	110 ~00~50
N B114	Single serial port positioning hole	6 way		DC 8~28	$1\ 02 \times 84 \times 25$
NB124	Dual serial port positioning hole	6 way		DC 8~28	$173 \times 95 \times 26.5$
NB144	Four serial port positioning holes	1 6 way		DC 8~28	198 × 109 × 26.5
NB183	Eight serial port positioning holes	1 6 way		DC 8~28	198× 109 × 26.5

3.2 Technical Parameters

Item	Explanation	
Operating Voltage	$3.0 \sim 5.5 V (DC)$	
	Peak: 200mA @ 5V	
Working ourrent	Standby: 30mA@5V	
working current	Peak: 250mA @ 3.3V	
	Standby: 50mA@3.3V	
Serial port level	TTL level (3.3V)	
Onarating mode	TCP Server (default), TCP Client, UDP Server, UDP Client,	
Operating mode	HTTP Client, M QTT Client	
Socket connection	TCP server supports up to 16 client connections	
Network protocol	IP, TCP/UDP, IPv4, I CMP , APR , D HCP , D NS , HTTP , M QTT	
IP address	Customizable (default, 192.168.3.7)	
DNS	support	
DNS domain name	$C_{\text{ust}_{ust}_{\text{ust}_{ust}_{\text{ust}_{\text{ust}_{\text{ust}_{\text{ust}_u}ust}_{ust}_u}ut}}}}}}}}}}}}}}}}}}}}}}}$	
resolution server	Customizable (default 1 14.114.114.114)	
Configuration method	Configuration tools, AT commands	
Localment	Can be customized (default, channel 1 to channel 4 : 8	
Local port	001-800 4)	
Subnet mask	255.255.255.0 (default, customizable)	
Gateway	192.168.3.1 (default, customizable)	
Serial cache	512 Bytes	
packaging mechanism	512 Bytes	
Serial baud rate	2400 ~ 115200 bps (default 115200)	
Data bit	8	
Stop bit	1 (default), 2	
Check Digit	None (default), Odd, Even	
Product Size	$27 \times 27 \times 2.8 \text{ mm} (L \times W \times H)$	
Product weight	3.5g_	
Working temperature	40 - + 959C 59/ - 059/DU (
and humidity	$-40 \sim \pm 85^{\circ}$, $5\% \sim 95\%$ KH (no condensation)	
Storage temperature	$-40 \sim \pm 105^{\circ}$ 5% $\sim 95\%$ RH (no condensation)	
and humidity		

3.3 Pin Description



pad quantity :	72
Tolerance valu	e : X.X±0.1mm
	X.XX±0.01mm

serial num ber	pin	Functional description
1	GND	Common ground terminal nower supply negative terminal
	GILD	input;
2	NC	Default suspending;
3	NC	Default suspending;
4	NC	Default suspending;
5	NC	Default suspending;
6	NC	Default suspending;
7	GND	Common ground terminal, power supply negative terminal
		input;
8	GND	Common ground terminal, power supply negative terminal
		input;
9	GND	Common ground terminal, power supply negative terminal
		input;
10	GND	Common ground terminal, power supply negative terminal

		input;
11	NC	Default suspending;
12	NC	Default suspending;
13	NC	Default suspending;
14	NC	Default suspending;
15	TXD2	The serial port sends data, only supports 3.3V T TL, if it is
		connected to 5 V, level conversion is required;
16	RXD2	The serial port receives data, only supports 3.3V T TL, if it is
		connected to 5 V, level conversion is required;
17	NC	Default suspending;
18	NC	Default suspending;
19	GND	Common ground terminal, power supply negative terminal
		input;
20	GND	Common ground terminal, power supply negative terminal
		input;
twent	VCC	Positive power input, supports 3-5.5V input, can be used with
y one		pin 22 at the same time;
twent	VCC	Positive power input, support 3-5.5V input; can be used with
y two		pin 21 at the same time;
twent	NC	Default suspending;
У		
three		
twent	NC	Default suspending;
y four		
25	NC	Default suspending;
26	NC	Default suspending;
27	NC	Default suspending;
28	NC	Default suspending;
29	NC	Default suspending;
30	NC	Default suspending;
31	TXD3	The serial port sends data, only supports 3.3V T TL, if it is
		connected to 5 V, level conversion is required;
32	RXD3	The serial port receives data, only supports 3.3V T TL, if it is
		connected to 5 V, level conversion is required;
33	485EN-2	Serial port 2 R S48 5 enable pin, normally low, pull high when
		sending data
34	485EN-3	Serial port 3 R S48 5 enable pin, normally low, pull high when
		sending data
35	485EN-4	Serial port 4 R S48 5 enable pin, normally low, pull high when
		sending data
36	485EN-1	Serial port 1 R S48 5 enable pin, normally low, pull high when
		sending data
37	NC	Default suspending;

38	NC	Default suspending;
39	NC	Default suspending;
40	NC	Default suspending;
41	SPDLED	Network port data indicator
42	LINKLED	Network port connection indicator
43	RX+	Ethernet receives RX+ signal;
44	RX-	Ethernet receives RX- signal;
45	TX+	Ethernet sends TX+ signal;
46	TX-	Ethernet sends TX- signal ;
47	RESTORE	Reset pin, pull it down for more than 5 seconds to take effect
48	TXD1	The serial port sends data, only supports 3.3V T TL, if it is
		connected to 5 V, level conversion is required;
49	RXD1	The serial port receives data, only supports 3.3V T TL, if it is
		connected to 5 V, level conversion is required;
50	NC	Default suspending;
51	NC	Default suspending;
52	NC	Default suspending;
53	3.3V	Can output voltage 3.3V;
54	GND	Common ground terminal, power supply negative terminal
		input;
55	NC	Default suspending;
56	NC	Default suspending;
57	NC	Default suspending;
58	NC	Default suspending;
59	NRST	Module reset, pull down for more than 1ms to take effect
60	NET	Network connection indicator light, output 2S square wave if
		the connection is successful
		If the connection is unsuccessful, output a 1S rectangular
		wave, pull it high at 0.9S, and pull it low at 0.1S
61	TXD4	The serial port sends data, only supports 3.3V T TL, if it is
		connected to 5 V, level conversion is required;
62	RXD4	The serial port receives data, only supports 3.3V T TL, if it is
		connected to 5 V, level conversion is required;
63	NC	Default suspending;
64	NC	Default suspending;
65	LINK1	Serial port 1 data link indicator, U DP mode output low level ;
		In other modes, if the connection is successful, the output will
		be low level, and if there is no connection, the output will be
		high level ;
66	DATA1	Serial port 1 data indicator pin, output 50ms square wave
		when there is data interaction;
67	LINK2	Serial port 2 data link indicator, U DP mode output low level ;
		In other modes, if the connection is successful, the output will



		be low level, and if there is no connection, the output will be
		high level ;
68	DATA2	Serial port 2 data indicator pin, output 50ms square wave
		when there is data interaction;
69	LINK3	Serial port 3 data link indicator, U DP mode output low level ;
		In other modes, if the connection is successful, the output will
		be low level, and if there is no connection, the output will be
		high level ;
70	DATA3	Serial port 3 data indicator pin, output 50ms square wave
		when there is data interaction;
71	LINK4	Serial port 4 data link indicator light, U DP mode output low
		level;
		In other modes, if the connection is successful, the output will
		be low level, and if there is no connection, the output will be
		high level ;
72	DATA4	Serial port 4 data indicator pin, output 50ms square wave
		when there is data interaction;

3.4 Dimension



Unit : mm pad quantity : 72 Tolerance value : X.X±0.1mm X.XX±0.01mm

3.5 Hardware Reference Design

3.5.1 Typical application hardware connection



3.5.2 Power interface

The NS 4 uses DC typically 5 V. The voltage range of V CC is $3.0 \sim 5.5$ V, the normal working current is 200 mA @5V, and the peak current is about 300 mA @5V. It should be noted that if the power supply is less than 3.3V, the 3.3V output of pin 53 will vary according to the input. V CC can be connected to 10UF/ 16V /10% and 100nF/50V/10% bypass chip capacitors to stabilize the module , and the NRST reset pin needs to be pulled up . As shown below.



3.5.3 UART interface

UART is a serial data interface and only supports TTL-3.3V communication level. It can connect RS-232 chip to RS-232 level and connect with external equipment. The UART interface of this module includes TXD/RXD signal lines. Taking the RS-232 level as an example, the reference circuit is as follows:



If it is to communicate directly with MCU (3.3V level), just add the TXD of the module to the

RXD of the MCU, and connect the RXD of the module to the TXD of the MCU. If the MCU is at 5V level, a conversion circuit needs to be added in the middle, as shown in the figure below:



3.5.4 Application of External Network Transformer for 10 M Ethernet

Interface

The NS 4 module can be connected to an external 10 M Ethernet physical interface, and supports the design method of interconnecting RJ45 connectors and network transformers.

The network transformer and RJ45 connector are combined into a standard 10M Ethernet physical interface, and then connected to the NS1 module. RX+ and RX- are differential lines, 100 ohm differential impedance matching, TX+ and TX- are differential lines, 100 ohm differential impedance matching. The hardware design reference circuit diagram is as follows:



3.5.5 Application of 10M Ethernet interface built-in network transformer

RJ45 built-in 2KV electromagnetic isolation network transformer. The corresponding network data receiving pin of the NS1 module is directly AC-coupled with the data receiving pin of the Ethernet physical interface, and is used as a data transmission channel in the system. RX+ and RX-take differential lines, 100 ohm differential impedance matching, TX+ and TX- take differential lines, 100 ohm differential. The hardware design reference circuit diagram is as follows.



3.5.6 Reference package

In order to facilitate the customer's hardware layout, Ebyte has made a corresponding PCB package library. Please download the specific documents from the official website https://www.ebyte.com/product-class-all.html

Chapter 4 Basic Functions

4.1 Correspondence between channel and serial port

Baud rate: 2 400 , 4 800 , 9 600 , 1 4400 , 1 9200 , 3 8400 , 5 7600 , 7 6800 , 1 15200bps ; Data bits: only 8 bits are supported;

Parity bit: support no parity (N ONE), odd parity (O DD), even parity (E VEN); Hardware flow control: not supported;

aisle	default working mode	default port
channel 1	T CPS	8001
channel 2	T CPS	8002
channel 3	T CPS	8003
channel 4	T CPS	8004

4.2 Local network parameters

4.2.1 Local IP

S TATIC (static IP) : users can define configuration IP, subnet mask, default gateway, domain name resolution server (D NS server);

D HCP (dynamic IP acquisition): The device logs in to the server to automatically obtain the IP address, subnet mask, gateway address, and DNS server address parameters assigned by the server and configure them for use;

4.2.2 DNS (domain name resolution)

the domain name, the DNS server will be automatically queried, and the DNS server will retrieve the database to obtain the corresponding IP address. In the static IP mode, the user can customize the domain name resolution server to resolve private domain name server data. In this mode, the device automatically follows the domain name resolution server configured by the routing device, and the user only needs to modify the DNS server of the routing device without configuring the device.

4.2.3 Network disconnection reconnection cycle

When the device detects that it is disconnected from the server, it periodically initiates a reconnection request, so the "disconnection reconnection time" will not affect the connection establishment time under normal circumstances. Users can customize the configuration request cycle, and the default is 5s.

4.2.4 Timeout restart (no data restart)

The device monitors data sending and receiving. If the device does not send and receive data for a long time, the device will automatically restart to ensure the stability of long-term work.

The default cycle of this function is 5 minutes, and the user can customize the cycle of restarting with timeout or no data.

4.3 Hardware factory reset

RESTORE pin of the device is kept low for 5s, and the factory reset of the device is completed.

4.4 Device working mode

4.4.1 TCP Server

TCP Server is the TCP server. In TCP Server mode, the device listens to the local port, accepts the connection request from the client and establishes a connection for data communication. When the Modbus gateway function is turned off, the device sends the data received by the serial port to all client devices connected to the device.

The number of clients that can be accessed by the server is dynamically adjusted. First, ensure that each channel of the 4 channels can establish a complete communication link. In addition, the device also has 12 communication links for dynamic access. For example, if the device turns on the 4- channel server mode, each The server can access 4 client devices, or if the device opens 1 server, the server can connect to 13 client devices. If the number of client devices exceeds the access number, the device will refuse to connect.

4.4.2 TCP Client

TCP Client is the TCP client. When the device is working, it will actively initiate a connection request to the server and establish a connection to realize the interaction between serial port data and server data.

To use the client, you need to configure the IP address /domain name and target port of the target accurately .

4 channels can independently open 4 channels of TCP client .

4.4.3 UDP Server

UDP Server means that the device does not verify the source IP address of the data when using the UDP protocol to communicate. After receiving a UDP data packet, it saves the source IP address and source port of the data packet, and sets it as the target IP and port . , so the data sent by the device only sends data packets to the source IP address and port where the device received data last time.

This mode is usually used in scenarios where multiple network devices communicate with this device, and the frequency is high, and the TCP Server cannot meet the conditions.

Using UDP Server requires the remote UDP device to send data first, otherwise the data cannot be sent normally.

[Note] In UDP mode, the data sent by the network to the device should be less than 5 12B it per packet, otherwise it will cause data loss.

4.4.4 UDP Client

UDP Client is a connectionless transmission protocol that provides transaction-oriented simple and unreliable information transmission services. There is no connection establishment and disconnection, and data can be sent to the other party only by configuring the destination IP and destination port. It is usually used in the data transmission scenario where there is no requirement for the packet loss rate, the data packet is small and the sending frequency is fast, and the data is to be transmitted to the specified IP.

In UDP Client mode, the device will only communicate with the configured (target IP and target port) remote UDP device .

In this mode, the destination address is set to 255.255.255.255, and the sending data will be broadcast on the entire network segment, but the sending and receiving devices need to ensure that the ports are consistent, and the device can also receive broadcast data .

[Note] In UDP mode, the data sent by the network to the device should be less than 5 12B it per packet, otherwise it will cause data loss.

4.4.5 HTTP client

This mode can realize HTTP automatic package function, and provides two methods of GET and POST. Customers can configure URL, Header and other parameters by themselves, and the device will send the package to realize fast communication between serial port data and HTTP server. URL and Header It supports up to 128 bytes of data, and the 4 channels can independently open the HTTP client mode without affecting each other.

The HTTP request data should be smaller than the packet length (5 to 12 bytes), otherwise the device will divide the request data into multiple packets for request, resulting in abnormal request.



It supports configuring whether to return the HTTP protocol header, and the returned data is shown in the figure below:



Configuration instructions, turn on the host computer, search for the device and enter the device configuration interface, configure the "network parameters" first, it is recommended to use the DHCP function , to avoid the device IP abnormality caused by wrong configuration (network segment error, IP conflict, etc.), it needs to be used in the configuration The channel of the HTTP function supports 4 channels to configure the HTTP client mode at the same time. Here is an example of requesting the "Baidu" webpage through GET (URL : empty, H EADER : Host : www.baidu.com , target domain name : www .baidu.com , target port: 8 0 , it is recommended to use a random port for the local port), the specific configuration is shown in the figure below:

-								(T) (b) (0 (0)								
网络设置	PORT1 PC	RT2 POR	T3 PORT4	PORT5	PORT6	PORT7	PORT8	网络设置	PORT1	PORT2	PORT3	PORT4	PORT5	PORT6	PORT7	PORTS
网络参数设置								基本参数	〒〒 変白崖			~			大地湾口	
设备名称	A001							目标IP/域名。	ww.baidu.com						目标端口	80
SNA	S001							波特率 11 □ 启动短连接	5200 V ĝ	y据位 8 秒 ♥ 短连	 校验(接时间 	<u>d</u> none ~	· 停止位	1 ~	流控 连接清空缓?	NONE ~ 字 启用 ~
IP地址类型	动态IP						~	清 复制参数	t				U	RL	(1 粘贴参数
本地IP地址	192.168.3	.7						HITP参数				/				^
子网撞码	255.255.25	5.0						HITF请求方 HITP URL路	式 GET 径	~						
网关	192.168.3	.1						□ 不返回的 — Http 包头	3头数据 、				/	/ HEA	DER	
DNS	114.114.11	4. 114						Host:www	. baidu. com							
断网重连时间	5秒						¢									
超时重启时间	300秒				1 2 1	用超时重启		唐 复制	参数						☑粘	站参数

The request data is "/", use the serial port assistant to get the web page:

XCOM V2.6		-		\times
HTTP/1.1 200 OK	^	Port		
Accept-Ranges: bytes				
Cache-Control: no-cache		COM3: USB-5	SERIAL CH	$340 \sim$
Connection: keep-alive				
Content-Length: 9508		Baud rate	115200	\sim
Content-Type: text/html				
Date: Fri, 17 Jun 2022 03:48:01 GMT		Stop bits	1	~
P3p: CP=" OTI DSP COR IVA OUR IND COM "				
P3p: CP=" OTI DSP COR IVA OUR IND COM "		Data bits	8	~
Pragma: no-cache		n 1.	w	
Server: BWS/1.1		Farity	None	~
Set-Cookie: BAIDUID=AFDEDA8B33352FE045C560B03CEC0850:FG=1; expires=Thu, 31-Dec-37		0	C1	
23:55:55 GMT; max-age=2147483647; path=/; domain=.baidu.com		Operation		ose
Set-Cookie: BIDUPSID=AFDEDA8B33352FE045C560B03CEC0850; expires=Thu, 31-Dec-37				
23:55:55 GMT; max-age=2147483647; path=/; domain=.baidu.com		Save Data	Clear	Data
Set-Cookie: PSTM=1655437681; expires=Thu, 31-Dec-37 23:55:55 GMT; max-age=2147483647;				
path=/; domain=. baidu. com DAIA		flex		
Set-Cookie: BAIDUID=AFDEDA8B33352FE05CABE44166990399:FG=1; max=age=31536000;		RTS	自 i	动保存
expires=Sat, 17-Jun=23 03:48:01 GMT; domain=.baidu.com; path=/; version=1; comment=bd		□ TimeSta	nn 100	٦
Traceid: 165543768104666744427776909494167371134	~			ms
Single Send Justi Send Protocol Transmit Melp				
				_
			Ser	،d
			-	
			Clear	Send
	_			
Timing Cycle 1000 ms Open File	:	Send File	Stop :	Send
		and the second se		
U% 【火爆全网	J II	点原子DS100	手持示波	登上市
🔆 - www.openedv.com S:1 R:10495 CTS=0 DSR=0 DCD=0	Cu	rrent time11	:48:08	

POST description, the header data configured as POST request method does not need to configure the header data with a separate data length (for example: Content -length: 2729), the device will automatically calculate the data length and group the packet to send, other header data needs to be manually configured, at most Support 1 28 bytes data configuration.

4.4.6 MQTT client

Supports fast access to standard MQTT3.1.1 protocol servers (OneNET, Baidu Cloud, Huawei Cloud, user-built server types, etc.) and Alibaba Cloud servers, supports quality of service configuration (Qos 0, Qos 1), and supports ultra-long text Configuration, convenient and better access to network service operators (server address, three elements, subscription and publishing address support up to 128 characters configuration, Alibaba Cloud product key 6 4 characters).



When using the M QTT function, you should close the short link, otherwise the device will repeatedly connect to the server. It is recommended to use a random port, as shown in the figure below:

网络设置	PORT1	POR	T2 PC	IRT3	PORT4	PORT5	PORT6	PORT7	PORTS
基本参数									
网络工作模式 MQ	TT 客户端	/			~			本地端口 🖸	•
目标IP/域名 to	, ver							目标端口 [1	883 🗘
波特率 115	200 🗸	数据位	8 ~	校验位	NONE \sim	停止位	1 ~	流控	NONE \sim
🗌 启动短连接		0秒 🗘	短连接时间					连接清空缓存	启用 ~
📙 复制参数									」粘贴参数

1 To select the standard MQTT3.1.1, Baidu Cloud, OneNET, and Huawei Cloud configurations, you can refer to the following table to fill in the parameters:

parameter	Standard M QTT3.3.1	Baidu cloud	One NET
Equipment name (Client ID)	Client ID	DeviceKey	device ID
username (Device name)	User Name	IoTCoreId/Device Key	Product ID
password (Device secret)	Password _	DeviceSecret	Device Name/ User Password
PrductKey _	Alibaba (Cloud parameters, car	n be left blank
post topic	M QTT release	topic address (dynar	nically generated by

	One NET)
gubgariba tania	M QTT subscription topic address (dynamically
subscribe topic	generated by One NET)

Note

- Dynamically generating topic addresses can use the same parameters to achieve the effect of data return, for example: OneNET publishes and subscribes to the same topic address: 1 23456 to achieve data return;
 - the adjustment of the M QTT platform (Baidu Cloud, Huawei Cloud, OneNET), the

connection cannot be made after filling in the parameters, and the platform rules shall prevail; Take the standard MQTT3.1.1 parameter filling as an example, as shown in the figure below:

网络设置	PORT1	PORT2	PORT3	PORT4	PORT5	PORT6	PORT7	P	ORT
木参数									
+ ≥ ×∧ 络丁作模፣ MQTT:	客户端			~			本地端口	0	R
标TP/博名 top so	erver						日标端口	1883	6
45 T			+☆8人/-	100107				NONE	12
ł₫≄ 110200	~ <u>31</u>	0 (MAIN)	1003213	MONE V] J≜TEI⊼		·元1全	NURE	3
启动短连接	砚	◎ 短连打	接时间				连接清空缓?	字 启用	3
声 复制参数								🖊 粘眼緣	影数
🔁 复制参数							(🖌 粘贴緣	5数
┣┣ 复制参数 MQTT参数								<mark>之</mark>	8数
「夏制参数」 MQTT参数 平台选择	标准:	MQTT 3.1.1	~ 心跳包	,周期 「1	20秒 💲		[<mark>/</mark> 粘积佔参	₿数
▶ 复制参数 MQIT参数 平台选择 Chient ID	标准 Clien	MQTT 3.1.1 t ID	~ 心跳包	」周期 [1	20秒 🛟				₿数
▶ 复制参数 MQIT参数 平台选择 设备名 Client ID 用户名 四户名	标准: Clien USER:	MQTT 3.1.1 t ID NAME	~ 心跳包	周期 [20秒 🗘				●数
▶ 复制参数 MUTT参数 平台选择 设备名 Client ID 用户名 Device name 密码 Device seoret	标准: Clien USER: Passw	MQTT 3.1.1 t ID NAME ord	~ 心跳包	周期 [:	20秒 🗘				
と 复制参数 MGTT参数 平台法译 设备名 Client ID 用户名 Device name 密码 Device seoret ProductKey	标准: Clien USER: Passw user:	MQTT 3.1.1 t ID NAME ord ProductKey	~ 心跳包	周期 [:	20秒 🛊				5数
と 复制参数 MuTT参数 平台选择 设备名 Client ID 用户名 Device name 密码 Device secret ProductKey 订阅主题	标准 Clien USER Passw user sub	MRTT 3.1.1 t ID NAME ord ProductKey	~ 心跳包	周期	20秒 🗘		【 】 Qos等级		参数

2 Ali Cloud

It supports the use of Alibaba Cloud's "three elements" to directly connect to the server to obtain the "three elements" needed to connect to Alibaba Cloud, as shown in the figure (only for demonstration cases, users need to use self-built parameters to connect):

					-					
三 (-) 阿里云 🔤	✿ 工作:	台 华东2 (上海)	~							Q 搜索
← 公共实例	•	道写物联网平台满意	度问卷,说出您的心声,	有机会收获100元代金	券 (点击进入)					
设备管理	~	物联网平台 / 设备管	1理 / 设备 / 设备)	術				-		
产品		← DEV04	离线							
设备		产品	EBYTE 查看							DeviceSecret ******** 查看
分组		设备信息 To	nic 列表 物模型	数据 沿条影子	文件管理	日志昭祭	在线调试	分组	任祭	
任务			pre 7 State		Arread	H1010000	1230676350	73.41	1275	
CA 证书		设备信息								
规则引擎	~	产品名称	EBYTE				ProductKey		a1GlhuTU1y	N 复制
监控运维	~	节点类型	设备				DeviceName		DEV04 复制	1

Configure Topic for communication test:

☰ (-)阿里云 ♠	工作台 华东2 (上海) v 1		Q 搜索 觀	用 工単 ICP 都
← 公共实例	③ 填写物联网平台演察度问卷,说出您的心两 有机会收获100元代金券 (点击进入)			
设备管理	· 检察网平台 / 设备管理 / 英· / 产品洋街			
产品	← EBYTE	8		
设备	ProductKey a1GihuTU1yN 復知 设备数 4 前件管理	ProductSecret	******** 查看	
分组	产品信息 Topic 美列表 功能定义 数据解析 服务端订阅 设	备开发		
任务				
CA 证书	基础通信 Topic 物模 通信 Topic 自定义 Topic	9		
規則引擎	定义 Topic 类			
监控运维 ~	自定义 Topic	操作权限	ñž.	攝作
设备划归	/a1GlhuTU1yN/\$[deviceName]/user/1234	发布和订阅		编辑 删除

Configuration theme description:

Select the corresponding product, click "Customize To pic " under the Topic class list (please refer to the Alibaba Cloud documentation for details), click "Define To pic class", configure the name as 1 234 and grant publish and subscribe permissions (use for data return).

Configure the device connection parameters, as shown in the figure below (the left picture is the upper computer, and the right picture is the webpage configuration) :

{

```
"ProductKey": "a1GlhuTU1yN",
"DeviceName": "DEV04",
"DeviceSecret": "xxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
```

}

Aliyun server address: ProductKey . iot-as-mqtt.cn-shanghai.aliyuncs.com:1883 pic for subscription and publishing : /a1GlhuTU1yN/DEV04/user/1234

本参数									
络工作模式 MQTT	客户端			~			本地端口	0	
标IP/域名 🖬 Gl	huTV1yN.iot-	as-mqtt. on-sl	nanghai. aliyun	.cs. com			目标端口	1883	
特室 11520	0 ~ 数	据位 8	~ 校验(NONE	停止位	1 ~	流控	NON	Æ
自动短连接	nă	b 👌 镇连	接时间				连接害空缓	存自日	Ħ
1 March 18	1.00		1304 3145				12E 13C/P1 2E-400		9
左 复制参数								☑粕	贴参纳
🔁 复制参数								☑粗	贴参纳
┣┏ 复制参数 MQTT参数								☑粕	贴参纳
> 复制参数 MQIT参数 平台选择	阿里:	<u></u>	~ 心跳包	1周期	120秒 🗘			₩	贴参数
► 复制参数 MQTT参数 平台选择 设备名 Client ID	阿里: DEVO4	<u>ح</u>	~ 心跳包	1周期	120秒 🗘			₩	
► 复制参数 MQTI参数 平台选择 设备名 Client ID 用户名 Device pame	阿里: DEVO4 DEVO4	<u>-</u>	~ 心跳包	1周期	120秒 争			☑粕	
▶ 复制参数 MQTT参数 平台选择 Client ID 用户名 Device secret Device secret	同里: DEVO4 DEVO4		~ 心跳包 *******	1周期	12010 🗘			2 粘	
▶ 复制参数 MQTT参数 平台选择 Client ID 用户名 Device secret ProductKey	阿里: DEVO4 xxxxxx a1G11	2 i i innennennen i i i i i i i i i i i i	✓ 心跳包	3周期	12010 🗘			2 粒	
▶ 复制参数 MQIT参数 平台选择 设备名 Client ID 用户名 Device name 密码 Device secret FroductKey 订阅主题	阿里: DEV04 DEV04 xxxxxx alGll /alGl	Z i i iuTUIyN huTUIyN/DEVO.	✓ 心跳包 KKXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	3周期	120秒 🗘		 Qos等级	2 粘	

Alibaba Cloud MQTT platform communication test:

IX .
RX

4.5 channel port

random port:

TCP client, UDP client, HTTP client, MQTT client can configure the local port as 0 (use random local port), server mode cannot use random port, otherwise the client cannot establish the connection correctly (device is not correctly configured) port listening).

Using a random port connection can quickly re-establish the connection when the device is accidentally disconnected from the server, preventing the server from rejecting the connection due to four waved incomplete. It is recommended to use a random port in client mode.

the device configures the TCP client, HTTP client, and MQTT client mode at AT, it will automatically configure a random port, which can be canceled by customization.

Static port:

Device fixed port (factory default: 8 001-800 4), TCP server mode device listens to the configuration port, accepts the connection request from the client and establishes a connection for data communication, and TCP client mode device fixed port initiates a connection request.

Chapter 5 Advanced Features

5.1Heartbeat package and registration package

5.1.1Heartbeat packet

In client mode, users can choose to send heartbeat packets and customize the heartbeat packet time. The heartbeat packet can choose network heartbeat packet and serial port heartbeat packet. It supports hexadecimal and ASCII code sending. This heartbeat packet is not MQTT heartbeat. It needs to be closed when using MQTT client mode. MQTT heartbeat can only be set in the "MQTT parameter configuration" column. Configure "Heartbeat Period" in the next step. The content of the MQTT heartbeat packet is restricted by the protocol and cannot be configured. It is recommended not to configure it for less than 60s. For example, the Alibaba Cloud manual recommends using 120s.

Heartbeat packet sending mode:

- 1. The default is to turn off the heartbeat packet mode.
- Serial mode -> The device sends heartbeat content to the serial bus according to the set heartbeat time interval.
- 3. Network port mode -> The device sends heartbeat content to the network port bus according to the set heartbeat time interval.

Customize the content of the heartbeat packet (support up to 40 bytes (ASCII) data, 20 bytes (HEX) data)

Customize the heartbeat packet sending time interval. When it is set to 0, the heartbeat packet function is turned off. When the value is greater than 0, the heartbeat packet function is turned on. When it is turned on, the range can be set: (1-65536) seconds, and the default value is 0.

5.1.2 registration package

In the client mode, the user can choose to send the registration package and customize the registration package time.

The registration package supports the following modes:

1. The MAC address (OLMAC) is sent when the network establishes a connection with the device.

- 2. The data of the custom registration package (OLCSTM) is sent when the network establishes a connection with the device.
- 3. After the connection between the network and the device is established, the MAC address (EMBMAC) is added in front of each packet of data sent by the device to the network.
- After the connection between the network and the device is established, each packet of data sent by the device to the network will be prepended with custom registration packet data (EMBCSTM).

Customize the content of the registration package (support up to 40 bytes (ASCII) data, 20 bytes (HEX) data)

[Note] When configuring the registration package, it is recommended not to use special characters (such as "," "\", "/", etc.), if you want to use it, it is recommended to use hexadecimal configuration .

5.2 Short connection

In client mode, short network connections are supported (this function is disabled by default). TCP short connections are mainly used to save server resource overhead, and are generally used in multi-point (multi-client) to one-point (server) scenarios.

The TCP short connection function is applied in the TCP Client mode. After the short connection function is turned on, it only requests to connect with the server when sending information. After the connection is successful, the serial port does not receive data or the network port has no data to send and receive within the set time. The device will automatically disconnect.

When the short link hold time is set to 0, the short link function is disabled. When the setting range is (2-255) seconds, the short connection function is enabled, and the default hold time is 0 seconds (short connection is turned off).

5.3 Serial buffer cleaning

When the TCP connection is not established, the data received by the serial port will be placed in the buffer area. The serial port receiving buffer is 512 bytes. After the network connection is successful, you can choose to clear the serial port buffer or send the buffer through the network through configuration.

Enable: The device does not save the data received by the serial port before the connection is established.

Disabled: After the connection is established, the network will receive the data buffered by the serial port .

5.4 Modbus gateway

5.4.1 Protocol conversion

Modbus 参数			
MODBUS网关	简单协议转化	~	
MODBUS RTU <u>应</u> 行	答超时时间	1000臺秒	•
MODBUS RTU指领	令存储时间	10秒	A T
MODBUS RTU轮	旬间隔时间	500毫秒	÷
🔲 RTU<->TCP†	办议转换		

Enable: Verify Modbus data and discard non-Modbus data (R TU/TCP) without transmission, and convert Modbus RTU protocol to Modbus TCP protocol.

Disabled: Do not perform protocol conversion but check Modbus data, discard non-Modbus data (R TU/TCP) and do not transmit.

5.4.2 Simple Protocol Conversion

Modbus RTU data to Modbus TCP data, or convert Modbus TCP data to Modbus RTU data, and realize the mutual conversion between Ethernet Modbus data and serial port Modbus data.

Simple protocol conversion can work in any mode (TCP client, TCP server, U DP client, U DP server, M QTT client). This gateway mode does not support multi-host operation. If you need multiple hosts, please use "storage gateway" and "multi-host mode".

网络参数设置		基本参数 Title Poller Incommittee The Incommittee
设备名称 SN码	A001 S001	1 1
IP地址类型	静态IP	Ruðus 参数 Reiting (1)
本地IP地址	192. 168. 4 164	
子网掩码	255. 255. 0	ELANO-ONEDSCREM 描合列表: 原称 パー・・・・ 御知つ く つ つ
网关	192.168.4 1	上級部会員 通知会員
DNS	114, 114, 114, 114	- ○計目標式 光道乙計目 → ○計目期 68 0
断网重连时间	500	□ 田田大小明 Gata Andreas Jose
超时重启时间	300秒 😌 🗹 启用超打重启	™ Minish ∑ Minish ∑ Minish ∑ Minish ∑ Minish N

Simple protocol conversion configuration:

Modbus Poll and Modbus Slave software debugging : Software connection settings:

Mbpoll1	、 🛅 県 直 几 05 06 15 16 17 22 23 TC : Connection Setup	2 🖺 🔋 🕅		Connection Setun
= 1296: Err	Connection Modbus TCP/IP ~	ок	ID = 1: F = 03 No connection	Connection OK Serial Port
	Serial Settings USB-SERIAL CH340 (COM4) 115200 Baud B Data bits None Parity 1 Stop Bit Advanced	Cancel Mode TU ASCII Response Timeout [1000 [ms] Delay Between Pols [20 [ms]	Name 0 1 2 3 4 5 6 0 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	Canc Serial Settings USB-SERIAL CH340 (COM11) 115200 Baud ® RTU O ASCII B Data bits Row Control None Parity DSR CTS RTS Toggle 1 Stop Bit 1 [ms] RTS disable delay
elp, press F	Remote Modbus Server IP Address or Node Name [192.168.4.164 Server Port Connect Timeout [8886] 3000 [ms]	© IPv4 ○ IPv6	8	TCP/IP Server Port IP Address Port 192.168.3.3 Image: Server Serve

Software register reading and emulation configuration: Poll menu selection Set up \rightarrow Read/Write Definition

kead/wr		
Slave ID:	1	ОК
Function	03 Read Holding Registers (4x)	~ Cancel
Address:	0 PLC address = 4000	01
Quantity:		
Scan Rat	e: 1000 [ms]	Apply
Disable Rea	d/Write Disabled ble on error	Read/Write Once
View Rows	0 ○ 20 ○ 50 ○ 100 ○ Fit	to Quantity
Hide	e Alias Columns PLC Ado Iress in Cell Enron/D	dresses (Base 1) Daniel Mode
Reques	t	
RTU	01 03 00 00 00 05 85 C9	
ASCII	3A 30 31 30 33 30 30 30 30 30 30	30 35 46 37 0D 0A

Slave menu select Set up \rightarrow Slave Definition

Slave Defin	ition		×
Slave ID:	1		ОК
Function:	03 Holding Register (4	łx) ~	Cancel
Address r	O Hex		
Address: Quantity:	0 PLC add	ess = 40001	
View Rows 10	○20 ○50 ○1	00 O Fit to Quar	itity
Hide N	lame Columns ss in Cell	PLC Addresses (Base 1)
Error Simu	ulation		
Skip re	esponse	Insert CRC/LR	C error
0	[ms] Response Delay	Return except	ion 06, Busy

Newsletter Demo:

File Edit Connection Setup Functions Display View Window Help Image: Setup Functions Display Vi	웹 Modbus Poll - Mbpoll1		
Image: Serie 1: F = 03: SR = 10 Image: Serie 2: Sr	File Edit Connection Setup Functions D	splay View Window Help	
Mbpoll1 Image: Communication Traffic X Tx = 368: Err = 0: ID = 1: F = 03. SR = 1(Alias Image: Communication Traffic X Alias 00000 Image: Communication Traffic X Tx = 368: Err = 0: ID = 1: F = 03. SR = 1(Image: Communication Traffic X Image: Communication Traffic X Alias 00000 Image: Communication Traffic X Image: Communication Traffic X Tx : 000113 - 01 TP: 00 00 00 00 00 10 3 0A 00 01 00 02 00 03 00 04 00 05 X Image: Communication Traffic X Tx : 000114 - 01 TP: 00 00 00 00 00 10 3 0A 00 01 00 02 00 03 00 04 00 05 X Image: Communication Traffic X Tx : 000117 - 01 80 00 00 00 00 00 10 3 0A 00 01 00 02 00 03 00 04 00 05 X Image: Communication Traffic X X: 000117 - 01 80 00 00 00 00 00 01 03 0A 00 01 00 02 00 03 00 04 00 05 X Image: Communication Traffic X X: 000121 - 01 81 00 00 00 00 00 01 03 0A 00 01 00 02 00 03 00 04 00 05 X Image: Communication Traffic X X: 000122 - 01 83 00 00 00 00 00 01 3 0A 00 01 00 02 00 03 00 04 00 05 X Image: Communication Traffic X X: 000122 - 01 83 00 00 00 00 00 01 03 0A 00 01 00 02 00 03 00 04 00 05 X<	D 🗳 🖬 🎒 🗙 🗂 🗏 🎄 A 05 0	6 15 16 17 22 23 TC 🖳 🗮 🤋 🕅	
Alias 00000 Image: Communication Traffic Image: Communication Traffic			
IX = 368: Err = 0: ID = 1; F = 03: SR = 1(Ext Continue Clear Save Copy Log Stop on Error Time stamp Alias 00000 1 1 2 1 1 2 1		Communication Traffic	×
Alias O0000 Cal	1x = 368: Eff = 0: ID = 1: F = 03: SR = 10	Exit Continue Clear Save Conv Log Stop on Error Tr	me stamp
Allas 00000 1 1 0	Alias 00000 Å		ne stamp
0 1 2 2 3 1 1 2 1 1 1 2 1	Allas	Tx:000113-01 7E 00 00 00 00 01 03 0A 00 01 00 02 00 03 00 04 00 05	^
1 2 2 3 3 4 4 5 7 00116-01 80 00 00 00 00 01 03 00 00 00 00 00 05 Rx:000117-01 81 00 00 00 00 00 01 03 00 00 00 05 Rx:000112-01 81 00 00 00 00 00 00 00 00 00 05 Rx:000112-01 82 00 00 00 00 00 00 00 00 00 05 Rx:000122-01 82 00 00 00 00 00 00 00 00 00 05 Rx:000122-01 83 00 00 00 00 00 00 00 00 00 00 05 Rx:000122-01 83 00 00 00 00 00 00 00 00 00 00 05 Rx:000122-01 84 00 00 00 00 00 00 00 00 00 00 00 05 Rx:000122-01 84 00 00 00 00 00 00 00 00 00 00 00 00 00	0	Rx:000115-01 7F 00 00 00 0D 01 03 0A 00 01 00 02 00 03 00 04 00 05	
2 3 4 5 Fax:000117-01 80 00 00 00 00 00 00 01 03 0A 00 01 00 02 00 03 00 04 00 05 Fax:000118-01 81 00 00 00 00 00 00 01 03 0A 00 01 00 02 00 03 00 04 00 05 1 1 5 1 1 0 <td< td=""><td>1 2</td><td>Tx:000116-01 80 00 00 00 06 01 03 00 00 00 05</td><td></td></td<>	1 2	Tx:000116-01 80 00 00 00 06 01 03 00 00 00 05	
3 4 1x:000115-01 81 00 00 00 00 00 00 00 00 00 00 00 00 00	2 3	Rx:000117-01 80 00 00 00 00 01 03 0A 00 01 00 02 00 03 00 04 00 05	
4 5 Tx:000120-01 82 00 00 00 00 00 01 03 00 00 00 05 Fx:000121-01 82 00 00 00 00 00 01 03 00 00 01 00 02 00 03 00 04 00 05 Fx:000122-01 83 00 00 00 00 01 03 00 00 00 05 Fx:000123-01 83 00 00 00 00 01 03 00 00 00 05 Fx:000123-01 83 00 00 00 00 01 03 00 00 00 05 Fx:000125-01 84 00 00 00 00 01 03 00 00 00 05 Fx:000125-01 84 00 00 00 00 01 03 00 00 00 05 Fx:000126-01 85 00 00 00 00 01 03 00 00 00 05 Fx:000127-01 85 00 00 00 00 01 03 00 00 00 05 Fx:000127-01 85 00 00 00 00 01 03 00 00 00 05 Fx:000127-01 85 00 00 00 00 01 03 00 00 00 05 Fx:000127-01 85 00 00 00 00 01 03 00 00 00 05 Fx:000127-01 85 00 00 00 00 01 03 00 00 00 00 00 05 Fx:000127-01 85 00 00 00 00 00 01 03 00 00 00 00 00 00 00 00 00 00 00 00	3 4	TX:000118-01 81 00 00 00 06 01 03 00 00 00 05	
Bx:000121-01 82 00 00 00 00 01 03 0A 00 01 00 02 00 03 00 04 00 05 Tx:000122-01 83 00 00 00 00 01 03 0A 00 01 00 02 00 03 00 04 00 05 Rx:000123-01 83 00 00 00 00 01 03 0A 00 01 00 02 00 03 00 04 00 05 Tx:000124-01 84 00 00 00 06 01 03 0A 00 01 00 02 00 03 00 04 00 05 Tx:000124-01 85 00 00 00 00 01 03 0A 00 01 00 02 00 03 00 04 00 05 Rx:000127-01 85 00 00 00 00 01 03 0A 00 01 00 02 00 03 00 04 00 05 Tx:000126-01 85 00 00 00 00 01 03 0A 00 01 00 02 00 03 00 04 00 05 Tx:000127-01 85 00 00 00 00 01 03 0A 00 01 00 02 00 03 00 04 00 05 Tx:000127-01 85 00 00 00 00 01 03 0A 00 01 00 02 00 03 00 04 00 05 Tx:000127-01 85 00 00 00 00 01 03 0A 00 01 00 02 00 03 00 04 00 05 Tx:000127-01 85 00 00 00 00 01 03 0A 00 01 00 02 00 03 00 04 00 05 Tx:000127-01 85 00 00 00 00 01 03 0A 00 01 00 02 00 03 00 04 00 05 Tx:000127-01 85 00 00 00 00 01 03 0A 00 01 00 02 00 03 00 04 00 05 TX:000127-01 85 00 00 00 00 00 01 03 0A 00 01 00 02 00 03 00 04 00 05 TX:000127-01 85 00 00 00 00 00 00 01 03 0A 00 01 00 02 00 03 00 04 00 05	4 5 🗸	Tx:000120-01 82 00 00 00 06 01 03 00 00 00 05	
Tx::000122-01 83 00 00 00 60 10 30 00 00 00 5 Rx::00123-01 83 00 00 00 00 00 10 00 00 00 00 00 05 Tx::000124-01 84 00 00 00 00 00 00 00 00 00 00 05 Rx::000125-01 84 00 00 00 00 00 00 00 00 00 00 05 Rx::000126-01 85 00 00 00 00 00 00 00 00 00 00 00 00 00		Rx:000121-01 82 00 00 00 0D 01 03 0A 00 01 00 02 00 03 00 04 00 05	
Ax:000123-01 83 00 00 00 00 00 01 03 00 00 01 00 02 00 03 00 0% 00 05 Fx:000124-01 84 00 00 00 00 01 03 00 00 01 00 02 Fx:000125-01 84 00 00 00 00 01 01 03 00 00 01 00 02 Fx:000125-01 85 00 00 00 00 01 01 03 00 00 00 05 Fx:000125-01 85 00 00 00 00 01 01 03 00 00 00 05 Fx:000125-01 85 00 00 00 00 01 01 03 00 00 00 05 Fx:000125-01 85 00 00 00 00 01 01 03 00 00 00 05 Fx:000125-01 85 00 00 00 00 01 01 00 02 00 03 00 04 00 05 Fx:000125-01 85 00 00 00 00 01 01 00 02 00 03 00 04 00 05 Fx:000125-01 85 00 00 00 00 01 01 03 00 01 00 02 00 03 00 04 00 05 Fx:000125-01 85 00 00 00 00 01 01 03 00 01 00 02 00 03 00 04 00 05 Fx:000125-01 85 00 00 00 00 01 01 03 00 01 00 02 00 03 00 04 00 05		Tx:000122-01 83 00 00 00 06 01 03 00 00 00 05	
Rx:000125-01 84 00 00 00 00 01 02 00 03 04 00 05 Tx:000125-01 85 00 00 00 00 00 00 00 00 05 x x:000127-01 85 00 00 00 01 03 04 00 05 x Modbus Slave - Mbslave1 -		Rx:000123-01 83 00 00 00 00 01 03 0A 00 01 00 02 00 03 00 04 00 05	
Tx:000126-01 85 00 00 00 60 103 00 00 00 5 × 84:000127-01 85 00 00 00 00 01 03 0A 00 01 00 02 00 03 00 04 00 05 × 23 Modbus Slave - Mbslave1 - ×		Rx:000125-01 84 00 00 00 0D 01 03 0A 00 01 00 02 00 03 00 04 00 05	
Rx:000127-01 85 00 00 00 00 01 03 0A 00 01 00 02 00 03 00 04 00 05 V 21 Modbus Slave - Mbslave1 - - ×		Tx:000126-01 85 00 00 00 06 01 03 00 00 00 05	
2 Modbus Slave - Mbslave1 ×		Rx:000127-01 85 00 00 00 0D 01 03 0A 00 01 00 02 00 03 00 04 00 05	~
	🔀 Modbus Slave - Mbslave1	-	
File Edit Connection Setup Display View Window Help	File Edit Connection Setup Display Vie	w Window Help	
Communication Traffic X		Communication Traffic	×
Mbslave1 Ext Continue Clear Save Copy Log Time stamp	Mbslave1	Exit Continue Clear Save Copy Log Time stamp	
ID = 1: F = 03	ID = 1: F = 03		
Tx:000091-01 03 0A 00 01 00 02 00 03 00 04 00 05 CF 24		Tx:000091-01 03 0A 00 01 00 02 00 03 00 04 00 05 CF 24	^
Name 00000 ^ KX:00092-01 03 00 00 01 00 02 00 03 00 04 00 05 CF 24	Name 00000	Tx:000093-01 03 00 00 00 03 85 C9	
0 1 Rx:000094-01 03 00 00 05 85 C9	0 1	Rx:000094-01 03 00 00 00 05 85 C9	
1 2 Tx:000095-01 03 0A 00 01 00 02 00 03 00 04 00 05 CF 24	1 2	Tx:000095-01 03 0A 00 01 00 02 00 03 00 04 00 05 CF 24	
2 3 Rx:000096-01 03 00 00 00 05 85 C9 74	2 3	Rx:000096-01 03 00 00 00 05 85 C9	
3 4 Rx:00097-01 03 00 00 00 02 00 03 00 07 00 05 CF 24	3 4	Rx:000097-01 03 0A 00 01 00 02 00 03 00 04 00 03 CF 24	
4 Tx:000099-01 03 0A 00 01 00 02 00 03 00 04 00 05 CF 24	4 5	Tx:000099-01 03 0A 00 01 00 02 00 03 00 04 00 05 CF 24	
Rx:000100-01 03 00 00 05 85 C9		Rx:000100-01 03 00 00 05 85 C9	
Tx:00101-01 03 0A 00 01 00 02 00 03 00 04 00 05 CF 24		Tx:000101-01 03 0A 00 01 00 02 00 03 00 04 00 05 CF 24	
Tx: 000103-01 03 0A 00 01 00 02 00 03 00 04 00 05 CF 24		Tx:000103-01 03 0A 00 01 00 02 00 03 00 04 00 05 CF 24	

5.4.3 Multi-host mode

Relatively simple protocol conversion can only have one Modbus master station, while the multi-host mode can simultaneously access multiple Modbus TCP hosts. When multiple Modbus hosts access at the same time, the Modbus gateway will perform bus occupancy scheduling (RS -485 The bus can only process one request at a time, and the multi-host mode will sort and process according to the TCP request , and other links will wait), thus solving the bus conflict problem (currently, it supports up to 13 Modbus channels in single server mode TCP host connection, multi-channel host access at the same time should pay attention to the matching of the request interval and timeout time, otherwise the transmission rate of the serial port is much lower than the transmission rate of the Ethernet, resulting in packet loss. If you need a fast response, it is recommended to use a "storage gateway"), it only supports working in TCP server mode, and the

slave can only be on the serial port, otherwise it cannot work normally.

As the number of hosts increases, the Modbus timeout should be increased accordingly. If multiple hosts need continuous high-speed requests, it is recommended to use "storage gateway", and it is recommended to configure "simple protocol conversion" when there are no multiple hosts.

网络参数设置		网络设置 PORT1 PORT2 PORT3 PORT4 FORT5 PORT6 FORT7 PORT8
设备名称	4001	基本物的 FRET21643 107 18分析 V 本地域口 (2007 12) 目転27/554、1702 100 3 100 目前項目 (202 12)
SN码	5001	2011年 111000 - 第12012 0 - 第12012 10 - 1 - 2012 NOVE - 日本時期21日 - 2011日 - 201101 - 201100 - 201100 - 201100 - 201100 - 201100 - 201100 - 201100 - 201100 - 2011000 - 2011000 - 2011000 - 2011000 - 20110000 - 20110000 - 20110000 - 20110000000000
IP地址类型	1125番	
本地IP地址	192.168.4 .163	wows xrtike/stabilityili wow2b [] 1 0.00,00,00,0A wows xrtike/stabilityili wobb [] 1 0 0.00,00,0A
子网掩码	265, 265, 265, 0	www.kimpanagagiana ○ Kiw-Jinthe Self 論 編合列表: 部派
网关	192.168.41	
DNS	114.114.114	· · · · · · · · · · · · · · · · · · ·
断网重连时间	চ্চ	自定又の現他時編 bartheat packet □ 10注射 注册伯儀式 ✓ ✓ ✓ ✓ ✓ → → → → → → → → → → → → → →
超时重启时间	300秒 🔹 🗹 点用級計畫点	

Refer to "Simple Protocol Conversion" for software configuration and register configuration, and open multiple Modbus Poll software at the same time (3 channels as an example, and a single server model can support up to 13 channels).

🕅 Modbus Poll - Mbpoll1 - 🗆 X File Edit Connection Setup Functions Display View Window Help	Image: A model of the state of th
Image: Construction of the state of the	Name 00000 0 1 1 2 3 4 5 5
For Help, press F1. [192.168.4.163]: 8887	For Help, press F1. Port 7: 115200-8-N-1
Alias 00000 1 2 3 4 4 5	Alias 00000 Poll 3 1 2 3 3 4 5

5.4.4 Storage gateway

The storage gateway not only arbitrates the bus data, but also stores repeated read instructions. When different hosts request the same data, the gateway does not need to ask the RTU device register status multiple times, but directly returns the data cached in the storage area, which is extremely It greatly improves the multi-host request processing capability of the gateway, and also shortens the time consumed by the entire request process. Users can customize the polling interval of the storage area instructions and the instruction storage time according to their needs.

网络参数设置		基本参数 P%近日境立 TCF 販売値 マ 本地協口
设备名称	A001	日朝初月 100 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
SNA	5001	Li De-Julia (株 100 - Alla (株) (利 Li Alter) (利 Li Alter) (株) (株) (株) (株) (株) (株) (株) (株) (株) (株
IP地址类型	静态19	X.dex 参数
本地IP地址	192.168.4 .163	woste xruphe general general <td< td=""></td<>
子网撞码	255, 255, 255, 0	2) ANY ALBORTON 1699族: 1093 17
网关	192.168.4 .1	► 第988年 派の必正
DNS	114, 114, 114	
断网重连时间	540	
超时重启时间	300秒 🗘 自用却排重自	 ▶ ##### ▶ ###### ▶ ####################################

As an optimization of multi-host request performance, the storage gateway can only work in the TCP server mode, which improves the response speed of the network side.

- Features:
 - (1) The gateway has a 2K cache for storing instructions and returning results (reading 10 holding registers as an example, it can store about 67 instructions and returning results);
 - (2) The RTU response timeout automatically clears the cache to ensure the real-time and authenticity of the data;
 - (3) The polling interval can be customized, 0 -65535 ms (default: 200ms);
 - (4) RTU device according to the storage time of the command used for configuration. If the MODBUS host does not query the command again during the storage time, the gateway will automatically delete the storage command to release the cache;
 - (5) The first instruction and control instruction (05, 06, 0F, 10 function code) will directly access the RTU device ;
 - (6) Only support 01, 02, 03, 04M od bus function code query result storage;

5.4.5 Configurable gateway

The gateway automatically polls the RTU device registers according to the pre-configured MODBUS commands (only supports the configuration of MODBUS read commands), and the commands in the non-storage table will directly operate the RTU device, and the frequently read commands can be stored in the gateway in advance, which can shorten the Response time (command to query configuration), the data will not be sent directly to the server and will only be returned after the request of the Modbus host, which is similar to the use method of "simple protocol conversion". If you need to automatically upload the data to the server, please select "automatic upload". Due to the above characteristics, the serial port side of the configurable gateway can only be connected to

the Modbus slave station.

MODBUS网关	可配置网关	~	预配置指令列表	
MODBUS RTV <u>应</u> 著	弯超时时间	1000臺秒 ≑	1 01,03,00,00,00,0A	
MODBUS RTU指令	令存储时间	200秒 🜩		
MODBUS RTU轮行	间间隔时间	200毫秒 🗣		
🗹 RTU<->TCP	办议转换			
	指令列	表: 除		
		増加->	<	:

Instructions storage instructions (increase, instruction errors and format errors cannot be added):

~	预配置指令列表 3	
3000毫秒 🖨	1 01,03,00,00,00,0A 2 01 02 00 00 00 0A	
200秒 🗘	3 01,01,00,00,00,0A	
200毫秒 🗧	5 02,03,00,00,00,00	
	.2	
刘表: 删除		
,OA 增加->	<	>
	 > 3000毫秒 ÷ 200秒 ÷ 200憂秒 ÷ 1 1 小表: 删除 ,0A 増加-> 	→ 所配置指令列表 3 3000 空秒 ⇒ 200秒 ⇒ 200秒 ⇒ 200変秒 ⇒ 200変秒 ⇒ 1 01,03,00,00,00,0A 200秒 ⇒ 200変秒 ⇒ 3000空秒 ⇒ 1 → 200空秒 ⇒ 1 → 1 → ○2,03,00,00,00,0A 2 小表: 删除 →

Instruction storage instructions (delete):

MODBUS网关 可配置网	送 ~	预配置指令列表	
MODBUS RTV应答超时时间	3000臺和	1 01,03,00,00,00,0A 沙 全 2 01,02,00,00,00,0A	
MODBUS RTU指令存储时间	200秒	3 01,01,00,00,00,0A 4 01,04,00,00,00,0A	
MODBUS RTU轮询间隔时间	200臺利	୬ 🗧 5 02,03,00,00,00,0A	
☑ RTU<->TCP协议转换		2	
	指令列表:	刪除	
02, 03, 00), 00, 00, 0A	增加→> <	>

5.4.6 Automatic upload

In the client mode (TCP client, UDP client, MQTT client, HTTP client) the gateway will automatically poll the instructions stored in the instruction table and upload them to the server. You can choose the feedback format (Modbus RTU format or Modbus TCP format) according to your needs.) and command polling interval (0-65535ms).

Instruction pre-storage refers to "Configurable Gateway - Instructions for Instruction Storage", and automatically uploads the host computer/webpage configuration:

TCP client demo (Modbus RTU format):

	网络调试助手	×	- Modbus Slave -	[Mbslave1]		– 🗆 🗙
网络设置 (1) 协议类型 「TCP Server ▼ (2) 木地主机地址	数据日志 [2022-01-08 13:51:3 192.168.4.163 :6131:	<u>NetAssist V5.0.2</u>	File Edit Con □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □	nection Setup Display	y View Window	w Help <u>–</u> ♂ ×
192.168.4.100	01 03 02 00 01 79 8 [2022-01-08 13:51:3	4 9.669]# RECV HEX FROM	Name	00000	Name	00010
(3)本地主机端口 8886	192.168.4.163 :6131: 01 03 02 00 01 79 8	9> 4	0	1		0
· 美闭			2	0		0
	8		3 4	0		0
C ASCII · HEX			5	0		0
✓ 按日志模式显示 □ 按收区自动执行	<		6	0		0
□ 接收数据不显示			7	0		0
□ 接收保存到文件			8	0		0
自动滚屏 清除接收			9	0		0
发送设置						
▼ 转义符指令解析 ①	1	~				
目动友医附加位 「 打开立件粉课酒	数据发送 ▲ 断开	↓ 「清除 1」清除				
□ 循环周期 300 ms	01234567\r\n					
快捷指令历史发送		友法				
(♂ 就約 9/0	RX:63	TX:0 复位计数	For Help, press F1.	Port 7: 11	5200-8-N-1	

TCP client demo (Modbus TCP format):

	网络调试助手	₩ - □ ×	II Mo	dbus Slave - [l	Mbslave1]		- 0	×
网络设置 (1)协议类型 TCP Server	数据日志	NetAssist V5.0.2	🦳 File	Edit Conne E 🕘 🗍	ection Setup Dis	play View Win	ndow Help _	8 ×
(2) 本地主机地址 192.168.4.100 ▼	192.168.4.163 :44508 00 00 00 00 00 05 01 [2022-01-08 14:04:04) 03 02 00 01 .958]# RECV HEX FROM		Name	00000	Name	00010	
(3) 本地主机病口 [8886	00 00 00 00 00 05 01 [2022-01-08 14:04:10 192, 168, 4, 163 :44508	03 02 00 01 .002]# RECV HEX FROM >	0		0		0	
	00 00 00 00 00 05 01	03 02 00 01	3 4		0		0	
 ○ ASCII ○ HEX ○ 按日志模式显示 □ 接收区自动换行 	<		5		0		0	
 □ 接收数据不显示 □ 接收保存到文件 □ 自动流展 清除接收 			8 9		0		0	
Construction Construction C ASCII ○ HEX IF 转义符指令解析 ① IF 自动发送附加位						I		
□ 打开文件数据源 □ 循环周期 300 ms 快捷指令 历史发送 ☞ 发送 76/0	MR14425 Ell/H 01234567\r\n RX:3532	」 ◆ 月味 こ 消味 发送 TX:0 复位计数	<	nress F1	Dout 7	· 115200-8-N-1		>

5.5 Firmware upgrade

upgrade the firmware of the device through the "Ebyte Network Configuration Tool" .

5.5.1 UDP upgrade

Step 1: Open the "Ebyte Network Configuration Tool", and select "Device Upgrade Assistant" under

the "Menu" option;

Step 2: Select the firmware to be used, which needs to be obtained from the "Related Downloads" of the corresponding product details on the official website (www.ebyte.com) . The demo firmware is not provided on the official website.



Step 3: Click "Search Device", the device list will display the currently found device, click "Stop Search" again.

1000			10.02		40.4	and the
108	设督网络升级助手				-	
PTT	8产品资料/2022年度产品资料	/10183串口服务器项目资料	/狮试资料/固件/test.	ebin 🐚 选择固件	🔾 停止搜索	日升级
1	设备ID 0	IP 192.168.4.1	63 38	MAC地址 3B-26-3E-43-36	固件类 NB183	2
2	0	192.168.3.1	58 84	C2-E4-36-07-B7	NA111-V	2.0

After selecting the device to be upgraded, click Start to upgrade, and wait for the host computer to display that the upgrade is complete.

设备	Computer D 14					THAT	件类型
	ITE产品 资	料/2022年度产品资料/88	83串山脈旁蓋项目資料/側试資料/	MAC 物計	日代未用	计验计级	
	1	0	192.168.4.163	38-3B-26-3E-43-36	NB183		
	2	0	192.168.3.158	84-C2-E4-36-07-B7	NA111-V2.0	D	
5特网络 语言	配置助手 v3.0 关于)					0
時网络 语言 P: 192.	配置助手 v3.4 关于 168.3.100	2 路升级助手			- 0	- -	
游网络 百言 ?: 192 设备	配置助手 v3. 关于 166.3.100 112产品》 2备网 1112产品》	/ 络升级助手 (斜/2022年度产品谈料/88	83串口服务器项目资料/排证资料/	회件/test.ebin 5 选择副件	- C Q 把索设备	」 一 一 一 一 一 一 一 一 一 一 一 一 一	也 被素设 件类型
特网络 舌言 : 192. 设备	配置助手 v3. 关于 168.3.100 11 没备网 YTE产品多	2 塔升级助手 (料/2022年度产品该料/%8	83串口服务器项目设料/组成设料/	司件/test.ebin b 选择团件 [1914	- C Q 搜索设备 📄	」 × 开始升级	
特网络 音声 : 192. 设备	配置助手 v3.1	> 總升级助手 [料/2022年度产品成料/88 设备ID	83串口服务器项目资料/附试资料/	외件/test abin] 🐿 波祥岡件 🗌	- □ 【 搜索设备 】 固件类型] × 开始升级	- - - - - - - - - - - - - - - - - - -
(持网络) 舌言 : 192 设备	配置助手 v3.0 关于 186.3.100 1 1 1 1 1 1	。 總升级助手 [料/2022年度产品级H/200 设备10 0	83串口服务器项目读料/限机或转杆/ 19 192.168.4.163	回件/test ebin ▶ 选择圆件 ■ MAC培址 38-38-26-3E-43-36	- C Q 推索设备 B自作表型 NB183] × 开始升级	- - - - - - - - - - - - - -

5.5.2 Serial upgrade

Only channel 1 (that is, serial port 1, which can use RS232 interface / RS485 interface) supports the use of serial port for upgrading. When the network upgrade fails or the network environment is complicated, it is recommended to use the serial port for upgrading ;

Step 1: Make sure the device is powered off and connect to serial port 1 correctly;

Step 2: Open "Ebyte Network Configuration Tool", select "Serial Port Upgrade Assistant" under the "Menu" option, select the corresponding serial port and click "Open Serial Port";



Step 3: Select the firmware to be used, which needs to be obtained from the "Related Downloads" of the corresponding product details on the official website (www.ebyte.com) . The

demo firmware is not provided on the official website;



Step 4: Click "Start Upgrade", pull down the Re load pin of NS4 and then turn on the power of the device, wait for the firmware upgrade to complete, click "Cancel" to end the serial port upgrade;

B 串口升级助手	_		×	B 串口升级助手	23 <u></u> 33		×
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The final interpretation right belongs to Chengdu Ebyte Electronic Technology Co., Ltd.

Revision history

Version	revision date	Revision Notes	Maintained by
1.0	2023-03-16	initial version	LL
1 1	2022 12 8	Corrected dimensional	IVI
1.1	2023-12-8	drawings	LIL

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