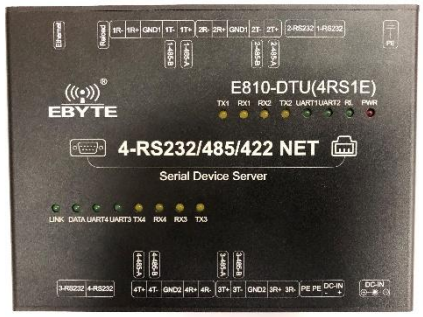
Chengdu Ebyte Electronic Technology Co.,Ltd

Wireless Modem

User Manual

E810-DTU(4RS1E)



All rights to interpret and modify this manual belong to
Chengdu Ebyte Electronic Technology Co., Ltd.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

catalogue

CATALOGUE **1**

DISCLAIMER **3**

1. PRODUCT INTRODUCTION **4**

1.1. INTRODUCTION 4
1.2. **PRODUCT FEATURES** 4
1.3. **PRODUCT SPECIFICATIONS** 4

2. INTRODUCTION TO PRODUCT DESIGN **6**

2.1. **IDENTIFICATION(SIZE)** 6
2.2. **IDENTIFICATION(INTERFACE AND INDICATOR LIGHT)** 7
2.3. **CONNECTION METHOD** 9
2.3.1. RS232 connection method *9*
2.3.2. RS485 connection method *10*
2.3.3. RS422 connection method *11*

3. INTRODUCTION TO BASIC NETWORK FUNCTIONS **11**

3.1 **IP ADDRESS/SUBNET MASK/GATEWAY** 11
3.2 DNS SERVER ADDRESS **12**

4. SOCKET FEATURES **12**

4.1. **TCP SERVER MODE FEATURES** 12
4.2. **TCP CLIENT MODE FEATURES** 13
4.3. **UDP SERVER MODE FEATURES** 13
4.4. **UDP CLIENT MODE FEATURES** 14

5. SPECIAL FEATURES **14**

5.1. **SHORT CONNECTION** 14
5.2. **REGISTRATION PACKAGE MECHANISM** 14
5.3. **HEARTBEAT PACKET MECHANISM** 15
5.4. **TIMEOUT RESTART** 15
5.5. **TCP MULTI-CONNECTION FUNCTION** 15
5.6. **CLEAR CACHED DATA** 15
5.7. **LINK AND DATA TRANSMISSION INDICATION** 15
5.8. KEEP ALIVE FEATURES **16**
5.9. MODBUS TCP TO RTU FUNCTION **16**
5.10. FACTORY RESET **16**

6. QUICK INSTRUCTIONS FOR USE **16**

6.1. **PARAMETER SETTING INSTRUCTIONS** 16

Copyright ©2025，Chengdu Ebyte Electronic Technology Co.,Ltd.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

6.2. SOCKET INSTRUCTIONS FOR USE 16
6.2.1. TCP Server Instructions 17
6.2.2. TCP Client Instructions 19
6.2.3. UDP Server Instructions 20
6.2.4. UDP Client Instructions 21
6.3. INSTRUCTIONS FOR USE OF SPECIAL FEATURES 23
6.3.1. Short connection instructions for use 23
6.3.2. Instructions for using the registration package 23
6.3.3. Heartbeat Pack Instructions for Use 23
6.3.4. Instructions for timeout restart 23
6.3.5. Clear cache instructions 23
7. IMPORTANT STATEMENTS 23
8. REVISED VERSION 24
ABOUT US 24

Copyright ©2025，Chengdu Ebyte Electronic Technology Co.,Ltd.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Disclaimer

EBYTE reserves all rights to this document and the information contained herein. Products, names, logos and designs described herein may in whole or in part be subject to intellectual property rights. Reproduction, use, modification or disclosure to third parties of this document or any part thereof without the express permission of EBYTE is strictly prohibited.

The information contained herein is provided “as is” and EBYTE assumes no liability for the use of the information. No warranty, either express or implied, is given, including but not limited, with respect to the accuracy, correctness, reliability and fitness for a particular purpose of the information. This document may be revised by EBYTE at any time. For most recent documents, visit www.cdebyte.com.

Copyright ©2025，Chengdu Ebyte Electronic Technology Co.,Ltd.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

1. Product Introduction

1.1. Introduction

E810 (4RS1E) is a four serial port server of RS422 & RS485 & RS232 to Ethernet, which realizes transparent data transmission between RJ45 network port and RS422, RS485 and RS232. The device is equipped with M3 series 32-bit processor, which runs fast and has high efficiency. With adaptive network rate. There are four communication mechanisms: TCP Server, TCP Client, UDP Server and UDP Client. E810 (4RS1E) is easy to operate, and users can use **web page** parameter configuration of equipment to easily realize data transmission.

1.2. Product Features

- 4-channel 485/232/422 and RJ45 Ethernet data transparent transmission;
- Support modbus-RTU to modbus-TCP;
- Support AT command setting;
- Support web page configuration;
- Hardware watchdog with a high degree of reliability;
- The power supply has good overcurrent, overvoltage, anti-reverse connection and other functions;
- Wide voltage input 8V-28V, 12V or 24V is recommended.

1.3. Product specifications

Serial number	Product specifications, features	Description
1	Supply voltage	8 ~ 28V DC, note: higher than 28V will cause permanent damage to the equipment, 12V or 24V power supply is recommended
2	Operating current	180.7 mA @ 12V (RS232), 176.8 mA @ 12V (RS485), 173.8 mA @ 12V (RS422)
3	Way of Work	Asynchronous half-duplex or asynchronous full-duplex
4	Interface mode	RS232: network port connector, the wire sequence is introduced in the figure below RS485/RS422: 1 * 5 * 3.81, crimping mode RJ45: network port
5	Transmission medium	Network cable/twisted pair or shielded cable
6	Serial port standard	RS232: 1200 ~ 115200 bps RS485/RS422: 1200 ~ 460800 bps

Copyright ©2025，Chengdu Ebyte Electronic Technology Co.,Ltd.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

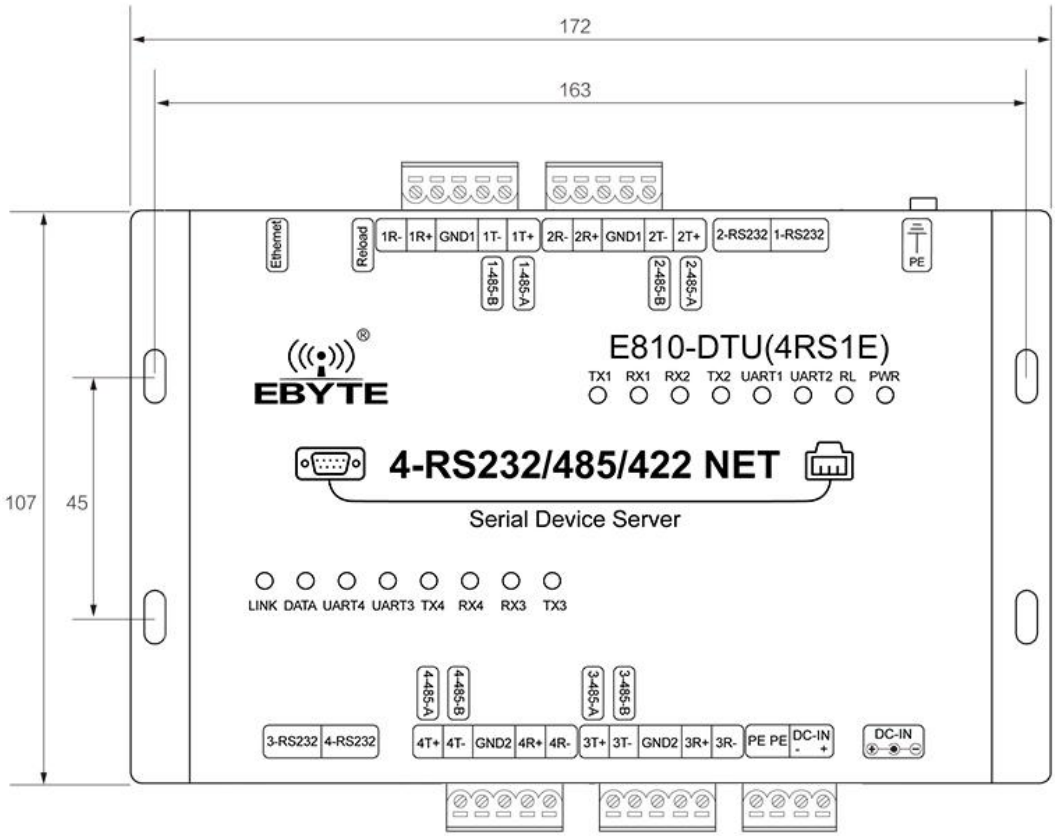
7	Network port specifications	RJ45, 10/100 Mbps
8	Network protocols	IP, TCP/UDP, ARP, ICMP, IPV4
9	IP acquisition method	Static IP, DHCP
10	Domain name resolution	Support
11	User configuration	Web page configuration
12	Simple transmission method	TCP Server, TCP Client, UDP Server, UDP Client
13	TCP Server Connection	Supports up to 4 TCP connections
14	Operating temperature	-40 ~ + 85 ℃, industrial grade
15	Operating humidity	10% ~ 90% relative humidity, no condensation
16	Storage temperature	-40 ~ + 125 ℃, industrial grade
17	Average weight	416g
18	Size Size	150*107*29

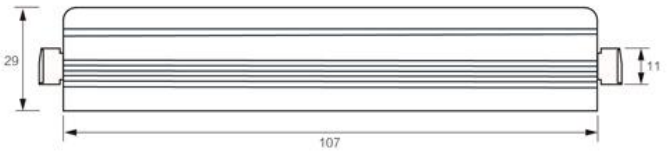
Copyright ©2025，Chengdu Ebyte Electronic Technology Co.,Ltd.

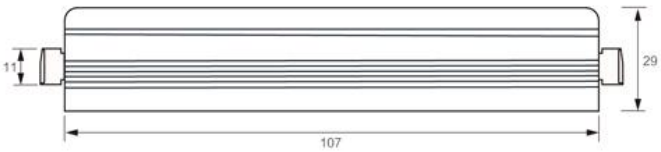
Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

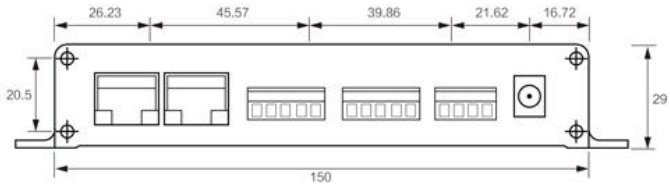
2. Introduction to product design

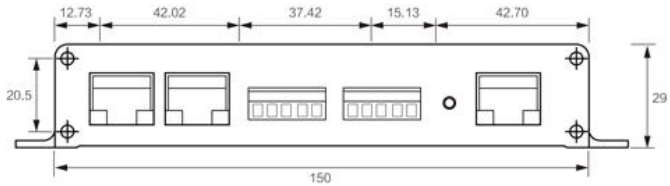
2.1. Identification(Size)







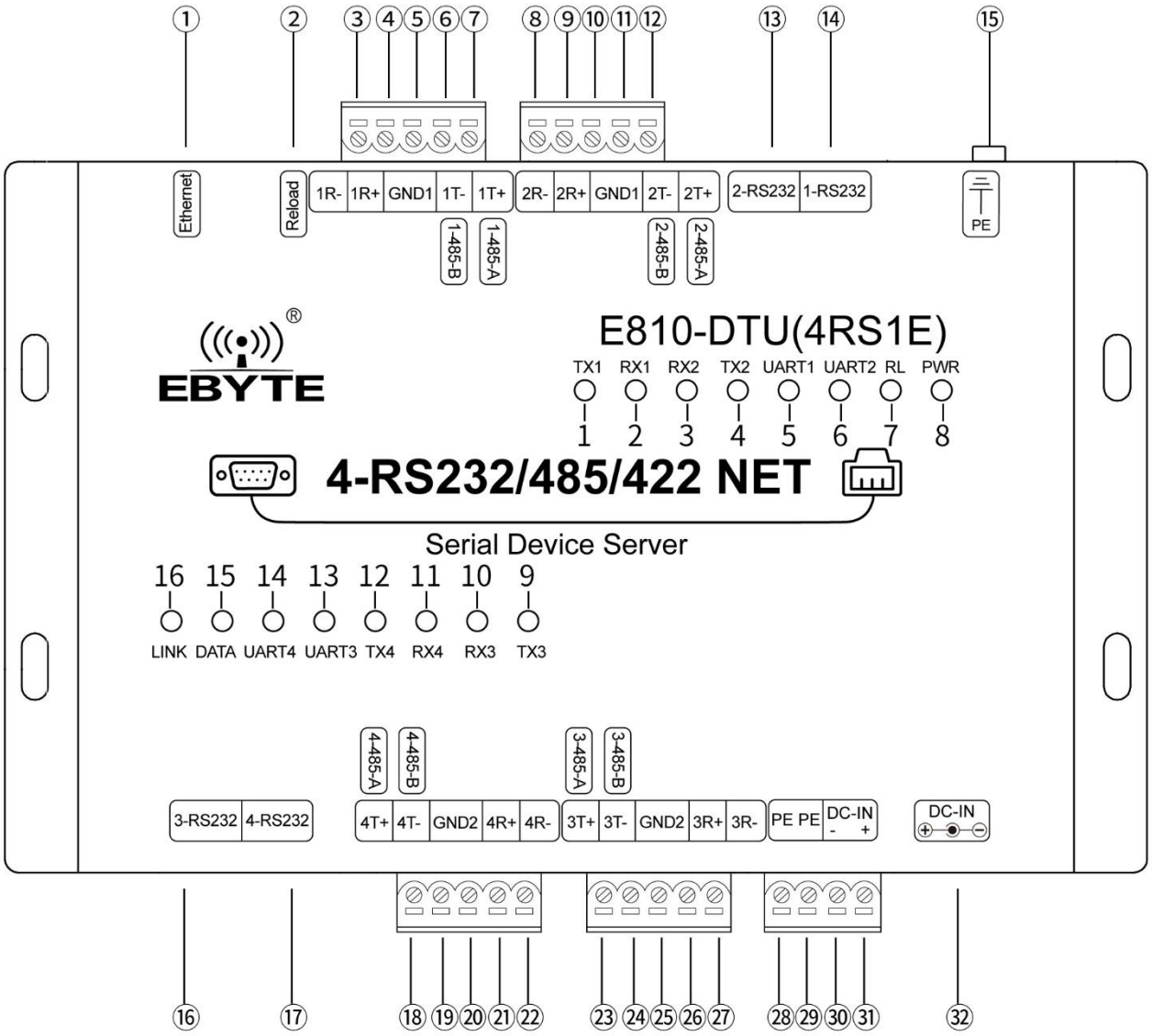




Copyright ©2025，Chengdu Ebyte Electronic Technology Co.,Ltd.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

2.2. Identification(Interface and indicator light)



Pin serial number	Pin Name	Pin Purpose
1	Ethernet	RJ45 Network Interface
2	Reload	Restore factory settings button, press and hold for 5 ~ 10s to be effective
3	1R-	The first serial port RS422 data receiving (B-) interface (3.81 mm terminal block)
4	1R +	1st serial port RS422 data reception (A +) (3.81 mm terminal block)
5	GND1	1st and 2nd signal reference ground (3.81 mm terminal)
6	1T-(1-485-B)	The first serial port RS485 data interface B terminal/RS422 data transmission (B-) interface (3.81 mm terminal block)
7	1T + (1-485-A)	The first serial port RS485 data interface A terminal/RS422 data transmission (A +) interface (3.81 mm terminal block)
8	2R-	The second serial port RS422 data receiving (B-) interface (3.81 mm terminal block)
9	2R +	2nd serial port RS422 data reception (A +) (3.81 mm terminal block)

Copyright ©2025，Chengdu Ebyte Electronic Technology Co.,Ltd.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

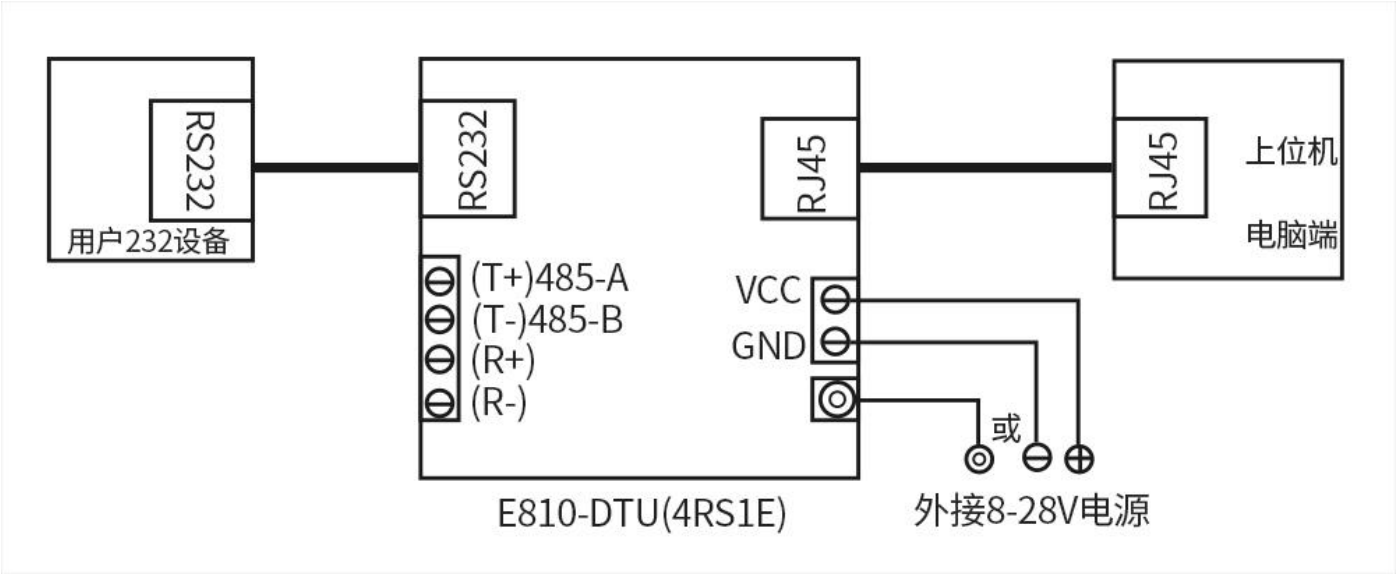
10	GND1	1st and 2nd signal reference ground (3.81 mm terminal)
11	2T-(2-485-B)	The second serial port RS485 data interface B terminal/RS422 data transmission (B-) interface (3.81 mm terminal block)
12	2T + (2-485-A)	The second serial port RS485 data interface A terminal/RS422 data transmission (A +) interface (3.81 mm terminal block)
13	2-RS232	2nd RS232 data interface (network port connector)
14	1-RS232	The first RS232 data interface (network port connector)
15	PE	Earth screw post, connected to earth
16	3-RS232	3rd RS232 data interface (network port connector)
17	4-RS232	The 4th RS232 data interface (network port connector)
18	4T + (4-485-A)	The 4th serial port RS485 data interface A terminal/RS422 data transmission (A +) interface (3.81 mm terminal block)
19	4T-(4-485-B)	The 4th serial port RS485 data interface B terminal/RS422 data transmission (B-) interface (3.81 mm terminal block)
20	GND2	3rd and 4th signal reference ground (3.81 mm terminal)
21	4R +	4th serial port RS422 data reception (A +) (3.81 mm terminal block)
22	4R-	The 4th serial port RS422 data receiving (B-) interface (3.81 mm terminal block)
23	3T + (3-485-A)	The third serial port RS485 data interface A terminal/RS422 data transmission (A +) interface (3.81 mm terminal block)
24	3T-(3-485-B)	The third serial port RS485 data interface B terminal/RS422 data transmission (B-) interface (3.81 mm terminal block)
25	GND2	3rd and 4th signal reference ground (3.81 mm terminal)
26	3R +	3rd serial port RS422 data reception (A +) (3.81 mm terminal block)
27	3R-	The third serial port RS422 data receiving (B-) interface (3.81 mm terminal block)
28	PE	Connection to earth (3.81 mm terminal block
29	PE	Connection to earth (3.81 mm terminal block
30	DC-IN (-)	Power Terminal Ground (3.81 mm Terminal)
31	DC-IN (+)	Positive power terminal, not simultaneously with power outlet (3.81 mm terminal)
32	DC-IN	Power socket, not supplied simultaneously with power terminal
LED indicator		
1	TX1	1st serial port data transmission indicator light
2	RX1	1st serial port data receiving indicator lamp
3	RX2	2nd serial port data receiving indicator light
4	TX2	2nd serial port data transmission indicator light
5	UART1	1st serial port data transceiving indicator light
6	UART2	2nd serial port data transceiving indicator light
7	RL	Factory reset indicator
8	PWR	Power indicator light
9	TX3	3rd serial port data transmission indicator light
10	RX3	3rd serial port data receiving indicator light
11	RX4	4th serial port data reception indicator
12	TX4	4th serial port data transmission indicator light
13	UART3	3rd serial port data transceiving indicator light
14	UART4	4th serial port data transceiving indicator light
15	DATA	Network data transmission and reception indicator
16	LINK	Network Connection LED

Copyright ©2025，Chengdu Ebyte Electronic Technology Co.,Ltd.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

2.3. Connection method

2.3.1. RS232 connection method

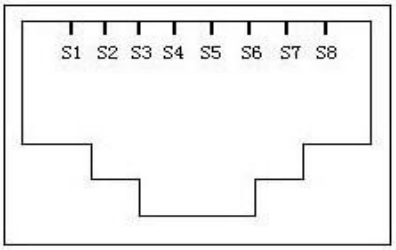


Note: Wiring sequence of network port type 232 interface

Copyright ©2025，Chengdu Ebyte Electronic Technology Co.,Ltd.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

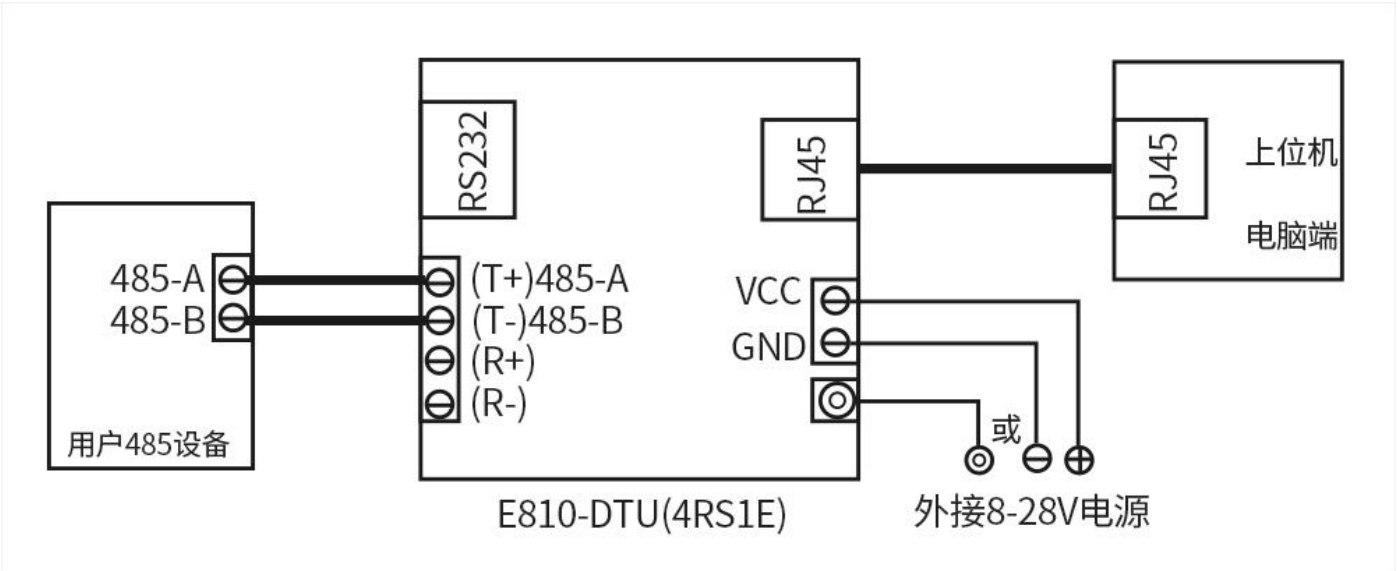
RJ45 水晶头线序说明：

端口号	线序说明
接以太网口   RJ-45接头	S1：橙白 S2：橙 S3：绿白 S4：蓝 S5：蓝白 S6：绿 S7：棕白 S8：棕

RJ45→RS232 接口：（RS232 水晶头线序）

RJ45 引脚	1	2	3	4	5	6	7	8
232 引脚	空	空	GND	TXD	RXD	空	空	空

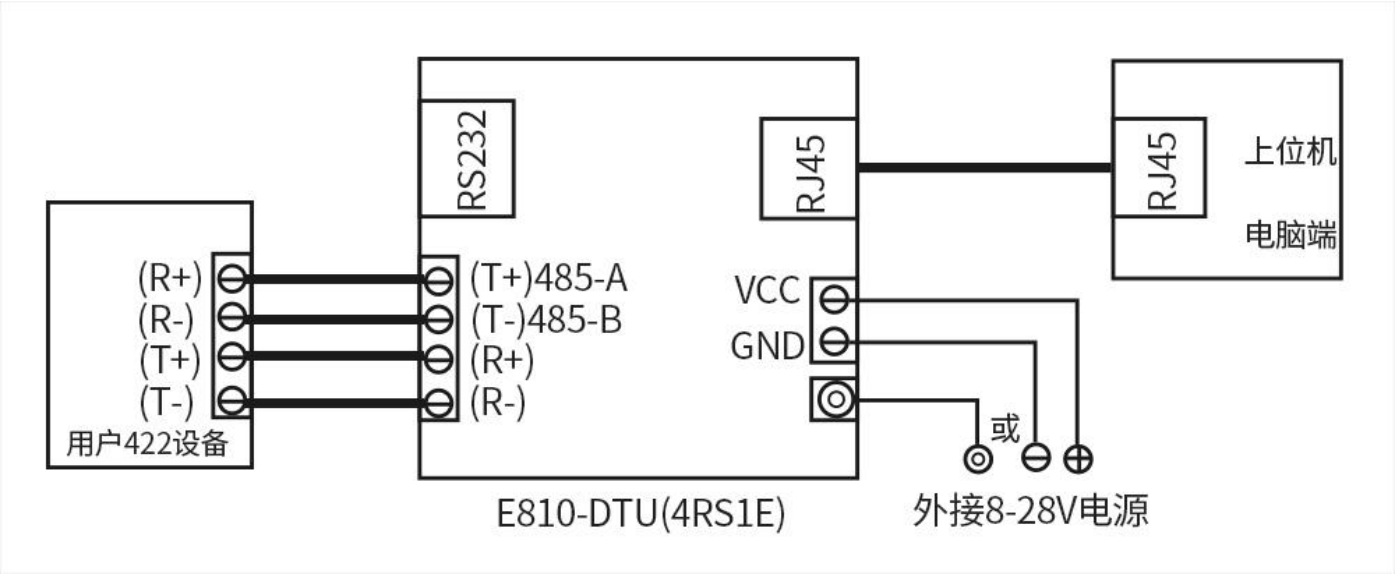
2.3.2. RS485 connection method



Copyright ©2025，Chengdu Ebyte Electronic Technology Co.,Ltd.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

2.3.3. RS422 connection method



Note: When wiring as full duplex (RS422) or half duplex (RS485), in order to prevent signal reflection and interference, a matching resistor (parameter is 120 ohm 1/4 W) needs to be connected at the terminal of the line!

3. Introduction to basic network functions

3.1 IP address/subnet mask/gateway

1. IP address is the identity representation of DTU in LAN, which is unique in LAN, so it cannot be duplicated with other devices in the same LAN.

The IP address of E810 (4RS1E) can be obtained in two ways: static IP and DHCP.

(1) Static IP

Static IP needs to be set manually by users. During the setting process, pay attention to writing IP, subnet mask and gateway at the same time. Static IP is suitable for scenarios where statistics on IP and devices are required and one-to-one correspondence is required.

Advantages: Access devices that cannot automatically assign IP addresses can be searched through the broadcast mode of the whole network segment;

Disadvantages: Different IP network segments in different LANs will lead to the inability to perform normal TCP/UDP communication.

(2) DHCP

The main function of DHCP is to dynamically obtain IP address, Gateway address, DNS server address and other information from the Gateway host, thus eliminating the cumbersome steps of setting IP address. It is suitable for scenarios where there are no requirements for IP, and there is no one-to-one correspondence between IP and DTU is required.

Advantages: Access routers and other devices with DHCP Server can communicate directly, reducing the trouble of setting IP address gateways and subnet masks

Disadvantages: E810 (4RS1E) will not work properly when connecting to a network without DHCP Serve, such as directly connecting to a computer.

2. The subnet mask is mainly used to determine the network number and host number of the IP address, indicate the number of subnets, and

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

judge whether the DTU is in the subnet. The subnet mask must be set. Our commonly used Class C subnet mask: 255.255. 255.0. The network number is the first 24 bits, the host number is the last 8 bits, the number of subnets is 255, and the DTUIP is within the range of 255. Then DTUIP is considered to be in this subnet.

3. The gateway refers to the network number of the network where the current IP address of the DTU is located. If you connect to a device such as a router when connecting to the external network, the gateway is the IP address of the router. If it is set incorrectly, you cannot connect to the external network correctly. If you do not connect to a device such as a router, you do not need to set it, just by default.

3.2 DNS server address

DNS servers are mainly used to convert domain names into IP addresses recognizable by the network. The address of the DNS server can be set, which can realize domain name resolution when the local domain name server is imperfect. Users can also set the address of a specific DNS server according to their needs. When E810 (4RS1E) needs domain name resolution, it will submit a resolution request to the set DNS server. More flexible and reliable to use.

In static IP mode, the primary DNS server address defaults to 61.139. 2.69, and the standby DNS server address is 192.168. 4.1. In DHCP mode, the DNS server address is obtained automatically. DTU supports the domain name server address can be set.

4. Socket features

The Socket working modes of E810 (4RS1E) are divided into four types: TCP Client, TCP Server, UDP Client and UDP Server, which can be configured through the web interface.

4.1. TCP Server Mode Features

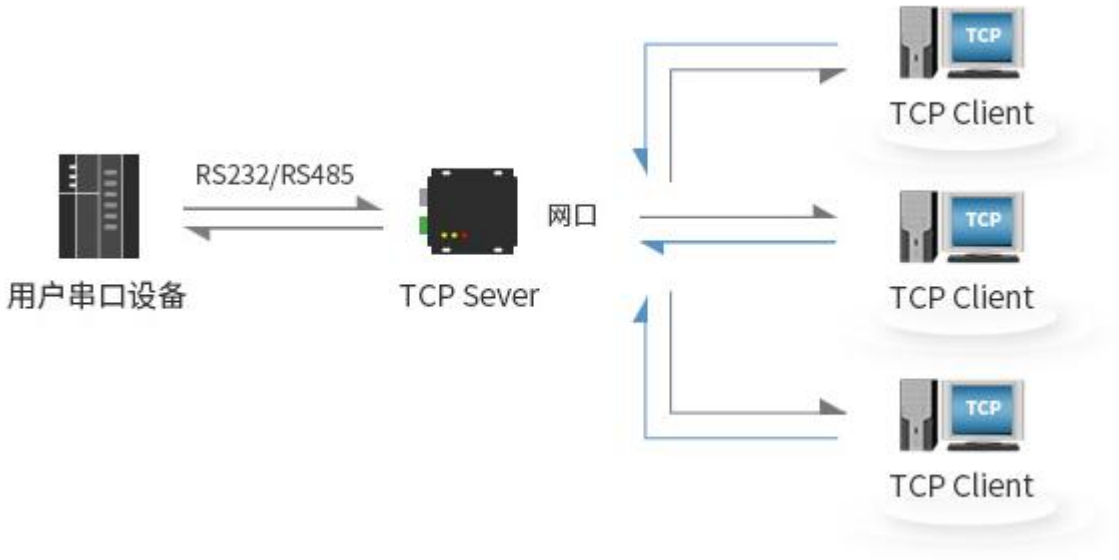


Figure 4.2 TCP Server

(1) TCP Server is a TCP Server. In TCP Server mode, E810 (4RS1E) listens to the local port, accepts and establishes a connection for data communication when a connection request is sent. When the E810 (4RS1E) serial port receives data, it will simultaneously send the data to all client devices connected with E810 (4RS1E).

(2) It is usually used for communication with TCP clients within the local area network. It is suitable for scenarios where there is no server in LAN and multiple computers or mobile phones request data from the server. Like TCP Client, there are differences between connection and disconnection to ensure reliable data exchange.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

(3) When E810 (4RS1E) is used as a TCP Server, it can accept up to 6 Client connections. The local port number is a fixed value and cannot be set to 0.

4.2. TCP Client mode features

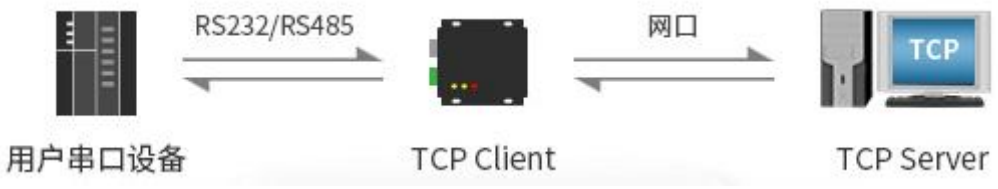


Figure 4.3 TCP Client

(1) TCP Client provides client connection for TCP network services. Actively initiate a connection request to the server and establish a connection, which is used to realize the interaction between serial port data and server data. According to the relevant provisions of TCP protocol, TCP Client has the difference between connection and disconnection, thus ensuring the reliable exchange of data. Usually used for data interaction between devices and servers, it is the most commonly used network communication method.

(2) When E810 (4RS1E) tries to connect to the server in TCP Client mode and the local port is 0, it initiates the connection with a random port every time.

(3) This mode supports short connection function.

(4) Under the same LAN, if E810 (4RS1E) is set to static IP, please keep the IP of E810 (4RS1E) and the gateway in the same network segment, and set the gateway IP correctly, otherwise normal communication will not be possible.

4.3. UDP Server Mode Features

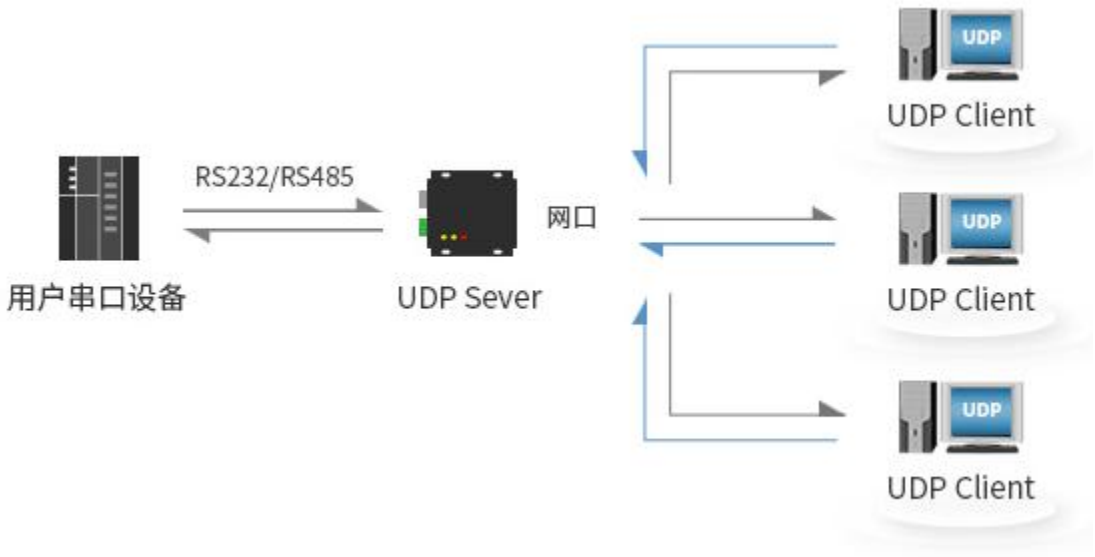


Figure 4.4 UDP Server

(1) UDP Server refers to the fact that the source IP address is not verified on the basis of ordinary UDP. Every time a UDP data packet is received, the target IP is changed to the data source IP and port number. When sending data, it is sent to the most recent communication IP and port number.

(2) This mode is usually used in data transmission scenarios where multiple network devices need to communicate with DTU and do not want to use TCP due to the fast speed and frequency.

Copyright ©2025，Chengdu Ebyte Electronic Technology Co.,Ltd.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

4.4. UDP Client mode features



Figure 4.5 UDP Client

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

(2) In UDP Client mode, E810 (4RS1E) will only communicate with the target port of the target IP. If the data does not come from this channel, the data will not be received by E810 (4RS1E).

(3) In UDP Client mode, if the target address is set to 255.255. 255.255, the effect of UDP full network segment broadcast can be achieved, and broadcast data can also be received. E810 (4RS1E) DTU supports broadcast within the network segment, such as xxx.xxx.xxx.255 broadcast mode.

5. Special features

5.1. Short connection

The use of TCP short connection is mainly to save server resources, and is generally used in multi-point-to-point scenarios. Using short connections, you can ensure that all existing connections are useful connections, and no additional control means are needed for screening.

The TCP short connection function is applied in TCP Client mode. After the short connection function is turned on, information is sent. If there is no data received from the serial port or network port within the set time, the connection will be automatically disconnected. The short connection function is turned off by default, and the disconnection time can be set after the function is turned on. The setting range is 2 ~ 255S.

5.2. Registration package mechanism

In network transparent mode, the user can choose to let the DTU send the registration packet to the server. The registration package is designed to enable the server to identify the data source device, or as a password to obtain authorization for server functions.

E810 (4RS1E) has four registration package mechanisms:

- Send MAC when connecting: When the connection is established, the DTU will send the MAC address of the DTU itself to the device once
- Send custom data when connecting: DTU will send user-defined data to the device once when the connection is established
- Send MAC per packet of data: Add the MAC address of the DTU before each frame of data sent by the DTU
- Send custom data for each packet of data: user-defined data will be added before each frame of data sent by DTU

Copyright ©2025，Chengdu Ebyte Electronic Technology Co.,Ltd.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Establishing a connection and sending registration packets are mainly used to connect to servers that need to be registered. Data carrying registration packet refers to accessing the registration packet at the front end of the data when sending data, and is mainly used for protocol transmission. User-defined packets default to hexadecimal data (ASCII code is optional), and the maximum packet length is 40 bytes.

5.3. Heartbeat packet mechanism

In network transparent mode, the user can choose to have E810 (4RS1E) send heartbeat packets. Heartbeat packets can be sent to the network server or the serial device, and cannot run at the same time.

Network heartbeat packet: Sends a heartbeat packet to the network. Under the set heartbeat sending period, the DTU sends heartbeat packet data to the network server to maintain the connection with the network server. It only takes effect in TCP Client and UDP Client modes.

Serial port data packet: The DTU sends heartbeat packet data to the serial port under the set heartbeat sending period, and the user can do corresponding processing after receiving the heartbeat data at the serial port.

In the application where the server sends a fixed query instruction to the device, in order to reduce the communication traffic, the user can choose to send a heartbeat packet (query instruction) to the serial device instead of sending the query instruction from the server.

User-defined packets default to hexadecimal data (ASCII code is optional), and the E810 (4RS1E) DTU supports custom heartbeat packet content up to 40 bytes.

5.4. Timeout restart

The timeout restart (no data restart) function is mainly used to ensure the long-term stable operation of E810 (4RS1E). When the network port cannot receive data for a long time, or the network does not receive data for a long time, E810 (4RS1E) will restart after exceeding the set time, so as to avoid abnormal situations affecting communication. The normal working time of this function is set to 60 ~ 65535S, and the default value is 300S. When the setting time is less than 60S, it will be set to zero by default, that is, the function will be turned off.

5.5. TCP multi-connection function

The TCP multi-connection function mainly solves the problem that in TCP Sever mode, users have multiple clients connecting to E810 (4RS1E) and sending and receiving data at the same time. When the E810 (4RS1E) acts as a TCP Server, up to 6 connections can be established simultaneously. The TCP Server sends data to multiple (no more than 6) TCP Clients on the connection at the same time. When the number of connections established exceeds 6, the old connection established at first will be actively broken, that is, the old connection will be kicked off.

5.6. Clear cached data

When the TCP connection is not established, the data received by the serial port will be placed in the cache area. The E810 (4RS1E) serial port receiving cache is 400byte. When the TCP connection is established, the serial port cache data can be cleaned according to customer needs.

5.7. Link and data transmission indication

Link indicates the network connection status of the DTU. In TCP mode, when the network is not connected, Link is extinguished. When the

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

connection is established, Link is always on. The Link LED is always on in UDP mode.

The other is the data transmission indication, which shows the data transmission status of the serial port of DTU. When there is no data transmission on the serial port, the data transmission indicator light goes out. When there is data transmission on the serial port, it flashes to indicate that its period is 60ms, and the indicator light lights up for 10ms, as shown in the figure below. (Supplementary pictures)

5.8. Keep Alive features

Keep-Alive is a mechanism for detecting dead connections in TCP connections. When the user does not send any data, "Keep-Alive" messages will be periodically sent on the TCP link to maintain the idle link and avoid dead connections consuming unnecessary system resources. This setting is valid under TCP, and the user can customize the Keep-Alive switch and other parameters.

keepalive parameter introduction:

time: How many seconds after the TCP link does not transmit a data message to start a probe message;

intv: A time interval between a previous probe message and a subsequent probe message;

probes: The maximum number of probe failures to which the TCP connection will be disconnected when sniffing fails.

5.9. Modbus TCP to RTU function

The device supports the mutual conversion function between Modbus RTU and Modbus TCP. After the function is turned on, the device will detect whether the data meets the requirements of the Modbus RTU (Modbus TCP) protocol when it receives the data. After the verification is successful, the Modbus RTU data will be converted to Modbus TCP, and the Modbus TCP data will be converted to Modbus RTU data.

5.10. Factory reset

There are two ways to Restore DTU factory settings: software factory settings Restore and hardware factory settings Restore: 1. In the hardware factory setting Restore mode, press the Restore button for 5s ~ 15s; 2 Factory reset through the web interface.

6. Quick Instructions for Use

6.1. **Parameter setting instructions**

The DTU is configured using the web interface. Just enter 192.168. 4.101 in the browser to configure the interface.

6.2. **Socket instructions for use**

Preparation before use:

1. Set the IP address of the PC (computer) to the same network segment as the E810 (4RS1E) DTU. with the same subnet mask. For example, the PC IP is 192.168. 4.100, and the DTU IP is 192.168. 4.101;

PC side configuration:

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

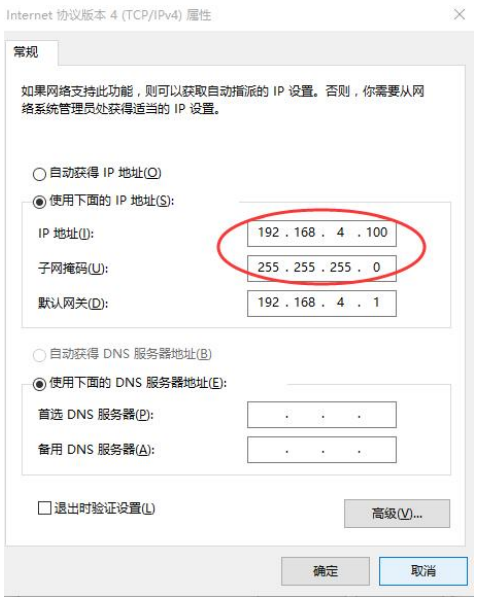


Figure 6-1

DTU configuration:



Figure 6-2

6.2.1. TCP Server Instructions

(1) We take a single serial port and serial port 1 as a TCP Server as an example. Connect the E810 (4RS1E) to the PC with a network cable, open the network configuration interface, set the parameters according to the figure below, and save them.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000



Figure 6-3 Parameter settings

(2) Open the serial port debugging assistant and the network debugging assistant, set the parameter settings of the serial port assistant consistent with those just set by the DTU, open the serial port, set the protocol type of the network debugging assistant to TCP Client, set the server IP address of the network debugging assistant to the IP address of the DTU, set the server port of the network debugging assistant to the local port of the DTU, and click Connect.

(3) Enter a string of data in the sending area of the serial debugging assistant and click to send. You can see that the network assistant received the same data in the sending area of the serial port. Enter a string of data in the sending area of the network debugging assistant, and the serial assistant also received the same data in the sending area of the network, thus realizing two-way transparent transmission.



Figure 6-4 Transmission of data

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

6.2.2. TCP Client Instructions

(1) Similarly, we take a single serial port and serial port 1 as the TCP Client as an example. Connect the E810 (4RS1E) to the PC with a network cable, open the network configuration interface, set the parameters according to the figure below, and save them.



Figure 6-5 Parameter settings

(2) Open the serial port debugging assistant and the network debugging assistant, set the parameter settings of the serial port assistant consistent with those just set by the DTU, open the serial port, set the protocol type of the network debugging assistant to TCP Server, set the local IP address of the network debugging assistant to the destination IP address of the DTU, set the local port of the network debugging assistant to the destination port of the DTU, and click Connect.

(3) Enter a string of data in the sending area of the serial debugging assistant and click to send. You can see that the network assistant received the same data in the sending area of the serial port. Enter a string of data in the sending area of the network debugging assistant, and the serial assistant also received the same data in the sending area of the network, thus realizing two-way transparent transmission.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

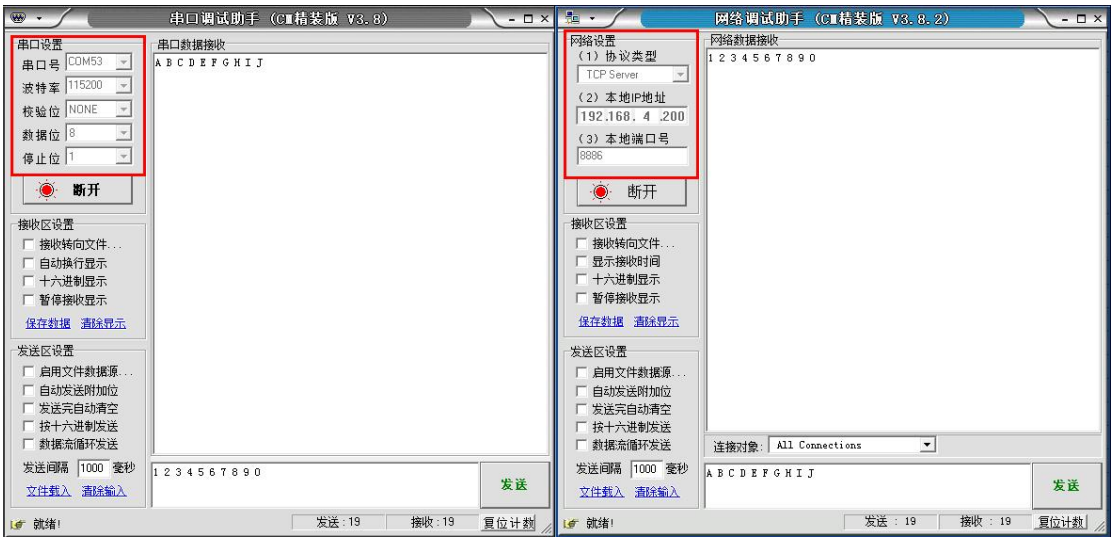


Figure 6-6 Data Transmission

6.2.3. UDP Server Instructions

(1) Similarly, we take a single serial port and serial port 1 as the UDP Server as an example. Connect the E810 (4RS1E) to the PC with a network cable, open the network configuration interface, set the parameters according to the figure below, and save them.



Figure 6-7 Parameter settings

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

(2) Open the serial port debugging assistant and the network debugging assistant, set the parameter settings of the serial port assistant consistent with those just set by DTU, open the serial port, set the protocol type of the network debugging assistant to UDP, set the local IP address of the network debugging assistant to the local IP address of the PC, set the local port of the network debugging assistant to 8700, and click Connect.

(3) Enter a string of data in the sending area of the serial debugging assistant and click to send. You can see that the network assistant received the same data in the sending area of the serial port. Enter a string of data in the sending area of the network debugging assistant, and the serial assistant also received the same data in the sending area of the network, thus realizing two-way transparent transmission.

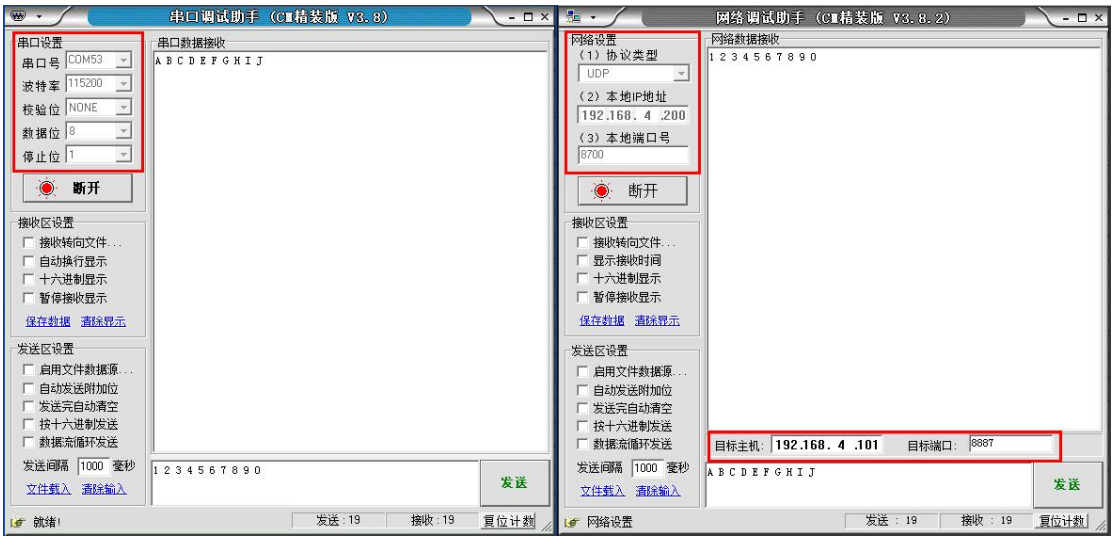


Figure 6-10 Data Transmission

6.2.4. UDP Client Instructions

(1) Similarly, we take a single serial port and serial port 1 as the UDP Server as an example. Connect the E810 (4RS1E) to the PC with a network cable, open the network configuration interface, set the parameters according to the figure below, and save them.

Copyright ©2025，Chengdu Ebyte Electronic Technology Co.,Ltd.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000



Figure 6-11 Parameter settings

（1） Open the serial port debugging assistant and the network debugging assistant, set the parameter settings of the serial port assistant to the parameters just set by the DTU, open the serial port, set the protocol type of the network debugging assistant to UDP, set the local IP address of the network debugging assistant to the target IP address of the DTU, set the local port of the network debugging assistant to the target port of the DTU, and click Connect.

（2） Enter a string of data in the sending area of the serial debugging assistant and click Send. You can see that the network assistant has received the same data in the sending area of the serial port. If you enter a string of data in the sending area of the network debugging assistant, the serial assistant also receives the same data in the sending area of the network, realizing bidirectional transparent transmission.



Figure 6-13 Data Transmission

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

6.3. Instructions for use of special features

6.3.1. Short connection instructions for use

The TCP short connection function is applied in TCP Client mode. After the short connection function is turned on, if there is no data reception from the serial port or network port within the set time, the connection will be automatically disconnected. The short connection function is turned off by default, and the disconnection time can be set after the function is turned on. The setting range is 2 ~ 255s, and you can input it directly.

6.3.2. Instructions for using the registration package

E810 (4RS1E) has four registration packet mechanisms, namely, sending MAC when connecting, sending custom data when connecting, sending MAC per packet of data, sending custom data per packet of data, and sending custom data by default to hexadecimal data (ascii optional),

The registration package is closed by default. When you need to use it, just open the network configuration software to configure it, and enter the custom data directly.

6.3.3. Heartbeat Pack Instructions for Use

Heartbeat packets are used to ensure the reliability of connection. E810 (4RS1E) supports two kinds of heartbeat packets, namely network heartbeat packets and serial port heartbeat packets. After setting the heartbeat packet type, you need to set the heartbeat cycle and customize heartbeat packet data.

6.3.4. Instructions for timeout restart

Timeout restart is to automatically restart the DTU after exceeding the set time when the network port does not receive data for a long time to avoid communication abnormalities. The restart time can be set to 60 ~ 65535S. Timeout restart default 300s.

6.3.5. Clear cache instructions

When TCP is not established, the data received by the serial port is stored in the buffer. Users can set the clear buffer according to their needs, and the clear buffer is closed by default.

7. Important statements

- Ebyte reserves the right of final interpretation and modification of all contents in this specification.
- Due to the continuous improvement of the hardware and software of the product, this instruction manual may be changed without prior notice, and the latest version of the instruction manual shall prevail.
- Users who use this product need to pay attention to the product dynamics on the official website, so that users can get the latest information of this product in time.

Copyright ©2025，Chengdu Ebyte Electronic Technology Co.,Ltd.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

8. Revised version

version	Date of Revision	Description of amendments	Maintainer
2.0	2025-05-27	Version modification	Blue

About us

Technical support: support@cdebyte.com

Documents and RF Setting download link: www.cdebyte.com

Thank you for using Ebyte products! Please contact us with any questions or suggestions: info@cdebyte.com

---

Phone: +86 028-61399028

Web: www.cdebyte.com

Address: B5 Mould Park, 199# Xiqu Ave, High-tech District, Sichuan, China

Chengdu Ebyte Electronic Technology Co.,Ltd.

Copyright ©2025，Chengdu Ebyte Electronic Technology Co.,Ltd.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000