

IOT9063

RS232/485 to TCP/IP

2-Port Serial Port Server

Please read the product manual carefully before using the product.

RS232/485 to TCP/IP

2-Port Serial Port Server User Manual

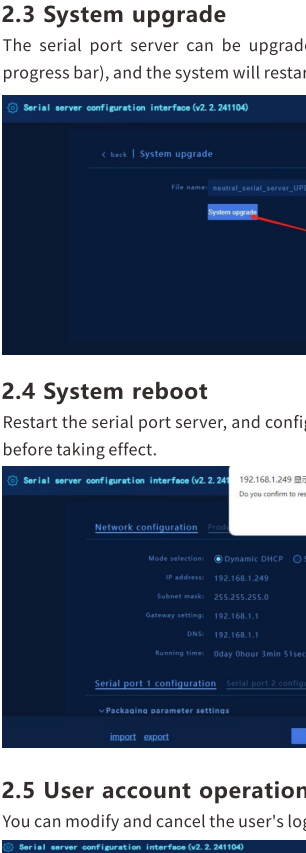
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Functional Characteristics:

1. Brand-new ARM core, deeply optimized TCP/IP protocol stack.
2. Supports 2-port RS232/RS485, working simultaneously without affecting each other.
3. The default serial port information of this machine: default serial port parameters: baud rate: 115200bps, data bit: 8, parity bit: no parity, stop bit: 1, packaging parameters: length: 1000 bytes, data packet interval: 10ms.
4. Default port information: static IP address: 192.168.1.100, default local port: serial port 1: 8888, serial port 2: 8889.
5. Serial port parameter range: baud rate: 2400~115200bps, data bit: 7, 8, parity bit: no parity, odd parity, even parity, stop bit: 1, 2.
6. Support static IP address or DHCP to automatically obtain IP address.
7. Support working modes: TCP server, TCP client, UDP server, UDP client, MQTT client, default working mode: TCP server.
8. Support DC 6-28V wide voltage input, with anti-reverse connection protection.
9. Support protocol conversion: Modbus RTU to Modbus TCP bidirectional conversion.
10. Support reliable hardware protection: electrostatic protection (air ± 15 KV. Contact ± 1 KV), surge (± 1 KV), pulse group (± 1 KV).
11. Built-in web page (used to set product parameters through the web page).
12. Support product firmware upgrade through web pages, configuration software, etc., and firmware update is more convenient.
13. Support Keepalive mechanism, which can quickly detect abnormalities such as dead connections and quickly reconnect.
14. Hardware watchdog function, automatic restart when dead, the module is more stable and reliable.

Product Size And Interface Definition:

Overall dimensions: 91×72×25mm



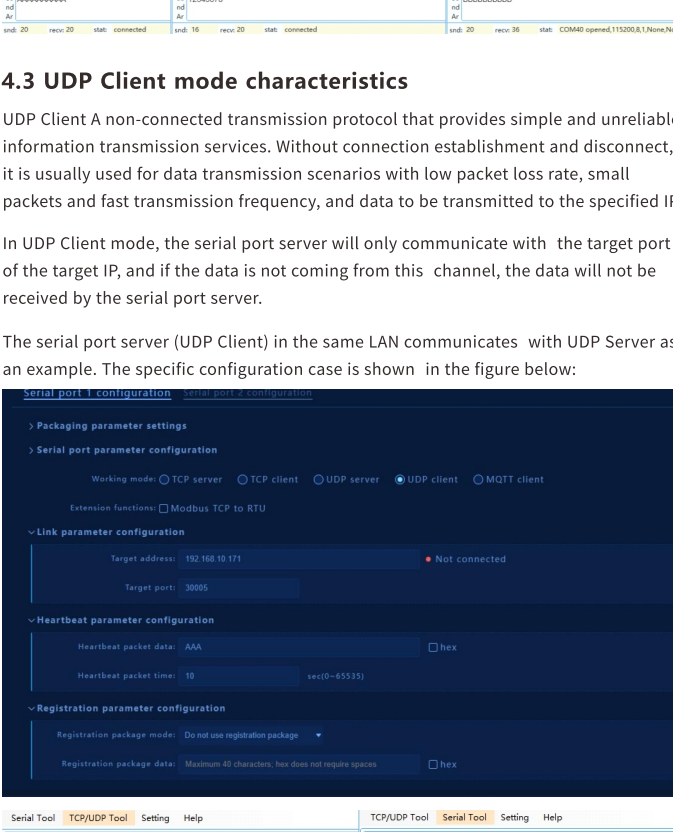
NO.	Name	Definition & Introduction
1	TX	RS232-1-TX interface
2	RX	RS232-1-RX interface
3	GND	RS232-1-GND interface
4	B	RS485-1-B- interface
5	A	RS485-1-A+ interface
6	TX	RS232-2-TX interface
7	RX	RS232-2-RX interface
8	GND	RS232-2-GND interface
9	B	RS485-2-B- interface
10	A	RS485-2-A+ interface
11	DC	DC power interface
12	V+V-	2PIN DC interface: V+ connects to positive input, V- connects to negative input
13	RST	Reset button, press and hold the Reset button for 3 seconds to switch dynamic/static mode, press and hold for 10 seconds to reset
14	ETH	100M Ethernet port
15	NET	Network indicator light: NET light is always on in static mode, NET light flashes once per second in dynamic mode
16	PWR	Power indicator: On when connected, off when not connected
17	RX1	RS232-1 data receiving indicator, flashes when receiving
18	TX1	RS232-1 data sending indicator, flashes when sending
19	RX2	RS232-2 data receiving indicator, flashes when receiving
20	TX2	RS232-2 data sending indicator, flashes when sending

1. How to Use Serial port server

1.1 Get the access IP address of the device

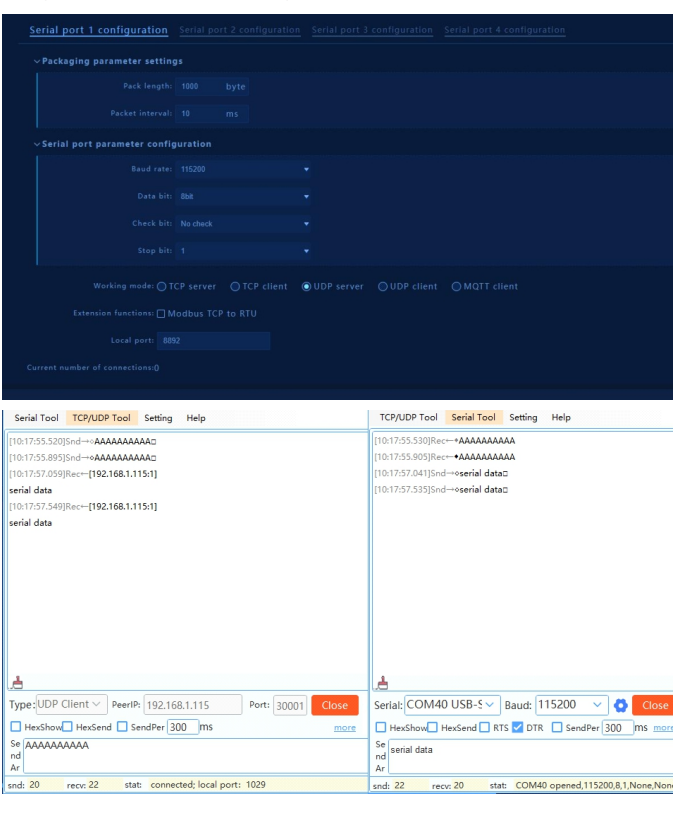
Method 1: The serial server and computer are connected to the same router network. You can use the "Device Search Tool.exe" to search for the IP address of the serial server, as shown in the figure below:

Method 2: The serial server and computer network port are directly connected. Press the RST button for 3 seconds to switch the mode. The computer sets a static IP: 192.168.1.2. You can log in to the serial server IP: 192.168.1.100 through the browser, as shown in the figure below:



1.2 Web Page configuration access

Double-click the SN in the software, you can also quickly access the web configuration page through the software, the device default account password (admin / admin), you can also access with the IP address.



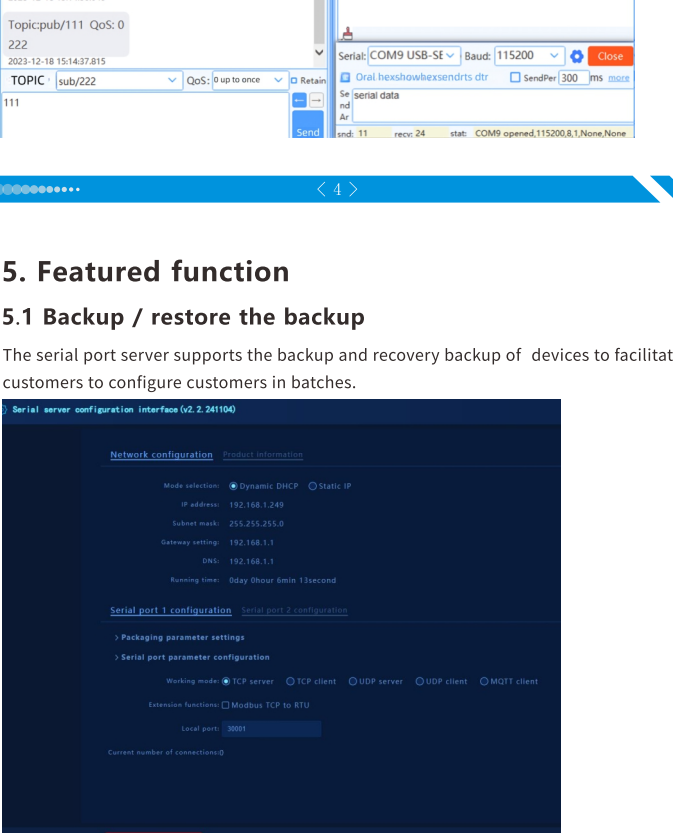
2. Basic function

2.1 Static IP / DHCP

The serial port server supports two network configuration modes: DHCP (automatic acquisition), static IP (manually setting IP address).

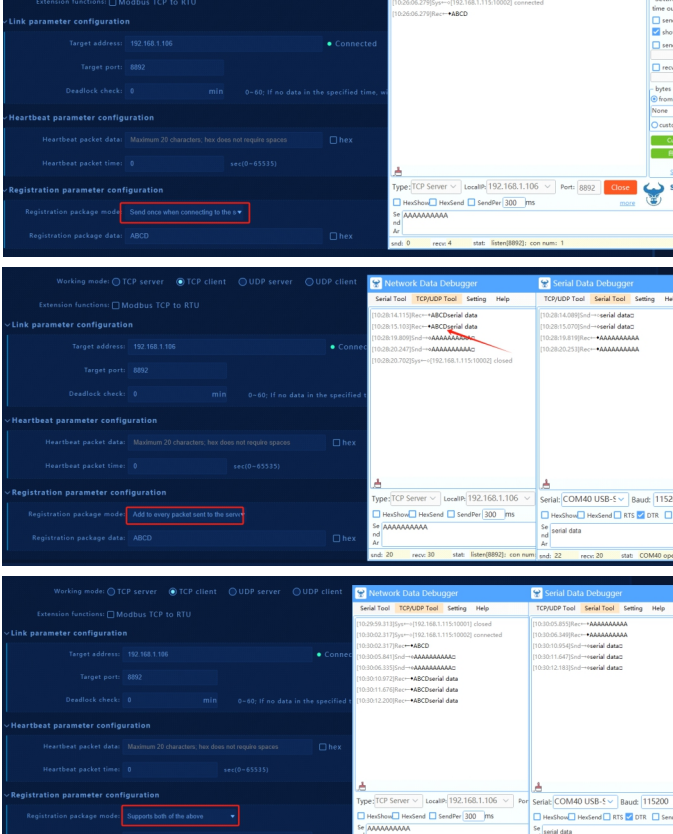
2.1.1 DHCP pattern

The device can be set to DHCP mode to automatically obtain an unoccupied address in the upper-level network, and then the device search tool can be configured to know the IP address of the device.



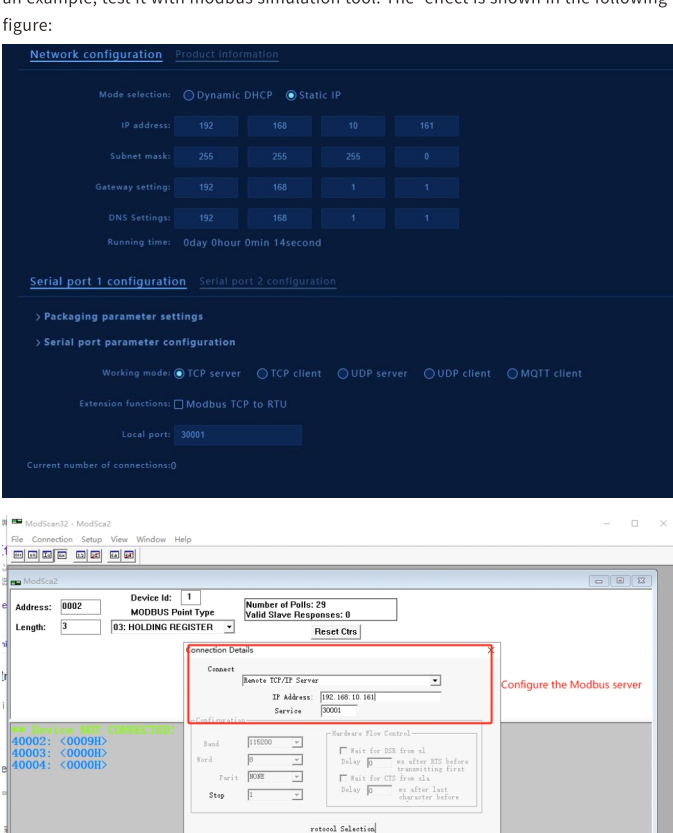
2.1.2 Static IP mode

Static IP mode requires manual configuration of the device's IP address, subnet mask, and gateway to avoid IP conflicts (set the IP address already used). After successful setting, the web configuration page can be accessed through the set IP address.



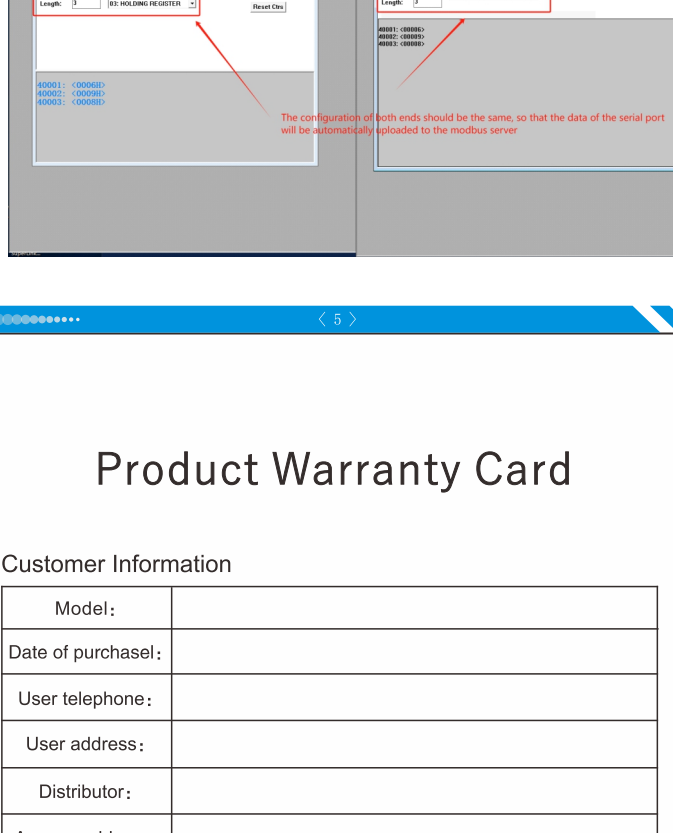
2.2 System reset

The system reset removes all the configurations of the serial port server to restore the original state, and the system restarts.



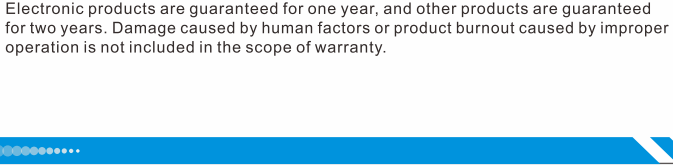
2.4 System reboot

Restart the serial port server, and configure the serial port settings to restart the system before taking effect.



2.5 User account operation

You can modify and cancel the user's login password on the configuration page.



3. Basic parameters of serial port

The serial port server has the following universal serial port parameters:

Description of the interface parameters:

- [Package length]: default 1000 bytes, can be modified as required.
- [Packet interval]: default 100 ms, can be modified as required.
- [Paud rate]: default 115200, can be set up, with serial communication equipment port rate.
- [Data bit]: default 8 bits, can be set specifically, consistent with the serial communication device data bit.
- [Check bit]: Default NONE (no inspection), can be set according to the specific setting, need to be consistent with the serial port communication equipment check bit.
- [Stop bit]: Default 1, according to the specific setting, consistent with the serial communication device.

4. Serial port working mode

The serial device server supports three communication protocols: TCP (Server/Client), UDP (Server/Client) and Mqtt mode. The specific configuration examples are shown below.

4.1 TCP Client mode characteristics

Serial port server to TCP Client, need to connect TCP Server, need to confirm the parameters: target IP / domain name and target port number, target IP can be local address of the same LAN, also can be different LAN IP address or IP across public network, if connect across the public network server, then the server has public IP or domain name.

The serial port server (TCP Client) in the same LAN communicates with TCP Server as an example. The specific configuration case is shown in the figure below:

4.2 TCP Server mode characteristics

TCP Server The TCP server, which monitors the network connections and establishes the connection, is usually used for the communication with the TCP clients within the LAN. Like TCP Client, there are connections and disconnection to ensure a reliable exchange of data. In TCP Server mode, the serial port server listens to the native port, responds to the connection request, and sends the serial port data to all devices that establish a connection with the serial port server.

When the serial port server does TCP Server, it can accept multiple devices for connection, and when the maximum number of connections exceeds, it will actively kick off the oldest connection.

Here, the same local area network serial port server (TCP Server) and the customer device terminal TCP Client can communicate as an example. The specific configuration case is shown in the figure below:

4.3 UDP Client mode characteristics

UDP Client A non-connected transmission protocol that provides simple and unreliable information transmission services. Without connection establishment and disconnect, it is usually used for data transmission scenarios with low packet loss rate, small packets and fast transmission frequency, and data to be transmitted to the specified IP.

In UDP Client mode, the serial port server will only communicate with the target port of the target IP, and if the data is not coming from this channel, the data will not be received by the serial port server.

The serial port server (UDP Client) in the same LAN communicates with UDP Server as an example. The specific configuration case is shown in the figure below:

4.4 UDP Server mode characteristics

UDP Server Means not verifying the source IP address on the basis of ordinary UDP. Every time after receiving a UDP packet, the target IP is changed to data source IP and port number. When replying data, the IP and port number to the nearest communication.

Here, the same local area network serial port server (UDP Server) and the customer device terminal UDP Client can communicate as an example. The specific configuration case is shown in the figure below:

4.5 Mqtt client mode features

MQTT is a lightweight communication protocol based on the publish/subscribe model, based on top of TCP/IP. The IP and port configurations are the same as for the TCP Client mode. You can also configure the client ID (which is automatically generated), username, password, QoS, and send and subscribe topics. Currently, MQTT version 3.1.1 is supported.

The following example shows the MQTT connection configuration:

5. Featured function

5.1 Backup / restore the backup

The serial port server supports the backup and recovery backup of devices to facilitate customers to configure customers in batches.

5.2 Network registration package

The serial port server has the network registration package function, which can send the registration package for authentication when connecting with the server. There are four modes:

1. Do not use the registration package.
2. When connected to the server, send once.
3. The data packets sent to the server are added with the registration packets.
4. Support the above two simultaneously (2 and 3 except 1)

The registration package also supports both TXT and HEX formats.

5.3 Network heartbeat packet

The serial port server has network heartbeat packet capability (supporting TXT and HEX formats) for maintenance of connection, effective only in TCP Client and UDP Client modes. The specific effects are shown in the following figure, Take TCP Client as an example:

5.4 Modbus function

The serial port server supports modbus TCP to RTU function. Take TCP Server mode as an example, test it with modbus simulation tool. The effect is shown in the following figure:

Product Warranty Card

Customer Information

Model:	
Date of purchase:	
User telephone:	
User address:	
Distributor:	
Agency address:	
User telephone:	Dealer stamp valid

Intence Records

Repair times	Date	Fault	Treatment measures	Repair work NO.

Electronic products are guaranteed for one year, and other products are guaranteed for two years. Damage caused by human factors or product burnout caused by improper operation is not included in the scope of warranty.