# **Waveshare Rail-Mount Serial Server, RS485 to WIFI/Ethernet Module, Modbus MQTT Gateway**

**SKU: 1323455**

**Features At A Glance:**

This is a RS485 device data acquisitor / IoT gateway designed for industrial environment. It combines multi functions in one, including serial server, Modbus gateway, MQTT gateway, RS485 to HTTPD Client, etc. With RS485, WIFI and Ethernet ports, the module can realize functions such as serial to WIFI, serial to Ethernet, Ethernet to WIFI and so on. Using screw terminals for power input, it supports 5~36V wide range power supply. Rail-mount V0 flame-retardant case design, small in size, easy to install. It is suitable for applications like data acquisition, IoT gateway, safety & security IoT, and intelligent instrument monitoring...

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**Specifications:**

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| **OUTLINE** | |
| **Communication interface** | RS485, screw terminal |
| **Power supply** | 5 ~ 36V DC, screw terminal |
| **Case** | PC + ABS, V0 flame retardant grade |
| **Dimensions** | L × W × H: 109.66 × 28 × 64.71 mm |
| **COMMUNICATION** | |
| **Ethernet** | 10 / 100M auto-negotiation RJ45 connector |
| **WIFI** | 802.11b/g/n compliant |
| **Serial port** | RS485 interface (Anti-surge, Lightningproof, Over-current protection) |
| **WIRELESS SPECIFICATION** | |
| **Frequency Band** | 2.412 ~ 2.484 GHz |
| **Wireless network** | Station / AP / AP+Station Mode |
| **Security mechanism** | WPA-PSK / WPA2-PSK |
| **Encryption type** | TKIP / AES |
| **Transmitting power** | 802.11b: +19dBm (Max.@11Mbps) 802.11g: +18dBm (Max.@54Mbps) 802.11n: +17dBm (Max.@HT20, MCS7); +17dBm (Max.@HT40, MCS7) |
| **Receiving sensitivity** | 802.11b: -89dBm (@11Mbps) 802.11g: -81dBm (@54Mbps) 802.11n: -73dBm (@HT20, MCS7); -71dBm (@HT40, MCS7) |
| **SERIAL SPECIFICATION** | |
| **Baudrate** | 300 ~ 460800 bps |
| **Parity bit** | none, odd, even, mark, space |
| **Data bit** | 5 ~ 9 bits |
| **Flow control** | N/A |
| **SOFTWARE** | |
| **Protocol** | TCP / UDP / ARP / ICMP / DHCP / DNS / HTTP / MQTT |
| **Configuration** | host, web browser, serial AT command |
| **Communication method** | TCP/IP direct communication, VCOM |
| **Operating mode** | Transparent transmission, serial command, HTTPD Client, Modbus TCP to Modbus RTU |
| **ENVIRONMENT REQUIREMENT** | |
| **Operating temperature** | -40℃ ~ 85℃ |
| **Storage temperature** | -45℃ ~ 125℃ |
| **Humidity range** | 5% ~ 95% relative humidity |

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**RS 485 to wifi/ethernet module**

**Railmount RS 485 Serial Server , Modbus Gateway, MQTT Gateway**



**Primary Function:**

**Support RS485 To WIFI, RS485 To Ethernet, Ethernet To WIFI, Etc.**

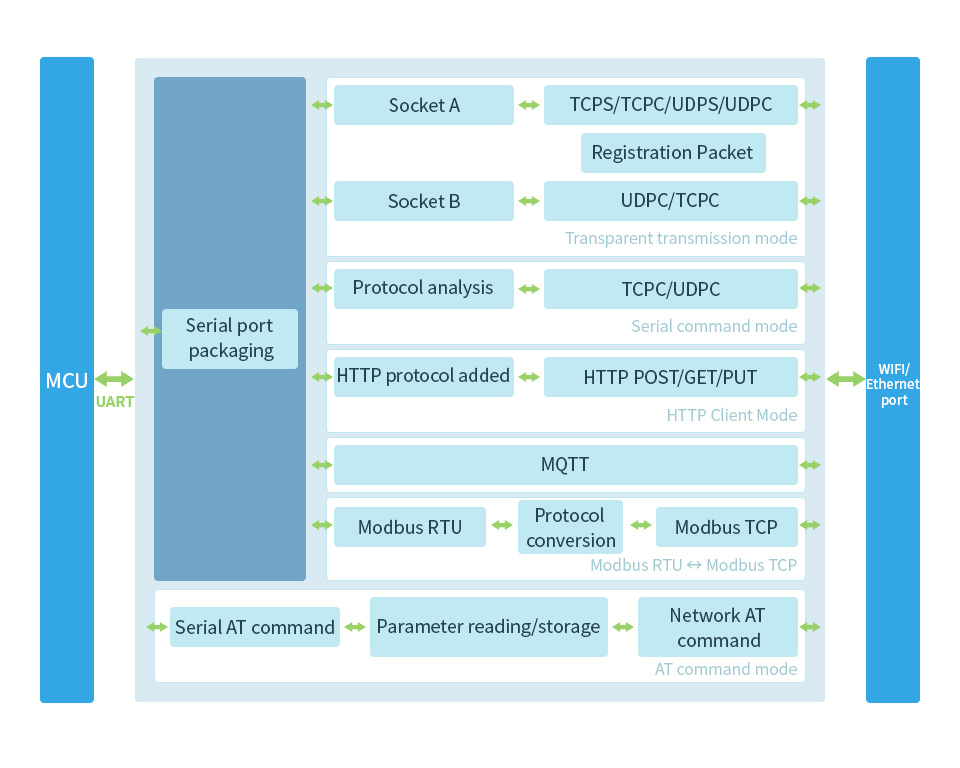


**Rail-Mount Serial Server**

**Industrial Rail-Mount Support, Easy To Install, Compact Size, Cost-Effective**

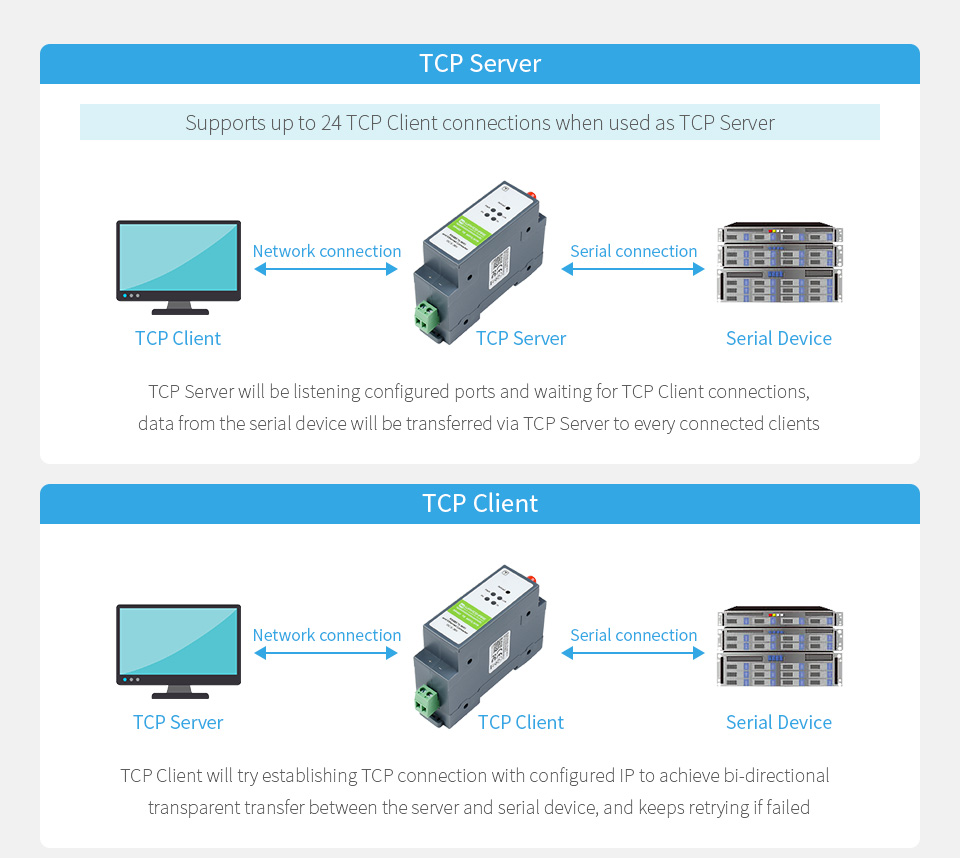
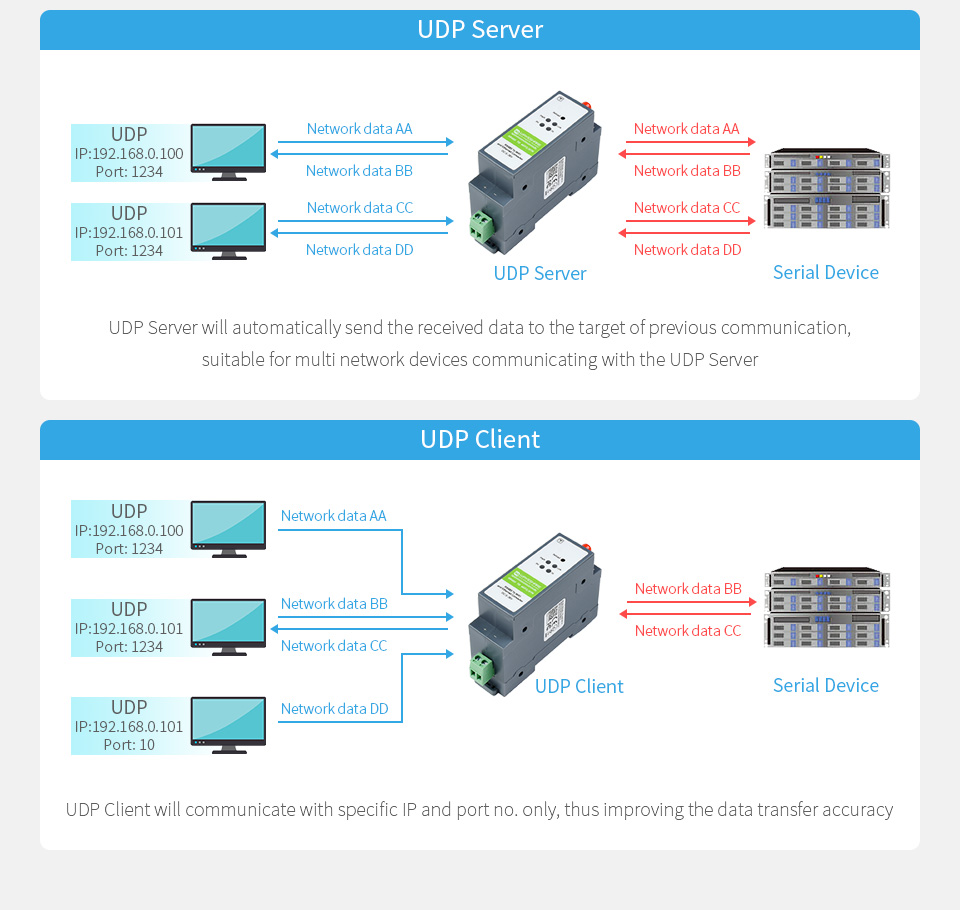


**Function Block Diagram**



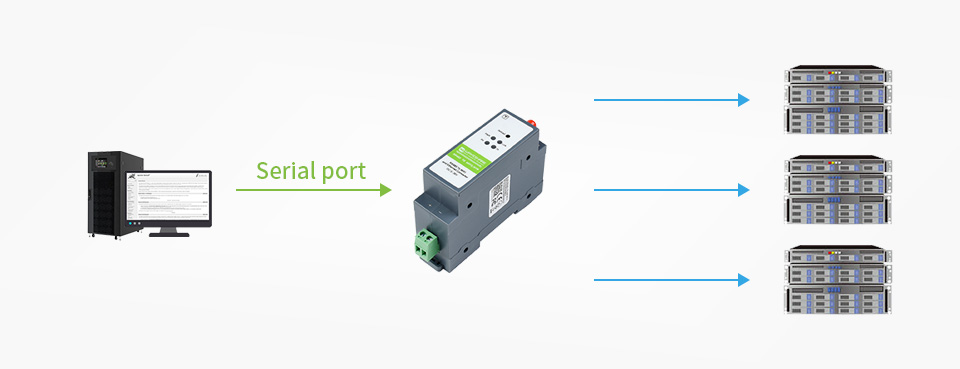
**Support Transparent Transmission Mode**

**Supports TCP Server / TCP Client / UDP Server / UDP Client**

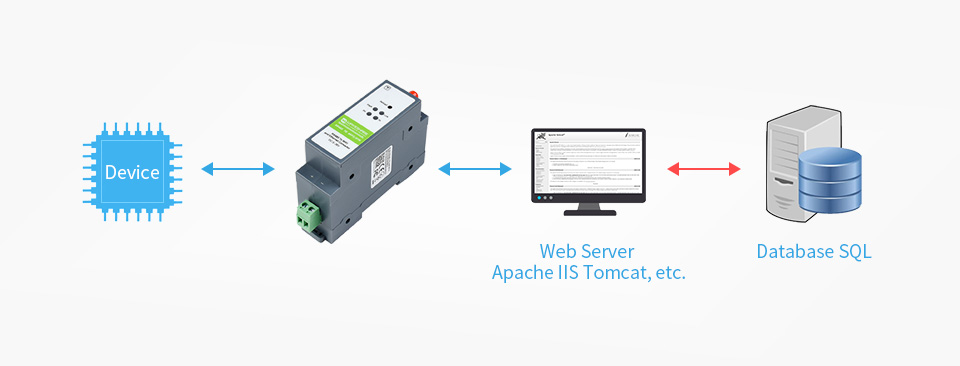
**Serial Command Mode**

**The user sends data to the server according to the protocol**  
**Send data to different servers without restarting**



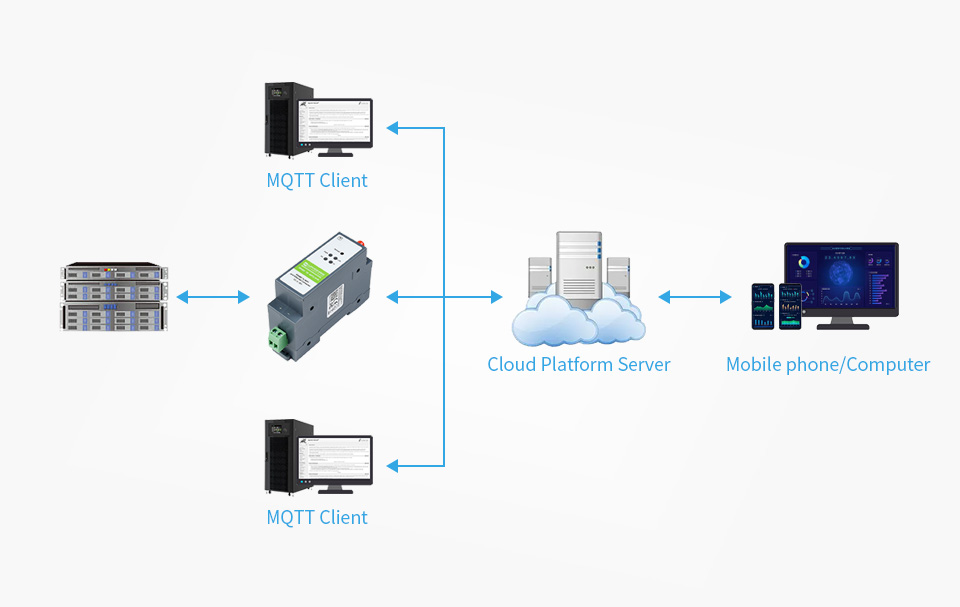
**Support HTTPD Client Mode**

**After the user has set the HTTP header through AT commands or web page, the module can send data to the HTTP server, or obtain data from the HTTP server**



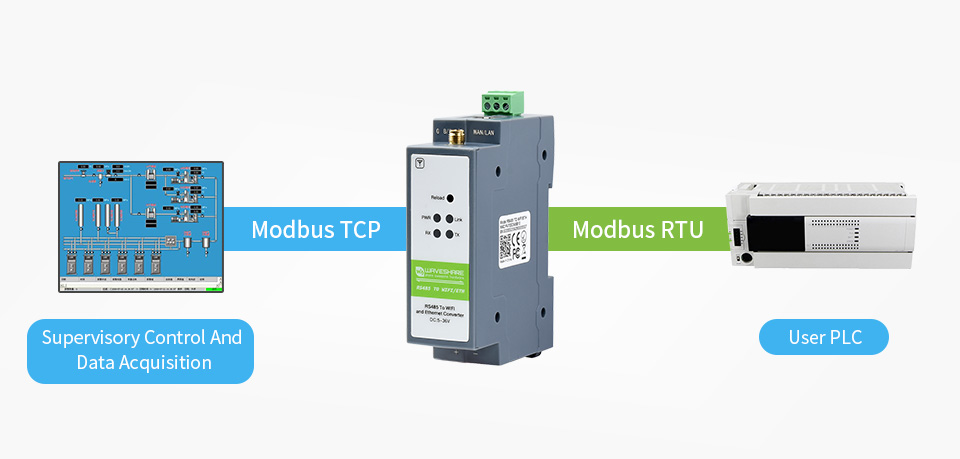
**Support MQTT Function**

**Devices can subscribe to other MQTT client messages, and can publish topic information to the server. Supports subscription of 6 messages and publication of 6 topics, wider range of use and more applicable scenarios. Users can view device-related information through terminal devices or cloud platforms.**



**Modbus Gateway Support**

**Support Modbus TCP And Modbus RTU Interconversion Mode**

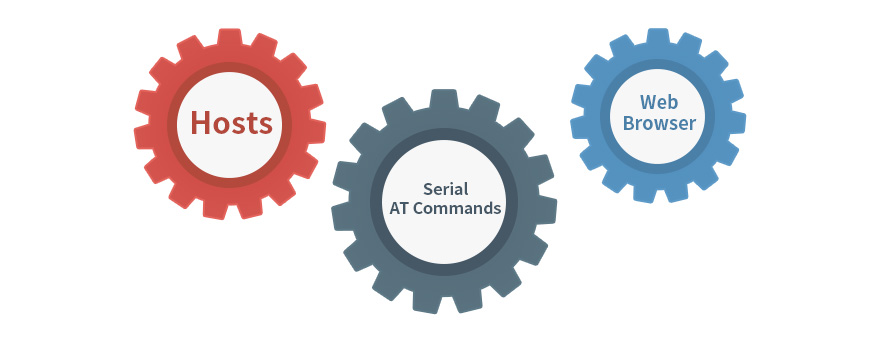


**AT Command Mode**

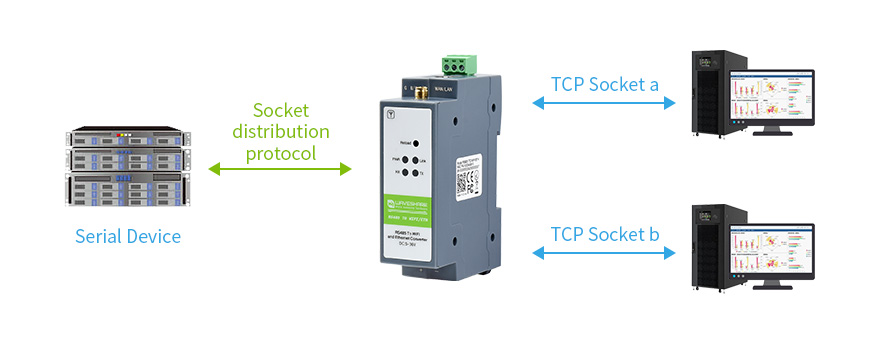
**The user can query the current status of the module, or set related parameters, by sending AT commands**



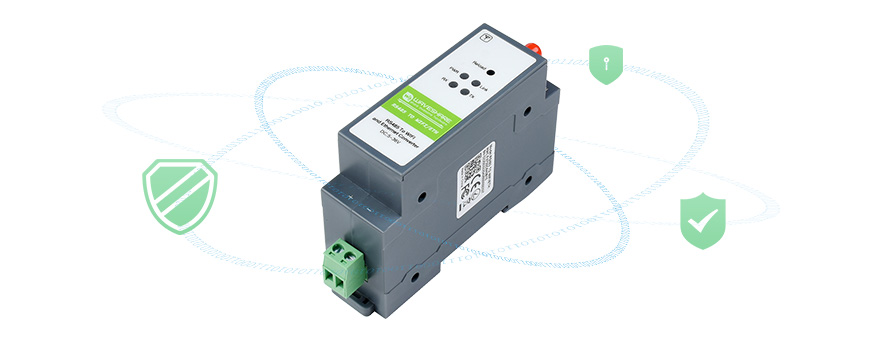
**Features**



**Multi Configuration Methods**  
**Supports muliti configuration methods such as hosts, Web Browser and serial port Configuration**



**Socket Distribution Protocol**  
**In the transparent transmission mode, the serial device can send data to the specified Socket link; the network data of each Socket is sent to the serial device through the serial port.**



**Hardware Protection**  
**ESD Level 4 Static Protection, Level 3 Surge Protection, EFT Level 3 Electrical Fast Transient/Burst Protection.**



**Customized registration packets, heartbeat packets**  
**The registration package is used to identify the device information to the server, so that the server can identify the device.**

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**Interface Introduction**



**Outline Dimensions**



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