

Rail-Mount Serial Server, RS232/485/422 to RJ45

Ethernet Module, TCP/IP to serial



Features at a glance

This is a RS232/485/422 device data acquirer / IoT gateway designed for industrial environment. It combines multi functions in one, including serial server, Modbus gateway, MQTT gateway, RS485 to JSON, etc. The module features RS232/485/422 and Ethernet port (PoE function optional), uses DC port (outer diameter: 5.5mm, inner diameter: 2.1mm) and screw terminals for power input. The case with rail-mount support, small in size, easy to install, cost-effective. It is suitable for applications like data acquisition, IoT gateway, safety & security IoT, and intelligent instrument monitoring.



Specification

<i>RS485 TO ETH (B)</i>		<i>Common network port</i>
<i>Product Type</i>		Serial server, Modbus Gateway, MQTT Gateway
<i>Basic Function</i>		Bi-directional transparent data transmission between RS485 and Ethernet
<i>Communication interface</i>		RS485 port × 1, Ethernet port × 1
<i>Power supply</i>		9 ~ 24V DC screw terminal
<i>Isolation Protection</i>		N/C
<i>Communication</i>		
<i>Ethernet</i>		common network port 10 / 100M auto-negotiation RJ45 connector, 2 KV surge protection
<i>Serial port</i>		RS485
<i>Serial specification</i>		
<i>Protocol</i>		ETHERNET, IP, TCP, UDP, HTTP, ARP, ICMP, DHCP, DNS
<i>Configuration</i>		host, web browser, device management functions library
<i>Communication method</i>		TCP/IP direct communication, VCOM
<i>Environment requirement</i>		
<i>Operating temperature</i>		-40°C ~ 85°C
<i>Humidity range</i>		5% ~ 95% relative humidity
<i>Dimensions</i>		L × W × H: 87 × 36 × 59 mm

Features At A Glance

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Version Options



RS232/485/422 TO ETH (B)
Common network port + Electrical isolation



RS232/485/422 TO POE ETH (B)
PoE network port + Electrical isolation

Primary Function

Bi-Directional Transparent Data Transmission Between RS232/485/422 And Ethernet



Multi Methods For Power Supply

Support PoE Ethernet Port Power Supply*, Suitable For IEEE 802.3af PoE Standard

Support Screw Terminal And DC Power Port For Power Supply, DC 6~36V

Wide Voltage Range Input



* This function is only available on the PoE version

Three Different Interfaces

Onboard RS232 / 485 / 422 Interfaces, Suitable For More Application Scenarios

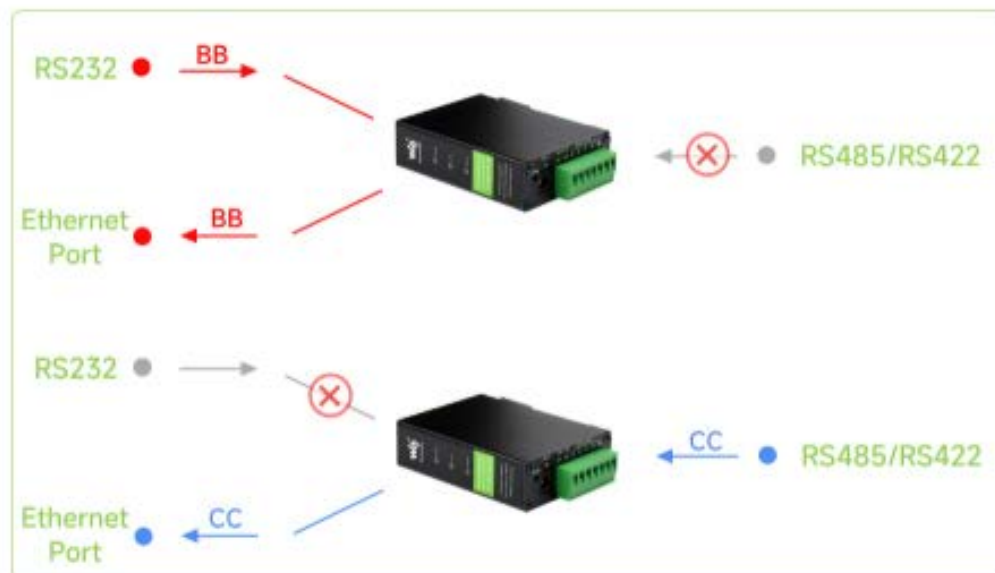
Ethernet Port To RS232/485/422

The Ethernet Port Can Send Data To Three Serial Ports At The Same Time



RS232 / 485 / 422 To Ethernet Port

Only One Of The RS232, RS485, And RS422 Can Send Data To The Ethernet Port At The Same Time



Rail-Mount Support

Easy To Combine Multi Rail-Mounted Serial Server Together, More Freely



Modbus Gateway Support

Suitable For Modbus Networking Upgrade, Can Be Used With Specific Configuration Software



Multi Communication Modes

Supports TCP Server / TCP Client / UDP Mode / UDP Multicast

TCP Server

Supports 30 concurrent TCP connections when used as TCP Server



TCP Server will be listening configured ports and waiting for TCP Client connections, data from the serial device will be transferred via TCP Server to every connected clients

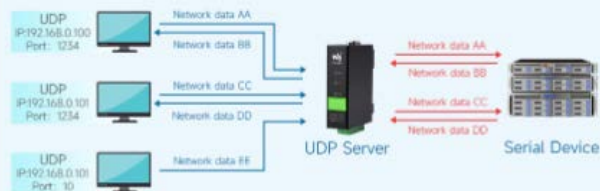
TCP Client

Allows concurrently connecting to 7 target IPs when used as TCP Client, and it can be a Server at the same time, allows 22 concurrent Client connections



TCP Client will try establishing TCP connection with configured IP to achieve bi-directional transparent transfer between the server and serial device, and keeps retrying if failed

UDP Multicast



In UDP multicast mode, the module will only send and receive data to and from the computers or Internet modules which are part of the multicast group, and will not communicate with computers or modules outside the multicast group, to reduce network load

UDP Mode



In UDP mode, the module will communicate with specific IP and port no. only, thus improving the data transfer accuracy

MQTT/JSON To Modbus

More Flexible Conversion Between Different Protocols



When used as MQTT gateway, the device can upload serial data to MQTT server by MQTT protocol through transparent transmission, supported servers including Baidu Cloud MQTT, Alibaba Cloud MQTT, China Mobile OneNet, etc. The acquired Modbus RTU or non-standard serial data can be parsed into JSON format and packaged into MQTT data packet for uploading.

When used as JSON data acquisition gateway, the device can be connected to data acquisition instrument through RS485 connection, then acquire data automatically, convert the data into JSON format, and finally post it to server. The acquired data supports Modbus RTU 645 instrument V7 version, 645 instrument D7 version, as well as series of non-standard RS485 protocols. The uploaded data format can be configured via host, and the JSON upload protocol can be MQTT protocol, HTTP POST protocol, HTTP GET protocol, and so on.

Multi Hosts Roll-Polling Support

Different Network Devices Will Be Identified And Responded Respectively,
No More Crosstalk Issue While Communicating With Multi Network Devices



User-Defined Heartbeat/Registration Packet

Easy For Cloud Communication And Device Identification



NTP Protocol Support

Getting Network Time Info For Serial Output Or Data Upload



Multi Configuration Methods

Supports Web Browser Configuration, Obtaining Dynamic IP Via DHCP,
DNS Protocol Connected Domain Server Address



Aluminium Alloy Enclosure

Aluminium Alloy Enclosure With Sand Blasting And Anodic Oxidation
Solid And Durable, Fashion And Good Hand Feeling

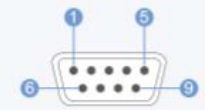


Interface Introduction



Multiple Protection, Safe And Stable

Onboard power supply and signal isolation, it can provide stable isolation voltage with high reliability and strong anti-interference. Built-in TVS (transient voltage suppression tube) can effectively suppress the surge voltage and transient peak voltage in the circuit, lightningproof & ESD protection. Built-in resettable fuse and protection diode to ensure stable output of current and voltage, prevents over-current and over-voltage proof, improve shock proof performance.



RS232 Pinout Definition

RS232 PINOUT	
DB9 Male (PIN)	RS232 PIN
2	(RXD)
3	(TXD)
5	GND
1, 4, 6, 7, 8, 9	N/C

Product Show

