



[Ethernet TO UART / RS232 / RS485](#)

## RS232 RS485 to RJ45 Ethernet Serial Server, RS232 And RS485 Dual Channels Independent Operation, Dual Ethernet Ports

~~\$29.99~~ - ~~\$33.99~~

Version Options

[Common network port](#)

[PoE Ethernet port](#)

**Related Products:**

[Online](#)

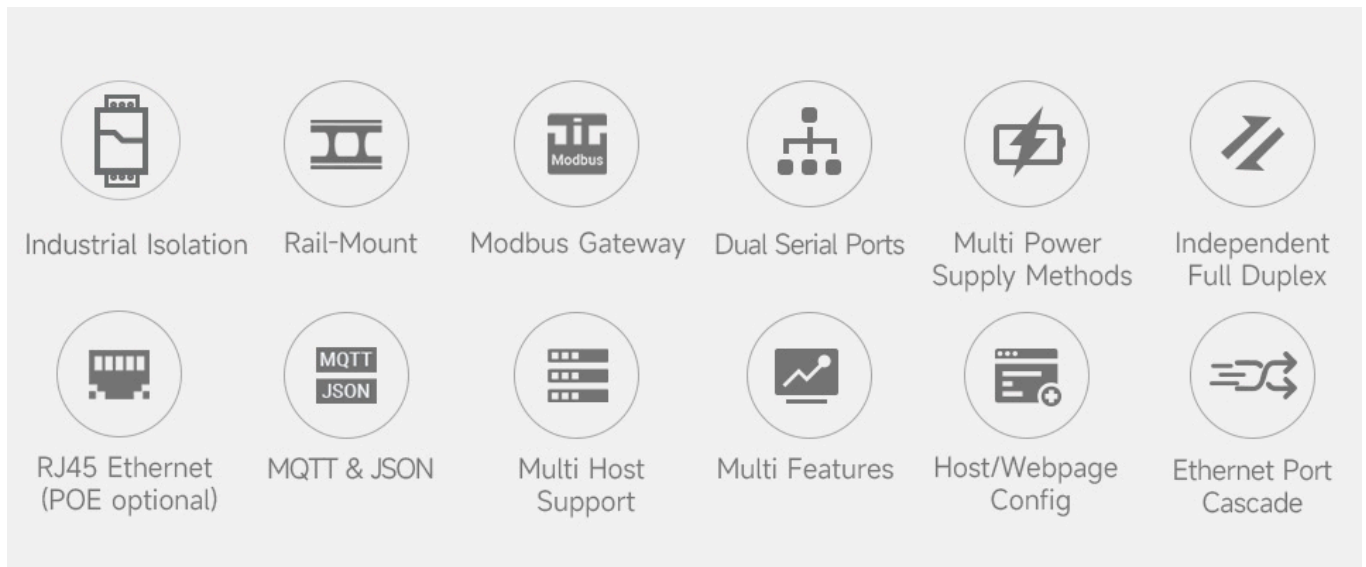


DESCRIPTION	PACKAGE CONTENT
<div>RS232 RS485 To RJ45 Ethernet Serial Server, RS232 And RS485 Dual Channels Independent Operation, Dual Ethernet Ports, Rail-Mount Industrial Isolated Serial Module, Bi-Directional Transparent Transmission</div> <div>Industrial Isolated RS232 RS485 To RJ45 Ethernet Serial Server</div>	
Online	

## Dual Serial Ports To Ethernet, Modbus/MQTT/JSON Support, Rail-mount Metal Case



Online



## Features At A Glance

This is a dual serial ports device data acquirer / IoT gateway designed for the industrial environment, 1-ch RS232 and 1-ch RS485 can work simultaneously without interfering with each other using one Ethernet cable. It combines multi functions in one, including serial server, Modbus gateway, MQTT gateway, RS232 and RS485 to JSON, etc. The other one Ethernet port can be used as a network switch or for cascading, and the PoE\* function is optional for dual Ethernet ports. Provides two power supply methods: DC port (outer diameter: 5.5mm, inner diameter: 2.1mm) and screw terminal. The case with rail-mount support, is small in size, easy to install, and cost-

effective. It is suitable for applications like data acquisition, IoT gateway, safety & security IoT, and intelligent instrument monitoring...

\* This product is a PoE receiver device (PD), it needs to be connected to the PoE power supply and get power from the PSE device to work normally.

## Version Options



### RS232 RS485 TO ETH (B)

Dual serial ports + Common network port + Electrical isolation



### RS232 RS485 TO POE ETH (B)

Dual serial ports + PoE network port + Electrical isolation

# Specifications

Online

	<b>RS232 RS485 TO ETH (B)</b>	<b>RS232 RS485 TO POE ETH (B)</b>
	Dual serial ports + Common network port + Electrical isolation	Dual serial ports + PoE network port + Electrical isolation
<b>Product Type</b>	Serial server, Modbus Gateway, MQTT Gateway	
<b>Basic Function</b>	Bi-directional transparent data transmission between RS232 and RS485 to Ethernet	
<b>Communication interface</b>	RS232 port × 1, RS485 port × 1, Ethernet port × 2	
<b>Power supply</b>	DC 5.5 power port, 6 ~ 45V DC screw terminal	DC 5.5 power port, 6 ~ 45V DC screw terminal, or PoE port
<b>Isolation Protection</b>	Power isolation, Signal isolation	
<b>COMMUNICATION</b>		
<b>Ethernet</b>	RJ45	RJ45 with PoE support, IEEE 802.3af compliant
	10 / 100M auto-negotiation RJ45 connector, 2 KV surge protection	
<b>Serial port</b>	Isolated RS232 and RS485 (the 2 channels can receive and transmit independently at the same time)	
<b>SERIAL SPECIFICATION</b>		
<b>Baudrate</b>	300 ~ 115200 bps	
<b>Parity bit</b>	none, odd, even, mark, space	
<b>Data bit</b>	5 ~ 9 bits	

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<b>Flow control</b>	N/A
<b>SOFTWARE</b>	
<b>Protocol</b>	ETHERNET, IP, TCP, UDP, HTTP, ARP, ICMP, DHCP, DNS
<b>Configuration</b>	host, web browser, device management functions library
<b>Communication method</b>	TCP/IP direct communication, VCOM
<b>Operating mode</b>	TCP server, TCP client (coexisting with TCP server), UDP, UDP multicast
<b>ENVIRONMENT REQUIREMENT</b>	
<b>Operating temperature</b>	-40°C ~ 85°C
<b>Humidity range</b>	5% ~ 95% relative humidity
<b>Dimensions</b>	L × W × H: 78.0 × 72.5 × 24.2 mm

# Primary Function

Bi-Directional Transparent Data Transmission Between Dual Serial Ports And Ethernet

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## Multi Power Supply Options

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

Support Screw Terminal And DC Power Port For Power Supply, DC 6~45V

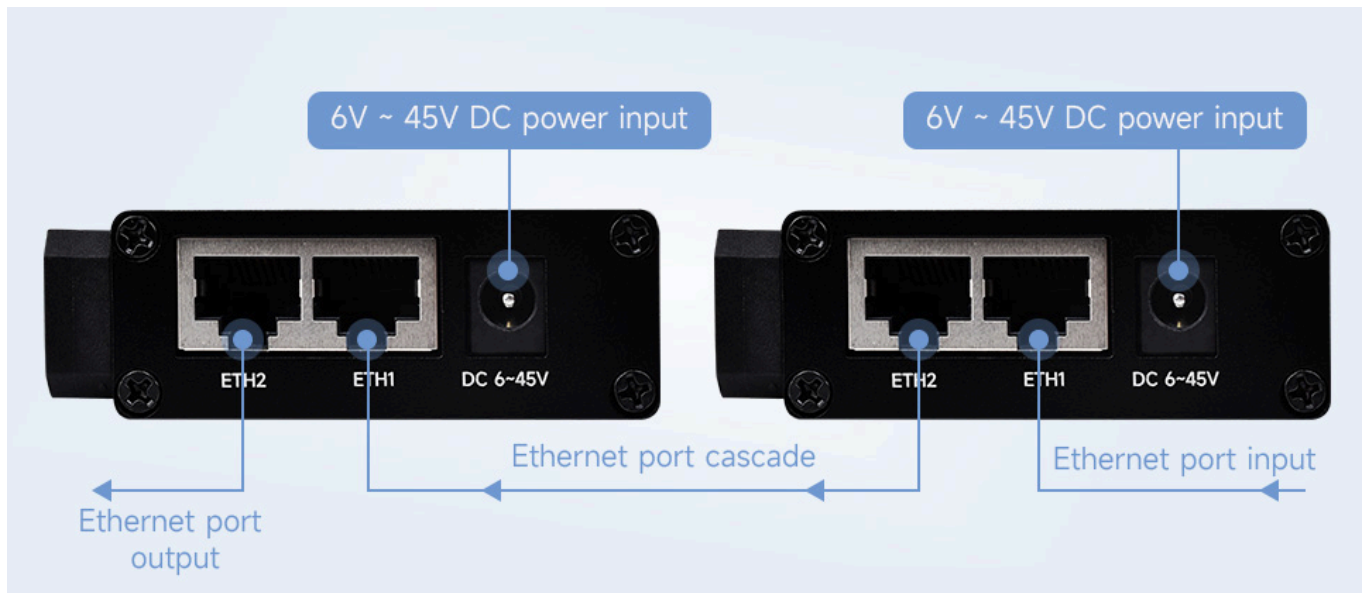
Wide Voltage Range Input



\* This function is only available on the PoE version

## Support Ethernet Port Cascade

Onboard 2-Ch Ethernet Ports For Communication And Cascade  
Either One Can Be Used For Dual Serial Server Network  
Communication, While The Other One Can Be Used For  
Cascading Or Communication With Other Devices



\* Note: Each module in the cascade needs to be powered individually. The working current of the module is 12V/150mA (MAX) and can be cascaded up to 8.

## Rail-Mount Support

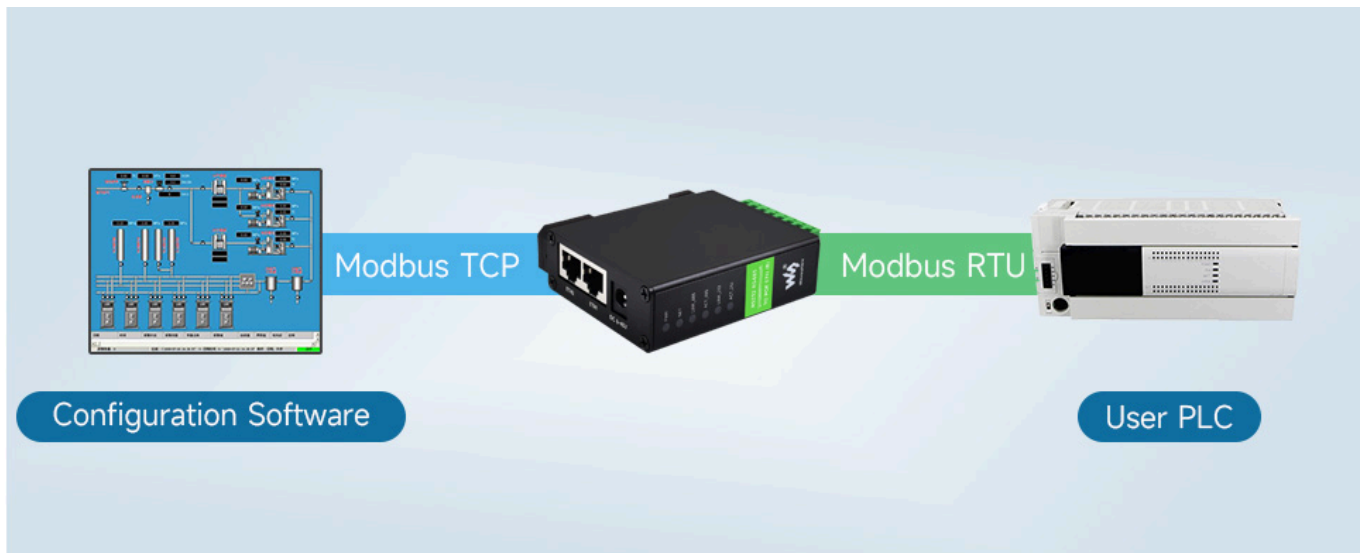
Industrial-Grade Rail Design, Compact Size, Easy Installation,  
Cost-Effective



## Modbus Gateway Support

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

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# Multi Communication Modes

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

### 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

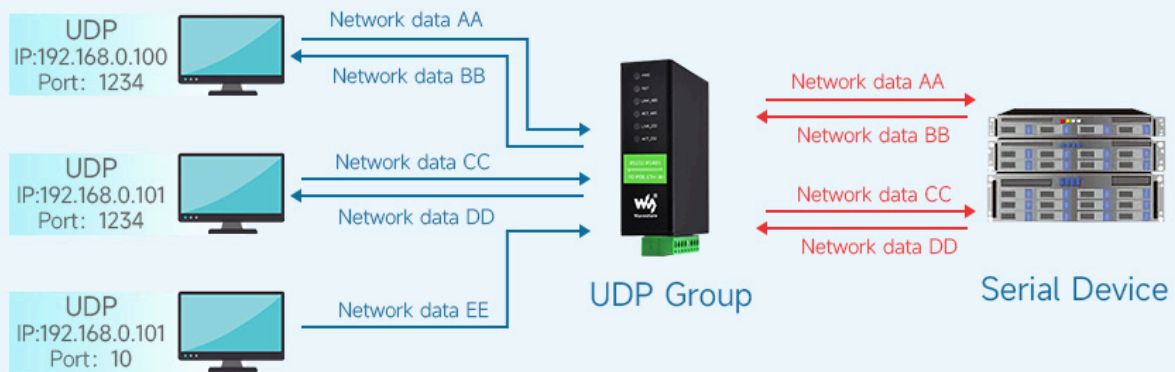
### TCP Client

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



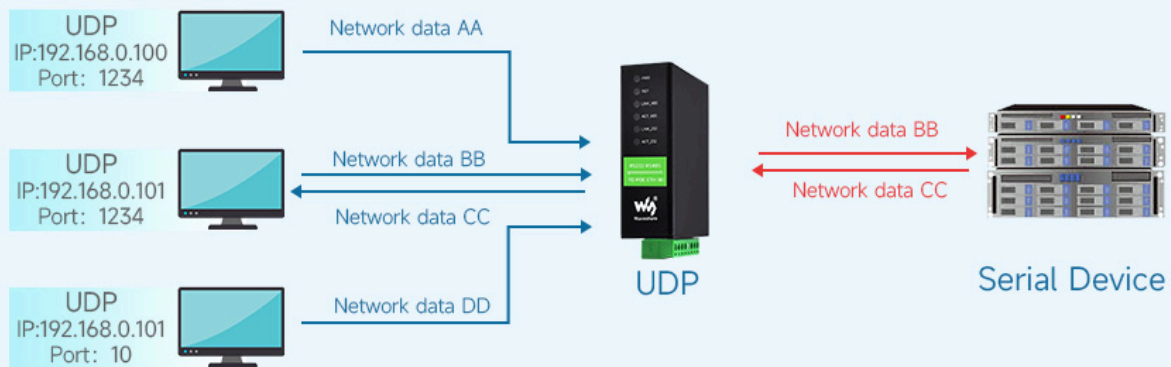
TCP Client will try establishing TCP connection with configured IP to achieve bi-directional transparent transfer between the server and serial device, and keeps retrying if failed

### 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

\* Note: This module is dual-channel, and each channel supports the above functions separately

## MQTT/JSON To Modbus

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## More Flexible Conversion Between Different Protocols



When used as MQTT gateway, the devices 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 MQTTdata packet for uploading.

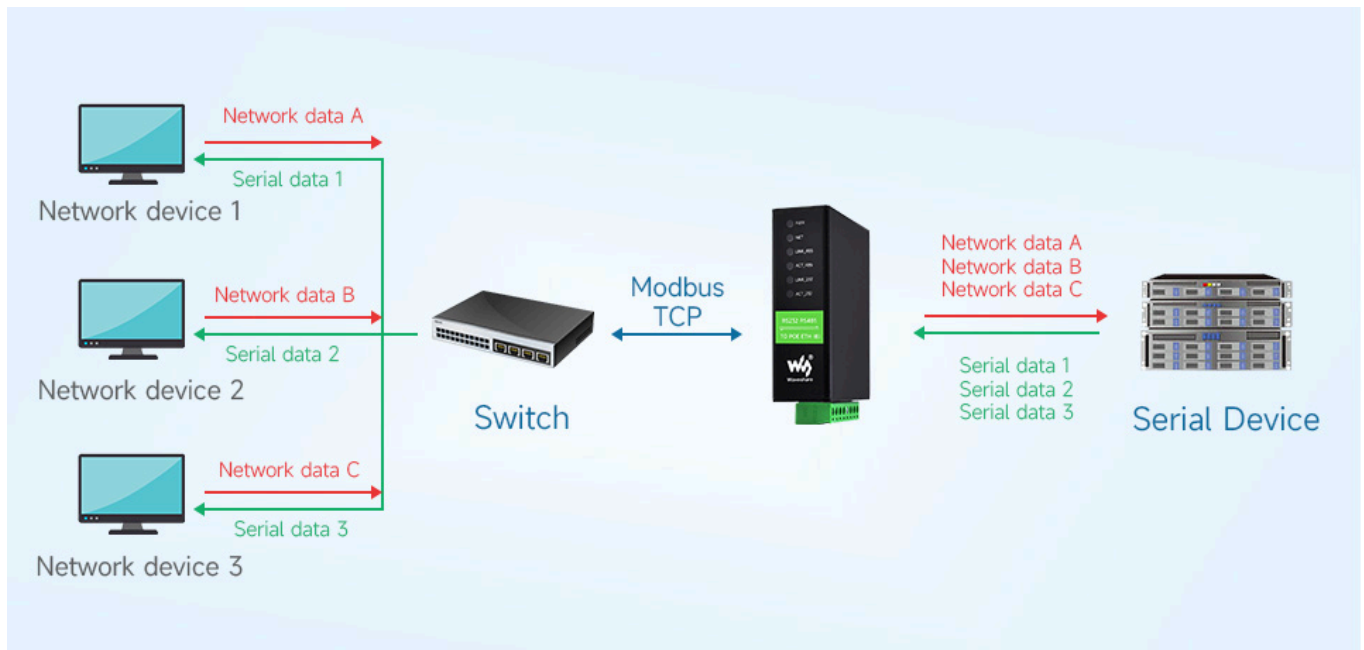
When used as JSON data acquisition gateway, the devices can be connected to data acquisition instruments through RS485 connection, then acquire data automatically, convert the data into JSON format, and finally post it to server. The acquired data supports Modbus RTU 645 instrument 97 version, 645 instrument 07 version, as well as sorts 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,

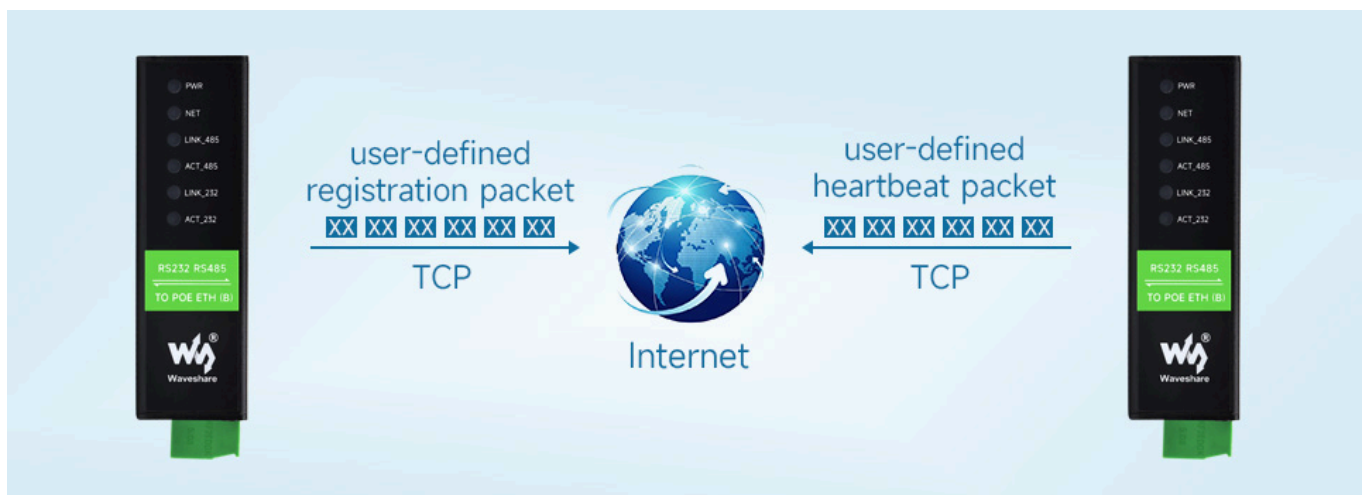
No More Crosstalk Issue While Communicating With Multi Network Devices





# User-Defined Heartbeat/Registration Packet

Easy For Cloud Communication And Device Identification



# NTP Protocol Support

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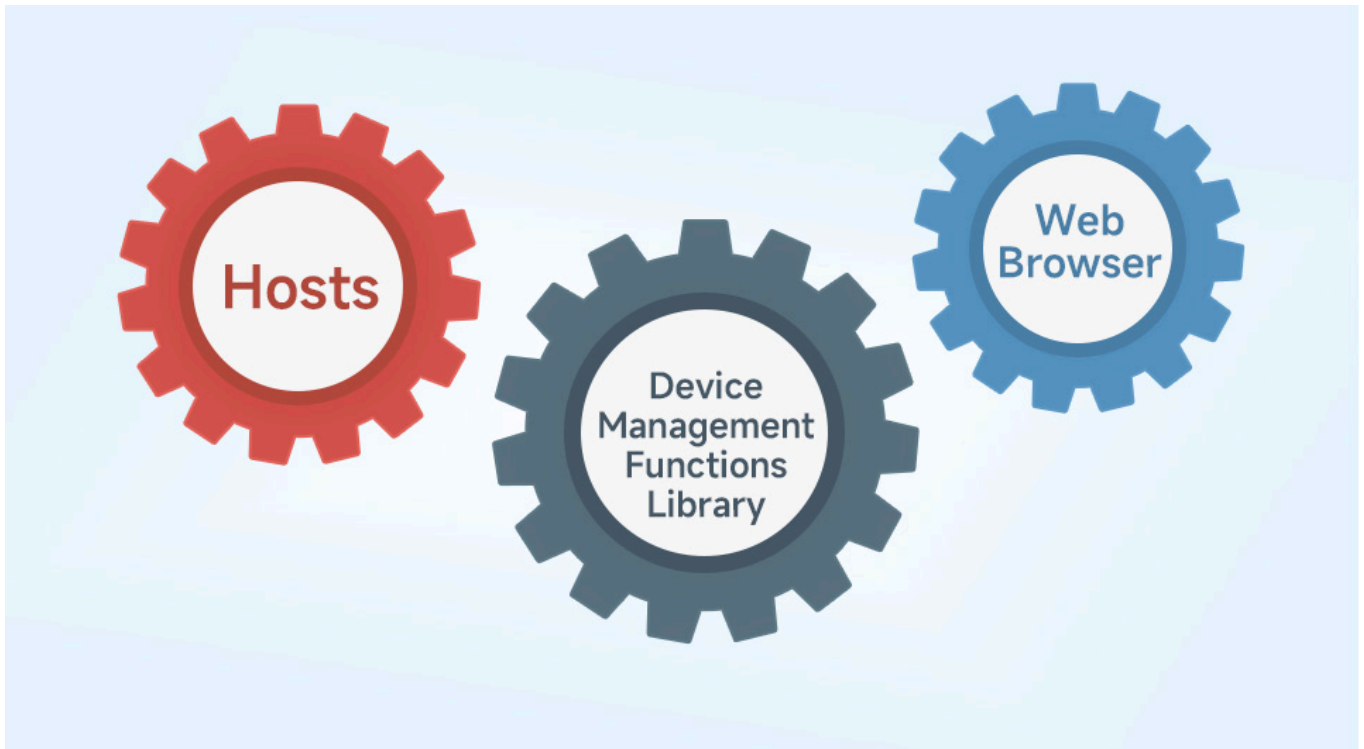
## Getting Network Time Info For Serial Output Or Data Upload



## Multi Configuration Methods

Supports Web Browser Configuration, Obtaining Dynamic IP Via DHCP,

DNS Protocol Connected Domain Server Address



## 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



## Aluminium Alloy Enclosure

Aluminium Alloy Enclosure With Sand Blasting And Anodic Oxidation

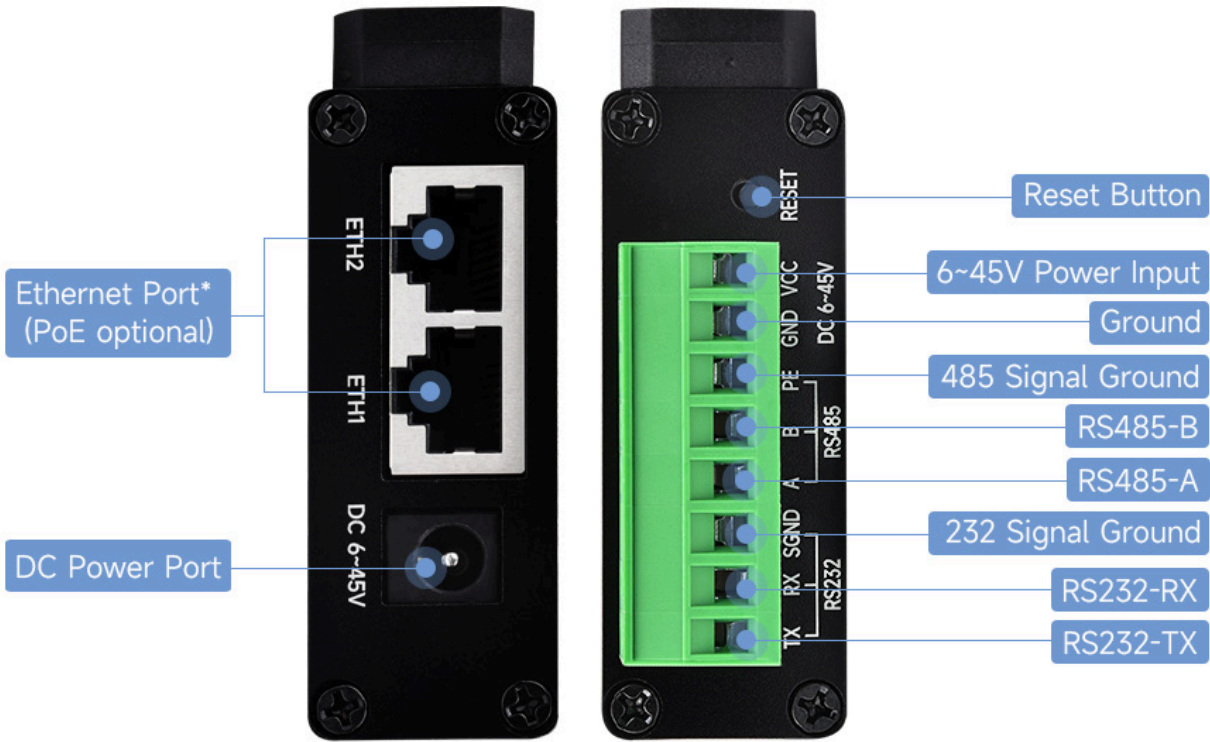
Solid And Durable, Fashion And Good Hand Feeling

Online



## Interface Introduction





**\*Note** The two Ethernet ports have the same function. either one can be used for network communication, while the other one can be used for router cascading.



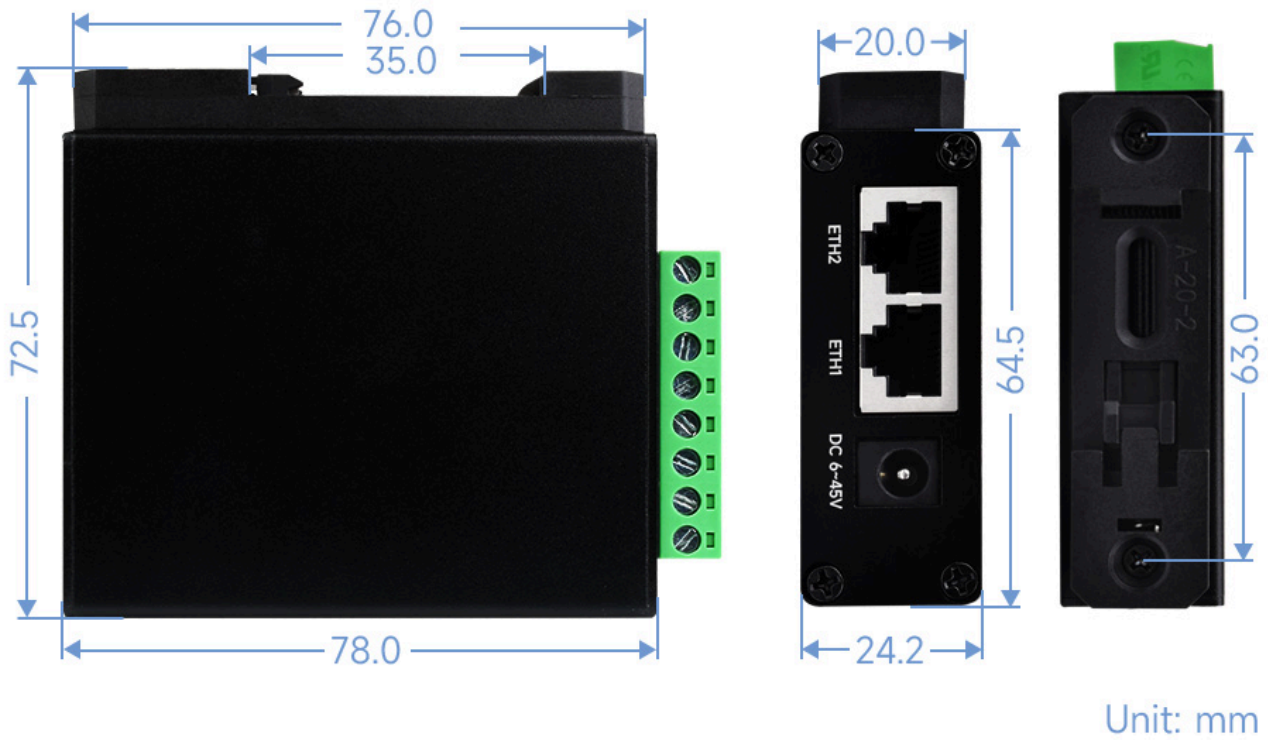
Indicator Description	
PWR	Power indicator
NET	Network indicator, blinking when connected to Ethernet
LINK_485	Lights up when establishing 485 connection
ACT_485	Lights up when 485 is transmittig data
LINK_232	Lights up when establishing 232 connection
ACT_232	Lights up when 232 is transmittig data

# Product Show

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## Outline Dimensions



## Support Batch Customization

Support Software And Hardware Customization

Including Hardware Interface, LOGO, Label, Case And Web Page, Etc.





## Resources & Services



WAVESHARE  
ORIGINAL ✓



PROFESSIONAL  
TECH SUPPORT



RICH RESOURCES  
MANUAL & DEMO

**Wiki:**

[www.waveshare.com/wiki/RS232\\_RS485\\_TO\\_POE\\_ETH\\_\(B\)](http://www.waveshare.com/wiki/RS232_RS485_TO_POE_ETH_(B))

## Selection Guide

	RS485 TO ETH (B)	RS485 TO POE ETH (B)	RS232/485/422 TO ETH (B)	RS232/485/422 TO POE ETH (B)	2-CH RS485 TO ETH (B)	2-CH RS485 TO POE ETH (B)	RS232 RS485 TO ETH (B)	RS232 RS485 TO POE ETH (B)
Description	Common network port	PoE network port + Electrical isolation	Multi interfaces + common network port + Electrical isolation	Multi interfaces + PoE network port + Electrical isolation	2-Ch RS485 + Common network port + Electrical isolation	2-Ch RS485 + PoE network port + Electrical isolation	RS232 + RS485 + Common network port + Electrical isolation	RS232 + RS485 + PoE network port + Electrical isolation
Product Type	Serial server, Modbus Gateway, MQTT Gateway							
Serial Port Type	Single serial port server		RS232/485/422 choose one, single serial port server		Dual serial ports server			
Power Supply methods	Screw terminal							
	-	PoE port	-	PoE port	-	PoE port	-	PoE
	-		DC 5.5 power port					
Voltage Range	DC 9~24V	DC 6~36V			DC 6~45V			
Isolation Protection	Without isolation	Power isolation, Signal isolation						
COMMUNICATION								
Ethernet	RJ45 network port	RJ45 with PoE support, IEEE 802.3af compliant	RJ45 network port	RJ45 with PoE support, IEEE 802.3af compliant	2-ch RJ45 network port	2-ch RJ45 with PoE support, IEEE 802.3af compliant	2-ch RJ45 network port	2-ch RJ45 with PoE support, IEEE 802.3af compliant
10 / 100M auto-negotiation RJ45 connector, 2 KV surge protection								

<b>Serial port</b>	RS485	Isolated RS485	Isolated RS232/485/422 (choose one, only one interface can be used for communication at the same time)	2-ch Isolated RS485 (the 2 channels can receive and transmit independently at the same time)	Isolated RS232 Isolated RS485 (the 2 channels receive and transmit independently at the same time)
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### SERIAL SPECIFICATION

<b>Baudrate</b>	300 ~ 115200 bps
<b>Parity bit</b>	none, odd, even, mark, space
<b>Data bit</b>	5 ~ 9 bits
<b>Flow control</b>	N/A

### SOFTWARE

<b>Protocol</b>	ETHERNET, IP, TCP, UDP, HTTP, ARP, ICMP, DHCP, DNS
<b>Configuration</b>	host, web browser, device management functions library
<b>Communication method</b>	TCP/IP direct communication, VCOM
<b>Operating mode</b>	TCP server, TCP client (coexisting with TCP server), UDP, UDP multicast

### ENVIRONMENT REQUIREMENT

<b>Operating temperature</b>	-40°C ~ 85°C		
<b>Humidity range</b>	5% ~ 95% relative humidity		
<b>Dimensions (L × W × H)</b>	87.0×36.0×59.0mm	88.7×72.5×24.2mm	78.0×72.5×24.2mm