Ethernet TO UART / RS232 / RS485

4-Ch RS485 to RJ45 Ethernet Serial Server, 4 Channels RS485 Independent Operation, Rail-mount Industrial Isolated Serial Module, Optional PoE Function

$49.⁹⁹ - $52.⁹⁹

Version Options

Common network port   PoE Ethernet port

Online

DESCRIPTION	PACKAGE CONTENT

4-Ch RS485 To RJ45 Ethernet Serial Server, 4 Channels RS485 Independent Operation, Rail-Mount Industrial Isolated Serial Module, Bi-Directional Transparent Transmission, Modbus Gateway, Optional PoE Function

Industrial Isolated 4-Ch RS485 To RJ45 Ethernet Serial Server

Online

4-Ch RS485 to Ethernet, Modbus/MQTT/JSON Support, Rail-mount Metal Case

Online

Industrial Isolation	Rail-Mount	Modbus Gateway	4-ch Independent RS485	Multi Power Supply Methods
RJ45 Ethernet (POE optional)	MQTT & JSON	Multi Host Support	Multi Features	Host/Webpage Config

Features At A Glance

This is a multi-functional device data acquisitor / IoT gateway with 4-ch RS485 and an Ethernet port (PoE version optional), 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, meeting various application scenarios.

- 4-ch RS485 can work independently without affecting each other at the same time, enabling more effective data transmission
- Combines multiple functions in one, including serial server, Modbus gateway, MQTT gateway, and RS485 to JSON, etc.

Online

- Adopts screw terminal for stable power input

- Wall-mount and rail-mount case design, easy to install, for quick deployment and expansion

Version Options

Online

4-CH RS485 TO ETH (B)

4-ch RS485 + Common network port + Electrical isolation

4-CH RS485 TO POE ETH (B)

4-ch RS485 + PoE network port + Electrical isolation

Specifications

Online

	4-CH RS485 TO ETH (B)	4-CH RS485 TO POE ETH (B)
	4-Ch RS485 + Common network port + Electrical isolation	4-Ch RS485 + PoE network port + Electrical isolation
Product Type	Serial server, Modbus Gateway, MQTT Gateway	
Basic Function	Bi-directional transparent data transmission between RS485 and Ethernet	
Communication interface	RS485 port × 4, Ethernet port × 1	
Power supply	DC 6 ~ 45V screw terminal	DC 6 ~ 45V screw terminal, or PoE port
Isolation Protection	Power isolation, Signal isolation	
COMMUNICATION		
Ethernet	RJ45	RJ45 with PoE support, IEEE 802.3af compliant
	10 / 100M auto-negotiation RJ45 connector, 2 KV surge protection	
Serial port	Isolated RS485 (the 4 channels can receive and transmit independently at the same time)	
SERIAL SPECIFICATION		
Baudrate	300 ~ 115200 bps	
Parity bit	none, odd, even, mark, space	
Data bit	5 ~ 9 bits	
Flow control	N/A	

Online

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

OTHERS	
Operating temperature	-40℃ ~ 85℃
Humidity range	5% ~ 95% relative humidity
Dimensions	L × W × H: 91.0 × 64.5 × 24.2 mm

Primary Function

Bi-Directional Transparent Data Transmission Between 4-Ch RS485 And Ethernet

Online

Multi Power Supply Options

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

Support Screw Terminal For Power Supply, DC 6~45V Wide Voltage Range Input

* This function is only available on the PoE version

Online

Industrial Serial Server

Industrial Rail-Mount Design, Support Wall-Mount And Rail-Mount Installation, Compact Size, Easy Installation, Cost-Effective

Modbus Gateway Support

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

Online

Multi Communication Modes

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

Online

TCP Server

Supports 30 concurrent TCP connections when used as TCP Server

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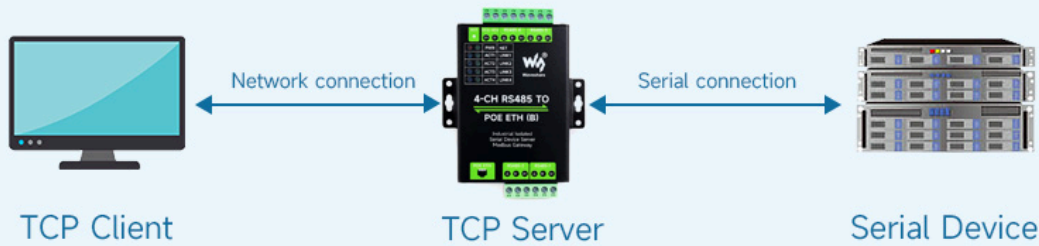
TCP Server will be listening configured ports and waiting for TCP Client connections, data from the serial device will be transferred via TCP Server to every connected clients

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

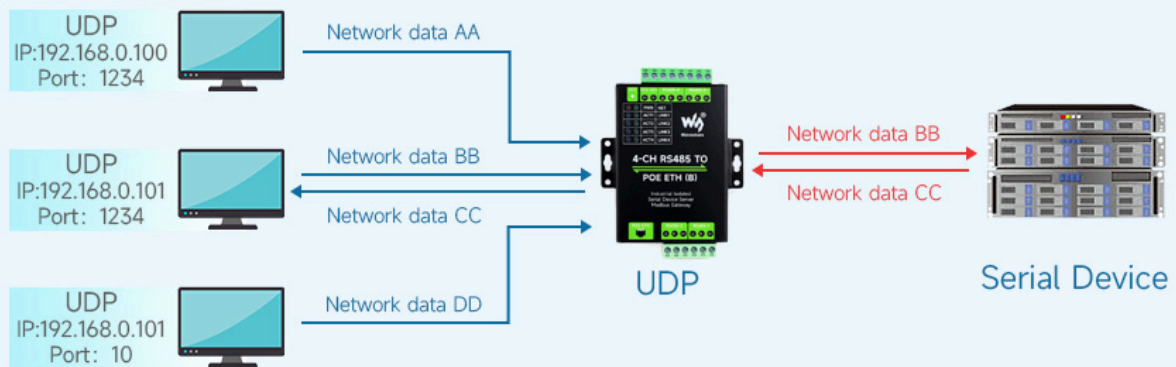**TCP Server** — Network connection — **TCP Client** — Serial connection — **Serial Device**

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
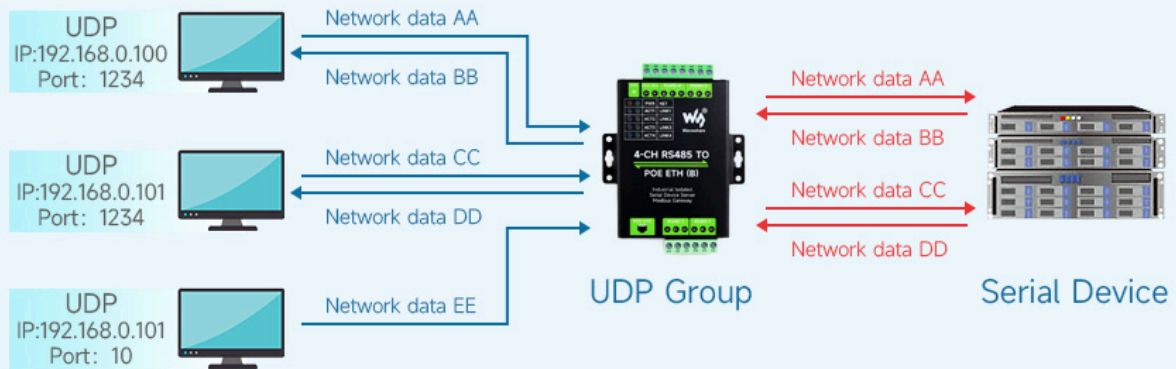
Online

* Note: This module is 4-channel, and each channel supports the above functions separately

MQTT/JSON To Modbus

Online

## 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 MQTT data 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.
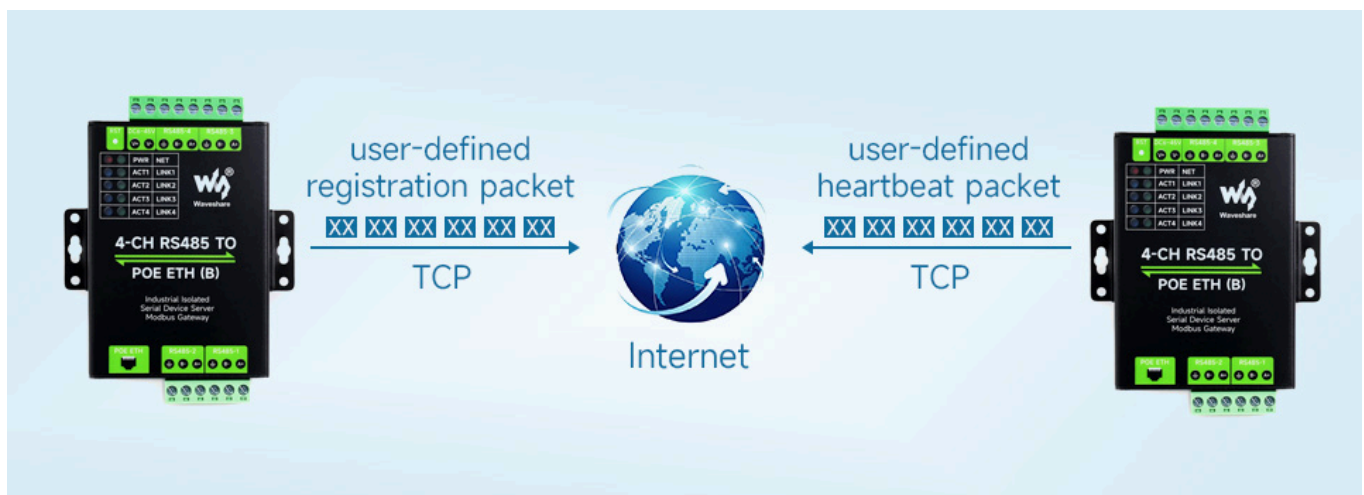
Multi Hosts Roll-Polling Support

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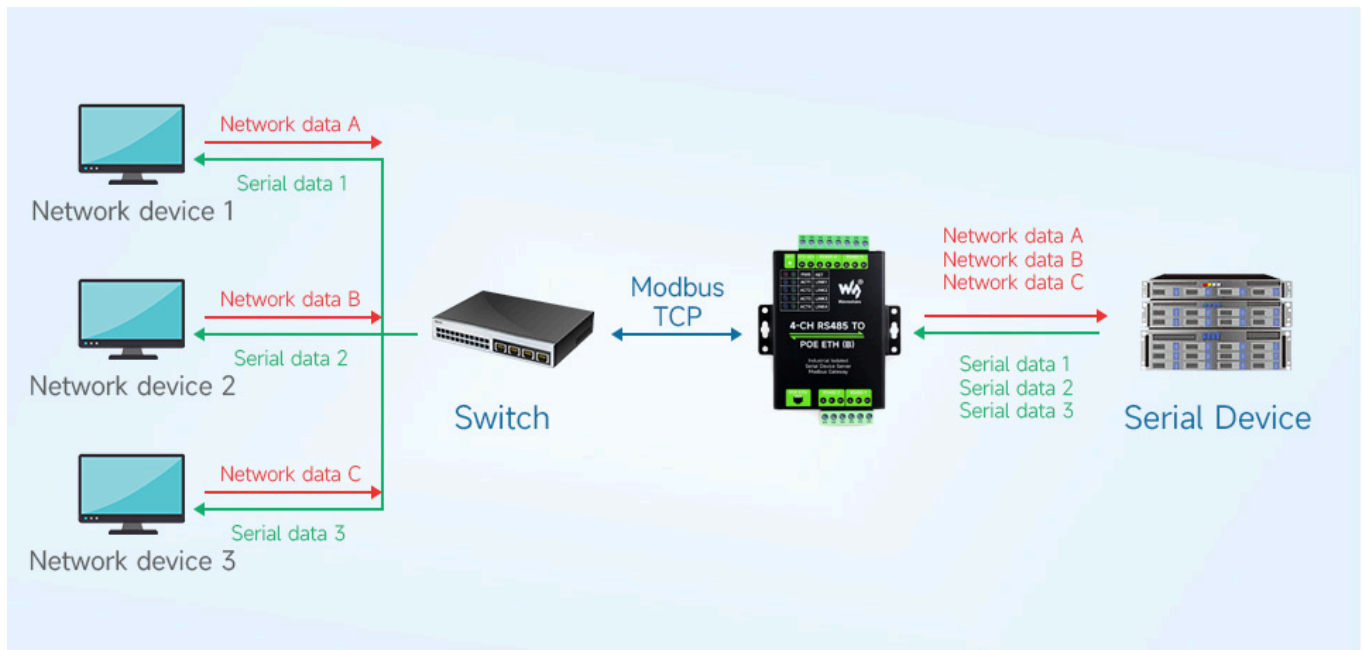
Online

User-Defined Heartbeat/Registration Packet

Easy For Cloud Communication And Device Identification
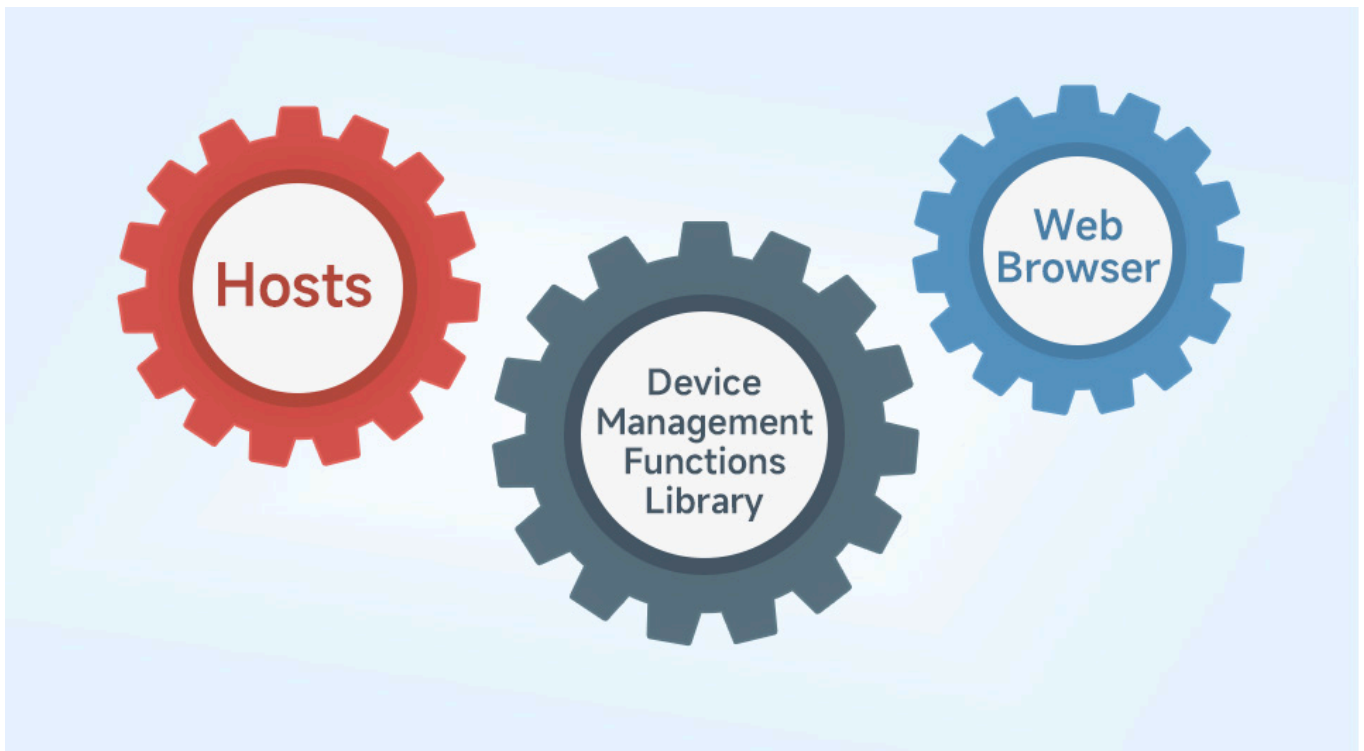

NTP Protocol Support

Online

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

Online

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
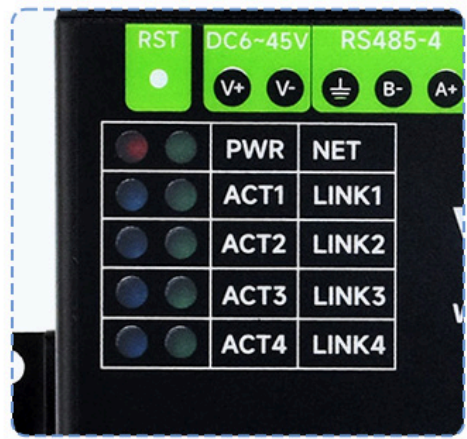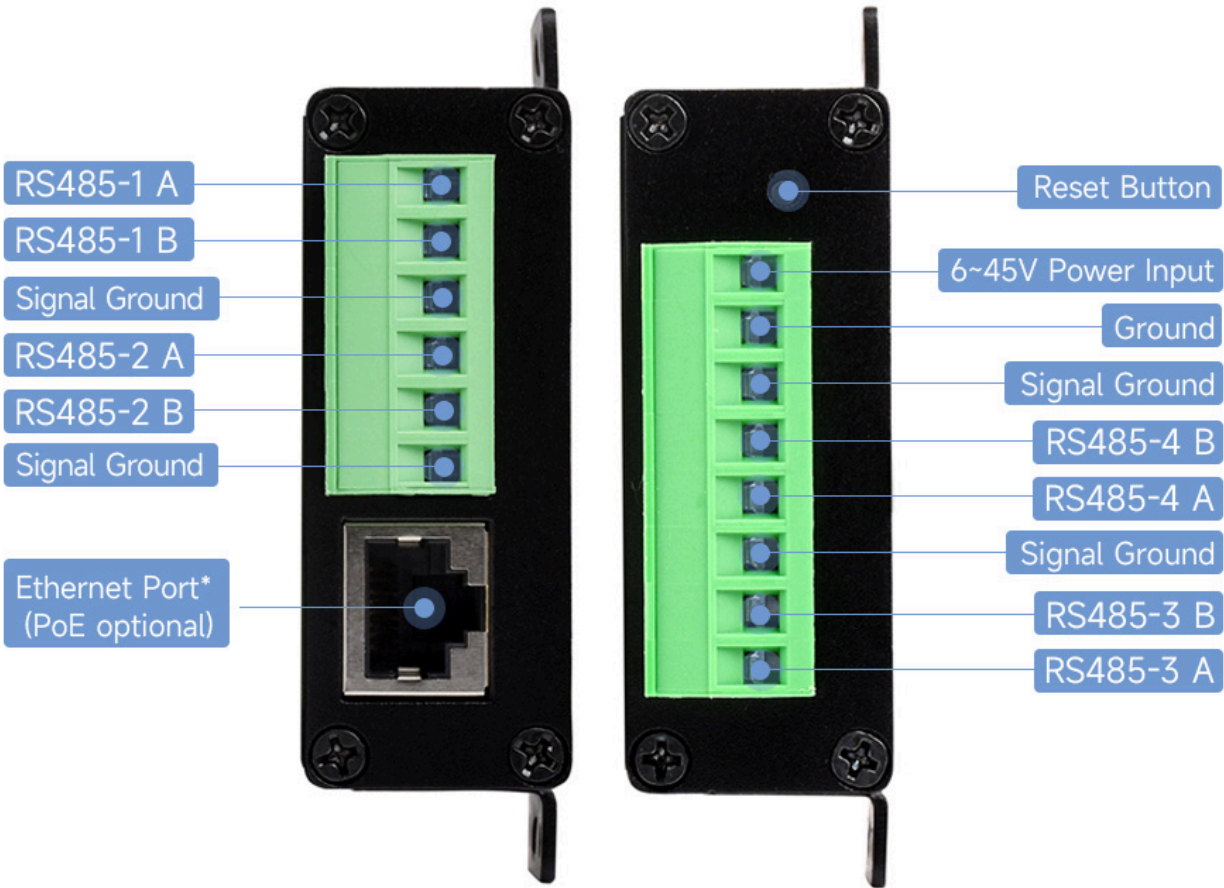
Online

Aluminium Alloy Enclosure

Aluminium Alloy Enclosure With Sand Blasting And Anodic Oxidation

Solid And Durable, Fashion And Good Hand Feeling

Online

Interface Introduction

RS485-1 A	Reset Button
RS485-1 B	6~45V Power Input
Signal Ground	Ground
RS485-2 A	Signal Ground
RS485-2 B	RS485-4 B
Signal Ground	RS485-4 A
Ethernet Port* (PoE optional)	Signal Ground
	RS485-3 B
	RS485-3 A

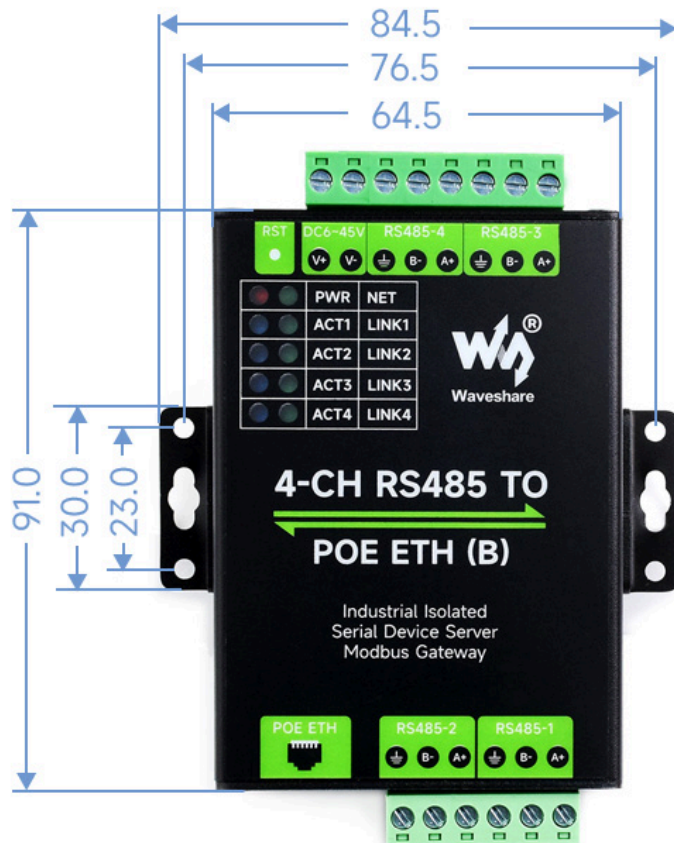| Indicator Description	
PWR	Power indicator
NET	Network indicator, blinking when connected to Ethernet
LINKX	Lights up when establishing channel X connection
ACTX	Lights up when channel X is transmitting data

Product Show

Online

* for reference only, please refer to the Package Content for detailed part list

Outline Dimensions

Support Batch Customization

Support Software And Hardware Customization

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

Etc.

Online

Resources & Services

Wiki: www.waveshare.com/wiki/4-CH_RS485_TO_POE_ETH_(B)

Selection Guide

Online

	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

	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)
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							

Online

| Serial port | 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 a the same time) |

SERIAL SPECIFICATION

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

SOFTWARE

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

ENVIRONMENT REQUIREMENT

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

Online