

TTL TO RS485 (B)

Overview

TTL TO RS485 (B) is an industrial-grade rail-mounted electrically isolated TTL-to-RS485 serial converter.

Feature

- Compatible with TTL/RS422 standard, converting the TTL signal into a balanced differential RS422 signal, supporting half-duplex communication
- Compatible with 3.3V ~ 5V TTL signal level, with anti-reverse connection and anti-over-voltage circuit on the power supply side
- Onboard unibody power supply isolation, provides stable isolated voltage and needs no extra power supply for the isolated terminal
- Onboard unibody digital isolation, allows signal isolation, high reliability, strong anti-interference, and low power consumption
- Onboard TVS (Transient Voltage Suppressor), effectively suppresses surge voltage and transient spike voltage in the circuit, and anti-electrostatic
- Onboard resettable fuse and protection diodes, ensures the current/voltage stable outputs, provide over-current/over-voltage protection, improve shock resistance
- On-board RS485 input and output 120R resistors with built-in jumper caps for switching enable
- Industrial rail-mount ABS case design, small in size, easy to install, and cost-effective

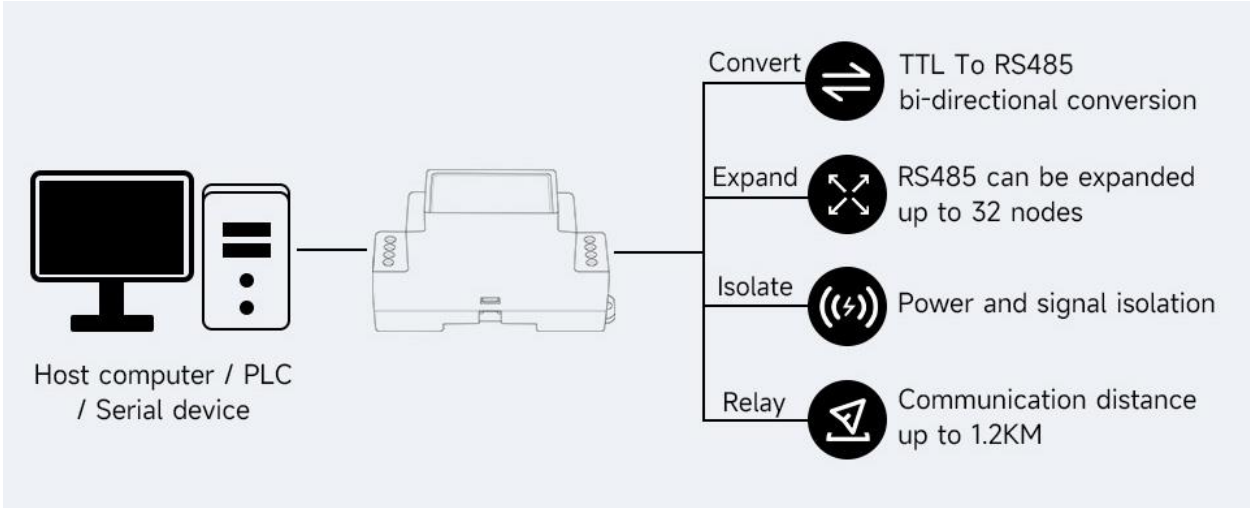
Parameters

Model	Galvanic isolated TTL To RS485 converter	
Power Port	Power supply	3.3V ~ 5V
	Interface Protection	anti-over-discharge, reverse-proof
Device interface	Compatible with TTL / RS422 standard	
TTL Interface	Interface type	Screw terminal
	Transmission distance	About 10m
	Transmission model	Point to point
RS422 Interface	Interface type	Screw terminal
	Interface Protection	Provide 600W lightningproof, surge-suppress and 15KV ESD protection
	Terminal Resistance	120R, enabled/disabled via switch
	Transmission Distance	About 1200m

	Transmission Mode	point-to-multipoint (up to 32 nodes, it is recommended to use repeaters for 16 nodes or more)
Product Appearance	Case	Rail-mount ABS case, suitable for 35mm DIN rail
	Dimensions	91.6 × 58.7 × 23.3mm

Primary Function

Convert the TTL signal into a balanced differential RS485 signal, which can be used for interface conversion and node expansion, and can also be used to extend the communication distance.



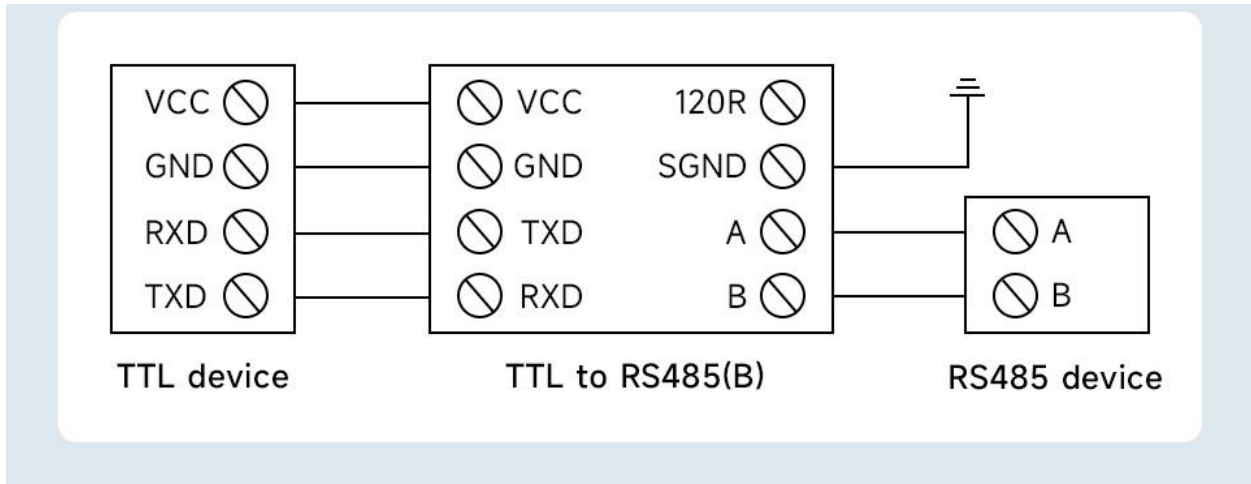
Interface Introduction



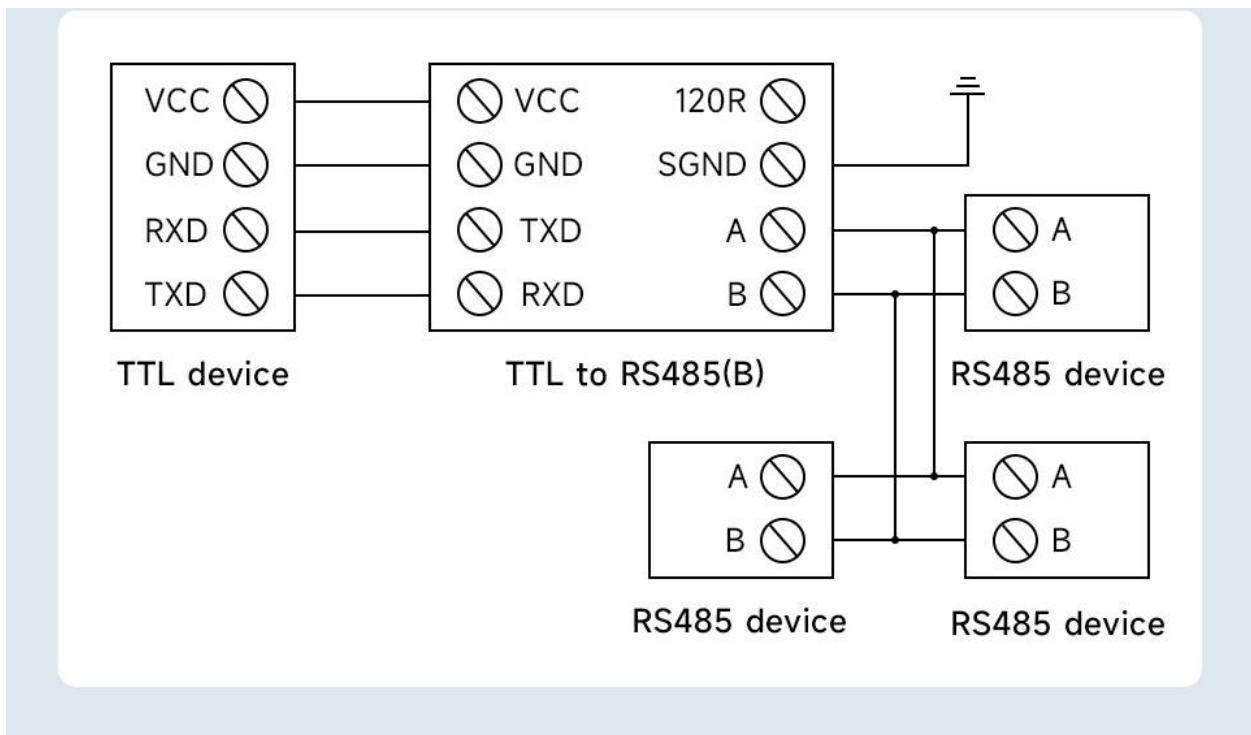
TOP SIDE SCREW TERMINAL		BOTTOM SIDE SCREW TERMINAL	
VCC	Power Input DC 3.3V~5V power supply	DIP SWITCH	120R enable switch
GND	Ground	SGND	RS485 signal ground
TXD	TTL transmit data pin	A+	RS485 differential signal positive
RXD	TTL receive data pin	B-	RS485 differential signal negative

Communication Connection Diagram

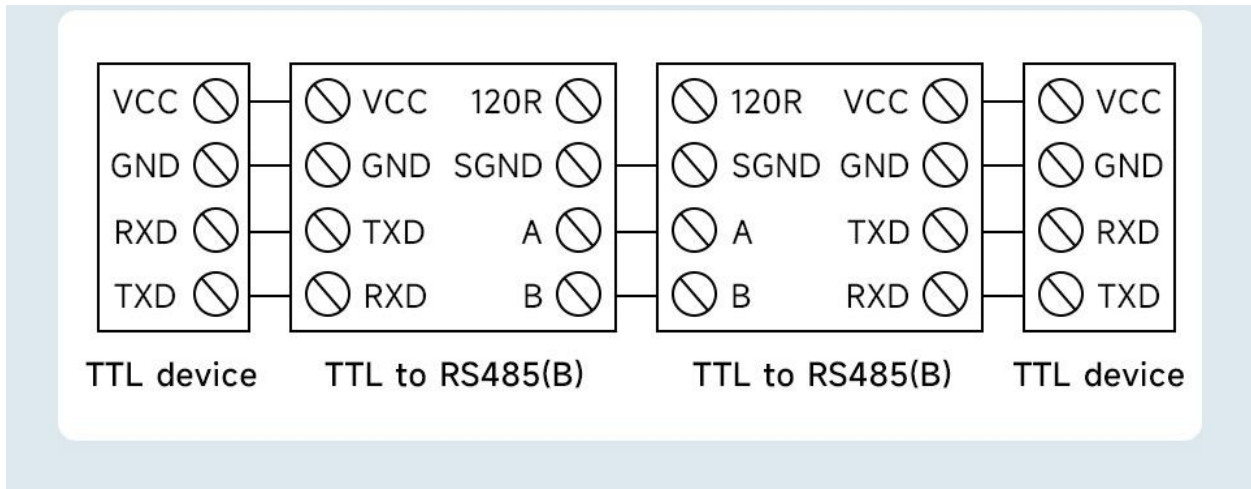
TTL convert to RS485, point to point, half-duplex communication, suitable for interface conversion



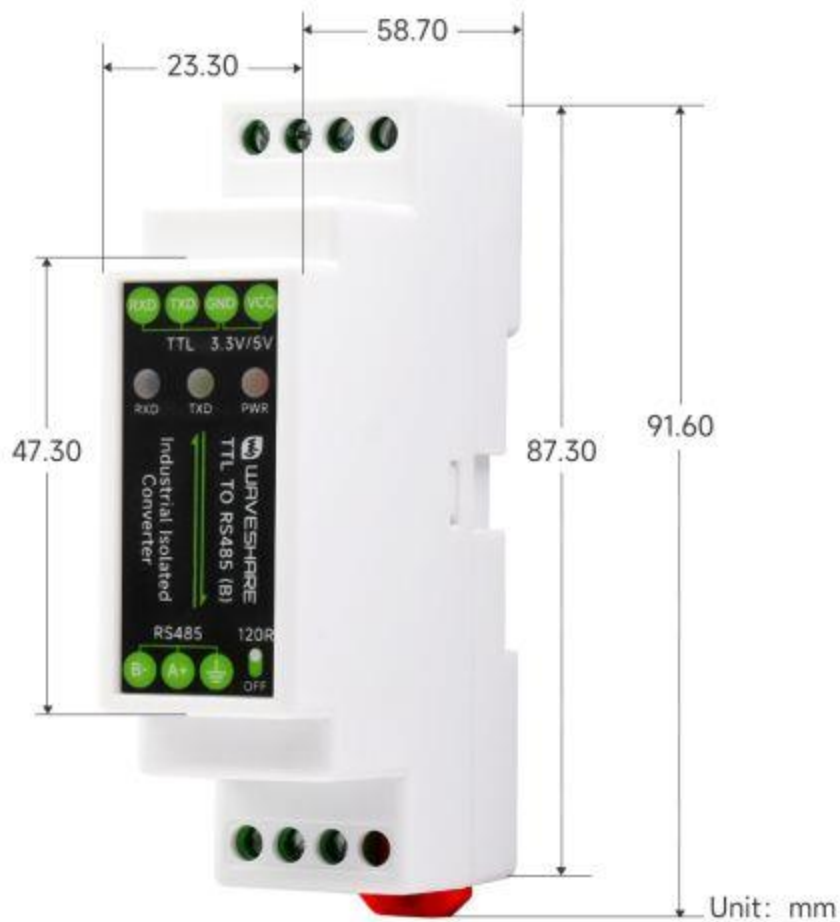
TTL convert to RS485, point-to-multipoint, half-duplex communication, suitable for expanding nodes



Two groups TTL To RS485 conversion, point-to-point, half-duplex communication, suitable for extending the communication distance of TTL



Dimensions



Hardware Test

Test Note

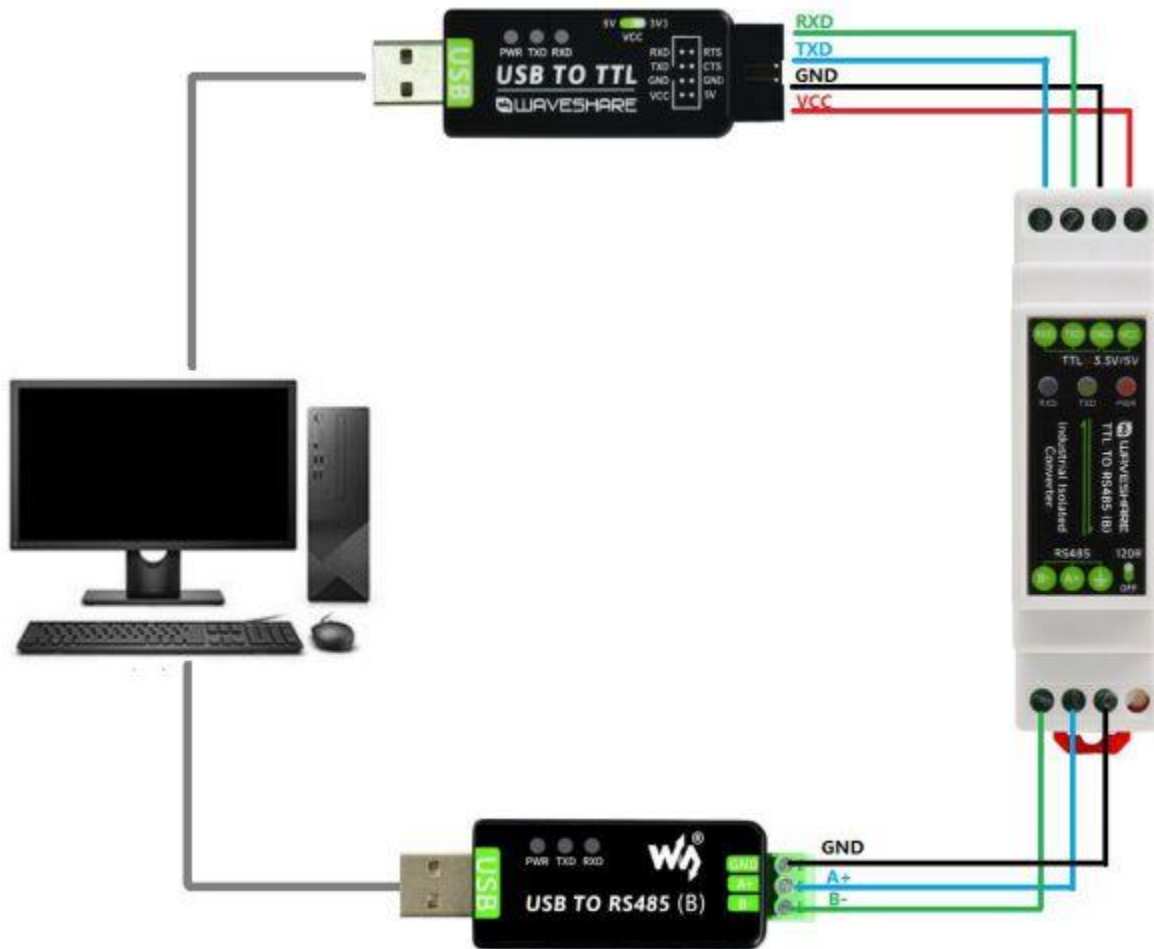
Test Environment: PC (Windows).

Accessories required for testing:

- TTL TO RS485 (B) — This product
- [USB TO TTL](#) - not included
- [USB TO RS485](#) - not included

Test Hardware Connection

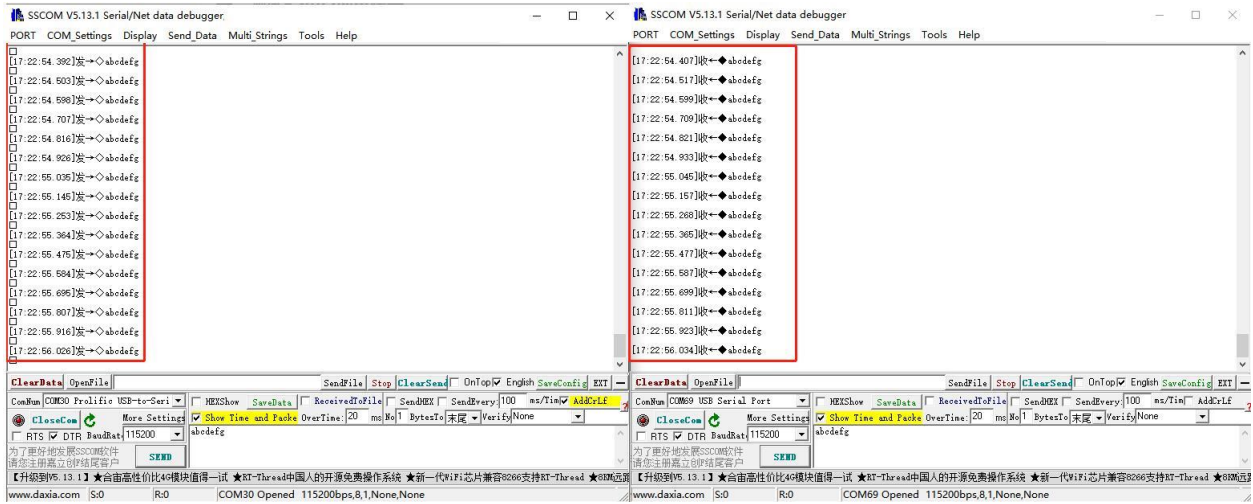
The RS422 interface of TTL TO RS485 (B) is connected to the PC through the USB to RS422 conversion cable. The TTL interface of TTL TO RS485 (B) is connected with the TTL of USB TO TTL. The USB port of USB TO TTL is connected to the same PC for the self-receiving test. The schematic diagram of the hardware connection is as follows:



Note: The RS485 interface of this product is also equipped with 120R Switch, the default is on, the user can set it according to the needs (set up to open, set down to NC), if signal isolation is required, you can set GND is also connected to ground.

On the PC, open two SSCOM serial port debugging assistants, open the corresponding port number, set the same baud rate, and click Send at

regular intervals to send and receive normally. The screenshot of the software test is as follows:



Note: RS485 is a half-duplex communication, and the sending and receiving test cannot be performed at the same time.

Resource

Software

- [Sscom.7z](#)