

Overview

TTL TO RS422 (B) is an industrial-grade rail-mounted electrically isolated TTL-to-RS485 serial converter.

Feature

- Compatible with TTL/RS485 standard, converting the TTL signal into a balanced differential RS485 signal, supporting full-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 is anti-electrostatic.
- Onboard resettable fuse and protection diodes, ensure the current/voltage stable outputs, provide over-current/over-voltage protection, and 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 RS422 converter	
Power Port	Power Supply	3.3V ~ 5V
	Interface Protection	anti-over-discharge, reverse-proof

Full-Duplex RS422



Half-Duplex RS485

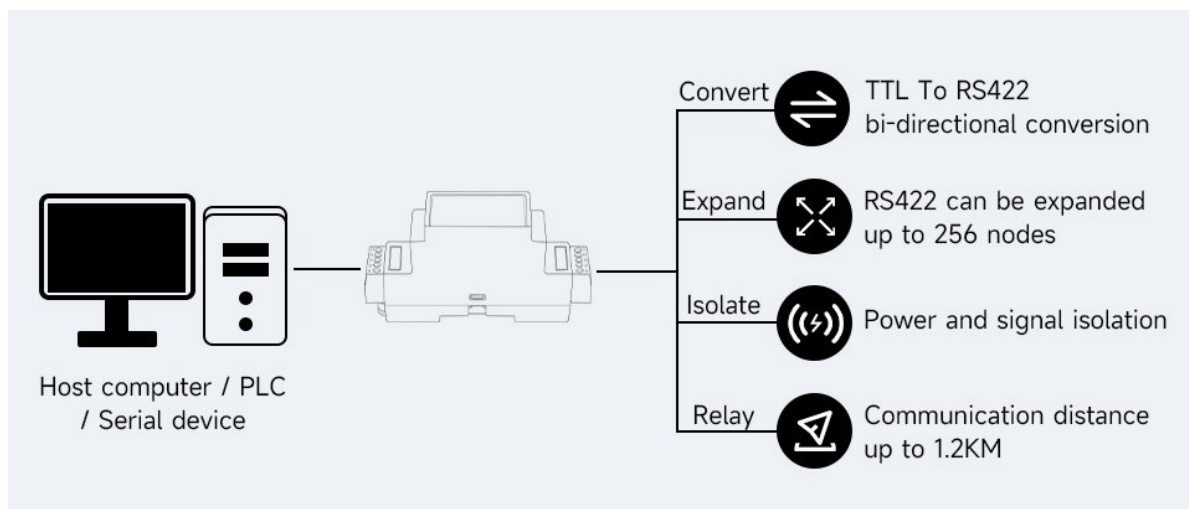


RS485, TTL

Device Interface	Compatible with TTL / RS485 standard	
TTL Interface	Interface Type	Screw terminal
	Transmission Distance	less than 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 jumper (inside the case)
	Transmission Distance	About 1200m
	Transmission Mode	Point-to-multipoint (Up to 32 nodes can be connected, and relays are recommended for more than 16 nodes)
Product Appearance	Case	Rail-mount ABS case, suitable for 35mm DIN rail
	Dimensions	91.6 × 58.7 × 23.3mm

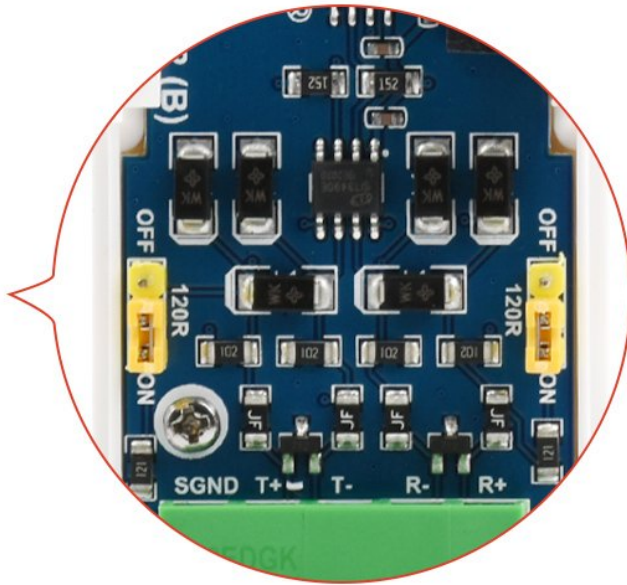
Basic Function

Convert TTL signal to balanced differential RS422 signal, which can be used for interface conversion, and node expansion, and can also be used to extend the communication distance.



Interface Introduction

TTL Port 3.3V~5V Power Supply



Built-in 120R selection header, enabled by default

TOP SIDE SCREW TERMINAL		BOTTOM SIDE SCREW TERMINAL	
VCC	Power Input DC 3.3V~5V power supply	R+	RS422 differential signal receive positive
GND	Ground	R-	RS422 differential signal receive negative
TXD	TTL transmit data pin	T-	RS422 differential signal transmit negative RS485 differential signal negative (B-)*
RXD	TTL receive data pin	T+	RS422 differential signal transmit positive RS485 differential signal positive (A+)*
GND	TTL signal ground	GND	RS485/422 signal ground

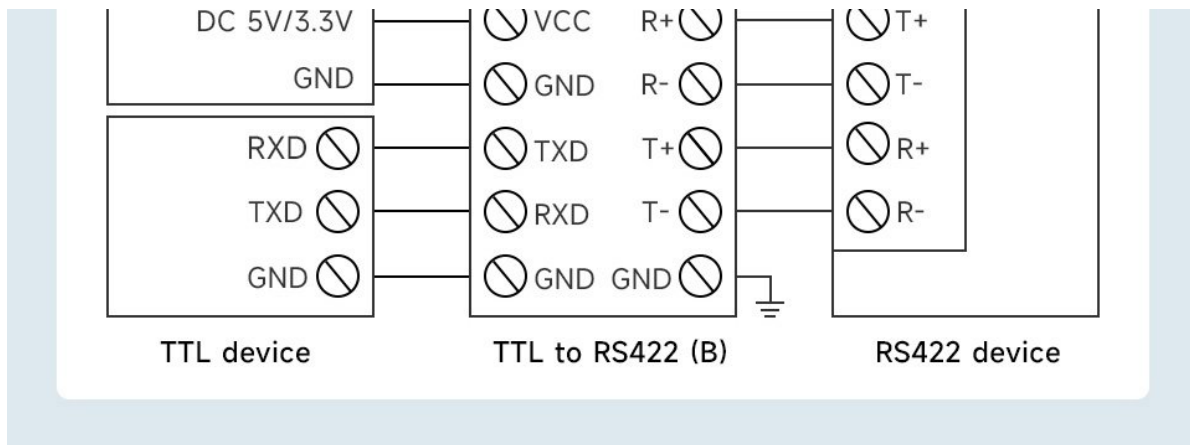
* Note: the TTL TO RS422 (B) is designed to be used with RS422 devices, however, it is also possible to be used with RS485 devices (yet only sending is available). It is recommended to use [TTL TO RS485 \(B\)](#).

Communication Connection Diagram

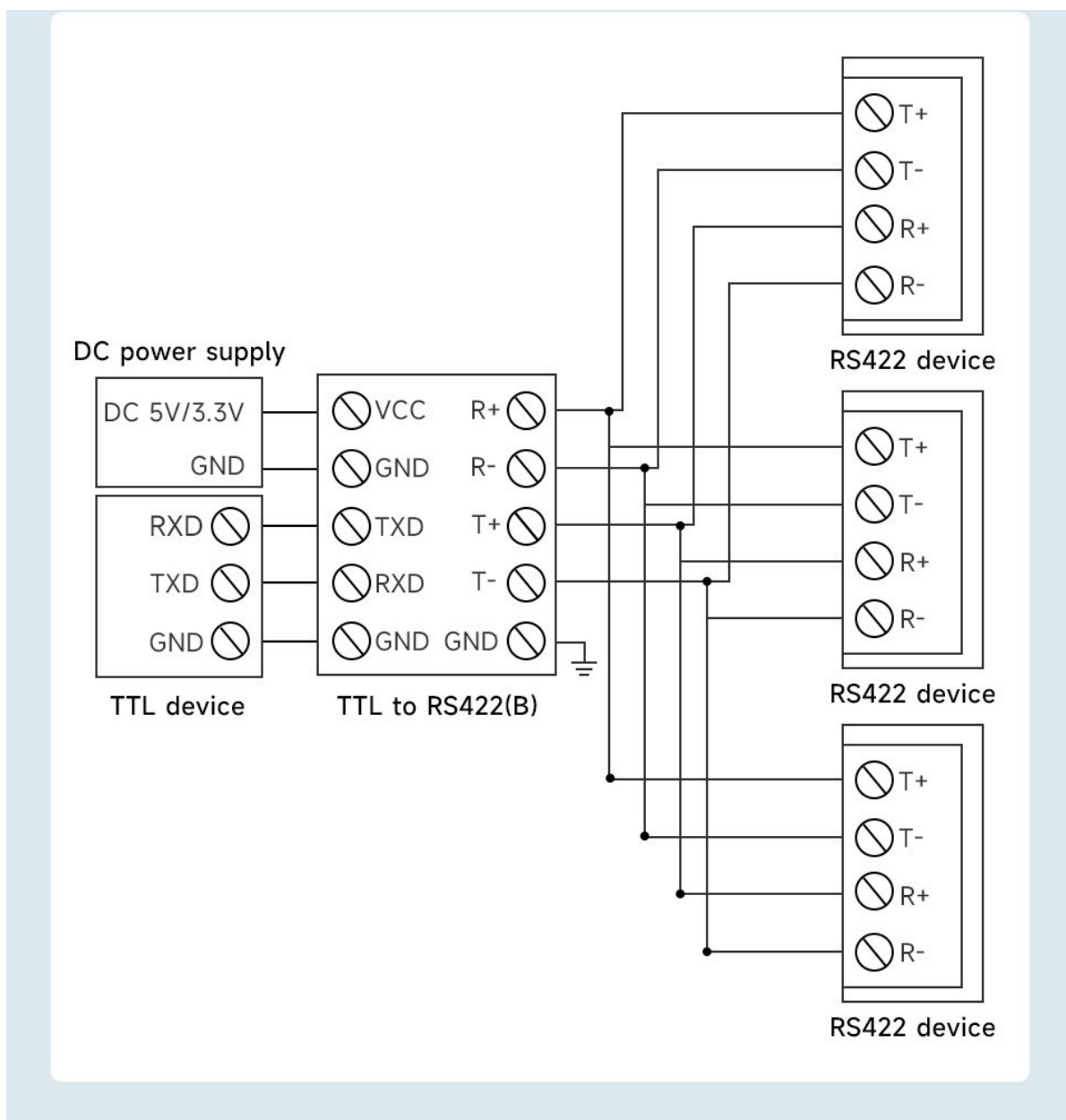
TTL convert to RS422, point to point, full duplex communication, suitable for interface conversion

DC power supply



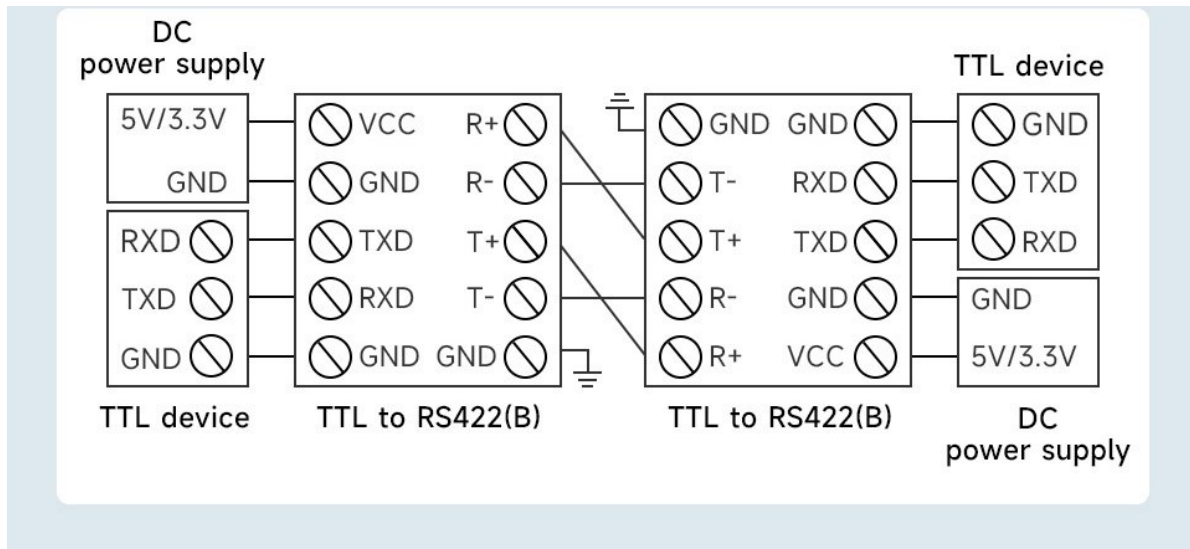


TTL convert to RS422, point-to-multipoint, full duplex communication, suitable for expanding nodes

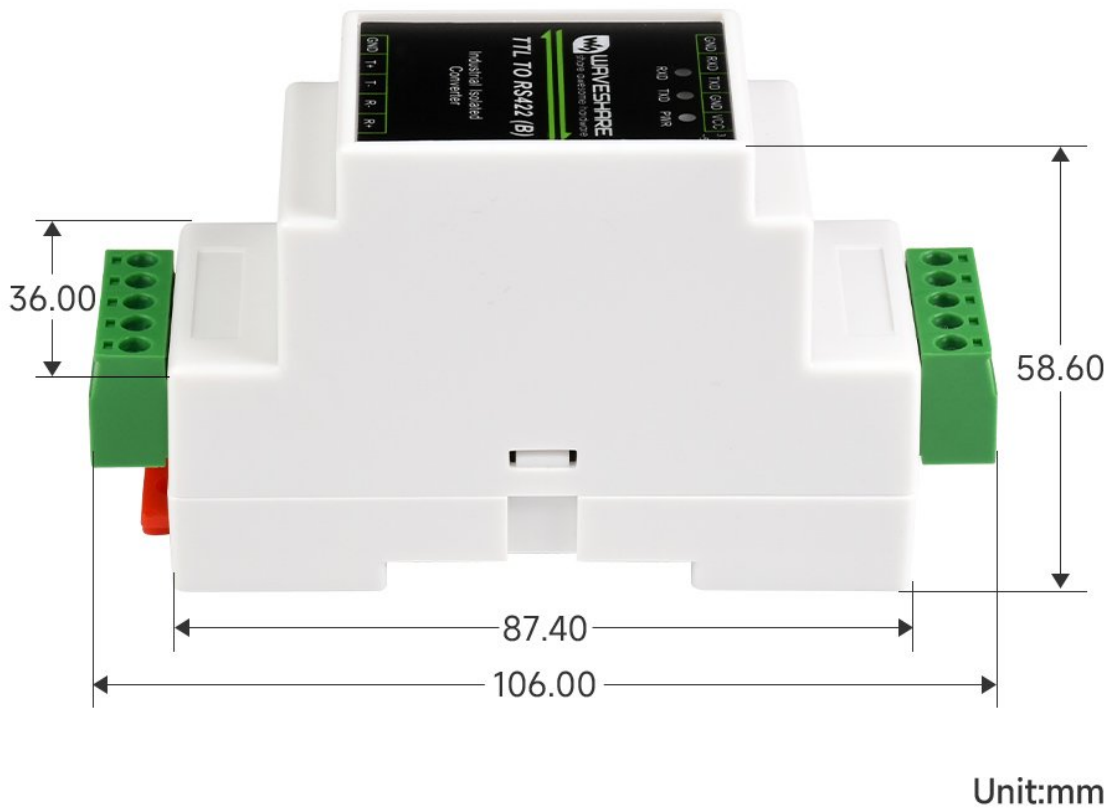


Two groups TTL to RS422 conversion, point-to-point, full duplex communication, suitable for extending the communication distance

of TTL



Dimensions



Hardware Test

Test Note

Test Environment: PC (Windows).

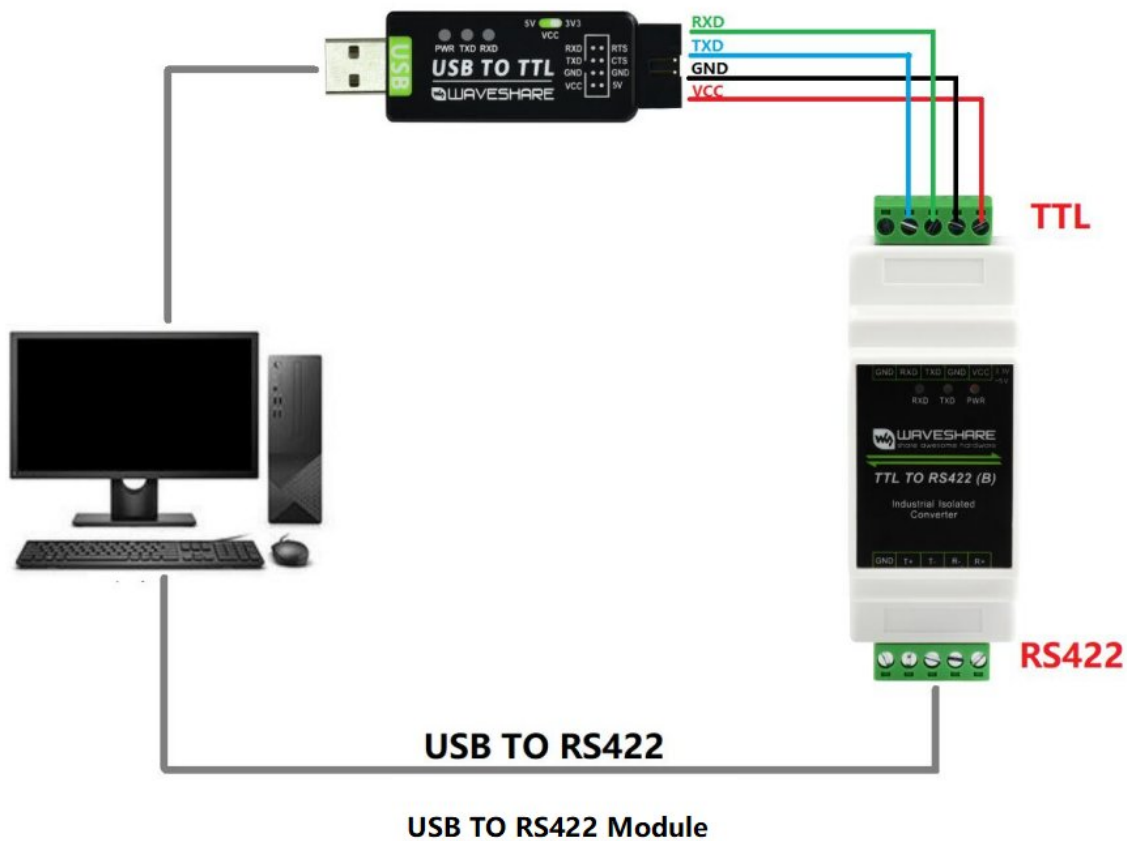
Accessories required for testing:

- TTL TO RS422 (B) --this product

- [USB TO TTL](#) - not included
- USB TO RS485/RS422 - not included

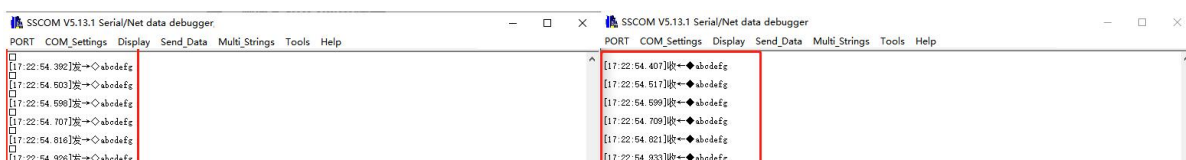
Test Hardware Connection

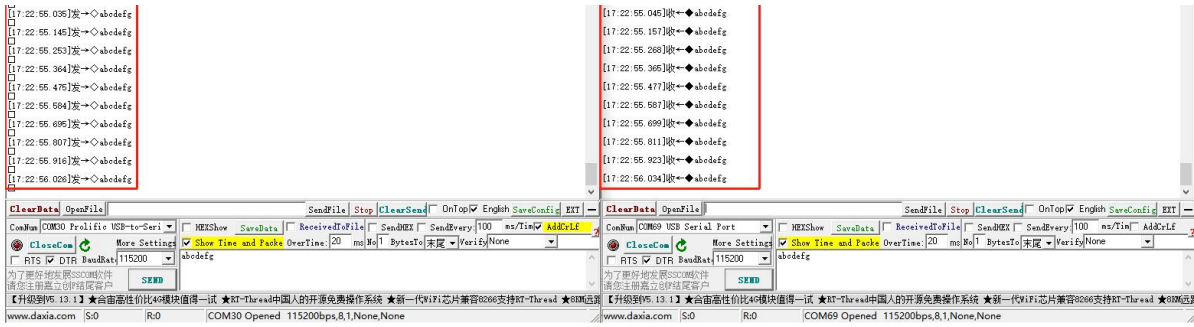
The RS422 interface of TTL TO RS422 (B) is connected to the PC with the USB to RS422 conversion cable. The TTL interface of TTL TO RS422 (B) is connected with the TTL of USB TO TTL. The USB port of USB TO TTL is connected to the same PC for the self-receiving tests. The schematic diagram of the hardware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



Note: The RS422 interface of this product also has two built-in **120R** enabling resistors, which are enabled by default. Users can remove the case to modify the settings according to their needs. If signal isolation is required, **GND** can also be connected to the ground wire.

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:





Resource

Software

- [Sscm.7z](#)

Support

Technical Support

If you need technical support or have any feedback/review, please click the **Submit Now** button to submit a ticket, Our support team will check and reply to you within 1 to 2 working days. Please be patient as we make every effort to help you to resolve the issue.

Working Time: 9 AM - 6 AM GMT+8 (Monday to Friday)

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