RS232 TO RS485 (D)

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Overview

The RS232 TO RS485 (D) is an industrial-grade DIN-rail active opto-isolated RS232 to RS485 converter.

Features

- Compatible with RS232/RS485, convert RS232 signal to balanced and differential RS485 signal.
- Stable transmission rate with a stable speed of 300~115200bps
- Onboard unibody power isolation, provides stable isolation voltage, and there is no external power supply for the isolated terminal.
- Onboard unibody digital isolation, provides signal isolation with high reliability, strong anti-interference and low power consumption.
- Onboard TVS (Transient Voltage Suppressor), effectively resists the surge voltage and transient peak voltage in the circuit and provides lightninggproof and ESD protection.
- Onboard self-recovery fuse and protection diodes, ensure stable output of current and voltage, overcurrent and overvoltage protection, improves anti-shock capability.
- Onboard RS485 output terminal 120R, switch via jumper caps.
- Onboard power supply screw terminal, support 5V~36V DC wide-voltage range power input.

With LED Indicator



(https://www.waveshare.com/rs232-to-rs485-b.htm?sku=27830)

Without LED Indicator



(https://www.waveshare.com/rs232-to-rs485-b.htm?sku=23376)

RS485, RS232
RS232 to RS485

- Industrial grade ABS eco-friendly case, compact size, easy to install and cost-effective.

Version Options



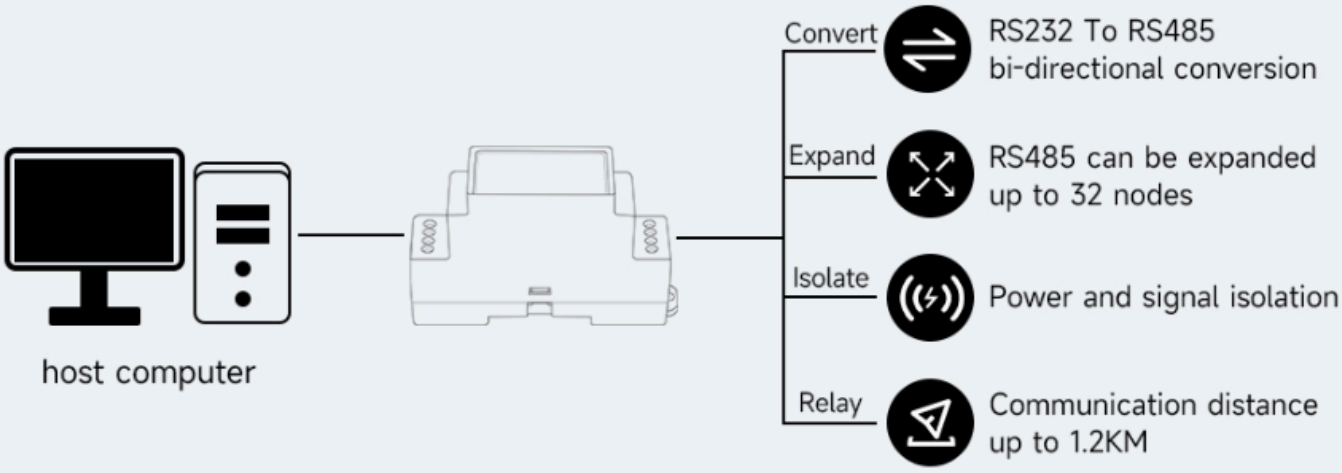
(/wiki/File:RS232_to_RS485_d-ver.png)

Specification

Model	Galvanic isolated RS232 to RS485 serial port converter	
Power port	Supply voltage	5V ~ 36V
	Protection	Anti-reverse
Reliable Baudrate	300~115200bps	
Device Interface	Compatible with RS232/RS485 standard	
RS232	Interface	Screw terminal
	Protection	ESD tube protection, anti-surge and ESD protection
	Transmission Distance	about 15m
	Transmission Mode	Point to point
RS485	Interface	Screw terminal
	Direction Control	Hardware automatic control
	Protection	Provide 600W lightningproof, anti-surge and 15KV ESD protection
	Transmission Distance	about 1200m
	Transmission mode	Point-to-multi-point (up to 32 nodes, add the relay for up to 16 nodes)
Indicator	PWR	Power indicator, connect to the power port, the red indicator is on when the voltage is detected
	TXD	TX indicator, the green indicator is on when data is sent from RS232 interface
	RXD	RX indicator, the blue indicator is on when data is received from RS232 interface
Appearance	Case	Rail-mount ABS eco-friendly case, suitable for 35mm DIN rail
	Dimensions	91.6 × 58.7 × 23.3mm

Application Topology

Converting The RS232 Signal Into Balanced Differential RS485 Signal
For Interface Converting, Expanding Nodes And Long-Distance Communication



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Onboard Interface

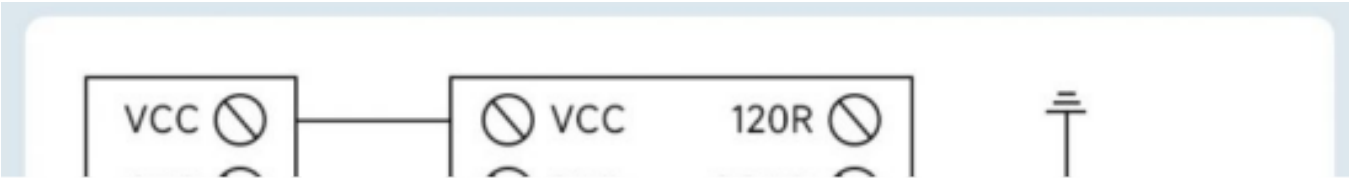


(/wiki/File:RS232_TO_RS48511.jpg)

TOP SIDE SCREW TERMINAL		BOTTOM SIDE SCREW TERMINAL	
VCC	Power input DC 5V ~ 36V Power Supply	**120R**	120R Enable Pin Header
GND	Ground/ RS232 Signal Ground	**SGND**	RS485 Signal Ground
TXD	RS232 Signal Transmitting Pin	**A+**	RS485 Differential Signal A+
RXD	RS232 Signal Receiving Pin	**B-**	RS485 Differential Signal B-

Communication Connection Diagram

RS232 to RS485 Interface Conversion, Point-to-Point, Half-Duplex Communication for Interface Conversion



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RS232 to RS485 Interface Conversion, Point-to-Multipoint, Half-duplex

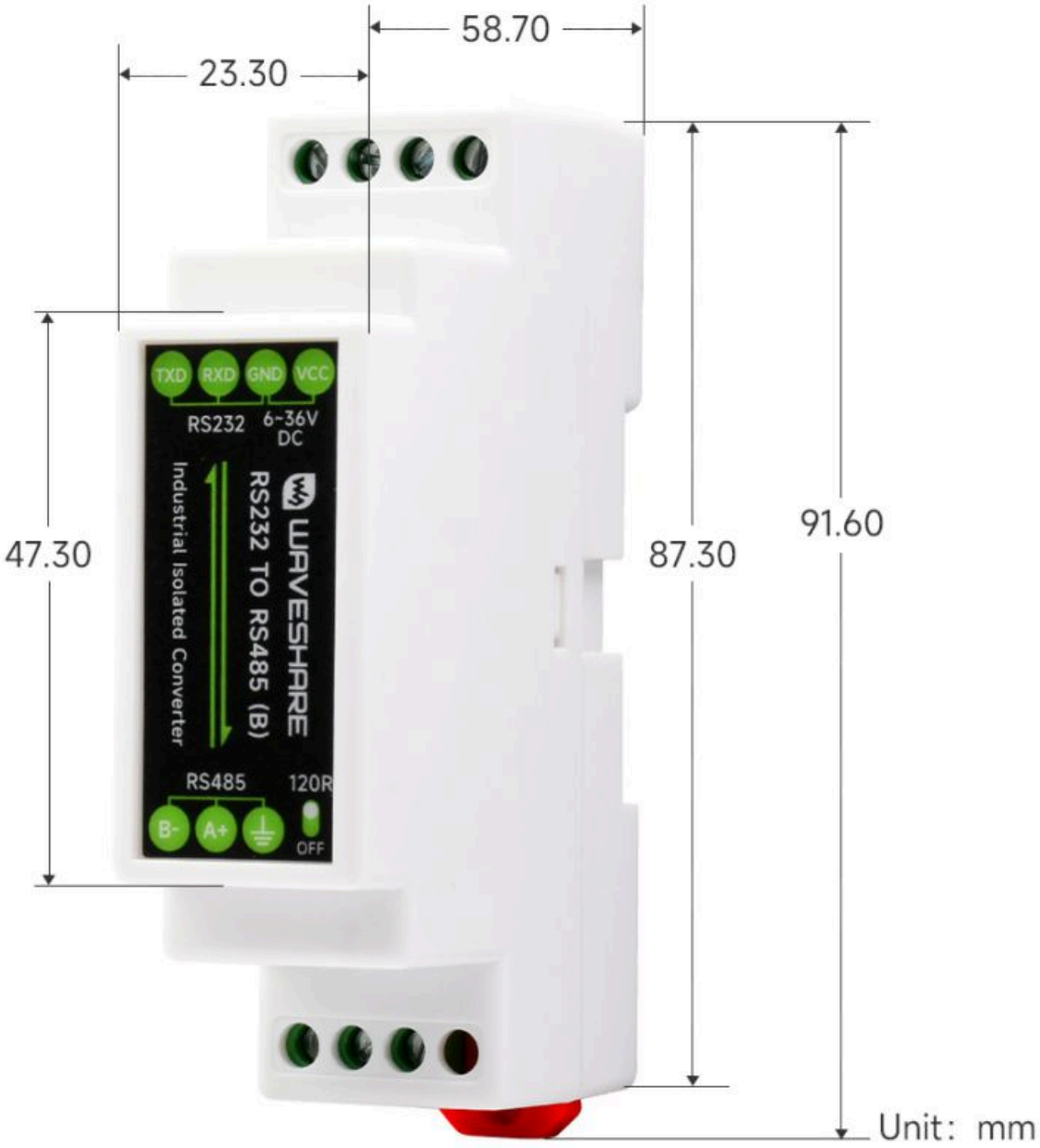
Communication, Suitable for Expanding Communication Nodes

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Point-to-point, Half-duplex Communication via Two RS232 to RS485 Interface Conversions, Suitable for Extending RS232 Communication Distance

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Dimensions



(/wiki/File:RS232-TO-RS485-B-details-size.jpg)

Note: RS232 TO RS485 (B) and RS232 TO RS485 (D) are based on the same case mold and have the same outline dimensions, while model D has additional indicator holes.

Hardware Test

Test Description

Test environment: PC (Windows OS)

Test hardware:

- RS232 TO RS485 (D)
- USB TO RS485
- PC (If the computer does not have an RS232 interface, you can choose USB to RS232 (female connector male plug) to test the adapter.)

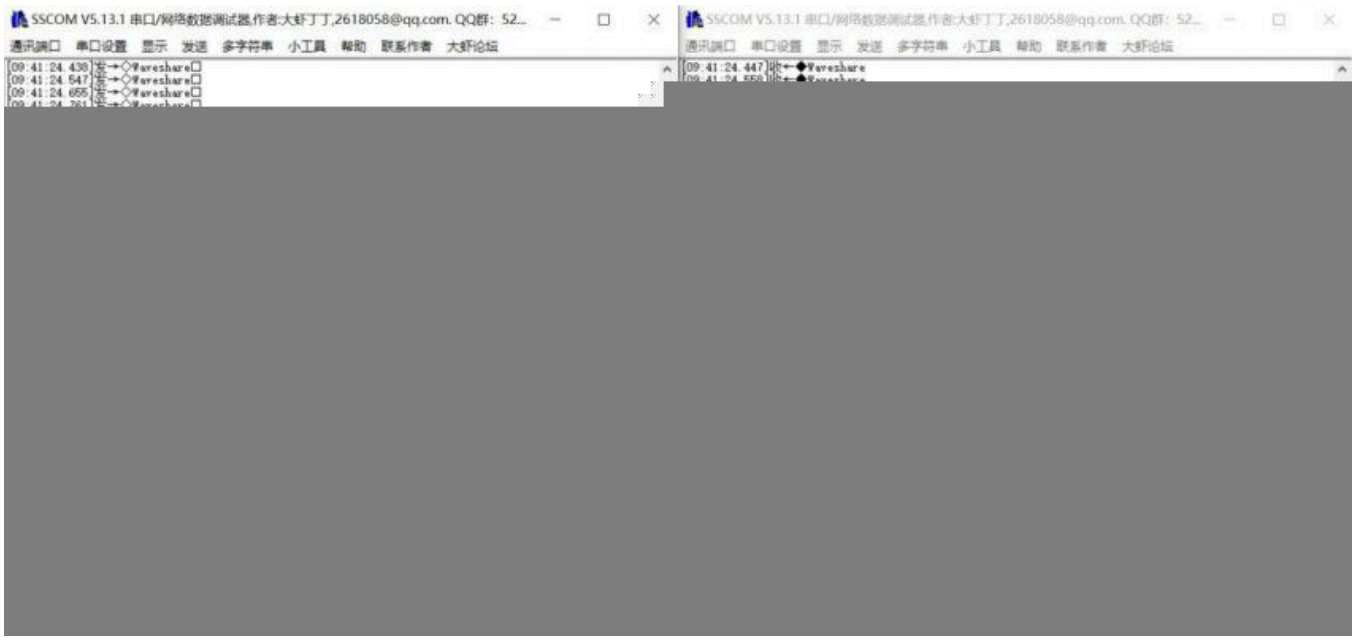
Test Hardware Connection

The RS232 interface of RS232 TO RS485 (D) connects to the PC with a serial extension cable or USB TO RS232 cable (female connector male plug). The RS485 interface is connected to RS232 TO RS485 (D). The USB interface of USB TO RS485 connects to the same PC and automatically tests. The hardware connection diagram is shown as below:

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Note: The RS485 interface of this product also comes with 120R switch, and it is switched off by default. Users can switch it on/off through jumper wires; if you want the signals to isolate the ground, you should connect to the GND.

- On the PC, open two SSCOMs, open the corresponding port number, set the same baud rate, and click on the timing send, you can send and receive normally, the software test screenshot is as follows:



(/wiki/File:USB_TO_RS232_485_test06.jpg)

Resource

Software

- sscom (https://files.waveshare.com/upload/5/5f/Sscom.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 PM GMT+8 (Monday to Friday)

Submit Now (https://service.waveshare.com/)

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