

# Rail-Mount RS232 To RS485 Active Digital Isolation Serial Converter

Serial port conversion for industrial, agricultural, IoT, etc.



Digital Isolation



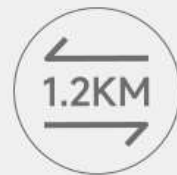
Rail-Mount



RS232 To RS485



Multi-Protection



Longer Transmission  
Distance

# Version Options



**RS232 TO RS485 (B)**  
without LED indicator



**RS232 TO RS485 (D)**  
with LED indicators

## Features At A Glance

- Compatible with RS232/RS485 standard, converting the RS232 signal into balanced differential RS485 signal
- Stable transmission at the rate of 300~115200bps
- 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, low power consumption
- Onboard TVS (Transient Voltage Suppressor), effectively suppresses surge voltage and transient spike voltage in the circuit, lightningproof & anti-electrostatic
- Onboard resettable fuse and protection diodes, ensures the current/voltage stable outputs, provide over-current/over-voltage protection, improve shock proof performance
- Industrial rail-mount ABS case design, small in size, easy to install, and cost-effective

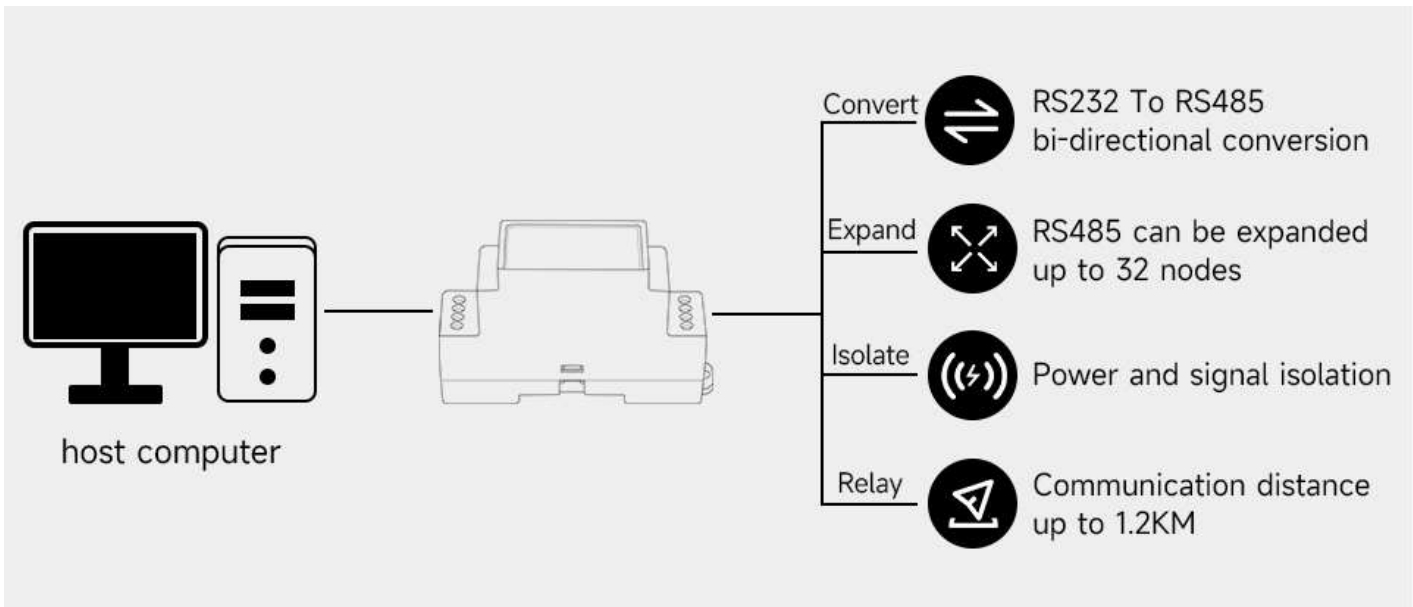
# Specifications

	<b>RS232 TO RS485 (B)</b> without LED indicator	<b>RS232 TO RS485 (D)</b> with LED indicators
<b>Product Type</b>	Active electromagnetic isolated RS232 TO RS485 asynchronous bi-directional converter	
<b>Power supply interface</b>	6~36V DC	5V~36V DC
	with anti-reverse protection	
<b>Baudrate</b>	300 ~ 115200bps	
<b>Device Port</b>	RS232/RS485 standard compatible	
<b>RS232 PORT</b>		
<b>Connector</b>	screw terminal	
<b>Protection</b>	signal filtering, anti-interference	signal filtering, anti-interference, ESD protection
<b>Transmission distance</b>	about 15m	
<b>Transmission mode</b>	point-to-point	
<b>RS485 PORT</b>		
<b>Connector</b>	screw terminal	
<b>Direction control</b>	Hardware automatic control	

<b>Protection</b>	600W lightningproof and surge-suppress, 15KV ESD protection	
<b>Terminal resistor</b>	120R, switchable	
<b>Transmission Distance</b>	about 1.2km	
<b>Transmission Mode</b>	point-to-multipoints (up to 32 nodes, it is recommended to use repeaters for 16 nodes or more)	
<b>INDICATORS</b>		
<b>PWR</b>	-	Red power indicator, lights up when there is power supply connection and voltage is detected
<b>TXD</b>	-	Green TX indicator, lights up when the RS232 port sends data
<b>RXD</b>	-	Blue RX indicator, lights up when the device port sends data back
<b>APPEARANCE</b>		
<b>Case</b>	Rail-mount ABS case	
<b>Dimensions</b>	91.6 × 23.3 × 58.7mm	

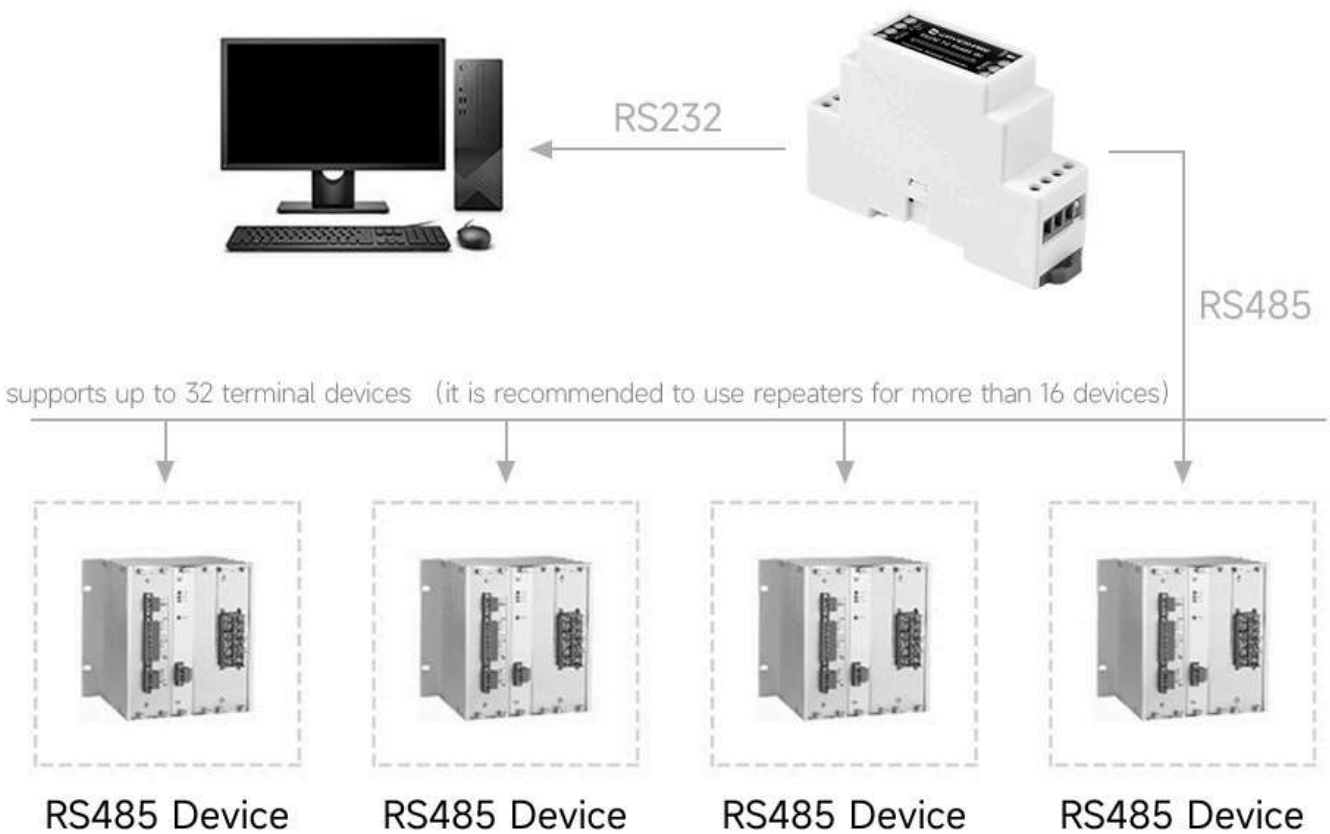
# Primary Function

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



# 1200m Long Distance Transmission

Stable Transmission On Rate Of 300~115200bps, About 1200m Transmission Distance Of RS485, About 15m Transmission Distance Of RS232



# Rail-Mount Support

Easy To Combine Multi Rail-Mounted Serial Server Together, More Freely



## Multiple Protection, Safe And Stable

Onboard power and signal isolation, provide stable isolated voltage, high reliability and strong anti-interference. Onboard Lightningproof Diodes and TVS (Transient Voltage Suppressor), effectively suppress surge voltage and transient spike voltage in the circuit, lightningproof & anti-electrostatic. Onboard resettable fuse and protection diodes, ensures the current/voltage stable outputs, provides over-current/over-voltage protection, improves shock proof performance.



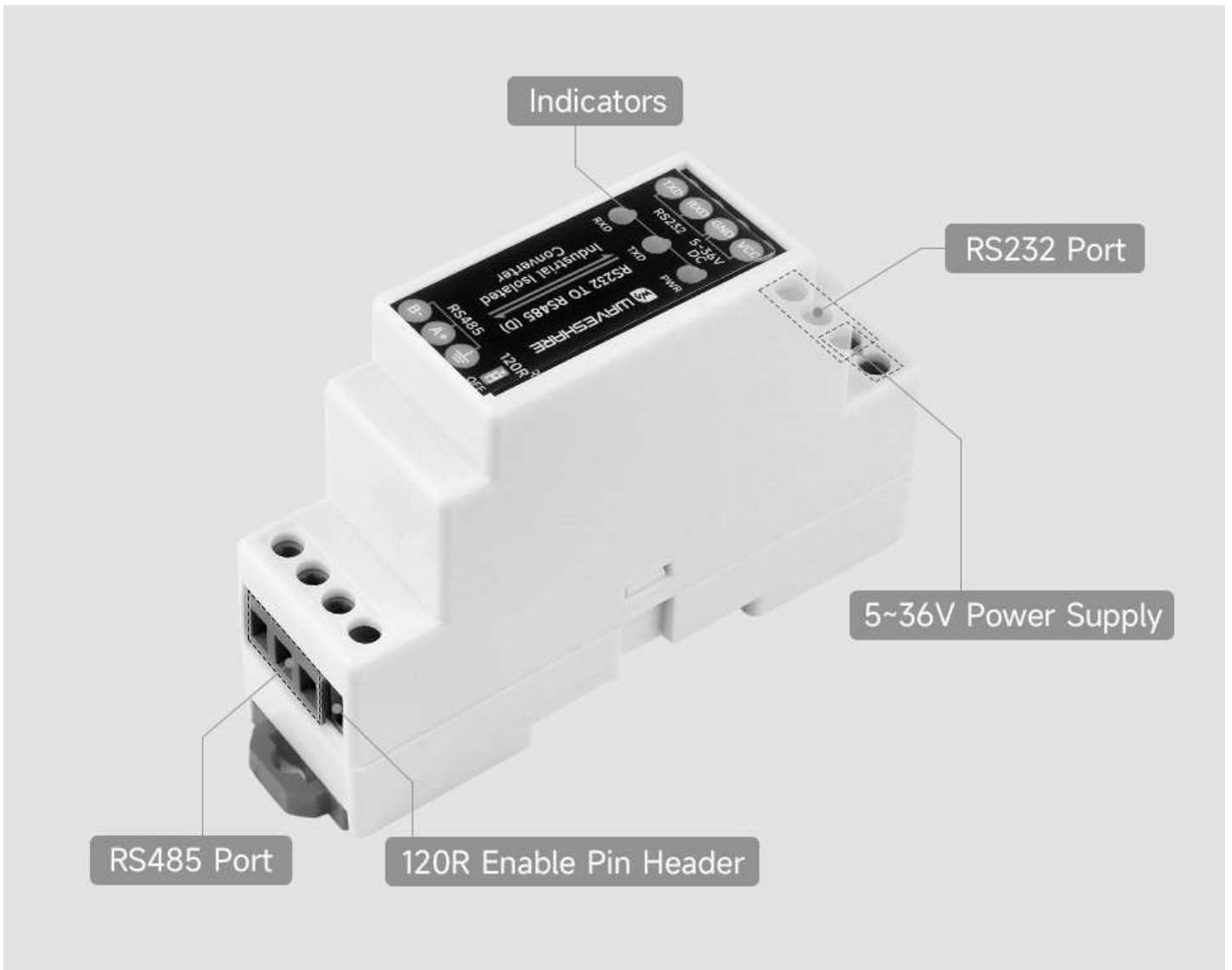
## RS232 TO RS485 (B)



TOP SIDE SCREW TERMINAL		BOTTOM SIDE SCREW TERMINAL	
<b>VCC</b>	Power Input DC 6~36V power supply	<b>120R</b>	120R resistor switch
<b>GND</b>	Ground / RS232 signal ground	<b>SGND</b>	RS485 signal ground
<b>TXD</b>	RS232 transmit data pin	<b>A+</b>	RS485 differential signal A+
<b>RXD</b>	RS232 receive data pin	<b>B-</b>	RS485 differential signal B-



## RS232 TO RS485 (D)

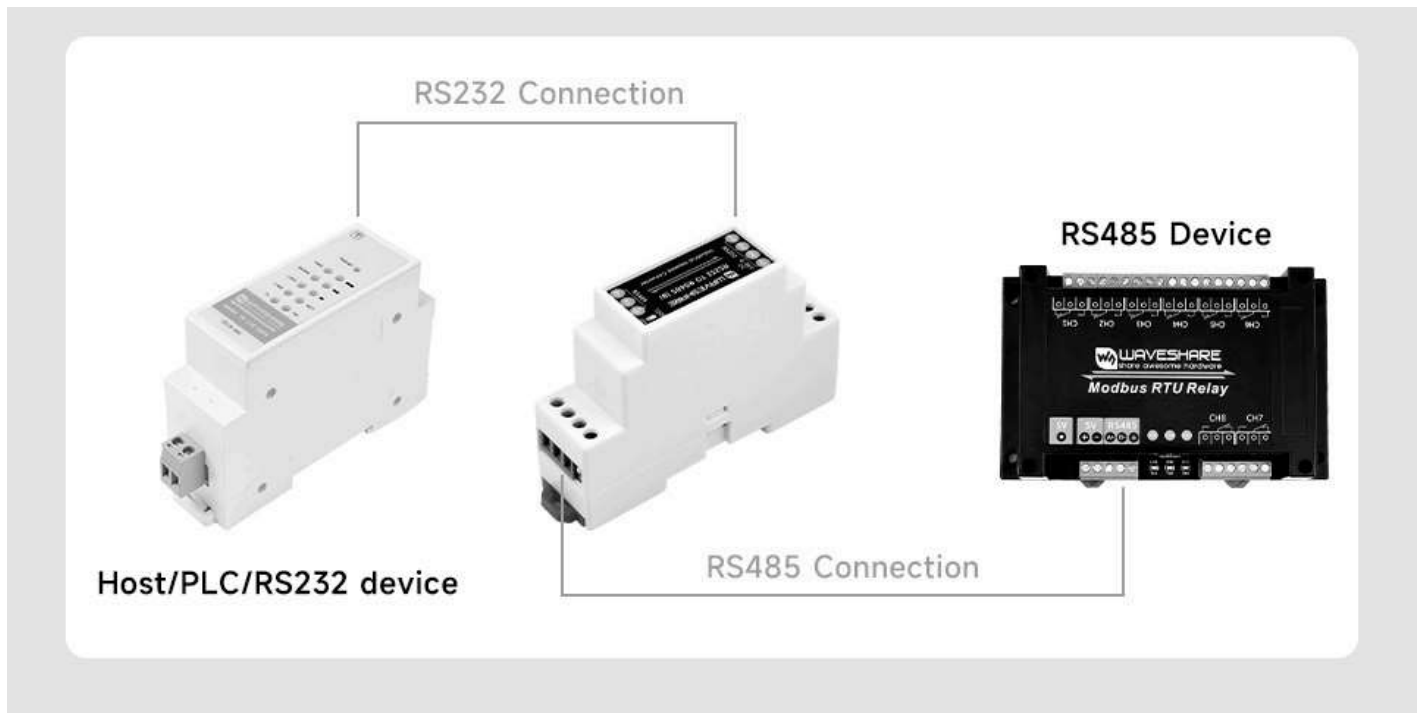


TOP SIDE SCREW TERMINAL		BOTTOM SIDE SCREW TERMINAL	
<b>VCC</b>	Power Input DC 5~36V power supply	<b>120R</b>	120R enable pin header
<b>GND</b>	Ground / RS232 signal ground	<b>SGND</b>	RS485 signal ground
<b>TXD</b>	RS232 transmit data pin	<b>A+</b>	RS485 differential signal A+
<b>RXD</b>	RS232 receive data pin	<b>B-</b>	RS485 differential signal B-

## Application Topology

## RS232 To RS485 Conversion

Access to a host, PLC or other devices with RS232 port, the RS232 can be converted to RS485 port for point-to-point half-duplex communication with external RS485 devices.

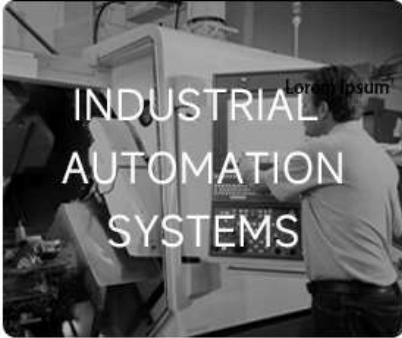


Access to a host, PLC or other devices with RS232 port, the RS232 can be converted to RS485 port for point-to-multipoints half-duplex communication with external RS485 devices.

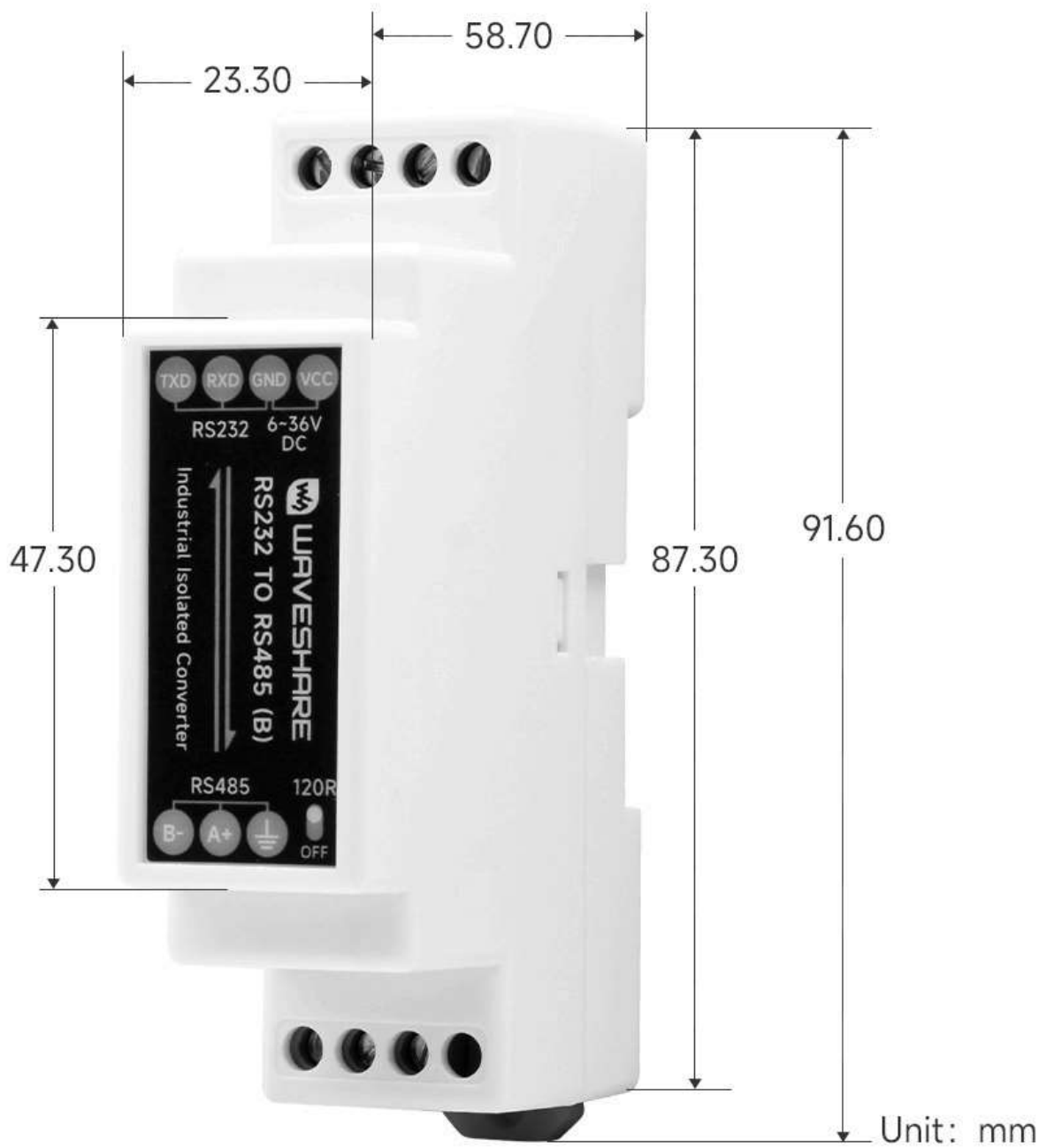


## Application Examples

The RS232 TO RS485 converter can be widely used for point-to-point, point-to-multipoint, long distance cascaded communication network between two hosts, or between host and MCU/Peripheral. It also can be used in the application scenarios that require RS232 to RS485 conversion such as Industrial Automation and IoT.



## Dimensions



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.

## Resources & Services



WAVESHARE  
ORIGINAL



PROFESSIONAL  
TECH SUPPORT



RICH RESOURCES  
MANUAL & DEMO

**Wiki: [www.waveshare.com/wiki/RS232\\_TO\\_RS485\\_\(B\)](http://www.waveshare.com/wiki/RS232_TO_RS485_(B)).  
[www.waveshare.com/wiki/RS232\\_TO\\_RS485\\_\(D\)](http://www.waveshare.com/wiki/RS232_TO_RS485_(D)).**