Interface / Expansion / Power, USB TO RS232 / RS485 / UART/ CAN, RS232 / RS485 / CAN / DALI2

# RS232 To RS485/422 Active Digital isolated Converter, Onboard Original SP3232EEN and SP485EEN Chips, Options for RS232 DB9 Male / Female port

## $11.⁹⁹

Version Option

RS232 Female Port     RS232 Male Port

**Related Products:**

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**Description**    **Package Content**    **Wiki**

RS232 To RS485/422 Active Digital Isolated Converter, Onboard Original SP3232EEN And SP485EEN Chips, Options For RS232 DB9 Male / Female Port

# RS232 To RS485/422 Active Digital Isolated Serial Converter

Adopts SP3232EEN and SP485EEN chips solution, provides stable communication with built-in galvanic isolation, lightningproof and anti-electrostatic protection and so on, it is an ideal choice for industrial control equipments and/or applications with high communication requirement.

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Industrial Converter
Galvanic Isolation

Wall Mount &
Rail-mount Support

RS232 and RS485/422
Bi-directional Conversion

Multiple
Protections

Longer Transmission
Distance

# Features At A Glance

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- Onboard SP3232EEN and SP485EEN chips. Fast communication, stable and reliable, better compatibility
- Stable transmission at the rate of 300~921600bps
- Onboard unibody power supply isolation, provides stable isolated voltage, 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 suppress surge voltage and transient spike voltage in the circuit, lightningproof & anti-electrostatic
- Onboard self-recovery fuse and protection diodes, ensures the current/voltage stable outputs, provides over-current/over-voltage proof, improves shock proof performance
- Onboard 15KV ESD isolation protection and 600W lightningproof & anti-surge protection
- Onboard 120R terminal resistor on the RS485/RS422 interface, disable by default, configurable by jumper
- Onboard power supply screw terminal, allows 5V~36V DC wide range input
- 3 LEDs for indicating the power and transceiver status

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- Industrial rail-mount ABS case design, small in size,
  easy to install, and cost-effective

# Version Options

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## Male





**RS232 TO RS485/422**

RS232 DB9 male port

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Female



**RS232 TO RS485/422 (F)**

RS232 DB9 female port

# Specifications

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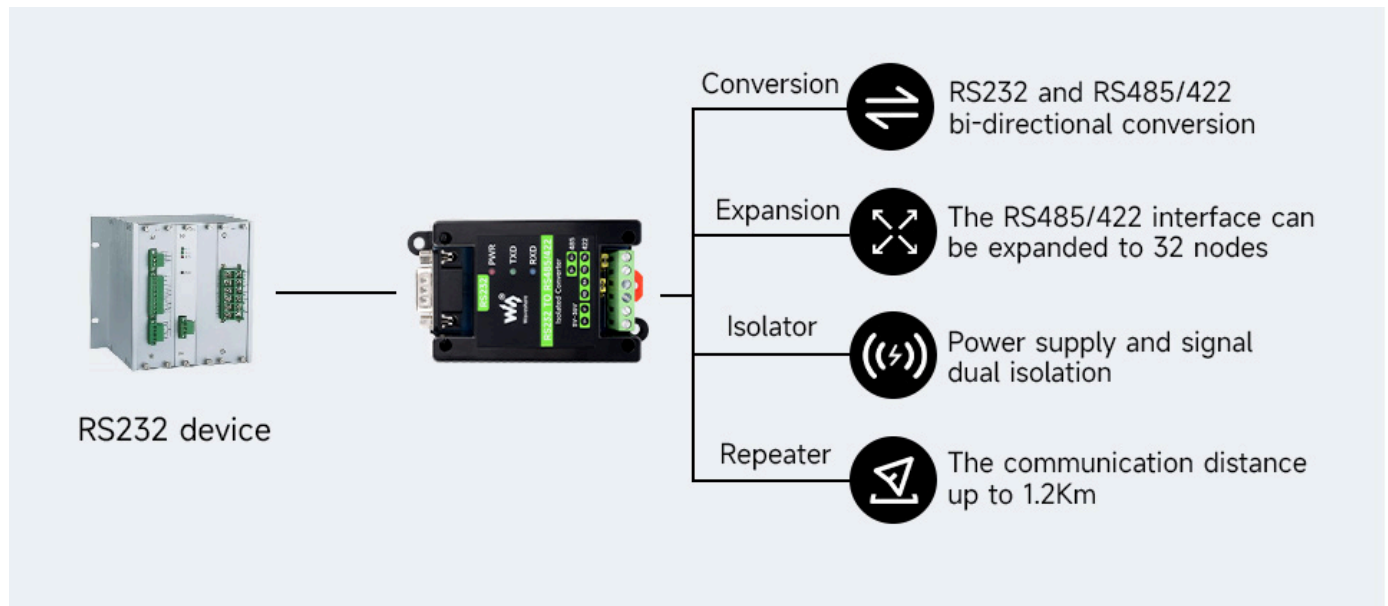| PRODUCT TYPE | Active digital isolated RS232 to RS485/422 serial converter | |
|---|---|---|
| **POWER SUPPLY INTERFACE** | Power supply | 5~36V DC |
| | Protection | Anti-reverse |
| **BAUD RATE** | 300 ~ 921600bps (300~115200bps is recommended for long-distance reliable communication) | |
| **DEVICE PORT** | RS232, RS485/422 | |
| **RS232** | Connector | DB9 male/female |
| | Transmission distance | about 15m |
| | Transmission mode | point-to-point |

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| | | |
|---|---|---|
| **RS485/422** | Connector | Screw terminal |
| | Direction control | Hardware automatic control |
| | Protection | 600W lightningproof and surge-suppress, 15KV ESD protection |
| | Terminal resistor | 120R, enabled/disabled via switch |
| | Transmission distance | About 1.2km |
| | Transmission mode | Point-to-multipoints (up to 32 nodes, it is recommended to use repeaters for 16 nodes or more) |
| **APPEARANCE** | Enclosure | Rail-mount ABS case, suitable for 35mm DIN rail |
| | Dimensions | 81.9 × 54.0 × 32.0mm |

# Primary Function

Converting The RS232 Signal Into Balanced Differential RS485/422 Signal For Interface Converting, Expanding Nodes And Long-Distance Communication.

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# Galvanic Isolated Design

- Onboard unibody power supply isolation, provides stable isolated voltage, needs no extra power supply for the isolated terminal
- Onboard unibody digital isolation, allows signal isolation, high reliability, strong anti-interference, low power consumption

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Voltage
Isolation

Signal
Isolation

High
Reliability

Strong
Anti-interference

Low Power
Consumption

# Multiple Protection, Safe And Stable

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Onboard TVS (Transient Voltage Suppressor), effectively suppress surge voltage and transient spike voltage in the circuit, lightningproof & ESD protection. Onboard self-recovery fuse and protection diodes, ensures the current/voltage stable outputs, provides over-current/over-voltage proof, improves shock proof performance.



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# Transmission Distance Up To 1.2km

The RS232 Signal Can Be Converted Into A Balanced Differential RS485/422 Signal With Stable Transmission Rate, The Transmission Distance Is About 1.2km For RS485/422
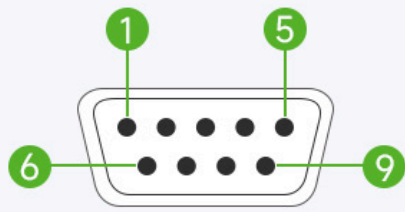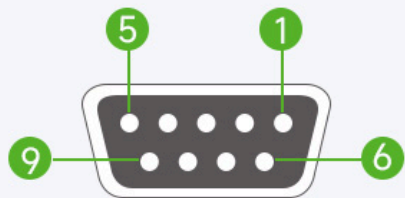


# Wall-Mount And Rail-Mount Support

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# Interface Introduction

RS232 Male Pinout

RS232 Female Pinout

| RS232 Pinout | | |
|---|---|---|
| DB9 (PIN) | RS232 Male | RS232 Female |
| 2 | Receiving data (RXD) | Sending data (TXD) |
| 3 | Sending data (TXD) | Receiving data (RXD) |
| 5 | GND | GND |
| 1 , 4 , 6 , 7 , 8 , 9 | N/C | N/C |

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## LED Indicators

| | |
|---|---|
| **PWR** | Light up red when power supply is connected |
| **TXD** | Blinking green when RS232 port sends data |
| **RXD** | Blinking Blue when RS232 port receives data. |

## RS485/422 Pin Definition

| Interface | V+ | V- | RB | RA | TB | TA |
|---|---|---|---|---|---|---|
| RS485 | 5V~36V Power supply positive | Power supply negative / GND | N/C | N/C | Differential signal negative B- | Differential signal positive A+ |
| RS422 | 5V~36V Power supply positive | Power supply negative / GND | Receive differential signal negative R- | Receive differential signal positive R+ | Send differential signal negative T- | Send differential signal positive T+ |

# Product Show

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# Outline Dimensions

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# Resources & Services



**WIKI: www.waveshare.com/wiki/RS232_TO_RS485/422**

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* Resources for different product may vary, please check the wiki page to confirm the actually provided resources.

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