

MD11001 RS485 to USB Isolated Converter (EN)

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Contents

- [1 Description](#)
- [2 Basic Features and Parameters](#)
- [3 Standard Equipment](#)
- [4 Application Example for the MODIG USB-RS485 ISO Converter](#)
- [5 Interface Connectors and Pinout Description](#)
 - [5.1 USB-C Connector](#)
 - [5.2 Status LED Indicators](#)
 - [5.3 RS485 Connector](#)
 - [5.4 Configuration DIP Switch](#)
- [6 External Links](#)

Description

Industrial Isolated RS485 to USB Converter

The **MODIG RS485-USB ISO** is a bidirectional bus converter bridging RS485 networks with a USB interface. The USB side features a high-performance, USB 2.0-compliant FTDI controller paired with a modern USB-C connector. The RS485 side utilizes an industrial transceiver capable of driving a bus network with up to 64 devices. The converter is equipped with advanced noise suppression, surge protection, and robust galvanic isolation circuitry. Additionally, it features an integrated RS485 bus terminator in the form of a switchable 120 Ω resistor.



[\(/index.php?title=File:Modig_RS485_USB_1.jpg\)](#)

Basic Features and Parameters

- Industrial-grade RS485 to USB converter
- High-performance FTDI FT230 USB controller, fully compatible with USB 2.0 standard
- Modern USB-C connector interface
- Virtual COM Port (VCP) drivers available for Windows, Linux, and macOS
- Industrial STMicroelectronics ST485BDR RS485 transceiver
- Transmission mode: Half-duplex communication
- Baud rate: Maximum speed up to 1 Mbps (1,000,000 bps)
- Network capacity: Supports up to 64 nodes on the RS485 bus
- LED indicators: Diagnostic LEDs for active data transmission monitoring
- Line termination: Integrated 120 Ω termination resistor (configurable)
- Advanced features: Supports hardware ECHO function (simultaneous transmission and loopback data validation)
- Isolation protection: Robust 1 kV galvanic isolation between USB and RS485 circuits
- Circuit protection: Integrated surge and overvoltage protection on both RS485 and USB lines
- RS485 connector: Phoenix Contact MC 3.81 mm screw terminal block (Pins: A, B, GND)
- Power supply: 5 VDC via USB-C port; Maximum current consumption: 100 mA
- Operating temperature range: Extreme industrial range from -40°C to +70°C
- Dimensions: 80 x 47 x 24 mm

Standard Equipment

Product Code

Description

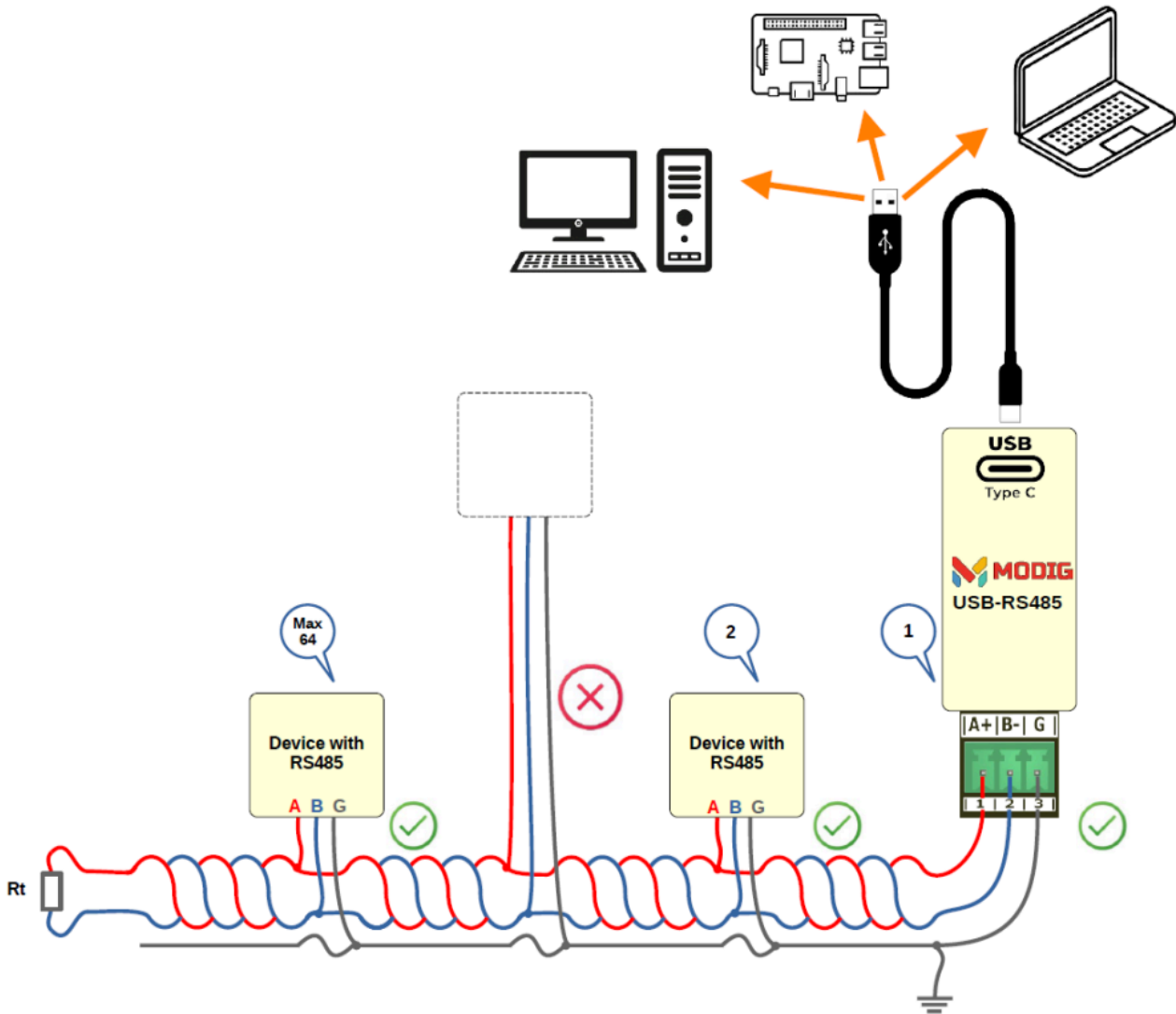
MD11001
RS485 to USB Isolated Converter

- Fully assembled, and tested converter module

USB Cable

- USB connectivity cable with USB-A to USB-C connectors

Application Example for the MODIG USB-RS485 ISO Converter



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Interface Connectors and Pinout Description

USB-C Connector



[./index.php?title=File:RS485-USB_USB.png](#)

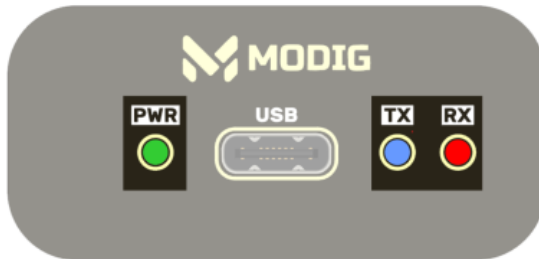
Interface Element

Function

USB-C Connector

- Supplies 5 VDC power to the host side of the converter
- Handles bidirectional data transmission to and from the RS485 bus
- Features the FTDI FT230 USB controller chip (USB 2.0 compliant)
- Emulates a standard serial COM port on the host OS

Status LED Indicators



[./index.php?title=File:RS485-USB_LED.png](#)

LED Indicator

Function

PWR

Indicates that the converter is correctly powered

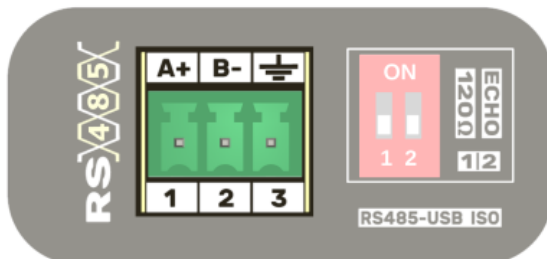
TX

Flashes when data is being transmitted to the RS485 bus

RX

Flashes when data is being received from the RS485 bus

RS485 Connector



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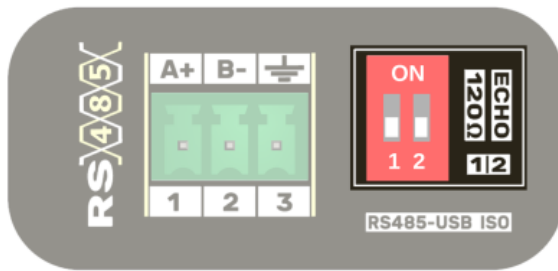
Interface Element

Function

RS485 Bus Terminal

- Industrial Phoenix Contact MC 3.81 mm screw terminal block
- Exposed RS485 differential signals: A+, B- and Signal Ground: \perp

Configuration DIP Switch



[./index.php?title=File:RS485-USB_SW.png](#)

Interface Element

Function

Configuration DIP Switch

- Switch Section No. 1: In the "ON" position, connects the 120 Ω termination resistor across the RS485 bus lines
- Switch Section No. 2: In the "ON" position, enables the hardware **ECHO** function, allowing data transmitted from the converter to be simultaneously read back for loopback validation

External Links

- [FTDI VCP Drivers Download \(https://ftdichip.com/drivers/vcp-drivers/\)](https://ftdichip.com/drivers/vcp-drivers/)

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This page was last modified on 15 June 2026, at 20:05.

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