

USB485I

USB to RS-485 Converter



Overview

The Vertiv USB485I converts universal serial bus (USB) port to a RS-485 port. With high retention USB connector designed to hold a standard USB cables in place, these devices are ideal for applications requiring long range or multi-drop capabilities.

Benefits

- Quick and easy installation
- Enables additional connectivity for devices requiring communication with the building management system (BMS)
- Provides serial connection for secure communication from the BMS back to connected devices

Features

- 2000V RMS optical isolation
- 460.8 kbps data rate
- Powered by USB port
- High-retention USB port
- USB cable included

How It Works

Supporting two-wire RS-485 communications, Model includes circuitry with 2000 volts isolation to protect against ground loops and voltage spikes. This model uses a pluggable terminal blocks on the RS-485 side. Two light-emitting diodes (LEDs) indicate whether data is being transmitted or received. The converters draw power from the USB port, so no power supply is required (USB cable included).

Ensure Secure Communication

No special software is required to control the RS-485 converter. The driver is automatically enabled when the converter is plugged into the RDU101 card. The USB485I uses a pair of wires to send a differential signal over distances up to 1000 feet without a repeater. The differential signal is ideal in applications that require security, noise immunity and long-distance. RS-485 is capable of multi-drop communications – up to 32 nodes.



USB485I

Technical Specifications

Serial Technology

RS-485 2-Wire	Data A(-), Data B(+), GND
Connector	Terminal block
Data Rate	460.8 Kbps
Isolation	2 kV RMS
Surge Protection	15kV ESD
Industrial Bus	Modbus RTU
Bias	4.7 K Ω on receive lines in RS-485 mode

USB Technology

USB Compatibility	1.1 and 2.0
Speed	1.5, 12 Mbps
Connector	Type B High Retention (15 N / 3.4 lbs-force withdrawal)

Power

USB	Low power device (draws <100 mA)
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Indicators

LEDs	Transmit Data, Receive Data
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Mechanical

Dimensions	8.9 x 4.3 x 2.1 cm (3.5 x 1.7 x 0.8 in)
Enclosure	IP30, Plastic

Meantime Between Failures (MTBF)

MTBF BB-USOPTL4-xx	1,318,809 hours
MTBF Calculation	MIL 217F Parts Count Reliability Method

Environmental

Operating Temperature	0 to +70 °C (32 to +158 °F)
Operating Humidity	0 to 95%, non-condensing

Regulatory

	2014/30/EC - Electromagnetic Compatibility
CE - Directives	2011/65/EU - Reduction of Hazardous Substances (RoHS2)
	2012/19/EU - Waste Electrical and Electronic Equipment (WEEE)
	EN 55032: Class B - Electromagnetic Compatibility of Multimedia Equipment - Emission Requirements
	EN 55024 - Information Technology Equipment - Immunity Characteristics
CE - Standards	EN 61000-6-1 - Generic Immunity for Residential, Commercial, Light-Industrial Environments
	EN 61000-6-3 A1 - Generic Emissions for Residential, Commercial, Light-Industrial Environments (Class B)

Product Overview



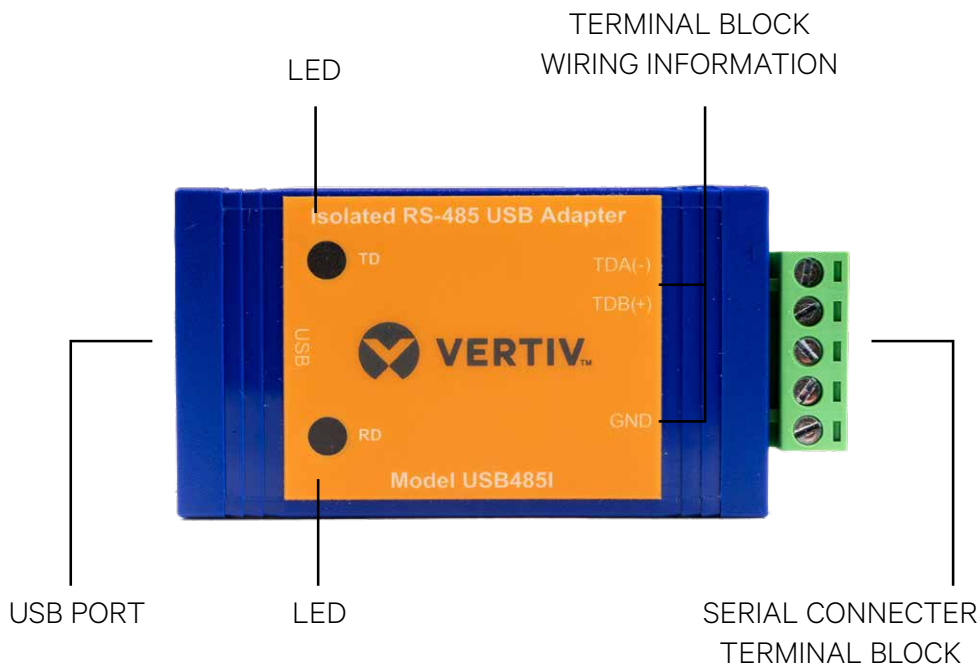
Quick Start Guide

Model USB485I

USB to RS-485 Isolated Converter

Before you begin, be sure you have the following:

- USB Serial Converter (Model USB485I)
- USB Cable



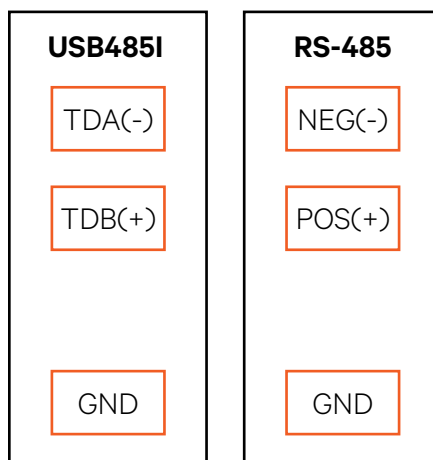
1. Connect the Converter

Connect the converter to the USB-A port of the RDU101 monitoring card

2. Wire the Converter

2-Wire RS-485 (half-duplex)

2-WIRE SET-UP



NOTE:
THE MAXIMUM RS-485 CABLE LENGTH IS 1000 FEET (304.8M).