

BB-USOPTL4-2P

BB-USOPTL4-4P

Isolated USB 2 or 4 Port RS-422/485 Converters



BB-USOPTL4-2P ▲

BB-USOPTL4-4P ▲

Introduction

Connect RS-422 and RS-485 (2-wire and 4-wire) devices to a USB port and gain 2000 V RMS isolation from voltage spikes and ground loops.

Universal Serial Bus (USB) has become the connectivity workhorse of today's PCs, replacing the familiar serial ports. However, many commercial and industrial devices still use the RS-422/485 interface. To connect these devices to modern PCs and provide protection from electrical transients, you need a simple and reliable conversion solution.

Models BB-USOPTL4-2P and BB-USOPTL4-4P offer this solution and are great for any application that requires long range or multi-drop capabilities. Both models offer a high retention USB interface, removable terminal blocks on the serial side and have LED's to indicate data flow. Simply plug the converter into an available USB port on your computer or USB hub and install the drivers (available for download from website). The device will show up as additional COM ports in the Windows Device Manager, which are fully compatible with your Windows applications. A USB cable is included.

Powering options included USB port-powering or an external power source (power supply not included, sold separately).

Features

- Connect multiple RS-422/485 devices to your USB port
- 2kV optical isolation
- RS-422/485 data rates up to 921.6 kbps
- USB: 12 Mbps, USB 2.0 (backward compatible)
- USB port-power or external source (power supply not included, sold separately)
- High retention USB ports hold connections securely
- Removable serial terminal blocks for easy wiring
- USB cable included

Ordering Information

Model No.	Description	Number of Ports
BB-USOPTL4-2P	Isolated USB to RS-422/485 Converter	2
BB-USOPTL4-4P	Isolated USB to RS-422/485 Converter	4

Accessories – Sold Separately

- BB-USBAMB-3F – USB cable, 1 m (3 ft)
- BB-USBAMB-6F – USB cable, 2 m (6 ft) (one included)
- BB-MDR-20-24 – Power supply, 24 VDC, 1 A, DIN rail mount
- BB-TBKT1 – Replacement terminal block, 2-position, 5.08mm, 8A, 300V
- BB-TBKT2 – Replacement terminal block, 5-position, 5.08mm, 8A, 300V



BB-USOPTL4-4P

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Configuration Settings

DIP Switch		
Position	OFF	ON
1	RS-422	RS-485
2	Echo ON	Echo OFF
3	4-Wire	2-Wire
4	4-Wire	2-Wire

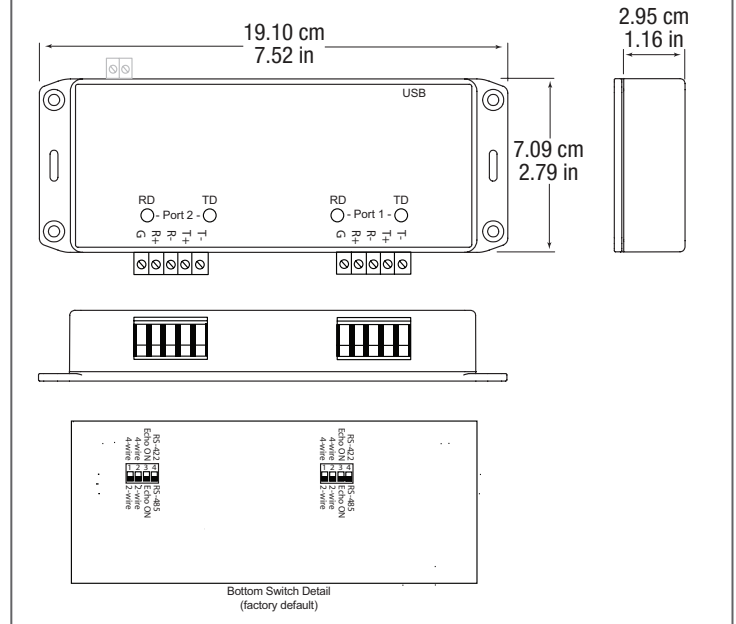
Factory Default = all switches off

Terminal Board	
TB Position	Signal Name
1	TDA(-)
2	TDB(+)
3	RDA(-)
4	RDB(+)
5	Ground

Specifications

Serial Technology	
RS-422/485 Connectors	Removable terminal blocks
RS-422/485 Data Rate	921.6 kbps
Isolation	2kV, optical
USB Technology	
Connector	USB Type B female, high retention withdrawal >15N
Standard	1.1 and 2.0 compatible
Data Rate	12 Mbps
Power	
Source	USB port or external source (not included, sold separately)
Input Voltage	5 Vdc from USB port or 10 - 30 Vdc external power supply
Consumption	Higher power device (>100 mA) BB-USOPTL4-2P: 3W, external power supply BB-USOPTL4-4P: 5W, external power supply
Software	
Driver O/S Support	Windows 10 (32/64 bit), Server 2016, Server 2019
Mechanical	
Dimensions, w/ flanges	19.10L x 7.09W x 2.93H cm (7.52L x 2.79W x 1.15H in)
Weight	2 port: 340.2 g (0.75 lb) 4 port: 362.9 g (0.80 lb)
Environmental	
Operating Temperature	0 to +70 °C (+32 to +158 °F)
Storage Temperature	-40 to +85 °C (-40 to +185 °F)
Operating Humidity	0 to 95% (non-condensing)
Meantime Between Failures (MTBF)	
BB-USOPTL4-2P	125224 hours
BB-USOPTL4-4P	72749 hours
MTBF Method	MIL 217F Parts Count Reliability Prediction
Regulatory	
Approvals	FCC, UL
CE Standards	EMC: EN 55032 Class B - Electromagnetic Compatibility of Multimedia eEquipment – Emission Requirements EN 55024 - Information Technology Equipment – Immunity Characteristics – Limits and Methods of Measurement
CE Directives	2014/30/EU Electromagnetic Compatibility Directive 2011/65/EU amended by (EU) 2015/863 Reduction of Hazardous Substances Directive (RoHS) 2012/19/EU Waste Electrical and Electronic Equipment (WEEE)

Dimensions – BB-USOPTL4-2P



Dimensions – BB-USOPTL4-4P

