Isolated USB to RS-422/485 Converters

BB-USOPTL4DR-x-x

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PRODUCT FEATURES

- USB-serial conversion; Adds a COM port to your PC
- 3000 Volts optical isolation; 15 kV ESD protection
- RS-422/485 data rates up to 921.6 kbps
- DIN rail mount (panel mount option)
- USB bus powered - no power supply required
- High retention USB port
- USB cable included

Universal Serial Bus (USB) has become the connectivity workhorse of today's PCs, replacing the familiar serial port. However, many commercial and industrial devices still use serial interfaces. To connect these devices to modern PCs, you need a simple and reliable conversion solution.

The BB-USOPTL4DR-xx series offers this solution. Specifically designed for industrial applications, they offer 3000V optical isolation with 15 KV ESD protection. The slim-line DIN rail mountable enclosure has a small footprint and, since it draws power from your computer's USB bus, an additional power supply is not required. Simply plug the converter into an available USB port on your computer or USB hub and install the drivers supplied on CD ROM. The device will show up as an additional COM port in the Windows Device Manager which is fully compatible with your Windows applications.

One and two port versions are available. The single port version is also available with a "locked serial number" that allows you to interface your PC with multiple converters without having to load a driver for each one - perfect for field service applications. A one meter USB cable is included.

ORDERING INFORMATION

MODEL NUMBER	DESCRIPTION
BB-USOPTL4DR	Isolated USB to RS-422/485 Converter, 1 port
BB-USOPTL4DR-LS	Locked Serial Number version of BB-USOPTL4DR
BB-USOPTL4DR-2-A	Isolated USB to RS-422/485 Converter, 2 port

ACCESSORIES - sold separately

BB-USBAMBM-3F - 1 m (3 ft.) USB cable (one included)
BB-TB5P508SR-2PK - Optional terminal block with strain relief, 2 pack
BB-7466 - Standard terminal block replacement
(unit ships with one or two. factory installed, depending on model number.)
BB-TBKT2 - Replacement Terminal Block - 5-position, 5.08mm, 8A, 30

Locked Serial Numbers Explained

Advantech configures single-port USB to serial converters in two ways. In standard format, each product has a unique serial number. "Locked serial" format uses the same serial number that is associated with a model type.

If your converter will always be used with the same computer, the standard serialized model is all you need. If the converter is shared among several computers, like field service laptops, the locked serial number model lets you plug and play without having to worry about matching the two.

Description	Serialized	Locked Serial Number
Every unit is assigned a unique COM port	✔	-
Same type model numbers shares the same COM port	-	✔
Ideal applications	Fixed Locations	Field Service

When ordering Locked Serial Number versions, add a "-LS" to the item number. Serialized and Lock Serial Number versions sell for the same price.

All product specifications are subject to change without notice.

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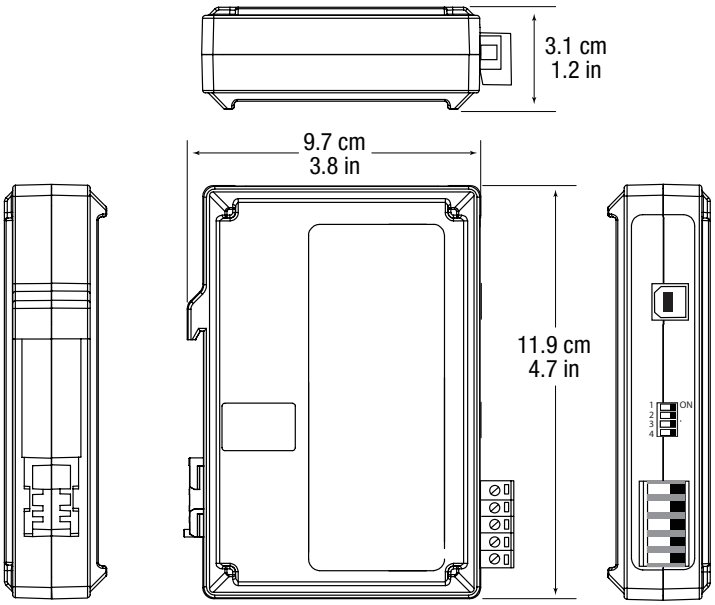


SPECIFICATIONS

SERIAL TECHNOLOGY	
RS-485 2-Wire	Data A(-), Data B(+), Ground
RS-485 4-Wire	TDA(-), TDB(+), RDA(-), RDB(+), Ground
Connector	Removable terminal block/s, 12 to 28 AWG
Data Rate	Up to 921.6 Kbps
Isolation	3000 V optical isolation
Surge Protection	15 KV ESD
USB TECHNOLOGY	
USB Compatibility	2.0 (backward compatible)
USB Data Rate	12 Mbps
Connector	Type B female, high retention (15 Newtons / 3.4 lbs-force withdrawal)
Driver CD	Windows 2000, XP, Vista, 7 (32/64 bit), 8 (32/64 bit)
POWER	
Source	USB port
Input Voltage	5 VDC
Consumption	~2.5 W (high power device, draws >500 mA
MECHANICAL	
Dimensions	9.7 x 11.9 x 3.1 cm (3.8 x 4.7 x 1.2 in)
Enclosure	DIN rail mountable, plastic
Weight	222.3 g (0.49 lbs) with USB cable
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-USOPTL4DR	184556 hours
BB-USOPTL4DR-2-A	79551 hours
MTBF Calc. Method	Parts Count Reliability Prediction
REGULATORY	
FCC Class B, CISPR Class B (EN55022) This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference. (2) This device must accept any interference that may cause undesired operation.	
CE - Directives	2014/30/EC - Electromagnetic Compatibility 2011/65/EU - Reduction of Hazardous Substances (RoHS2) 2012/19/EU - Waste Electrical and Electronic Equipment (WEEE)
CE - Standards	EN 55032: Class B - Electromagnetic Compatibility of Multimedia Equipment - Emission Requirements EN 55024 - Information Technology Equipment - Immunity Characteristics 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)

MECHANICAL DIAGRAM - BB-USOPTL4DR, BB-USOPTL4DR-LS



TERMINAL BLOCK

The terminal block layout is top to bottom (as viewed from a DIN rail installation). The signal names on the front label are only visible when the terminal block is removed. The BB-USOPTL4DR-2-A has two terminal blocks. In both configurations, the TB layout is the same.

TB POSITION	LABEL	FUNCTION
A	T-	TDA(-)
B	T+	TDB(+)
C	R-	RDA(-)
D	R+	RDA(+)
E	G	Ground