

Isolated USB to RS-422/485 Converters

USOPTL4DR-xx

B+B SMARTWORX

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PRODUCT FEATURES

- 3000 Volts optical isolation
- 15 KV ESD protection
- USB bus powered
- RS-422/485 data rates up to 921.6 Kbps
- High retention USB connector
- Removable terminal blocks
- DIN rail mount (panel mount option)

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 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 |
|--------------|--|
| USOPTL4DR | Isolated USB to RS-422/485 Converter, 1 port |
| USOPTL4DR-2 | Isolated USB to RS-422/485 Converter, 2 port |
| USOPTL4DR-LS | Locked Serial Number version of USOPTL4DR |

ACCESSORIES

USBAMB-3F - 1 m (3 ft.) USB cable (one included)

DRPM25 - Panel mount adapter

TB5P508SR-2PK - Optional terminal block with strain relief, 2 pack

7466 - Standard terminal block replacement (Unit comes with one or two factory installed depending on model number.)

Locked Serial Numbers Explained

We configure our 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.

USOPTL4DR-xx_3916ds

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USOPTL4DR-xx



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, 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 |
| MTBF USOPTL4DR | 184,556 hours |
| MTBF USOPTL4DR-2 | 79,551 hours |
| MTBF Calc. Method | Parts Count Reliability Prediction |

APPROVALS / CERTIFICATIONS

| Emissions | FCC Class B, CISPR Class B (EN55022) |
|-----------|---|
| CE | EN 61000-6-1 Generic Standards for Residential, Commercial and Light-Industrial Environments |
| | EN 61000-4-2 Electro-Static Discharge (ESD) |
| | EN 61000-4-3 +A1 +A2 +IS1 Radiated Field Immunity (RFI) |
| | EN 61000-4-4 Electrical Fast Transients-Burst Immunity (EFT) |
| | EN 61000-4-6 Conducted Immunity |

INFORMATION – FCC RULES

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.

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 USOPTL4DR-2 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 |

MECHANICAL DIAGRAM

