Isolated USB/RS-422/485 Converters

USOPTL4DR-x

B+B SmartWorx

Powered by ADVANTECH

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-x 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

USBAMBM-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.

Isolated USB/RS-422/485 Converters

USOPTL4DR-x

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 (EN55022:2006)	
CE	EN 61000-6-1: 2007	Generic Standards for Residential, Commercial and Light-Industrial Environments
	EN 61000-4-2: 2009	Electro-Static Discharge (ESD)
	EN 61000-4-3: 2006	+A1 +A2 +IS1 Radiated Field Immunity (RFI)
	EN 61000-4-4: 2012	Electrical Fast Transients-Burst Immunity (EFT)
	EN 61000-4-6: 2009	Conducted Immunity

INFORMATION – FCC RULES

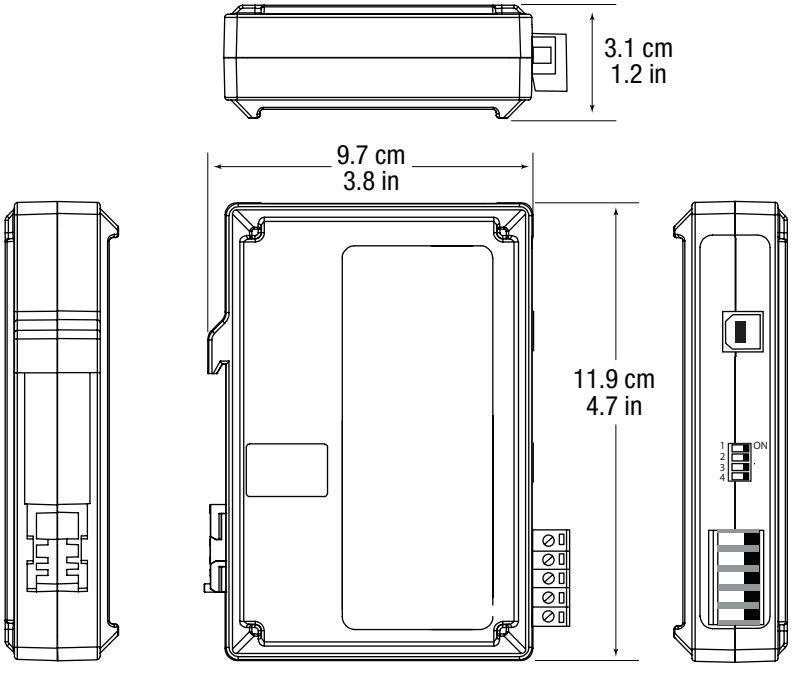
This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions:
(1) This device may not cause harmful interference.
(2) This device must accept any interference that may cause undesired operation.

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



USB to RS-232 Converter With Isolatio

USO9ML2

PRODUCT FEATURES

- 2 kV Isolation
- ESD Protection - 4 kV Contact, 8 kV Air
- Compact In-Line Case
- USB 2.0 Full Speed Compatible (12 Mbps)
- RS-232 Data Rates up to 460.8 Kbps
- USB Bus Powered

This compact, isolated USB to RS-232 converter allows you to add an RS-232 port to your USB only PC. Built to rugged specifications with two kilovolts of isolation, it will protect your PC from hazardous ground loops. The compact size makes it perfect for field service use but it is also great for instrumentation and laboratory applications. Full speed (12 Mbps) USB 2.0 support allows connectivity with modern computer technology.

The RS-232 port is a DB9 Male connector wired as a DTE with full hardware handshake support. It can handle standard RS-232 data rates up to 460.8 Kbps.

Each unit comes with 1 meter USB cable and a driver disk. Drivers support Windows platforms up to Windows 8 in 32 and 64 bit implementations.

ORDERING INFORMATION

MODEL NUMBER	DESCRIPTION
USO9ML2	USB to Isolated RS-232 Converter
USO9ML2-LS	USB to Isolated RS-232 Converter Locked Serial Number version of USO9ML2

ACCESSORIES

USBAMBM-3F - 3 foot (1M) Type A Male to Type B Male (Gray)

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.

USB to RS-232 Converter With Isolation

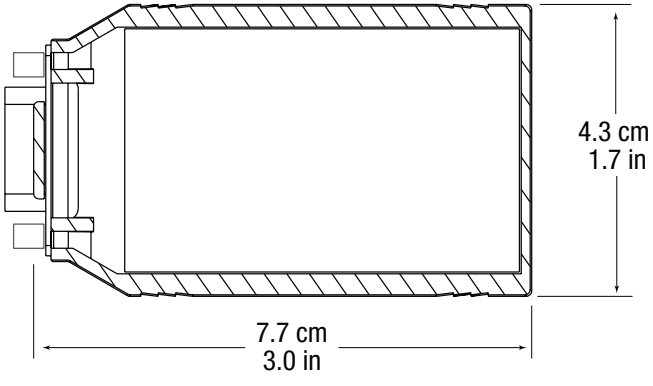
US09ML2

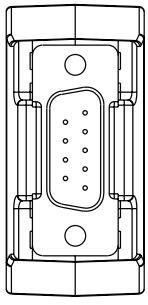
SPECIFICATIONS

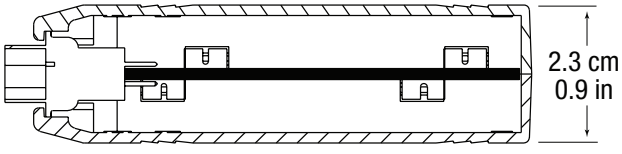
SERIAL TECHNOLOGY	
RS-232	TD, RD, RTS, CTS, DTR, DSR, DCD, GND
Connector	DB9 Male
Data Rate	460.8 Kbps
Isolation	2 kV
USB TECHNOLOGY	
USB Compatibility	1.1 and 2.0 (at full speed)
Speed	12 Mbps (Full)
Connector	Type B
Operating System	Windows 2000, XP (32/64 bit), Vista (32/64 bit), Windows 7 (32/64 bit), 8 (32/64 bit), 2003 & 2008 Server (32/64 bit)
POWER	
Source	USB Bus Powered
Power Consumption	Low Power Device (Less than 100 mA)
INDICATORS	
TD / RD (RS-232)	Red LED
MECHANICAL	
Dimensions	7.7 x 4.3 x 2.3 cm (3.0 x 1.7 x 0.9 in)
Enclosure	IP 30, Plastic
Weight	6.4 oz (0.18 kg)
MTBF	247,713 hours
MTBF Calc. Method	MIL 217F Parts Count Reliability
ENVIRONMENTAL	
Operating Temperature	0 to 70°C
Storage Temperature	-40 to 85°C
Operating Humidity	0 to 95% Non-condensing

APPROVALS / CERTIFICATIONS		
Emissions	EN 55022: 2010 + AC:2011 Class B Emissions	
CE	EN 61000-6-1:2007	Generic Standards for Residential, Commercial and Light-Industrial Environments
	EN 61000-4-2: 2009	Electro-Static Discharge (ESD)
	EN 61000-4-3: 2006	+A1 +A2 +IS1 Radiated Field Immunity (RFI)
	EN 61000-4-4: 2012	Electrical Fast Transients-Burst Immunity (EFT
	EN 61000-4-6: 2009	Conducted Immunity

MECHANICAL DIAGRAM







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B+B SmartWorx

Powered by ADVANTECH

In-line USB Converters

USOPTL4 & USPTL4

PRODUCT FEATURES

- 2000 V RMS optical isolation
- 15KV ESD surge protection
- Adds a COM port to your PC
- LEDs for transmit and receive lines
- USB 1.0, 1.1 and 2.0 compatible (12 Mbps)
- Automatic configuration on Windows 2000, XP, Vista. 7 (32/64 bit), 8 (32/64 bit)
- No power supply required (powered from USB bus)

SEE

Mo TL4 a e U t RS-422/485 converters. Supporting re 85 or 4-wire 22/485 communications, these de at f re nge or multi-drop capabilities. Both models use pluggable terminal blocks on the RS-422/485 side. Two LEDs indicate data transmit or receive. Model USOPTL4 includes circuitry with 2000 Volts isolation protection against ground loops and voltage spikes. Both products draw power from the USB port so no power supply is ired.

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ORDERING INFORMATION

MODEL NUMBER	DESCRIPTION
USOPTL4	Isolated RS-422/485 Inline USB Converter
USOPTL4-LS	Locked Serial Number Version of USOPTL4
USPTL4	Non-isolated RS-422/485 Inline USB Converter
USPTL4-LS	Locked Serial Number Version of USPTL4

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Universal Serial Bus (USB) has become the connectivity workhorse of today's PCs, replacing classic serial ports. But many commercial and industrial devices still use RS-422/485 interfaces. To connect these devices to modern PCs you need robust and reliable conversion solutions. USB ports are becoming more common on commercial and industrial equipment such as point-of-sale peripherals, medical devices, scientific instrumentation, laboratory equipment and other devices or in environments where surges, spikes and ground loops are likely to occur.

RS-485 Control

No special software is required to control the RS-485 receiver or transmit line driver. The driver is automatically enabled during each byte transmitted in RS-485 mode. The transmitter is always enabled in RS-422 mode. The receiver is tri-stated during each byte transmitted in the echo-off mode. The receiver is always enabled in the echo-on mode. There are 4.7k Ohm pull-up/pull-down resistors on the RDA and RDB lines. A termination resistor may be added to R16 if needed. See B&B's RS-422/RS-485 Application Note (available on our website) for more information on termination and DC biasing of an RS-485 network.

Locked Serial Numbers Explained

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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.

In-line USB Converters

USOPTL4 & USPTL4

SPECIFICATIONS

SERIAL TECHNOLOGY	
RS-422/485 4-Wire	TDA(-), RDA(-), TDB(+), RDB(+), GND
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 ASCII/RTU
Bias	4.7 KΩ on receive lines in RS-422/485 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)
Operating System	Windows 2000, XP (32/64 bit), Vista (32/64 bit), 7 (32/64 bit), 8 (32/64 bit), 2003 & 2008 Server (32/64 bit)
POWER	
USB	Low power device (draws <100 mA)
INDICATORS	
LEDs	Transmit data, Receive data
MECHANICAL	
Dimensions	8.9 x 4.3 x 2.1 cm (3.5 x 1.7 x 0.8 in)
[illegible]	IP 3[illegible]
[illegible]	311[illegible]
[illegible]	1,012,3[illegible]
[illegible]	MI[illegible] F Part[illegible]nt Relia[illegible]
ENVIRONMENTAL	
Operating Temperature	0 to 70°C (32 to 158°F)
Operating Humidity	0 to 95% Non-condensing

APPROVALS / CERTIFICATIONS		
Emissions	EN 55022: 2010 + AC:2011 Class B Emissions	
CE	EN 61000-6-1: 2007	Generic Standards for Residential, Commercial and Light-Industrial Environments
	EN 61000-4-2: 2009	Electro-Static Discharge (ESD)
	EN 61000-4-3: 2006	+A1 +A2 +IS1 Radiated Field Immunity (RFI)
	EN 61000-4-4: 2012	Electrical Fast Transients-Burst Immunity (EFT)
	EN 61000-4-6: 2009	Conducted Immunity

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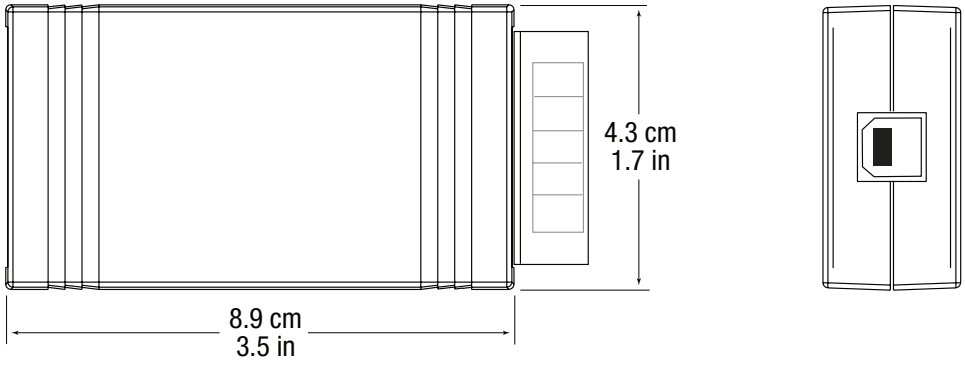
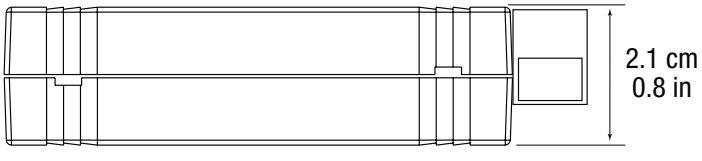
MECHANICAL DIAGRAM





B+B SmartWorx

USB to RS-485 Mini-Converters

Powered by ADVANTECH

485USB9F-2W & 485USB9F-4W

SEE J:\WINWORD

PRODUCT FEATURES

- Connect RS-485 Devices to your USB Port
- Perfect for Field Service Applications
- Small – Fits easily into any laptop bag
- USB Port Powered
- USB 2.0 (12 Mbps) Compatible
- RS-485 Data rates up to 921.6 Kbps
- Supports Windows 98, ME, 2000, XP, Vista, 7 (32/64 bit), 8 (32/64 bit)

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-485 interface. To connect these devices to modern PCs, you need a simple and reliable conversion solution. The 485USB9F-2W and 485USB9F-4W offer this solution in a space saving, USB Port powered package.

Simply install the drivers supplied on CD ROM and plug the converter into an available USB port on your computer or USB hub. The device will show up as an additional COM port in the Windows Device Manager which is fully compatible with your Windows applications. Choose the 485USB9F-2W for RS-485 2-wire applications or the 485USB9F-4W for RS-485 4-wire applications. Locked serial number versions are also available. A one meter USB cable is included.

ORDERING INFORMATION

MODEL NUMBER	DESCRIPTION
485USB9F-2W	USB to RS-485 2-Wire Converter
485USB9F-4W	USB to RS-485 4-Wire Converter
485USB9F-2W-LS	USB to RS-485 2-Wire Converter (Locked Serial Number)
485USB9F-4W-LS	USB to RS-485 4-Wire Converter (Locked Serial Number)

ACCESSORIES

USBAMBM-3F - 3 ft. (1 M) USB Cable (One Included)
7372 - Replacement TB (One Included)
Contact Customer Service for ordering information.

IN THE FIELD

Monitoring Laboratory Equipment
Industry: Industrial Automation
Product: USB Miniature Converter

www.bb-elec.com/USBLab

485USB9F-2W

Carrier data charges may apply.

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.

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

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All product specifications are subject to change without notice.

USB to RS-485 Mini-Converters

485USB9F-2W & 485USB9F-4W

SPECIFICATIONS

SERIAL TECHNOLOGY	
RS-485 2-Wire	Data A(-), Data B(+), Ground
RS-485 4-Wire	TDA(-), TDB(+), RDA(-), RDB(+), Ground
Connector	DB9 Female
Data Rate	Up to 921.6 Kbps
USB TECHNOLOGY	
Connector	USB Type B Female
Standard	2.0 (Backward Compatible)
Data Rate	12 Mbps
POWER	
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
SOFTWARE	
Driver CD	[illegible] 8 (32/64 bit)
MECHANICAL	
Dimensions	5.8 x 3.2 x 1.6 cm (2.3 x 1.3 x .6 in)
Enclosure	In-line mounted, plastic
Weight	0.23 lbs (104.3 g) with USB Cable
ENVIRONMENTAL	
Operating Temp	32 to 158°F (0 to 70 °C)
Storage Temp	-40 to 185 °F (-40 to 85 °C)
Op Humidity	0 to 95 % (Non-condensing)
MTBF 2-Wire	2130833 hours
MTBF 4-Wrie	1869313 hours
MTBF Method	Parts Count Reliability Prediction
REGULATORY	
Approvals	FCC, CE

APPROVALS / CERTIFICATIONS		
Emissions	EN 55022: 2010 + AC:2011 Class B Emissions	
CE	EN 61000-6-1:2007	Generic Standards for Residential, Commercial and Light-Industrial Environments
	EN 61000-4-2: 2009	Electro-Static Discharge (ESD)
	EN 61000-4-3: 2006	+A1 +A2 +IS1 Radiated Field Immunity (RFI)
	EN 61000-4-4: 2012	Electrical Fast Transients-Burst Immunity (EFT
	EN 61000-4-6: 2009	Conducted Immunity

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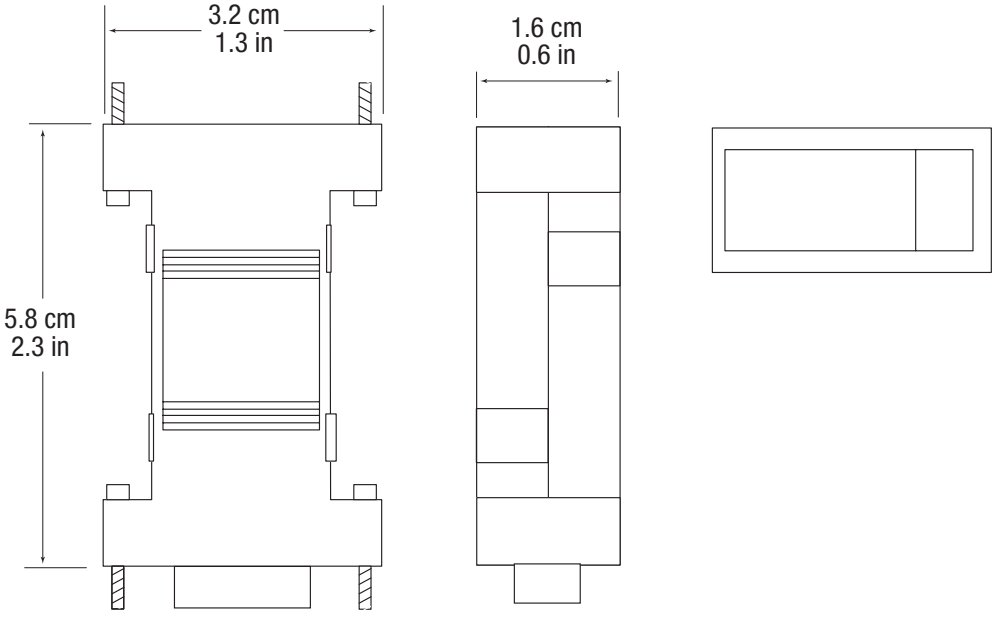
PIN	485USB9F-2W	485USB9F-4W
1	Not Used	Not Used
2	Data A(-)	RDA(-)
3	Data B(+)	TDB(+)
4	Ground	Ground
5	Not Used	Not Used
6	Ground	Ground
7	Data B(+)	RDB(+)
8	Data A(-)	TDA(-)
9	Not Used	Not Used

MECHANICAL DIAGRAM



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L-TRONDIRECT

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35 YEARS

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