

USB-485B

USB 2.0 To RS-485 Adapter - DB9

Datasheet Revision 2.5

GENERAL FEATURES:

- Plug-and-Play (hot-pluggable)
- Adds one RS-485 port to USB port
- Terminal block with optional 120 Ohm termination included
- USB 1.1 and 2.0 compatible
- Port powered - no external power needed
- Supports 300 baud to 1Mbps rates
- 3 feet (1m) cable for convenience
- Transmit / Receive LED indicators
- Data direction auto-turnaround - no flow control necessary
- Internal 128/385 byte TX / RX buffers
- No IRQs, IO, DMA required. No IRQ conflicts
- Supports remote wakeup and power management
- Easy to install included drivers
- Built-in surge and static protection
- 5 Year manufacturer's warranty
- RoHS, CE, and FCC certified



DESCRIPTION:

The SerialComm USB-485B is a bi-directional USB-powered USB to RS-485 converter with built-in 120 ohm termination option, which makes a half-duplex RS-485 available to a PC via the USB port. The USB-485B has a db-9 male connector on the RS-485 port, and a USB type A female on the USB port. The adapter is powered from the USB port and no external power is needed. USB cable, terminal block, and drivers are included in the package.

The USB-485B uses the latest FTDI chipset and is fully compatible with Windows 10 32/64, Windows 8 32/64, Windows 7 32/64, Vista 32/64, Server 2003, Server 2008, Server 2008 R2, XP 32/64, 2000 98Se, CE, Mac 8/9/x, Linux.

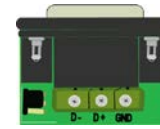
CERTIFICATIONS:



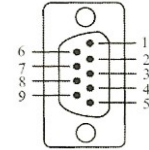
**PINOUT CONFIGURATION:
RS-485 SIDE – DB9 MALE**

RS-485	D-	D+			GND
PIN #	1	2	3	4	5

If you are using the terminal block for the RS-485 application, please use the 3 position terminal block with optional built-in 120 ohm termination.



MALE DB9

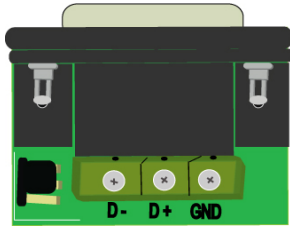


SPECIFICATIONS:

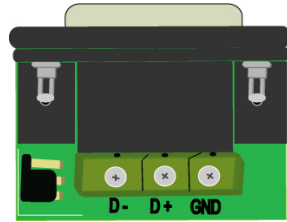
COMMUNICATION	
STANDARDS:	USB 2.0 and 1.1 Standards - RS-485 Standard
OPERATING SYSTEM:	Windows 10 (32/64), Windows 8.1 (32/64), Windows 8 (32/64), Windows 7 (32/64), Vista (32/64), Server 2012, Server 2008 R2, Server 2008, Server 2003, XP (32/64), 2000, 98Se, CE, Mac 8/9/X, Linux and Android
BAUD RATES:	From 300 dps To 1 mbps
CONNECTOR TYPES:	USB Side: Type A Female and RS-485 Side: DB9 Male or 3 Position Terminal Block
DISTANCE:	USB Side: 10ft (3m) and RS-485 Side: 4000 ft (1.2km)
LED INDICATIONS:	RX (GREEN) and TX (RED)
DRIVERS:	FTDI drivers are included in package
ELECTRICAL	
POWER SOURCE:	Port Powered From USB Port
CURRENT CONSUMPTION:	Less Than 100 mA
STATIC PROTECTION:	15KV Electric Static Discharge (ESD) Protection
SURGE PROTECTION:	600W Surge Protection
CONVERSION IC:	FTDI FT232RL
MECHANICAL	
WEIGHT:	2.7oz (76 grams)
DIMENSIONS:	RS-485 Housing Without Terminal Block: 1.98" X 1.43" X 0.72" (50.2 mm X 36.2 mm X 18.2 mm) RS-485 Housing With Terminal Block: 3.03" X 1.43" X 0.72" (76.9 mm X 36.2 mm X 18.2 mm)
ENVIRONMENTAL	
OPERATING TEMP.:	14° F to 140° F (-10°C to 60° C)
STORAGE TEMP:	-40° F to 185° F (-40°C to 85° C)
OPERATING HUMIDITY:	5% To 95% - No Condensation
QUALITY	
PRODUCT SAFETY:	CE, FCC and RoHS Conformance Certified
QUALITY MANAGEMENT:	Manufactured and Distributed to ISO 9001:2008
RELIABILITY:	Low Failure Rate – 99+% Reliability Since Inception
WARRANTY:	5 Year Replacement Warranty

TERMINATION GUIDE:

The USB-485B terminal block has optional built-in 120 ohm termination. 120 ohm termination is an advanced feature typically used to reduce noise and signal reflections. It is recommended to use 120 ohm termination if you are exceeding 600 feet in distance, 19.6K baud or in a noisy environment. The terminal blocks are shipped with 120 Ohm termination off but can be turned on using the convenient jumper setting located on the left bottom of the terminal block.



3 POSITION WITH 120 OHM OFF



3 POSITION WITH 120 OHM ON

RS-485 TROUBLESHOOTING INSTRUCTIONS:

Testing RS-485 using two USB-485B Units:

1. Perform a loop back test on two units:
 - a) Connect the two D+ to D+ and D- to D- on two USB-485B RS-485 ports.
 - b) Connect the two USB connectors on both units to a USB ports on the computer.
 - c) Install the USB-485B FTDI driver on the computer per instructions provided.
 - d) Running hyper terminal programs on both PCs, send ASCII characters to the USB-485B converter from one PC port, and check that the characters are received at the 2nd PC port. Repeat the test in the opposite direction. This tests that the transmit and receive functions of the USB-485B unit is working properly.
 - e) When there is constant RX data you should see the GREEN light blink. When there is constant TX data you should see the RED light blink.

APPLICATIONS:

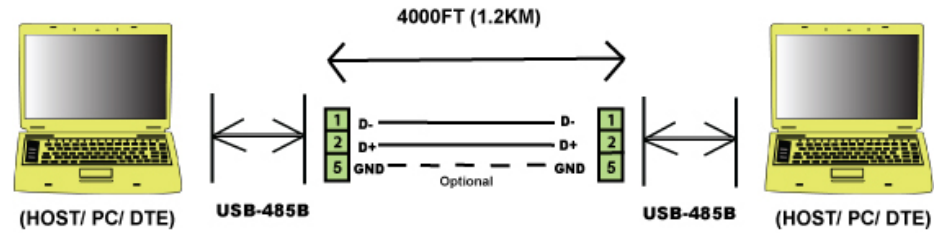


FIGURE 1: CONVERTING USB TO RS-485 POINT-TO-POINT

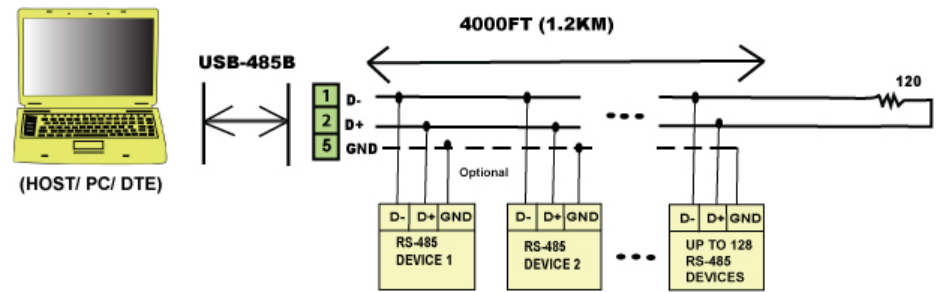


FIGURE 2: MASTER/SLAVE MULTIPLE DROP CONFIGURATION