QUICK START GUIDE

USB TO RS CONVERTER

STEP 1 - Package Includes/System Requirements

PACKAGE INCLUDES

Your package should include the following items. If anything is missing or damaged, contact Black Box Technical Support at 877-877-2269 or info@blackbox.com

- **USB TO RS-232 OR RS-422/485 ISOLATED CONVERTER**
- **3-FT. (0.914-M) USB CABLE**

SYSTEM REQUIREMENTS

- **ONE USB 1.1 OR 2.0 PORT FOR EACH INSTALLED DEVICE**
- **AMBIENT AIR TEMPERATURE: 32 TO 158° F (0 TO 70° C)**

NOTE: The devices work with USB 1.1 or 2.0 ports, but have a maximum USB data rate of 12 Mbps.

The USB port can be native to the device, or it can be a USB port from an installed USB hub to the PC.

TD LED
DB9 connector
RD LED
USB Type B connector
SP385A-R3

5-pin terminal block connector
TD LED
RD LED
USB Type B connector
SP390A-R3

STEP 2 - Set the DIP Switch on the SP390A-R3

SET THE DIP SWITCH (SP390A-R3)

NOTE: If you have the SP385A-R3, you can skip this step.

Set the DIP switches on the SP390A-R3 for 2- or 4-wire operation.

TABLE 1. SP390A-R3 DIP SWITCHES

SWITCH	OFF	ON
1	TD always enabled (TD 422)	TD only enabled during data transmission (TD 485)
2	RD always enabled (ECHO ON)	RD disabled during data transmission (ECHO OFF)
3	Four-wire mode (4-wire)	Two-wire mode (2-wire)
4	Four-wire mode (4-wire)	Two-wire mode (2-wire)

STEP 3 - Plug in the Converter/Check the Installation

PLUG IN THE CONVERTER

1. Using the included USB cable, plug the Converter into an available USB port on your PC or USB hub.

2. Using a serial cable (not included), plug the DB9 or terminal block connector on the converter into the RS-232 or RS-422/485 device.

CHECK THE INSTALLATION

1. Open Windows Device Manager.

2. Scroll down to Ports.

3. Expand ports by clicking on the plus sign. This shows if the ports now exist on the PC. If there are no exclamation points or other indicators of a problem, the ports should be installed correctly and ready for use.

VERIFY WITH A LOOPBACK TEST

1. For RS-232 or 4-wire RS-485, verify with a loopback test. See RS-232 or RS-422/485 pinout chart for location of pins.

NOTE: For 2-wire RS-485, you cannot do a loopback test as it uses the same two wires for transmit and receive in a half-duplex operation. The unit can either transmit or receive it cannot do both at the same time.

2. Using Hyperterminal or a similar program, connect to the appropriate COM port. Set the baud rate. Make sure Hyperterminal local echo is OFF.

NOTE: Hyperterminal is not provided with Windows Vista or 2003 Server.

3. Transmit data. If the same character string is returned, the test is good.
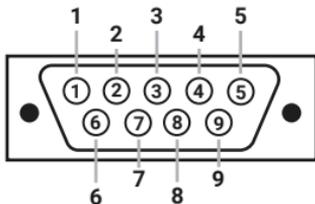
TABLE 1. RS-232 AND TTL PINOUT (DB9 MALE DTE)

PIN	SIGNAL NAME	RS-232 SIGNALS	TTL SIGNALS
1	DCD (Data Carrier Detect)	Input	Not used
2	RD (Receive Data)	Input	Input
3	TD (Transmit Data)	Output	Output
4	DTR (DTE Ready)	Output	Not used
5	SG (Signal Ground)	Ground	Ground
6	DSR (DCE Ready)	Input	Not used
7	RTS (Request to Send)	Output	Output
8	CTS (Clear to Send)	Input	Input
9	RI (Ring Indicator)	Input	Not used
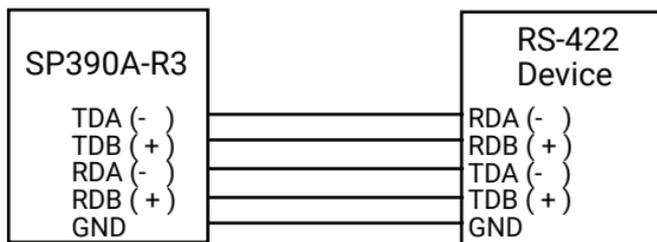
SP390A-R3 in a four-wire setup with all switches in the OFF position
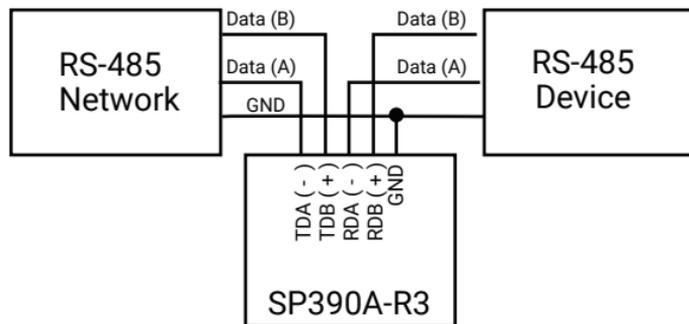
SP390A-R3 in a two-wire setup with all switches in the ON position

STEP 5 - Download the User Manual (Optional)

DOWNLOAD ADDITIONAL DOCUMENTS

FOR US, AUSTRALIA, NEW ZEALAND AND CANADA:

1. Go to BLACKBOX.COM

2. Enter the part number in the search box (for example, SP385A-R3 or SP390A-R3).

3. Click on the product in the "Products" page.

4. Click on the "Support" tab on the product page and select the document you wish to download.

FOR OTHER COUNTRIES:

1. Go to BLACK-BOX.EU/SUPPORTCENTER

2. Enter the part number in the search box and check the file type: application diagram, datasheet, firmware or manual.

3. Select the document you want to download.

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1.877.877.2269

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