USB ⇔ TTL Converter

Part Number: USB-232-1+TTL-232-1

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Communications made easy

■ INTRODUCTION

This USB ⇔ TTL converter is a port-powered bi-directional USB to TTL/CMOS 5V converter, which can be used to convert any standard full-duplex USB port into a full-duplex TTL port and vice versa. The unit is powered from the USB port and it supports data auto-sensing & self-adjusting, and therefore, no baud rate setting is required.

The unit uses the latest FTDI chipset and is fully compatible with Windows 7/Vista/XP/Server2008 /2003/2000/98 (32-bit), Windows 7/Vista/XP/Server2008/2003 (64-bit), Win CE, Mac, and Linux. Note: the latest drivers (chipset FT232B) are available at http://www.ftdichip.com/Drivers/VCP.htm.

■ FEATURES

- Adds one TTL port to your USB port.
- Supports 300 to 115,200 baud (auto-sensing and self-adjusting).
- Supports Windows 7/Vista/XP/Server2008/Server2003/2000/98 (32-bit), Windows 7/Vista/XP/ Server2008/Server2003 (64-bit), Win CE, Mac, and Linux.
- Supports remote wakeup and power management.
- Plug and play (hot-pluggable, data format auto-sensing and self-adjusting).
- Port-powered, no external power required.
- No IRQs required, no IRQ conflicts.
- Surface Mount Technology manufactured to RoHS and ISO-9001 standards.
- Safety: Strictly certified by SGS/TUV; 5-year manufacturer's warranty.

■ SPECIFICATIONS

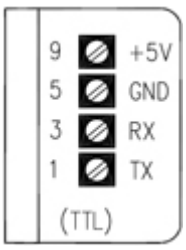
Compatibility:	USB 2.0 (backward compatible) and TTL/CMOS 5V level
Power Source:	From USB port
Current Consumption:	Less than 100mA
Baud Rates:	300 to 115,200bps (auto-sensing and self-adjusting)
Distance:	USB side: 10ft (3m); TTL side: 10ft (3m)
Connectors:	USB side: Type A female; TTL side: DB-9 male; Termination board: DB-9 female and a 4-way terminal block
Dimensions (HxWxD):	0.63 x 1.3 x 5.5 in (16 x 32 x 140 mm) (excluding cable)
Cable Length:	3.3 ft (1 m)
Weight:	3.8 oz (109 g)
Operating Temperature:	32ºF to 95ºF (0ºC to 35ºC)
Operating Humidity:	Up to 90% RH (no condensation)

■ PIN ASSIGNMENT

TTL Side (DB-9 Male Connector / Terminal Block):

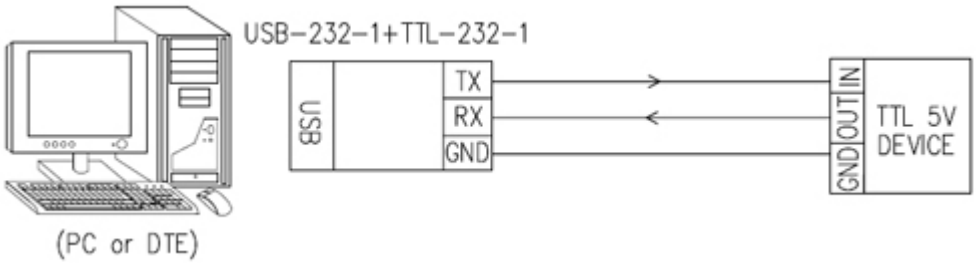
DB-9 Pin:	1	3	5	9
Terminal Block:	TX	RX	GND	+5V
Function:	TTL OUT	TTL IN	GND	+5V measurement

Termination Board:



- The numbers on the left indicate the pin assignment of DB-9 male connector (TTL side).
- TX is the TTL Output, RX is the TTL Input.
- DO NOT connect external power to +5V pin, it is for measurement only. The unit will function correctly only when the voltage on +5V pin is around +5V (when RS-232 port is connected). Otherwise, please check the connection (Figure 1).

■ CONNECTIONS



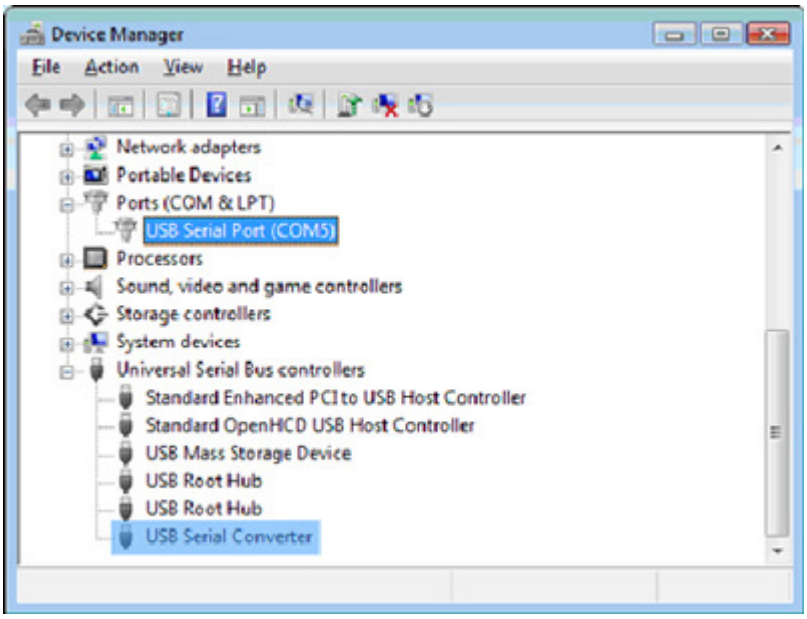
(FIGURE 1: USB-TTL CONVERTER CONNECTION DIAGRAM)

■ TTL SIGNAL LEVELS

TTL Input	TTL Output
High (>2.0V)	High (>3.5V)
Low (<0.8V)	Low (<0.6V)

■ TROUBLESHOOTING

- Make sure that the USB-TTL converter is connected to your USB port, and the driver is installed correctly (as shown below); otherwise, please reinstall the driver (refer to http://www.commfront.com/USB-Driver-Installation-FTDI.htm for details).



- Perform a loopback test by using CommFront's 232Analyzer software: Connect a USB-TTL converter to your USB port, short pin TX (TTL Out) to RX (TTL In) on the termination board, and then send commands from the 232Analyzer software. You should receive an echo of the commands sent. By performing a simple loopback test like this, you can test both the transmitter and receiver of the USB-TTL converter. This is very helpful when you are in doubt about the performance of your converter.