FT232RL USB TO TTL 5V 3.3V Convertor

The USB to TTL serial adapter is based on the high quality and very popular FTDI FT232RL chipset and is an excellent way to connect TTL serial devices to a PC through a USB port.

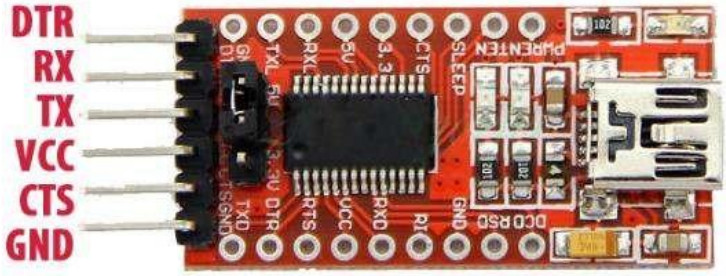
This USB to TTL serial adapter is ideal for many uses, including:

- Programming microprocessors such as ARM, AVR, etc
- Working with computing hardware such as routers and switches
- Serial communication with many devices such as GPS devices
- Serial terminals on devices like the Raspberry Pi

Unlike most USB to TTL serial adapters, this adapter supports both 5V AND 3.3V operation! Simply set the jumper as required to choose between 5V and 3.3V as labelled on the board.

The adapter comes with a right-angle connector fitted allowing you to use it straight away. If you need to access any of the other inputs or outputs of the FT232RL, all the useful signals are provided as through-hole solder pads - ideal for use with straight headers into a breadboard, for example.

The main connector has 6 pins:



- **DTR:** Data Terminal Ready - an output used for flow control
- **RX:** Serial data Receive pin
- **TX:** Serial data Transmit pin
- **VCC:** Positive voltage output - this is controlled by the jumper. If the jumper is set to 5V, this will provide a 5V output. If the jumper is set to 3.3V, this will provide a 3.3V output.
- **CTS:** Clear To Send - an input used for flow control
- **GND:** Ground or 0V

For most uses, you can simply connect the following pins:

- **RX** on this board to the **TX** pin on your device
- **TX** on this board to the **RX** pin on your device
- **GND** on this board to **GND** on your device

The **VCC** pin is ideal for powering small devices such as homemade circuits. This pin should not be connected when a device has a separate power supply as this may damage both devices.

Please note that in 5V mode the maximum current draw on this pin is approximately 500mA. In 3.3V mode the maximum current draw on **VCC** is approximately 50mA.

There are also several pins available as solder pads. These pins are labelled on the board. Connecting to these pins is not usually required and you should check the FTDI datasheet before doing so.

This adapter supports the following operating systems:

- Windows 2000 (32 bit)
- Windows XP (32 and 64 bit)
- Windows Vista (32 and 64 bit)
- Windows 7 (32 and 64 bit)
- Windows 8 (32 and 64 bit)
- Windows 8.1 (32 and 64 bit)
- Linux 2.6+
- Mac OS X 10.4, 10.5, 10.6, 10.7, 10.8 and 10.9

The FT232RL is a USB to serial UART interface IC with the following advanced features:

- Single chip USB to asynchronous serial data transfer interface.
- Entire USB protocol handled on the chip. No USB specific firmware programming required.
- Fully integrated 1024 bit EEPROM storing device descriptors and CBUS I/O configuration.
- Fully integrated USB termination resistors.
- Fully integrated clock generation with no external crystal required plus optional clock output selection enabling a glue-less interface to external MCU or FPGA.
- Data transfer rates from 300 baud to 3 Mbaud (RS422, RS485, RS232) at TTL levels.
- 128 byte receive buffer and 256 byte transmit buffer utilising buffer smoothing technology to allow for high data throughput.

Features of FT232RL USB TO TTL 5V 3.3V Convertor

- Material: PCB + Electronic Component
- Support 3.3V, 5V
- Main Colour: Red
- Chipset: FT232RL
- USB power has over current protection, using 500MA self-restore fuse
- RXD/TXD transceiver communication indicator
- Pin definition: DTR,RXD,TX,VCC,CTS,GND
- Pitch:2.54mm
- Module Size: About 36mm(length)*17.5mm(width)
- Interface : Mini USB