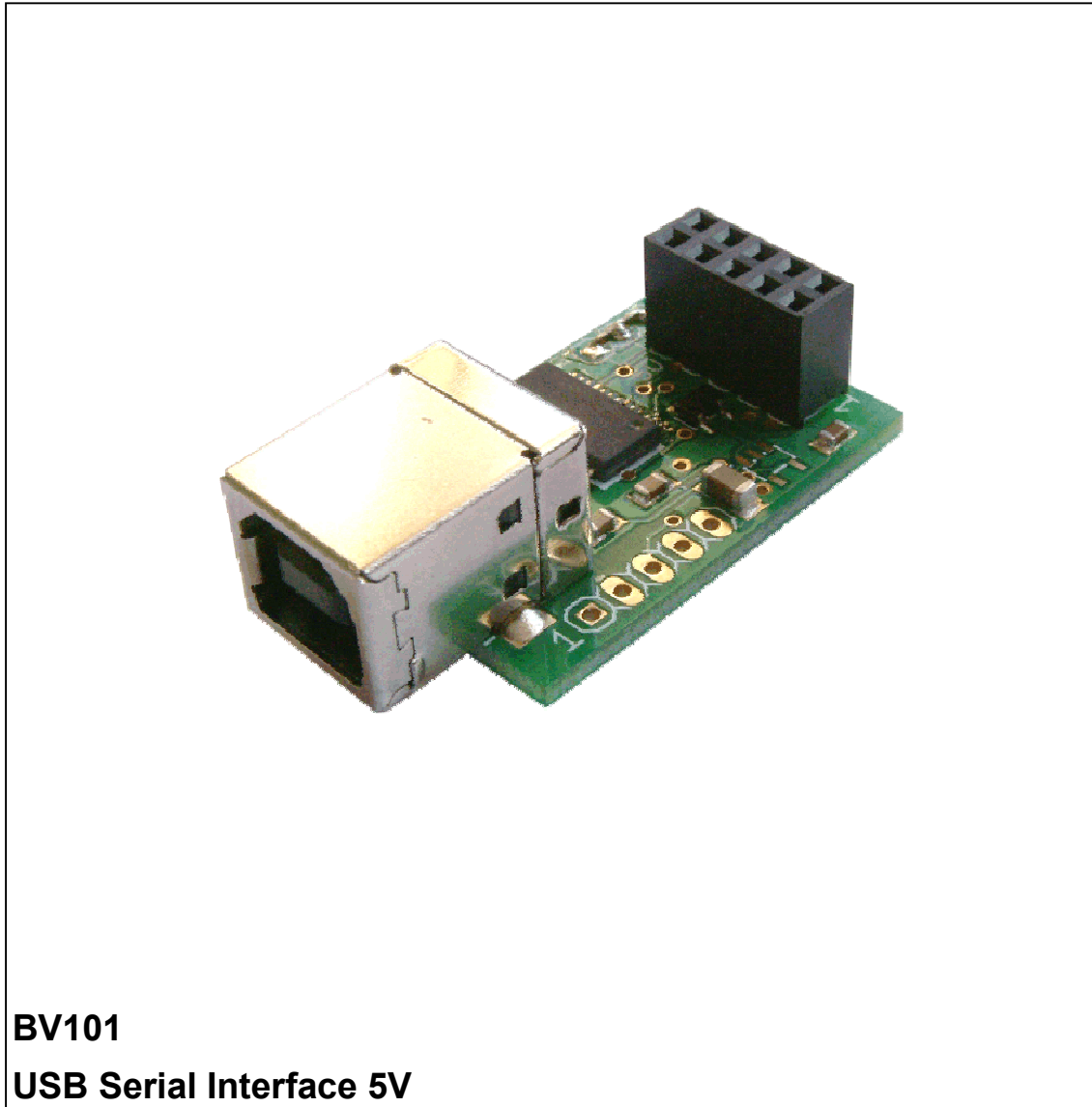

USB Serial Interface

BV101



Product specification

Oct 2009

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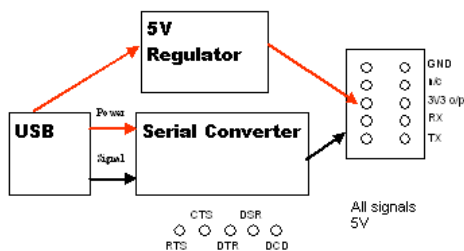
1. Introduction

This is a USB to serial converter that is primarily designed for the BV system but could be used for any USB – serial application. The output is 5V logic.

Up to 100mA can be taken from the USB via an on board low drop out voltage regulator. This regulator also provided short circuit protection to the USB host system.

The board utilises the FT232BM chip and free drivers are available from www.ftdichip.com The Virtual COM port (VCP) driver should be used.

There are two output connectors on the board, one for connecting serial devices and the other provides the control signals, DSR, DCD, etc. This second connector is supplied with the 5 way pinhead connector but without it soldered in place giving the user maximum flexibility.



NOTE:

The BV101 is the same PCB as the BV103 but without the 3V3 Regulator and jumper option

2. Specification

- **Input** – USB type B
- **PCB** – Surface mount.
- **On board** 5V voltage regulator with short circuit protection
- **2 connection** options, 2 x socketed.
- **Dimensions overall** 32 x 21mm x 13mm High
- **Weight** 4g

3. Serial Connection

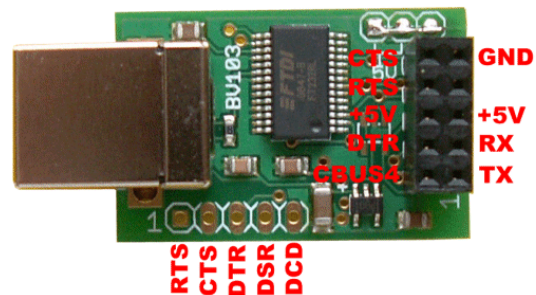


Figure 1 Serial Connection

Figure 1 shows the input / output available from the two, five way sockets and also from the five way row of connectors at the bottom of the board.

Some of the signal pins are duplicated on the 5 pads at the bottom of the board.

4. Software Drivers

The USB, FTDI Chip was chosen for this device because it has drivers for most operating systems and is freely available. The driver required is for the VCP (Virtual Com Port). The following describes the windows installation, the FTDI site has comprehensive installation instructions for other operating systems.

- 1) The first thing to do is to obtain the VCP drivers from FTDI. The web site is www.ftdichip.com and the page for the drivers was: <http://www.ftdichip.com/FTDrivers.htm>
- 2) Unzip the file to a suitable directory, c:\temp if you like.
- 3) Connect the BV103. The PC should react with new hardware found. At this stage choose the option that allows you to select the location of the drivers, and show windows the c:\temp directory. Windows will eventually tell you that the driver has been successfully installed. Don't delete c:\temp

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just yet as experience has shown Windows always asks at least twice for the location of the drivers.

- 4) The driver will install a new COM port on your system. The easiest way to discover what this port is, is to use BV Terminal 2. This will have a new entry in the COM port drop down list. As an alternative look in the device manager. In Windows XP this is Control Panel, System, Hardware tab and Device manager.

5. Using

The BV101 although primarily designed for use with the ASI and bVT100 series of boards can be used with any device that requires RS232 communication. There is no voltage translation of course so if you do need + and - 12V you will need to add a transceiver chip such as the MAX232.

Pin 5 and pin 6 of the 5 way connector can provide up to 100mA to supply power to an external device.

The 2x5 way connector sockets have the following pins

pin	1	TXD	output
pin	3	RXD	input
pin	5	+5V	power
pin	7	n/c	unused
pin	9	GND	power
pin	2	CBUS4	(see text)
pin	4	DTR	output
pin	6	+5V	power
pin	8	RTS	output
pin	10	CTS	input

Pin 1 is at the bottom of the board with the USB socket to the left.

All of the signals are standard RS232 communications signals except 1. This is a configurable output from the FTDI chip and can be programmed for various functions. For further information about this refer to the FTDI website.