
USB Serial Interface

BV101-4



BV101-4 **USB Serial Interface**

Product specification

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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 TTL 5V logic levels.

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 three output connectors on the board, two are duplicated for connecting multiple IASI devices and the third provides the control signals, DTR, RST, etc. This third connector is supplied with the 5 way pinhead connector but without it soldered in place giving the user maximum flexibility.

2. Specification

- **Input** – USB type B
- **PCB** – Surface mount.
- **On board** voltage regulator with short circuit protection
- **3 connection** options, 2 x socketed.
- **Dimensions overall** 31 x 21mm x 13mm High
- **Weight** 4g

3. Serial Connection

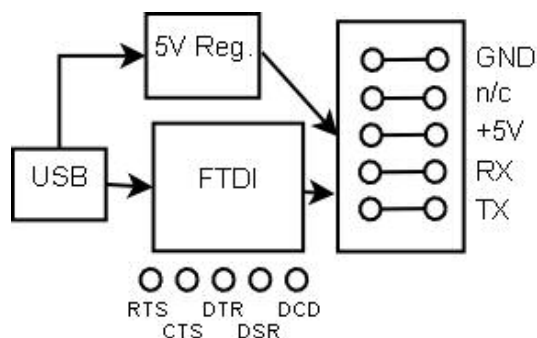


Figure 1 Serial Connection

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. Pin 1, marked on the board is RTS.

The two by five way sockets are connected together and form a convenient way of connecting two IASI devices.

All signals are positive logic, meaning that +5V is logic 1 and 0V is logic 0. The device is capable of supplying up to 100mA to external equipment.

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 BV101-4. 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 just yet as experience has shown Windows always asks at least twice for the location of the drivers.

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- 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 BV101-4 although primarily designed for use with the IASI 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 3 of the 5 way connector can provide up to 100mA to supply power to an external device.

The 5 way connector sockets have the following pins

pin	5	TXD	output
pin	4	RXD	input
pin	3	+5V	power
pin	2	n/c	unused
pin	1	GND	power

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

The 5 way connector to the bottom of the board have the following pins.

pin	1	RTS	output
pin	2	CTS	input
pin	3	DTR	output
pin	4	DSR	input
pin	5	DCD	input