DATASHEET

4D SYSTEMS

TURNING TECHNOLOGY INTO ART

microUSB Programming Adaptor µUSB-PA5

USB to UART Serial Bridge

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Contents

1. Description

The microUSB Programming Adaptor (µUSB-PA5) is a USB to TTL UART bridge converter which is simple, cost effective, very small and easy to use.

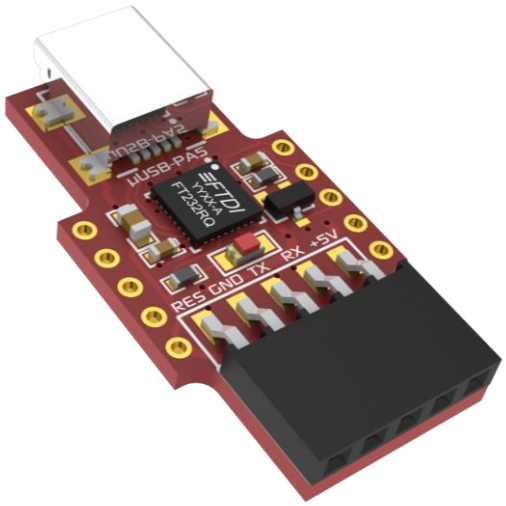
It uses a mini-B type USB connector to connect to your PC and is based on the FTDI FT232RQ USB to Serial Bridge IC from FTDI Chip.

It provides the user with multi baud rate serial data up to 3M baud rate, and access to additional signals such as flow control in a convenient 10 pin 2.54mm (0.1") pitch Dual-In-Line package.

The main 5 pin interface is a standard 2.54mm (0.1") pitch female header, designed to connect directly to a majority of the 4D Systems modules.

The µUSB-PA5 is ideal for prototype or production.

RX and TX signals are both 3.3V and 5V tolerant.



2. Module Compatibility

The µUSB-PA5 was designed in 2012 to be the programming adaptor of choice going forward for new products. While a large range of 4D Systems modules are compatible with this programming adaptor, some are not, for mechanical reasons.

The following is a small list is of known modules that are not compatible with the µUSB-PA5.

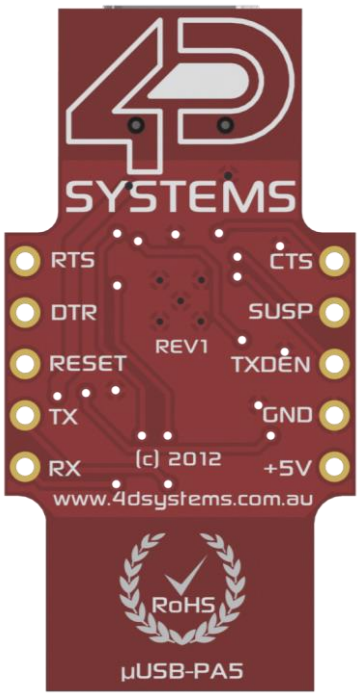
- uLCD-28PT
- uLCD-32PT

Please use the 4D Programming cable instead.

3. Features

- USB 2.0 compliant Full Speed 12Mbps maximum speed, Suspend supported.
- Hardware or Xon/Xoff handshaking supported, 300bps to 3Mbps.
- UART supports 7 or 8 data bits, 1-2 Stop bits, odd/even/mark/space and no parity
- Power on reset circuit
- Virtual COM port drivers allow operation with existing COM port PC applications
- Supports Windows 98 and above, MAC (OSX-8 and above) and Linux (2.4 kernel and above)
- USB powered
- -40 to +85 degrees Celsius temp range
- Small size, 33.7mm x 17.3mm
- Traffic/Operation LED indicates board status
- Additional flow control and features available for the user to solder, using standard 2.54mm (0.1") pitch through holes along each side of the PCB.
- RoHS Compliant

4. Pin Configuration and Summary



microUSB (µUSB-PA5) additional Pin Outs	
Symbol	**Description**
RTS	Ready to Send Output (active low)
DTR	Data Terminal Ready Output (active low)
RESET	This pin provides a LOW level RESET pulse of several hundred micro seconds when the DTR signal is toggled.
TX	Serial Data Transmit output. This connects to the host Rx (Serial Receive) input.
RX	Serial Data Receive input. This connects to the host Tx (Serial Transmit) output.
CTS	Clear to Send Input (active low)
SUSP	USB Suspend State (active low)
TXDEN	Transmit Data Enable, for enabling external circuits such as RS485 (active high)
GND	Ground
+5V	+5V Power from USB (up to 500mA). Power supply to external circuits

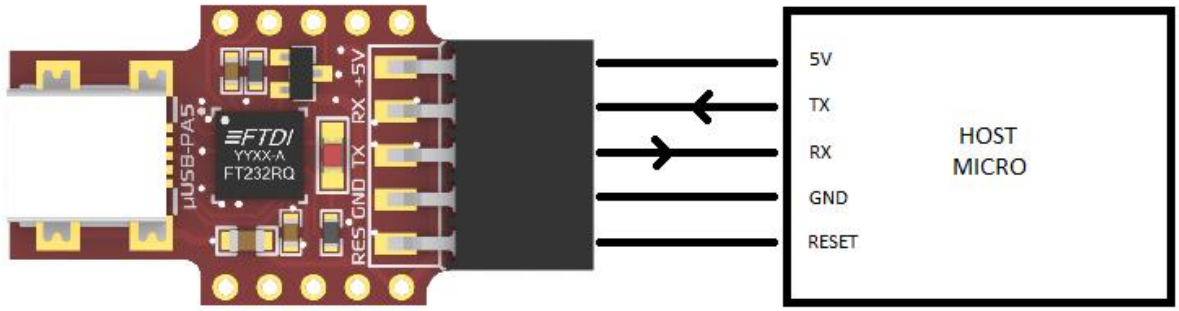
5. Typical Applications

The microUSB (**µUSB-PA5**) is designed to accommodate many applications. Its small size and convenient form factor are perfect for adding micro USB functionality to embedded applications.

The microUSB makes an easy USB-Serial interface, so you can easily create USB to RS-232 converters, USB to RS-422/RS-485 converters, upgrade legacy RS-232 devices, make PDA and cellphone USB interface cables, barcode readers, POS terminals, etc.

In any application, make sure the TX and RX lines from the µUSB are crossed over to the attached peripheral. That is, the TX from the µUSB connects to the RX of the target and the RX from the µUSB connects to the TX of the target device.

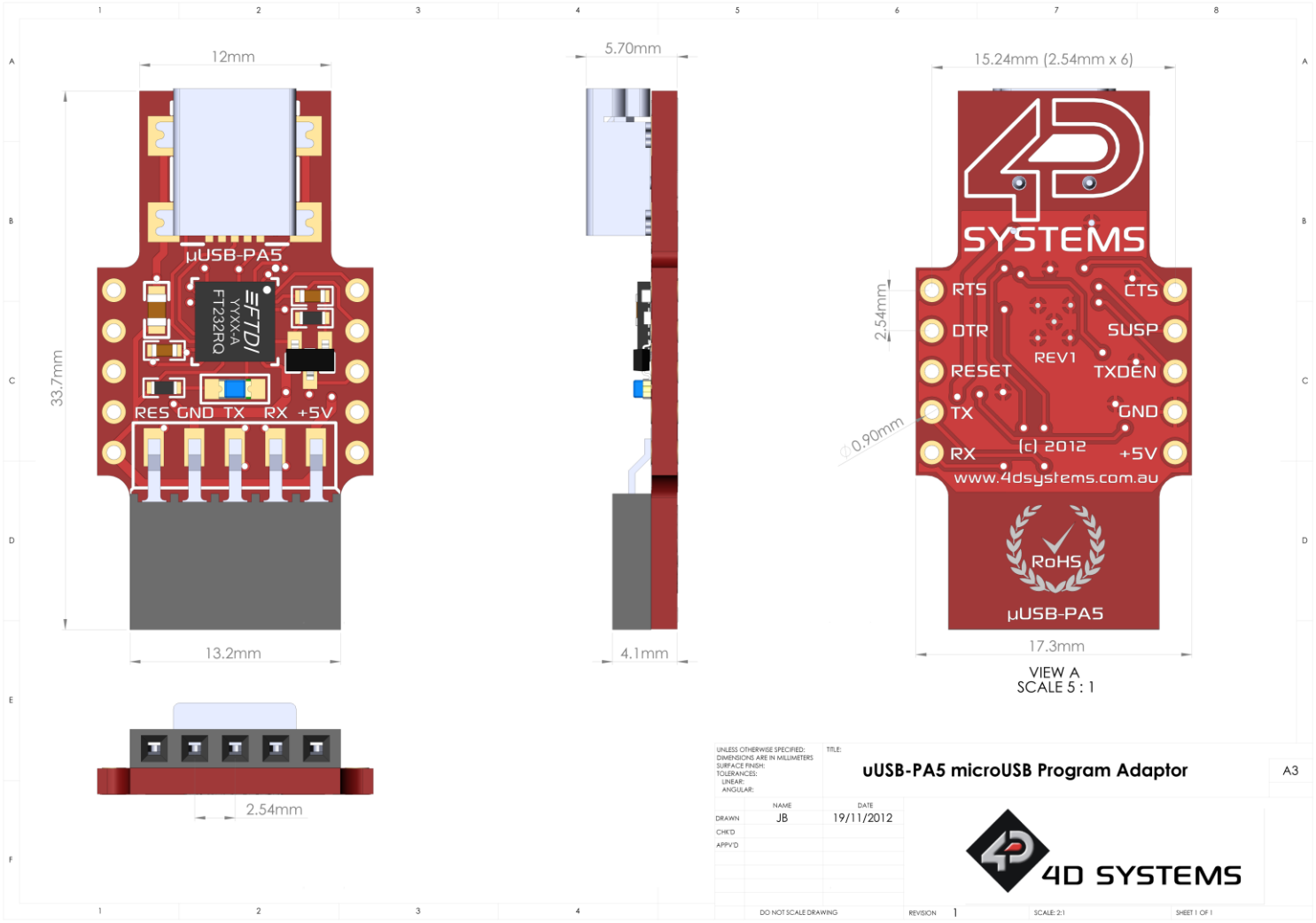
Note: the TX and RX signal levels are between 0 Volts and 3.3 Volts, however are 5.0V tolerant.



The microUSB is designed to have a compact footprint, and be compatible with prototyping such as plugging it directly into a breadboard when male 2.54mm (0.1”) headers are soldered to the row of 5 pins, along each side.

For assistance with latest driver downloads, go to www.ftdichip.com/Drivers/VCP.htm or visit the µUSB-PA5 product page of the 4D Systems website, www.4dsystems.com.au

6. Mechanical Dimensions



7. Ordering Information

ORDERING INFORMATION
Order Code: µUSB-PA5
Package: 90mm x 130mm
Packaging: Bubble wrapped in antistatic bag

8. Legal Notice

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