



## Isolated Two Channel USB/Serial Adaptor

Rev. 1.1

Hint: This manual is for devices of revision 1.1 only!

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## UART Pin Assignment

Handshake

out	in	Tx	Rx	Vext	
9	7	5	3	1	A
10	8	6	4	2	B

Pin	Name	Property	Function
1	Vext	Input	Voltage determines signal levels in switch position <i>Vext</i>
2	GND		Ground
3, 4	Rx	Input	RxD (serial data input)
5, 6	Tx	Output	TxD (serial data output)
7, 8	Handshake	Input	CTS or DSR*
9, 10	Handshake	Output	RTS or DTR*

The pins 3, 5, 7 and 9 are assigned to channel A, the pins 4, 6, 8 and 10 to channel B.

\*) selectable by jumpers inside the device (device has to be opened to change setting)

## Light Emitting Diode

The LED is shining weak, when the device is powered by USB. The LED is shining bright, while data is transferred over the USB interface.

## Voltage Selection Switch

The voltage selection switch determines the signal levels. The fixed level “3.3V” (left switch position) and “5V” (right switch position) is available. If the middle switch position “Vext” is chosen, an external voltage between 2.5 and 5.5V has to be connected to pin 1 of the UART connector, which determines the signal level. Usually the digital supply voltage of the external circuit, were the adaptor is connected, is used for this voltage.

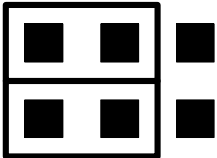
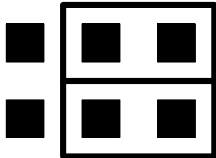
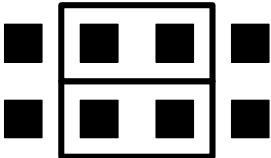
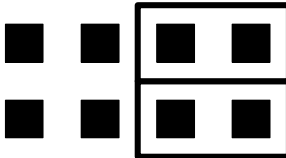
## Opening the Device

To open the device, the two Torx screws (T10H) at the side of the USB connector and LED has to be removed. After removing the front panel, the PCB can be pulled out. Please take care, it is an ESD sensitive device!

## Changing the Handshake Wires

The CTS and RTS wires are set for handshake in default delivery state. If necessary, the handshakes can be changed to DSR and/or DTR for each channel. For this, the device has to be opened, as described above, and the position of jumpers has to be changed appropriately.

On the PCB there is a six and an eight pin header. The upper for channel A and the lower for channel B. Set the jumpers as shown in the table.

	RTS	DTR
Channel A (J1)		
Channel B (J3)		
	CTS	DSR

**Hint:** For J2 always a jumper has to be set between pin 1 and 2.

## Driver Installation and Initial Operation

To make the device usable, the required drivers have to be installed. Download the VCP drivers, matching to your operating system, from the homepage of FTDI (<http://www.ftdichip.com/Drivers/VCP.htm>) and install them. Hint: It might not be necessary, to install a driver, if you have done this before for other products, which are based on a FTDI chip.

Please consult the control centre of your operating system (e.g. Windows®), to check, if the device is working properly and which serial ports are used by the device.

## Technical Specification

Supply voltage	4.75 ... 5.25V DC (typ. 5V)	supplied via USB
Supply current	typ. 110mA	
Signal input levels	-0.5 ... +5.5V	max. ±50V (10 seconds)
Signal output levels	3.3V ±3%	switch position "3.3V"
Signal output levels	5.0V ±3%	switch position "5V"
Signal output levels	Vext (2.45 ... 5.5V) ±1%	switch position "Vext"
Input resistance	100kΩ ±1%	>1kΩ at over voltage
Output resistance	approx. 150Ω	
Baud rate	max. 12MBit/s	
Edge rising and fall time	<4ns	
Voltage at Vext	+2.45 ... +5.5V	max. ±50V
Input resistance Vext	100kΩ ±1%	>11kΩ at over voltage
Isolation voltage	100V	max. 500V (short time)
Operation temperature range	0 ... 70°C	
Dimensions	94 x 63,5 x 33mm <sup>3</sup>	L x W x H
Weight	approx. 120g	