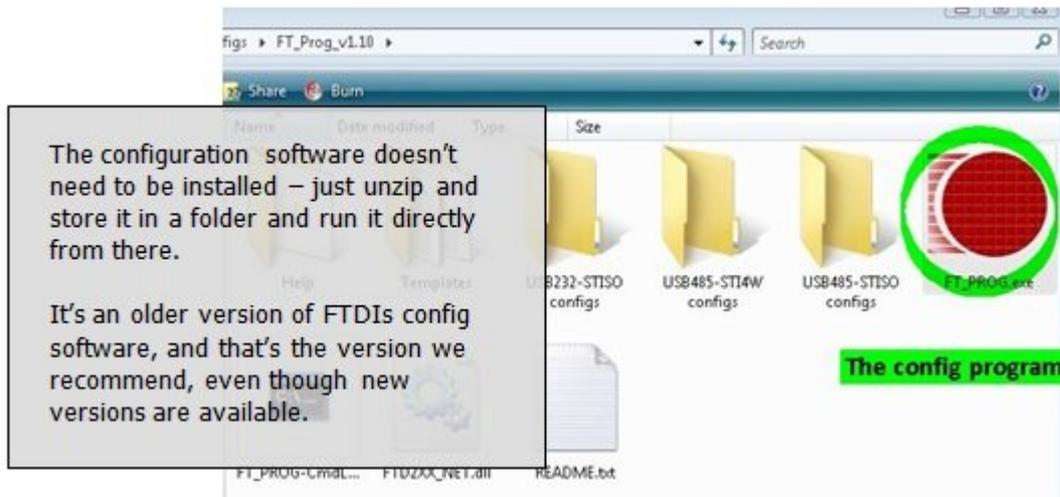


Tech note - Reconfiguring the hardware.

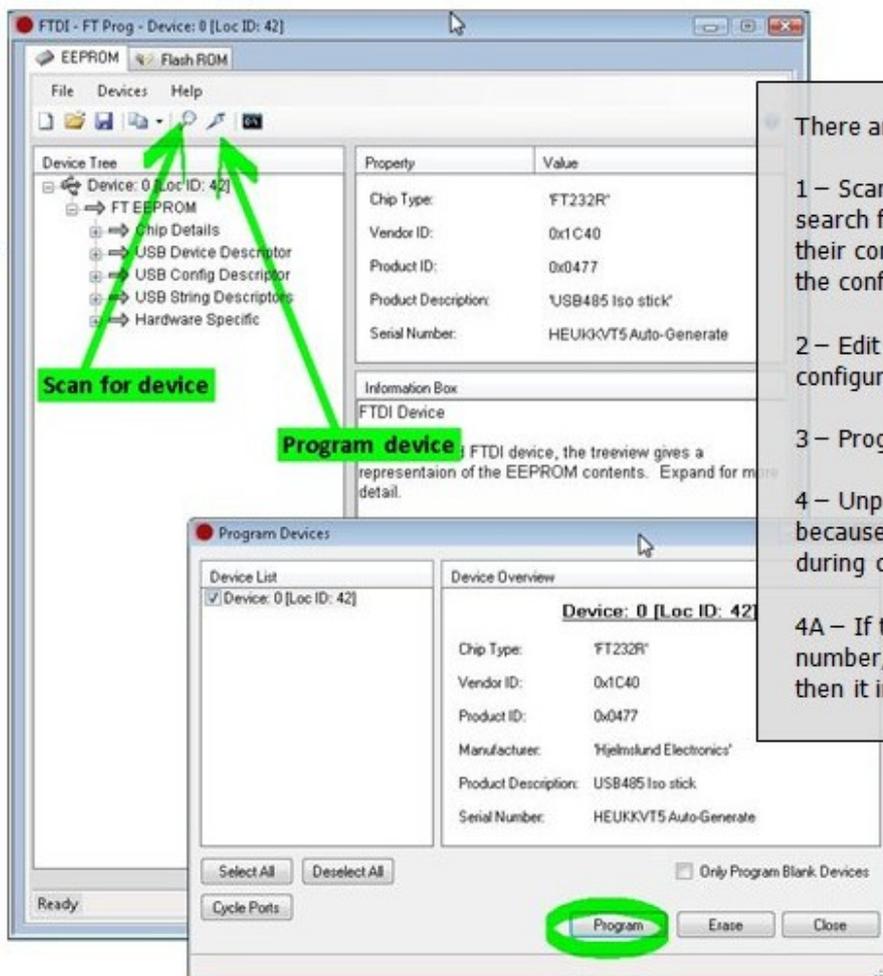
This note is intended for users who have special needs for hardware configurations, such as duplex change, read only modes, or use in non-windows operative systems.

The converters consists of 2 parts – a USB to serial converter, and the isolated transceiver for RS485 or RS232.

The USB to serial converter chip used, is the FT232R from FTDI, and it is fully configurable thru a simple software that can be downloaded from our site.



Download the configuration pack from www.hjelmslund.dk/support/HardwareConfigTool.zip



There are 4 steps in a configuration process.

1 – Scan for device. The config software search for connected converters, and load their configuration from the converter into the config program.

2 – Edit the settings for the new hardware configuration.

3 – Program the device with the new config.

4 – Unplug and reconnect the converter, because the configuration is only loaded during converter power up.

4A – If the converter got a new serial number, the PC see it as a new device, and then it installs the driverset once again.

What can be configured.

- **Serial numbers**, for special purpose.
- **VID / PID set**, useful for MAC and Linux users.
- **Receiver mode**, for duplex change modifications.
- **Transmitter mode**, for read only use (non disruptive debugging).

Serial numbers.

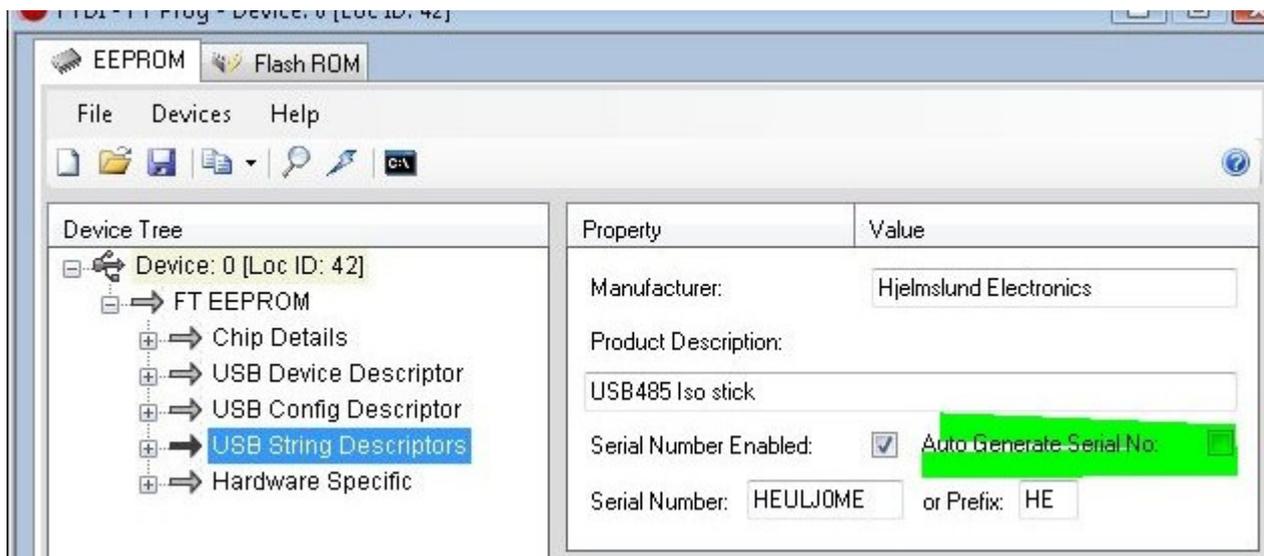
Under USB String descriptors, you can find the unique serial number of the converter.

The serial number can be used to determine each converter from others in the host operative system (Windows, Linux or Mac).

Having several converters in the same PC, each converter will be paired with their own setting in the drivers and gets each their own com port number, that will be the same, also if swapping and / or disconnecting and reconnecting the converters.

In special situations, such as having several external systems, with each their own converter, never connected to the PC at the same time, it can be handy to give all converters same serial number, so that the application program in the PC doesn't need to change com port number, even when switching between several different converters.

When reconfiguring your converter, the old serial number should be preserved (uncheck the "Auto generate Serial no" box), otherwise the operative system will reinstall drivers once again, software settings being reset, and a new com port number assigned.



Procedure : Run the configuration program "FT_PROG.exe" → Scan for device → modify serial number settings → program device → unplug and reconnect the converter.

VID / PID set.

This feature has relevance for Linux and Mac users, but not for others than them.

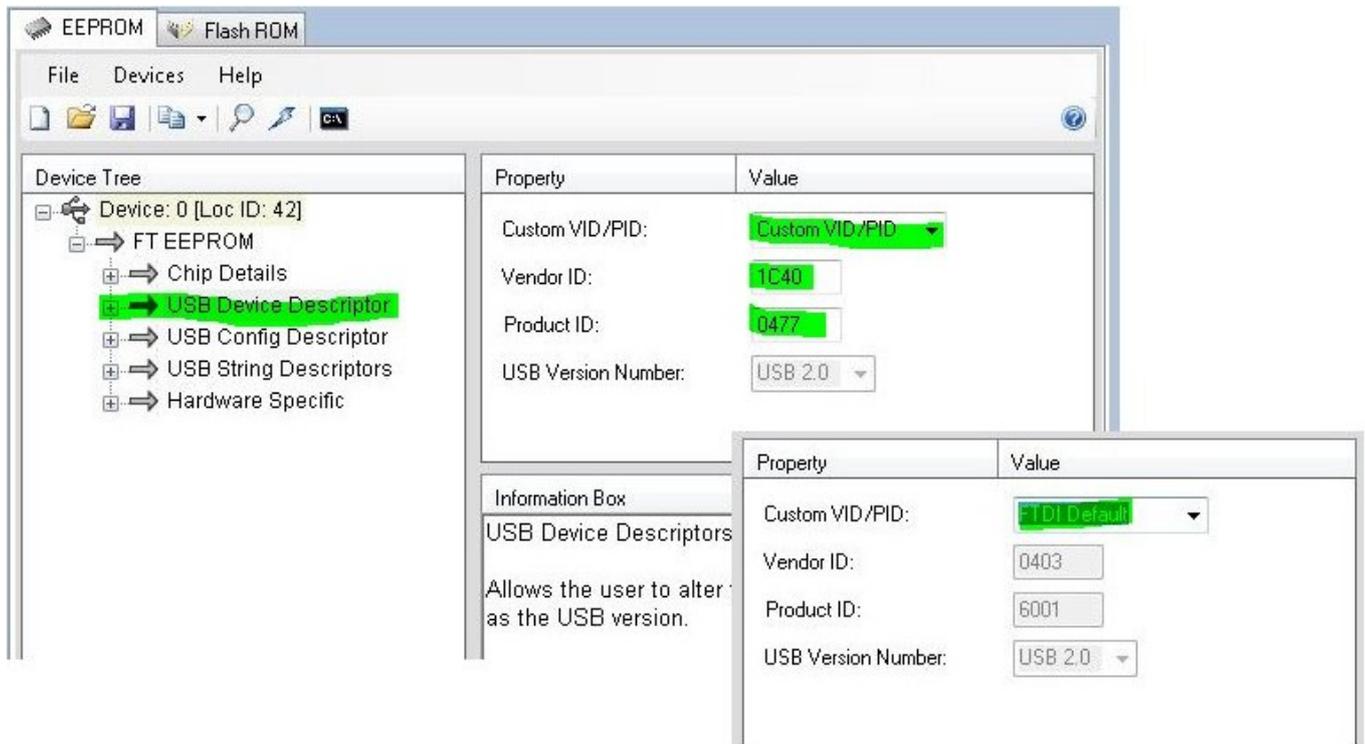
VID (Vendor ID) / PID (Product ID) are 2 numbers that identify the product, so the operative system knows which drivers to use.

The manufacturer of the FT232R USB chip have drivers for Windows, for Mac and for Linux, and those drivers can be used when the converter are configured with the VID / PID set for the USB chip.

We've made some minor modifications in the drivers, to make it easier to identify the installed product, but the functionality is exactly the same.

VID	PID	OS	Description in device manager	Hardware product
0403	6001	Win, Linux and Mac.	USB serial port	All our converters, and all other products with FT232R chip.
1C40	0477	Win only	USB485 Isolated 2 wire port	USB485-STISO and only that.
1C40	047C	Win only	USB485 Isolated 4 wire port	USB485-STI4W and only that.
1C40	047E	Win only	USB232 Isolated port	USB232-STISO and only that.

Default configuration that we supply, is with our own VID / PID set, hence only windows compatible, but customers can request the FTDI default configuration for Mac and Linux compatibility without any extra cost – just mention it in the comment field in the order form.



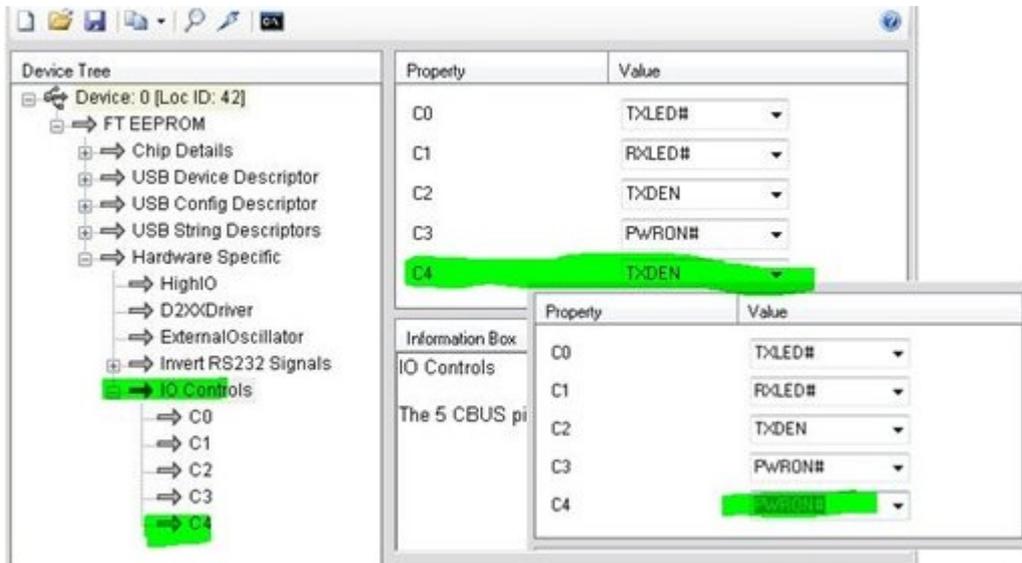
Procedure : Run the configuration program “FT_PROG.exe” → Scan for device → modify the VID / PID settings → program device → unplug and reconnect the converter.

Receiver mode.

The receiver is controlled by the C4 setting under “Hardware specific” → “IO Controls” → “IO Controls”

For full duplex mode (receive, also while transmitting), select PWRON#

For half duplex mode (receive only while not transmitting), select TXDEN

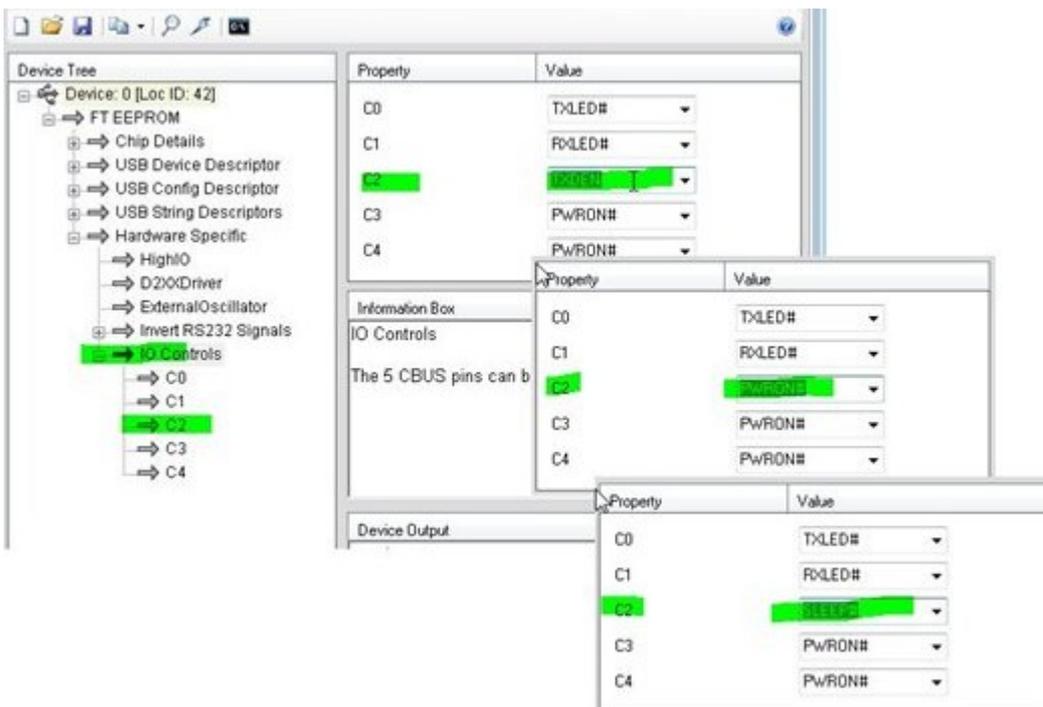


Transmitter mode.

The transmitter is controlled by the C2 setting under “Hardware specific” → “IO Controls” → “IO Controls”

For standard RS485 mode C2 is TXDEN, which means that the transmitter is enabled, only while transmitting data. If you want the transmitter to always be active, set C2 to SLEEP#.

If you want the transmitter to never be active, set C2 to PWRON#. It can be useful in situations where only wanting to monitor the communication for debugging purpose, and to ensure never disturbing by accident.



Procedure : Run the configuration program “FT_PROG.exe” → Scan for device → modify the C2 and / or C4 setting → program device → unplug and reconnect the converter.