

USB-4SERIAL

User Manual

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Introduction to USB-4SERIAL

[USB-4SERIAL](#) is Open Source Hardware Industrial grade board which adds Four Serial ports to any computer with USB port.

The First one of these Four Serial ports have RTS / CTS control while the other three are only with Tx and Rx signals.

The Fourth Serial port can be configured to have RS232 levels or RS485 current loop, thus enabling communication with industrial RS485 equipment.

The Serial ports have DB9 connectors with RS232 levels, but TTL 3.3V level Serial ports are also available on separate 0.1" 2.54mm step connectors which you can connect to embedded boards working on 3.3V

If you have more than one USB ports you can connect more [USB-4SERIAL](#) to each of them and you can have multiply x 4 Serial ports.

USB-4SERIAL features

- USB-C High Speed USB 2.0 connector for powering the board and communication
- The serial ports can be with baud rate up to 12Mbps on the TTL connector and up to 115200 bps on RS232 levels connectors.
- The serial ports are compatible with 16C550 UART and support 5, 6, 7 or 8 data bits and 1 or 2 stop bits, odd, even, none, blank0, mark1 and other parity.
- Supports RTS and CTS hardware automatic flow control for the First one RS232 Serial port.
- Supports half-duplex and RS485 switching for the Fourth port.
- RS485 direction flow selectable by RTS3 or GPIO11
- Reset button
- High reliable industrial grade design -40+85C
- CE-RED and LVD certification
- Four mount holes 3 mm
- PCB dimensions: (150 x 35)mm ~ (5.9 x 1.38)"

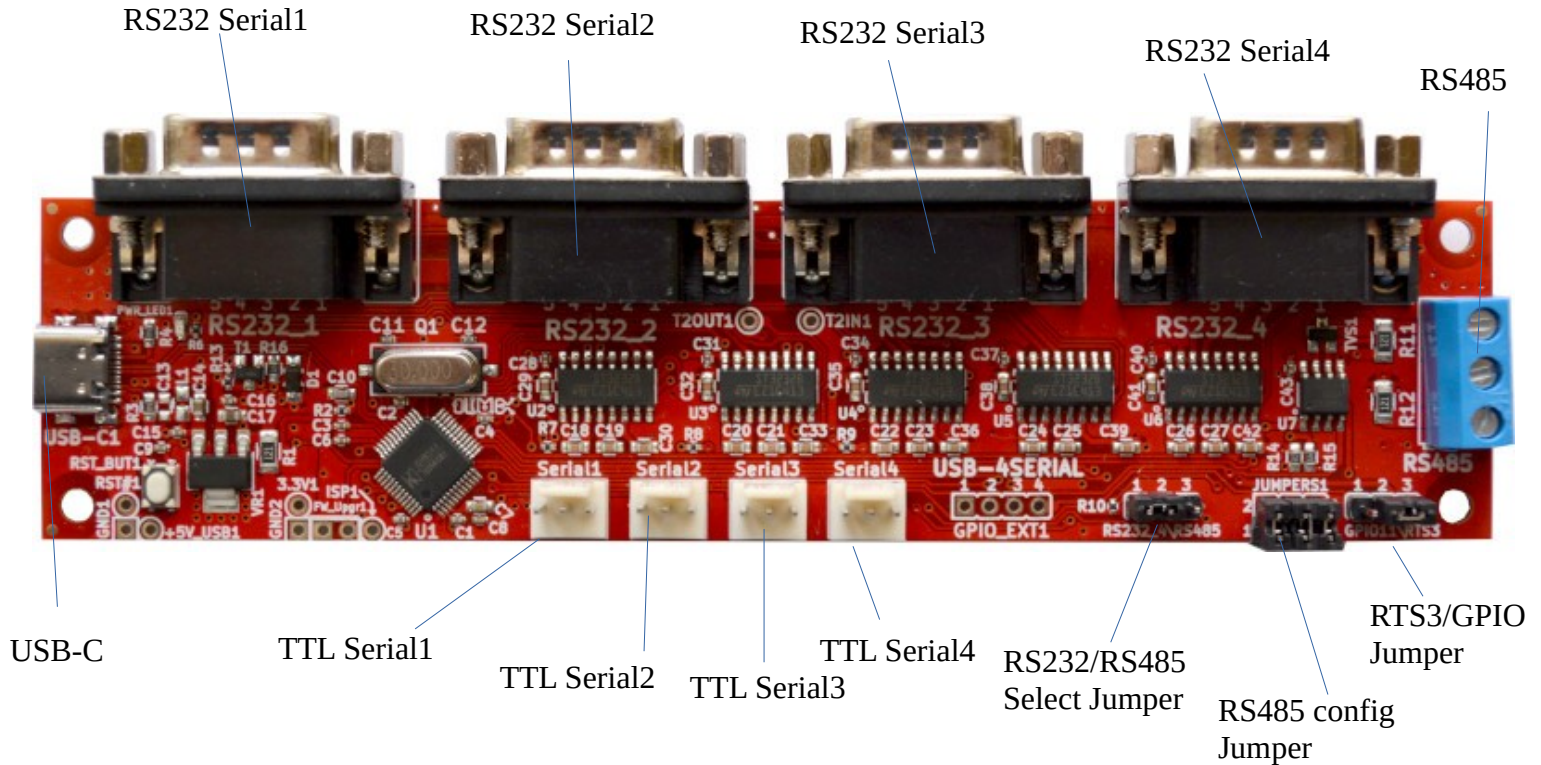
Order codes for USB-4SERIAL and accessories:

[USB-4SERIAL](#) industrial grade -40+85C board

[CABLE-USB-A-C-1M](#) USB-A to USB-C cable 1 meter long

HARDWARE

USB-4SERIAL layout:



USB-4SERIAL schematic:

[USB-4SERIAL](#) is Open Source Hardware designed with KiCAD, the source files are on [GitHub](#) and the Latest schematic in PDF format is [here](#).

USB-4SERIAL jumpers

RS232/RS485 Jumper

1-2 selects RS232 function for Serial4

2-3 selects RS485 function for Serial4

RS485 Jumper

1-2 Pull down resistor to RS485 B node

3-4 Pull up resistor to RS485 A node

5-6 Terminal Resistor between A-B

RTS3/GPIO Jumper

1-2 selects RS485 data flow to be controlled by GPIO11

2-3 selects RS485 data flow to be controlled by RTS3

SOFTWARE:

Linux drivers:

You need to download and install the drivers from GitHub.

When USB-C is plug Four new serial ports will be visible in /dev/tty*

Windows drivers:

Usually are not necessary, When USB-C is plug Four COM ports will be visible in the Windows Device Manager

Revision History

Revision 1.0 May 2023