USB/RS-485 Converter

FTDI Driver

Installer manual
USB/RS-485 Converter

9UMEN2501-1200
Release: 201021

USB/RS-485 Converter

1. Introduction

The USB/RS-485 converter is a device designed for communication between PC-Peripheral or PC-PC through the RS-485 standard. The converter connection with the PC is USB. The device supports CTS emulation for the synchronization of the peripheral connected to the RS-485 bus.

The kit supplied includes:

- 1 USB/RS-485 converter
- 1 USB Drive & User Manual

Additional tools:

- Executable clean_ftdi.exe
- With driver version 2.12.12 or higher, document Force_Driver_W10.pdf

The following OS are supported by the driver up to version 2.08.30:

- Windows 2000
- Windows XP
- Windows Vista
- Windows 7
- Windows 8 – 8.1

The following OS are supported by the driver starting from version 2.12.12:

- Windows 10
  (a procedure to force Windows 10 to install non digitally signed drivers may be required. See document Force_Driver_W10.pdf)

2. Installation and device settings

2.1. Driver installation

1. Plug the USB-485 converter into a USB port
2. Install the USB component following the automatic procedure

   *NOTE: On some old OS a warning message about Hardware without signature could appear. Click on "**Continue**"*

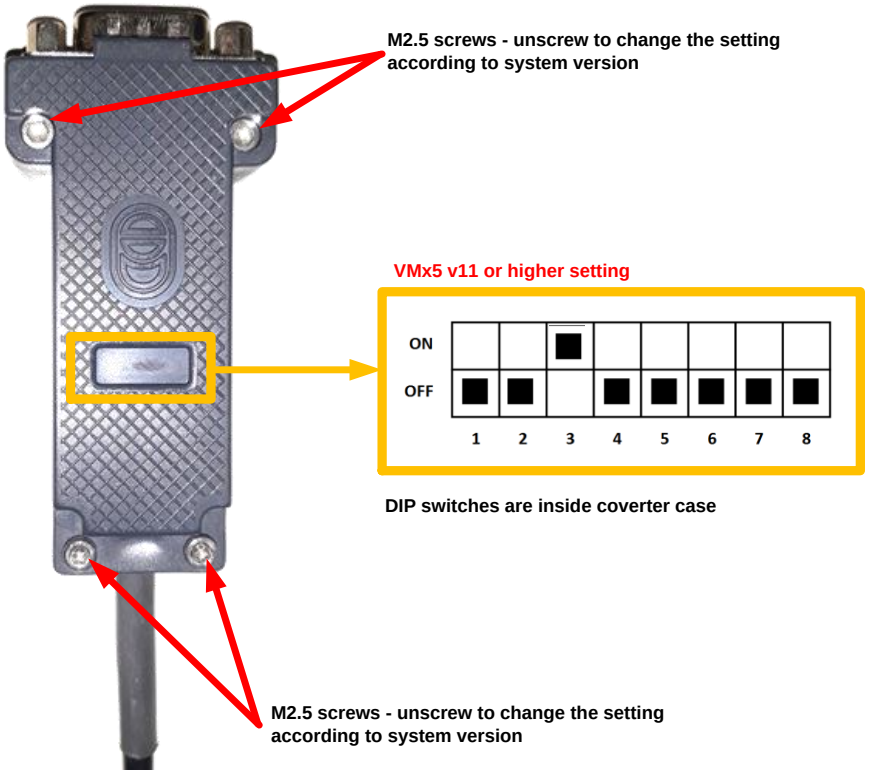
3. Install the serial communication port following the automatic procedure

   *NOTE: On some old OS a warning message about Hardware without signature could appear. Click on "**Continue**"*

The new hardware is successfully installed on your PC.

2.2. Hardware settings

The USB/RS-485 Converter has DIP switches inside the case for hardware settings.
DIP switches are default set according to system version.
For spare parts, ''default'' configuration is indicated below:



Please refer to indications below to correctly set converter DIP switches according to proper system version.

<table>
<tr><th>Switch Number</th><th>Description</th></tr>
<tr><td>1</td><td rowspan="2">Polarization of the differential line

▪ 1=ON, 2=ON differential line polarized
▪ 1=OFF, 2=OFF differential line not polarized</td></tr>
<tr><td>2</td></tr>
<tr><td>3</td><td>Set the device as master or slave
▪ ON = master
▪ OFF = slave</td></tr>
<tr><td>4</td><td>▪ ON = for systems VM20 and VMX5 v10
▪ OFF = for systems VMX5 v11 or higher</td></tr>
<tr><td>5</td><td rowspan="4">Set the baudrate of the device

NOTE: The baudrate must match with the application baudrate

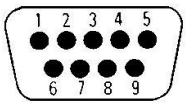
<table>
<tr><th>Baudrate [bps]</th><th>5</th><th>6</th><th>7</th><th>8</th><th>System</th></tr>
<tr><td>9600</td><td>ON</td><td>ON</td><td>ON</td><td>OFF</td><td>VM2x - VMX5 v10</td></tr>
<tr><td>19200</td><td>OFF</td><td>ON</td><td>ON</td><td>OFF</td><td></td></tr>
<tr><td>38400</td><td>OFF</td><td>OFF</td><td>ON</td><td>OFF</td><td></td></tr>
<tr><td>57600</td><td>OFF</td><td>OFF</td><td>OFF</td><td>ON</td><td></td></tr>
<tr><td>115200</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>VMX5 v11</td></tr>
</table></td></tr>
<tr><td>6</td></tr>
<tr><td>7</td></tr>
<tr><td>8</td></tr>
</table>

2.3. Settings for VM2x and VM25 v10.x systems

The converter used for the VM2x and VM25 v10.x system has the following standard settings:

Switch							
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
ON	ON	ON	**ON**	**ON**	**ON**	**ON**	ON
OFF	**OFF**	**OFF**	OFF	OFF	OFF	OFF	**OFF**

2.3.1. RS-485 Connector pin-out



RS-485 Connector

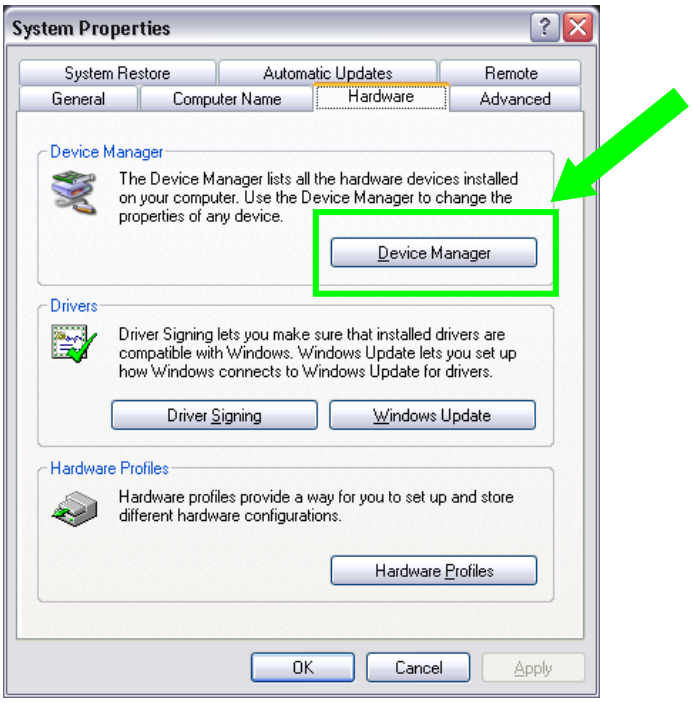
PIN	Description
1	Data (-)
6	Data (+)
4	GND

NOTE: Pins not listed are isolated

2.4. Software Settings

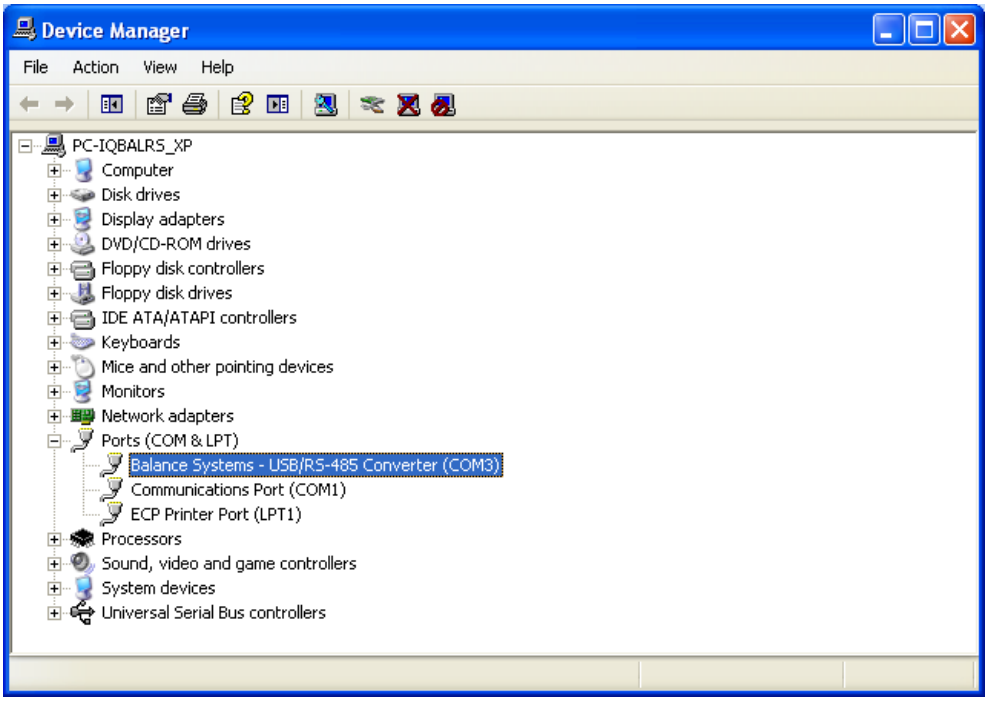
For a correct interaction with the OS, the COM port number must be configured.

1. Access the **Device Manager** in **System Properties**.

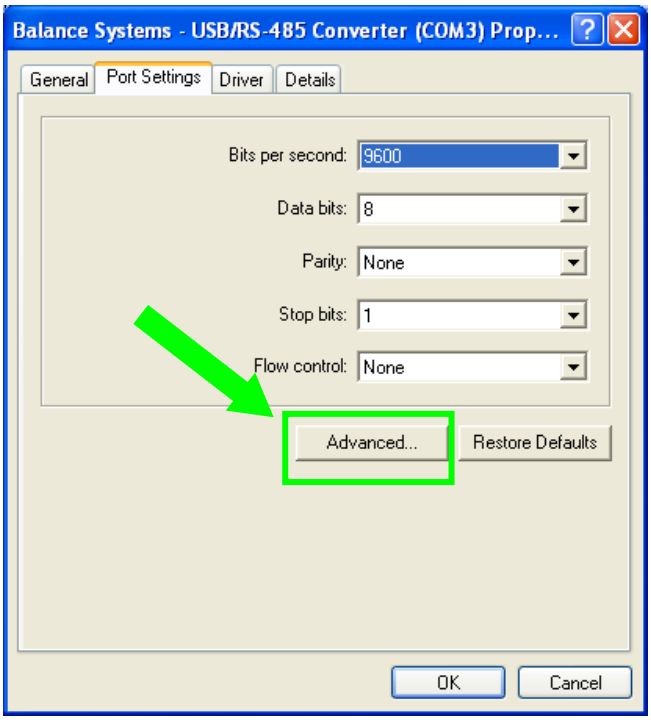


2. Double click on **Ports (COM and LPT)** and subsequently double click on

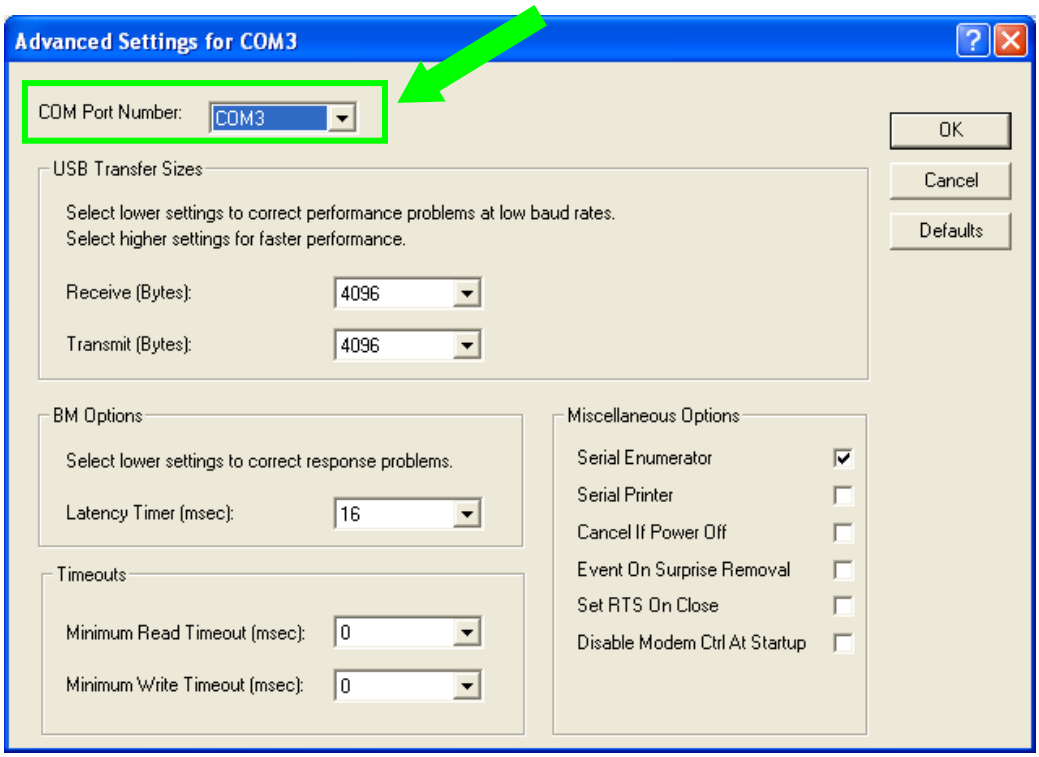
   Balance Systems – USB/RS-485 Converter (COMx) (where x indicates port number)



3. Click the **Advanced** button in **Port Settings** screen



4. Set the COM port number using the field **COM Port Number**

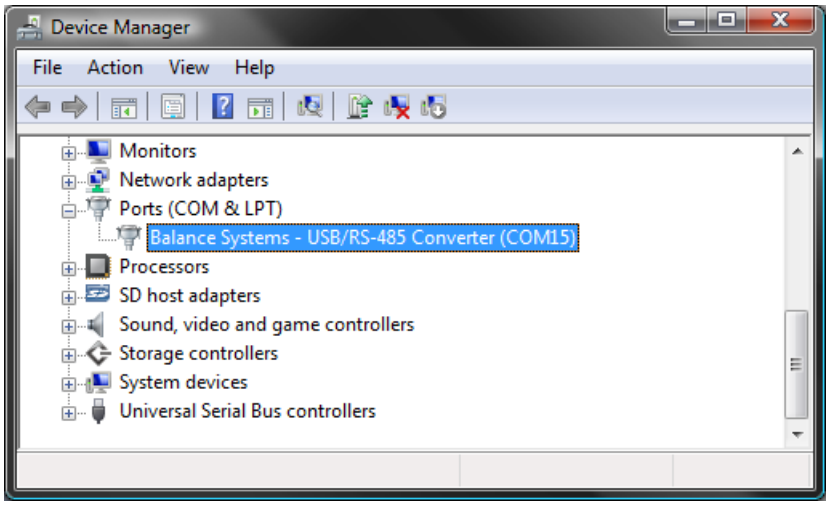


3. Update the FTDI driver

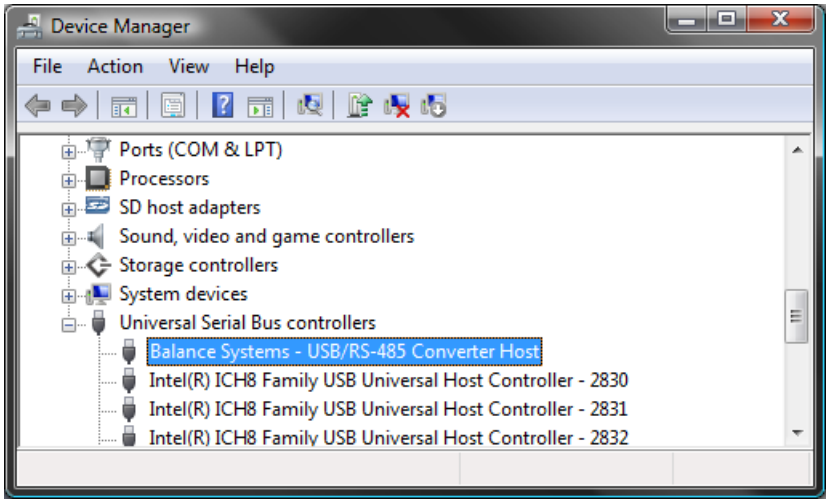
To update the driver follow the next procedure.

1. Access the **Device Manager** in **System Properties.**

2. Select **Balance Systems – USB/RS-485 Converter (COMx)** in **Ports (COM and LPT)**. Click the mouse right button and select the function **Uninstall.**



3. Select **Balance Systems – USB/RS-485 Converter Host** in **Universal Serial Bus controllers**. Click the mouse right button and select the function **Uninstall.**

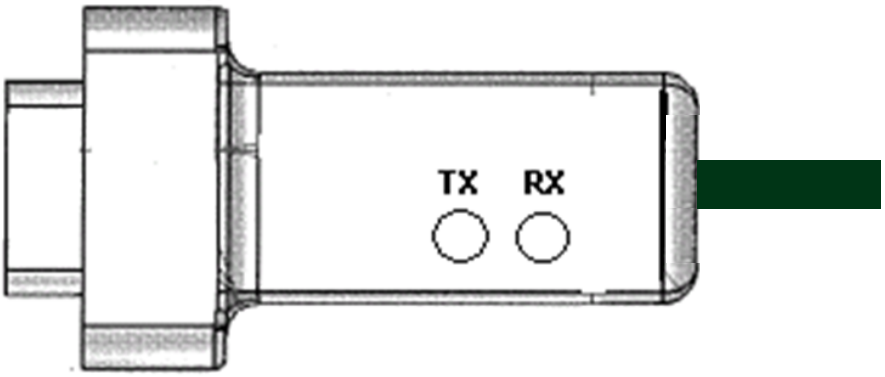


4. Unplug the USB/RS-485 converter.
5. Launch the supplied removal tool “\Utility\clean_fdti.exe”.
6. Connect the USB/RS-485 converter to a USB Port and follow the installation procedure using the driver version 2.08.30 or higher.

4. Technical Reference

Magnitude	Value
Temperature range [C°] *[tolerance ± 10%]*	-10 ÷ +40
Connection type	USB type A standard
Case isolated	YES

5. Diagnostics



- **LED TX:** transmission by USB
- **LED RX:** reception from USB