

# USB/RS-485 Converter FTDI Driver

Installer manual USB/RS-485 Converter

9UMEN2501-1200 Release: 201021



## **USB/RS-485** Converter

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## 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.

Switch Number	Description							
1	Polarization of	f the differential line	9					
2	■ 1=ON ■ 1=OF	l, 2=ON c F, 2=OFF c	lifferent lifferent	tial line tial line	e polari e not p	ized olarize	d	
3	Set the device ON = OFF =	e as master or slave master = slave	)					
4	<ul> <li>ON = for systems VM20 and VMX5 v10</li> <li>OFF = for systems VMX5 v11 or higher</li> </ul>							
5	Set the baudrate of the device NOTE: The baudrate must match with the application baudrate							
6	Paudrato [bns] 5 6 7 9 System							
		9600	ON	ON	ON	OFF	VM2x - VMX5 v10	
7		19200	OFF	ON	ON	OFF		
		38400	OFF	OFF	ON	OFF		
0		57600	OFF	OFF	OFF	ON		
ð		115200	OFF	OFF	OFF	OFF	VMX5 v11	

## 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.

tem Pro	perties			? 🔀	
System	n Restore	Automatic	Updates	Remote	
General	Compute	r Name	Hardware	Advanced	
-Device f	Manager The Device Man on your compute properties of any	ager lists all th r. Use the Dev device.	e hardware devices ice Manager to cha Device Mar	s installed ange the	
Drivers					
	Driver Signing let compatible with \ how Windows co	s you make su Windows, Wind onnects to Win	re that installed driv Jows Update lets yo dows Update for dr	vers are ou set up ivers.	
	Driver Sig	ning	<u>W</u> indows Up	odate	
Hardwar	e Profiles				
Ð	Hardware profile: different hardwar	s provide a way e configuration	v for you to set up a s.	ind store	
			Hardware <u>P</u> r	rofiles	
		OK	Cancel	_ Apply	

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** 

Advanced Settings for COM3		? 🛛
COM Port Number: COM3 USB Transfer Sizes Select lower settings to correct performance problems at low Select higher settings for faster performance. Receive (Bytes): 4096 Transmit (Bytes): 4096	baud rates.	OK Cancel Defaults
BM Options Select lower settings to correct response problems. Latency Timer (msec): 16 Timeouts Minimum Read Timeout (msec): 0 Minimum Write Timeout (msec): 0	Miscellaneous Options Serial Enumerator Serial Printer Cancel If Power Off Event On Surprise Removal Set RTS On Close Disable Modem Ctrl At Startup	



# 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**.

📲 Device Manager	
File Action View Help	
🗄 🖓 Ports (COM & LPT)	<b>^</b>
Processors	
🕀 📼 SD host adapters	
🖶 🛋 Sound, video and game controllers	
🗄 💠 Storage controllers	
💮 📭 System devices	
🚊 🖉 Universal Serial Bus controllers	E
🛶 🛑 Balance Systems - USB/RS-485 Converter Host	
🚽 🚽 Intel(R) ICH8 Family USB Universal Host Controller - 2830	
🚽 🗍 Intel(R) ICH8 Family USB Universal Host Controller - 2831	
🔤 🖥 Intel(R) ICH8 Family USB Universal Host Controller - 2832	*

- 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