USB Drivers Installation

User Manual

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1 Introduction

This manual describes the driver installation process of a generic Cypress USB driver and a dedicated Trenz Electronic USB driver on a Microsoft Windows XP, Vista, 7 and 8 operating systems.

Trenz Electronic USB drivers for Windows 7 are installed as certified drivers on Windows 8 too; the installation of Windows 7 drivers on Windows 8 follow the same procedure.

For the other two operating systems (XP and Vista), there are some differences, but the skeleton of the procedures is the same as Windows 7/8.

The further possibility that exists in Windows 7 and Windows 8 is the automatic update from Internet (Windows repository of certified drivers, Windows Update).

2 Device Drivers

To provide a convenient interface between host computer and Trenz Electronic USB modules, suitable drivers shall be installed on the operating system. There are two drivers that work with Trenz Electronic USB modules:

- 1. a generic Cypress USB driver, which works with default USB controller configuration;
- 2. a dedicated Trenz Electronic USB driver, which works with custom USB controller firmware.

The generic Cypress USB driver is used only for initial USB microcontroller programming and it is not needed for a normal work flow. *Most users need to install only the dedicated Trenz Electronic*

2.1 Dedicated Trenz Electronic USB Driver Installation

2.1.1 Hardware and Firmware Setting

Previously, Trenz Electronic USB modules shipped with a DEWESoft USB firmware and a DEWESoft USB Vendor ID / Device ID pair programmed. Now, all Trenz Electronic USB modules ship with a Trenz Electronic USB firmware and Trenz Electronic USB Vendor ID / Device ID (VID = 0x0bd0, PID = 0x0300) pair programmed.

Before connecting the USB cable, check that EEPROM switch is "ON" (USB controller connected to EEPROM). Refer to your module manual for switch location.

2.1.2 Windows 7/8

2.1.2.1 Initial Part, Windows 7/8

Connect the USB cable and wait until the operating system detects new hardware.

At this point, two outcomes are possible.

- 1. If there is an Internet connection and Windows parameters are correctly set, the driver is automatically downloaded from Microsoft Update and installed. Even if correct parameters are set, it may happen that the operating system informs you that is unable to install the device. In this case, you can force this search (see 2.1.2.3.2 Force the online search)
- 2. The operating system informs you that is unable to install the device.

For the first outcome, see 2.1.2.3 Windows 7/8 Installation – online, automatic.

Hereunder it is explained what to do for the second outcome.

Open Device Manager using this procedure:

Start\Control Panel\System and Security\System\Device Manger (or write devmgmt.msc in the line "Search programs and files" to go directly to the Device Manager).

The device is registered under "Other Devices" in Device Manager with a yellow triangle with "!" symbol. If you right click it and then select Properties, you can read as Device Status:

"The drivers for this device are not installed. (Code 28) There is no driver selected for the device information set or element. To find a driver for this device, click Update Driver"

At this point you shall click Update Driver.

When the hardware assistant starts, answer its questions as shown in the following example.

🚔 Device Manager
File Action View Help
🔶 🋶 📰 🔛 🔝 🗊 💐 😭 🙀 🚜
AltiumSolidEdge
Batteries
Computer
Disk drives
Display adapters
DVD/CD-ROM drives
IDE ATA/ATAPI controllers
Imaging devices
Keyboards
Memory technology driver
Mice and other pointing devices
Monitors
Network adapters
Other devices
TE USB FX2
Processors
SD host adapters
Sound, video and game controllers
Storage controllers
System devices
Universal Serial Bus controllers

ieneral	Driver Details	
1	TE USB FX2	
	Device type:	Other devices
	Manufacturer:	Unknown
	Location:	Port_#0003.Hub_#0004
eiem To fii	ent. nd a driverfor this c	device, <mark>cl</mark> ick Update Driver.

How	do you want to search for driver software?	
•	Search automatically for updated driver software Windows will search your computer and the Internet for the latest driver software for your device, unless you've disabled this feature in your device installation settings.	
+	Browse my computer for driver software Locate and install driver software manually.	

WARNING:

DO NOT UNINSTALL "TE USB FX2" UNDER "OTHER DEVICES" OR THE COMPUTER WILL BE UNABLE TO SEARCH THE CORRECT DRIVER.

2.1.2.2 Windows 7/8 Installation – offline, local

Select "Browse my computer for driver software" instead of "Search automatically for updated driver software".

Browse for driver software on your computer	
Search for driver software in this location:	
C:\TE_USB_FX2-drivers\MS-Windows-Vista-7	
	river
Let me pick from a list of device drivers on my computer This list will show installed driver software compatible with the device, and all d software in the same category as the device.	

Under Windows 7, the installation process does not ask the user whether he/she wants to trust the driver creator, because the Trenz Electronic device driver it is not only digitally signed with a signature entrusted by a Certification Authority but also certified by the Microsoft Windows Logo Program. The digital signer of the driver is Microsoft Windows Hardware Compatibility. Trenz Electronic device driver has been signed by Microsoft through Winqual site (now Winqual website is under https//sysdev.microsoft.com). To obtain this signature, Trenz Electronic device driver had to pass some quality tests arranged by Microsoft.

During the driver installation under Windows 7/8, the following pop-up window shall never appear.

Installing driver software	Windows Security		L
	Would you like to install this device softwar	re?	
	Name: Trenz Electronic USB FX2 series Publisher: Trenz Electronic GmbH		
	Always trust software from "Trenz Electronic GmbH".	Install	Don't Inst
	You should only install driver software from publish device software is safe to install?	ers you trust. <u>How can</u>	I decide w

The following pop-up window shall appear instead.

🕞 📱 Update Driver Software - TE US	SB FX2	
Installing driver software		

2.1.2.3 Windows 7/8 Installation – online, automatic

WARNING

THE FIRST ONLINE INSTALLATION MAY START AFTER 30-60 SECONDS OF APPARENT IDLENESS. AFTER THIS TIME, AN AUTOMATIC INSTALLATION SHALL START.

IF THE AUTOMATIC INSTALLATION DOES NOT START (EVEN WITH PARAMETERS CORRECTLY SET), FORCE THE INSTALLATION with the following procedure:

- 1. right click on device TE USB FX2;
- 2. select "Update driver"
- 3. select "Search automatically for updated driver software"

Under Windows 7, the installation process does not ask the user whether he/she wants to trust the driver creator, because the Trenz Electronic device driver it is not only digitally signed with a signature entrusted by a Certification Authority but also certified by the Microsoft Windows Logo Program. The digital signer of the driver is Microsoft Windows Hardware Compatibility. Trenz Electronic device driver has been signed by Microsoft through Winqual site (now Winqual website is under https//sysdev.microsoft.com). To obtain this signature, Trenz Electronic device driver had to pass some quality tests arranged by Microsoft.

The certification granted by Microsoft Windows Logo Program gives another advantage: if the host computer has a connection to the Internet, you can leave the search of a correct driver to Windows 7 itself.

2.1.2.3.1 Configuration Problems

There is a possibility that Windows does not allow you to automatically search the driver online, because of some parameters in Device Installation Settings.

To change Device Installation Settings, do the following steps:

- 1. Click Start
- 2. Click Control Panel
- 3. Click System and Security
- 4. Click System
- 5. Click Advanced System Settings
- 6. Click Hardware Tab
- 7. Click Device Installation Settings
- 8. Select "Yes, do this automatically"

Another procedure is the following (in particular if the operating system is Windows 8)

- 1. Click Computer
- 2. If OS is Windows 8, you must also click Computer on the top
- 3. Click System Properties
- 4. Click Advanced System Settings
- 5. Click Hardware Tab
- 6. Click Device Installation Settings

7. Select "Yes, do this automatically"



dit View Tools Help		
evice Installation Settings	83 Hardware Adva	anced System Protection Remote
Do you want Windows to download driver software and rea devices?	stic icons for your e Device Manager your computer. Use yperties of any device	lists all the hardware devices installed a the Device Manager to change the se.
Yes, do this automatically (recommended)		Device Manager
⊘ No, let me choose what to do	lation Settings oose whether Wind vices and detailed i	lows downloads driver software for your nformation about them.
		Device Installation Settings
Why should I have Windows do this automatically?		Device Installation Settings

After this change your operating system shall be able to search online the driver for Windows 7 and Windows 8.

2.1.2.3.2 Force the online search

IF THE AUTOMATIC INSTALLATION DOES NOT START (EVEN WITH PARAMETERS CORRECTLY SET), FORCE THE INSTALLATION with the following procedure:

- 1. right click on device TE USB FX2;
- 2. select "Update driver"
- 3. select "Search automatically for updated driver software" instead of "Browse my computer for driver software".



🕞 🗕 Update Driver Softw	ware - TE USB FX2		
How do you wan	t to search for driver softwa	are?	
 Search autor Windows will se for your device, settings. 	matically for updated driver arch your computer and the Interne unless you've disabled this feature	r software et for the latest driver software in your device installation	
Browse my of Locate and instal	computer for driver softwar III driver software manually.	re	
			Cancel

I Serie manager	
File Action View Help	
Altiur Back Co D D D D D D D D D D D D D	
	Cancel

2.1.2.4 End of installation under Windows 7/8 (Final Part)

At the end of the procedure, check that in the "Device Manager" under "Trenz Electronic USB Devices" device class, the "Trenz Electronic USB FX2" device has been added; the USB device is not added under "Universal Serial Bus controllers" category.



2.1.2.5 A pop-up window that shall never appear in driver installation under Windows 7/8

During the installation of driver under Windows 7/8, you shall never see the following pop-up window:



If you see this pop-up window, chances are that you are about to install the old DEWESoft driver. Another pop-up window that shall never appear during driver installation under Windows 7/8 is the

following.

Installing driver software	Windows Security	Ļ
	Would you like to install this device software?	
	Name: Trenz Electronic USB FX2 series Publisher: Trenz Electronic GmbH	
	Always trust software from "Trenz Electronic GmbH".	Don't Inst
	You should only install driver software from publishers you trust. <u>How</u> <u>device software is safe to install?</u>	v can I decide v

If you see this pop-up window, chances are that you are about to install the Windows XP driver under Windows 7/8.

2.1.3 Windows Vista

Connect the USB cable and wait until the operating system detects new hardware.



Click "Cancel".

Open Device Manager using this procedure:

Start\Control Panel\System and Security\System\Device Manger

(or write devmgmt.msc in the line "Search programs and files" to go directly to the Device Manager)



The device is registered under "Other Devices" in Device Manager with a yellow triangle with "!" symbol. If you right click it and select Properties, you can read as Device Status:

"The device is not configured correctly. (Code 1).

There is no driver selected for the device information set or element.

To reinstall the drivers for this device, click Reinstall Driver"

At this point you can click Reinstall Driver.

When the hardware assistant starts, answer its questions as shown in the following example.

WARNING.

DO NOT UNINSTALL "TE USB FX2" UNDER "OTHER DEVICES" OR THE COMPUTER WILL BE UNABLE TO SEARCH THE CORRECT DRIVER.



neral	Driver Details		
2	TE USB FX2		
	Device type:	Oth <mark>e</mark> r devices	
	Manufacturer:	Unknown	
	Location:	Port_#0001.Hub_#0002	
The	re is no driver select	- ted for the device information set or	
Ther elem To re	re is no driver select ient. einstall the drivers fo	ted for the device information set or or this device, click Reinstall Driver.	
Ther elem To re	re is no driver select ent. einstall the drivers fo	ted for the device information set or or this device, click Reinstall Driver. Reinstall Driver	
Ther elem To re	re is no driver select ent. einstall the drivers fo	ted for the device information set or or this device, click Reinstall Driver. Reinstall Driver	

After clicking "Reinstall Driver", another pop up window appears.

0		.
	Update Driver Software - TE USB FX2	
H	ow do you want to search for driver software?	
	Search automatically for updated driver software Windows will search your computer and the Internet for the latest driver software for your device.	
	Browse my computer for driver software Locate and install driver software manually.	
		Cancel

Select "Browse my computer for driver software".

	uter	
Search for driver software in this location:		
C:\TE_USB_FX2-drivers\MS-Windows-Vista-7	•	Browse
Let me pick from a list of device drive	ers on my compu	iter

00

Select the folder MS-Windows-Vista-7.

After the driver selection, this pop-up window appears.

8	Windows can't verify the publisher of this driver software
	Don't install this driver software You should check your manufacturer's website for updated driver software for your device.
	Install this driver software anyway Only install driver software obtained from your manufacturer's website or disc. Unsigned software from other sources may harm your computer or stea information.

Select "Install this driver software anyway".

A new pop up window appears. Wait until the end of installation.

	×
Update Driver Software - TE USB FX2	
Installing driver software	

At the end of installation, this pop-up window shall appear.





2.1.4 Windows XP

Connect the USB cable and wait until the operating system detects new hardware.

If a pop-up appears, click "Cancel".

Open the Control Panel. Use the procedure described in the following images.



Click "Start", then "Control Panel".



Select "Switch to Classic View".

👺 Control Panel								. 7 🗙
File Edit View Favorites Tools	Help							
🕞 Back + 🕥 + 🏂 🔎 Se	earch 🔀 Fol	ders						
Address 🔂 Control Panel							~	🔁 Go
Control Panel 🛞	ر Accessibility Options	Xdd Hardware	Add or Remov	Administrative Tools	Automatic Updates	Date and Time	Display	
See Also	F	I		and the		1	Ċ	
🍪 Windows Update	Flash Player	Folder Options	Fonts	Game Controllers	Internet Options	Keyboard	Mouse	
Help and Support				۹.			3	
	Network Connections	Network Setup Wizard	Phone and Modem	Power Options	Printers and Faxes	Regional and Language	Scanners and Cameras	
	B	۲	Ø,	2	So			
	Scheduled Tasks	Security Center	Sounds and Audio Devices	Speech	System	Taskbar and Start Menu	User Accounts	
	6	(())						
	Windows Firewall	Wireless Network Set						
🛃 start 🔰 🎇 DeviceManager	r2.jpg 🦉	Control Panel					iiii 🕹 🕸	9:59 AM

Double-click "System".

A new pop-up window appears.

B (Control Pan	el								- J ×
File	System Pro	perties			?	3				N
Ado	Syster General	n Restore Compu	Automatic uter Name	Updates Hardware	Remote Advanced				~	🔁 🔂
E	Device I	Manager The Device M on your compu properties of a	anager lists all the ater. Use the Devia ny device.	hardware devic ce Manager to c Device M	ces installed change the tanager	Administrative Tools	Automatic Updates	Date and Time	S Display	
	Drivers	Driver Signing compatible wit how Windows	lets you make sur h Windows. Wind connects to Winc Bigning	e that installed o ows Update lets dows Update for Windows	drivers are s you set up drivers. Update	Game Controllers	Internet Options Printers and	Keyboard	Mouse	
	Hardwar	re Profiles Hardware prof different hardw	iles provide a way vare configurations	for you to set up s. Hardware	p and store Profiles	Speech	System	Taskbar and Start Menu	User Accounts	
			ОК	Cance	I Apply					
1	start	Device!	Manager3.jpg	🛃 🛃 Contro	l Panel				i 😢 🕸	10:00 AM

Select the tag "Hardware".

Then click "Device Manager".

A new pop-up window appears. In this window, a TE USB FX2 device shall appear.

The device is registered under "Other Devices" in Device Manager with a yellow circle with "!" symbol. If you right click it and then select Properties, you can read as Device Status:

"The device is not configured correctly. (Code 1).

There is no driver selected for the device information set or element.

To reinstall the drivers for this device, click "Reinstall Driver"

At this point you can click Reinstall Driver.

A new pop up window appears.

When the hardware assistant starts, answer its questions as shown in the following example.

WARNING.

DO NOT UNINSTALL "TE USB FX2" UNDER "OTHER DEVICES" OR THE COMPUTER WILL BE UNABLE TO SEARCH THE CORRECT DRIVER.

📕 Device Manager				
File Action View H	elp			
+ → 🖪 🗗 🎒	😫 🗷 🛃 🕿 🏼	8 😹		
MIRIFICA-PC Gomputer Gomputer Josk drives Josk drives	rives e Devices controllers pointing devices ontroller troller Update Driver Disable Uninstall Scan for hardware cha Properties	nges		
	*D:\Documents and S	Control Panel	💂 Device Manager	 🛞 🦁 10:02 AM

TE USB I	FX2 Properties		? 🔀			
General	Driver Details					
\diamond	TE USB FX2					
	Device type:	Other devices				
	Manufacturer:	Unknown				
	Location:	Location 0 (TE USB FX2)				
Devi	ce status					
This To r	This device is not configured correctly. (Code 1)					
		Reinstall Driver				
<u>D</u> evice	e usage:					
Use th	nis device (enable)		~			
		ок с	ancel			

Hardware Update Wizard						
	Welcome to the Hardware Update Wizard Windows will search for current and updated software by looking on your computer, on the hardware installation CD, or on the Windows Update Web site (with your permission). Read our privacy policy					
- Hereit	Can Windows connect to Windows Update to search for software? Yes, this time only Yes, now and gvery time I connect a device No. not this time					
	< <u>Back</u> <u>Next</u> > Cancel					

Select "No,not this time". Then click "Next". A new pop-up window appears.

lardware Update Wizard
Image: Second
< <u>Back</u> <u>Next</u> Cancel

Select "Install from a list or specific location (Advanced)". Then click "Next". A new pop up window appears.

Ð
ich includes local
Browse
oes not guarantee that
Cancel

Deselect "Search removable media".

Then select "Include this location in the search:" and click "Browse". A new pop-up window appears.

Browse For Folder	? 🗙
Select the folder that contains drivers for your hard	dware.
E Second Disk (C:)	<u>^</u>
E Scal Disk (D:)	
Documents and Settings	
🗉 🧰 Program Files	=
🖃 🚞 TE_USB_FX2-drivers	
🛅 MS-Windows-2000	
🛅 MS-Windows-Vista-7	
MS-Windows-XP	~
To view any subfolders, click a plus sign above.	
ΟΚ Γα	ancel

Select the folder "MS-Windows-XP". Then click "OK".

The old window shall have changed accordingly to this selection.

rdware Update Wizard		
Please choo	se your search and installation options.	
<u>⊙ S</u> earcł	n for the best driver in these locations.	
Use the paths a	e check boxes below to limit or expand the default search, which includes local and removable media. The best driver found will be installed.	
	Search removable <u>m</u> edia (floppy, CD-ROM)	
	nclude this location in the search:	
[D:\TE_USB_FX2-drivers\MS-Windows-XP 🛛 🛛 🛛 🛛 🛛 🛛 🖉	
O Don't s	earch. I will choose the driver to install.	
Choose the driv	e this option to select the device driver from a list. Windows does not guarantee the /er you choose will be the best match for your hardware.	
	< <u>Back</u> Next> Lancel	

Click "Next". A new pop-up window appears.

Hardware Update Wizard	
Please wait while the wizard installs	the software
Trenz Electronic USB FX2	
6	
	< <u>B</u> ack Next > Cancel

After the installation, TE USB FX2 device shall have changed position in Device Manger. It is not under "USB controllers" but under its own specific class "Trenz Electronic USB devices". The device name has also changed to "Trenz Electronic USB FX2".



Select "Finish".

Hardware Update Wizard	
	Completing the Hardware Update Wizard The wizard has finished installing the software for: Trenz Electronic USB FX2
	< <u>B</u> ack Finish Cancel

🖴 Device Manager				
File Action View Help				
MIRIFICA-PC Gomputer Disk drives DVD/CD-ROM drives DVD/D-ROM drives DVD/D-ROM drives DVD/D-ROM drives DVD/D-ROM drives DVD/D-ROM drives DVD/D-ROM drives	es npatible) ollers			
표 여국 Universal Serial Bus controlle	Disable Uninstall			
	Scan for hardware changes			
	Properties			
Opens property sheet for the current selection.				
🛃 Start 🛛 🗐 Device Manag	er 👘 My Documents	🗢 Local Disk (E:)	DeviceManager1	🛗 🛞 😵 10:15 AM

After installation, you can control the status of installation using "Properties" (right click).

Trenz El	renz Electronic USB FX2 Properties 🛛 🛛 🛛 🔀			
General	Driver Details			
\diamond	Trenz Electronic	USB FX2		
	Device type:	Trenz Electronic USB devices		
	Manufacturer:	Trenz Electronic GmbH		
	Location:	Location 0 (TE USB FX2)		
Devic	e status			
This device is working properly.				
			~	
		<u>I</u> roubleshoot		
<u>D</u> evice	usage:			
Use th	is device (enable)		~	
		ок с	ancel	

Because the Windows XP installation is not clean (all driver installations under Windows XP are not clean). If you uninstall the "Trenz Electronic USB FX2" device and you reattach the TE USB FX2 device, you see a window different from the previous one (first installation).



2.1.4.1 If you want to reinstall DEWESoft driver

After the installation of the new driver, you may be unable to reinstall the DEWESoft driver. If this happens and you want to reinstall the old driver, you shall follow this procedure:

- 1. Right-click the TE USB FX2 device under Device Manager window.
- 2. Select "Update Driver".
- 3. Follow the normal procedure until you arrive to this window.

'lease cho	ose your search and installation options.
O <u>S</u> earc	h for the best driver in these locations.
Use ti paths	ne check boxes below to limit or expand the default search, which includes local and removable media. The best driver found will be installed.
	Search removable media (floppy, CD-ROM)
	Include this location in the search:
	E:\DEWEUSB2_Signed Browse
⊙ Don't Choo the dr	search. I will choose the driver to install. se this option to select the device driver from a list. Windows does not guarantee t iver you choose will be the best match for your hardware.
	(Back Next) Cancel

Select "Don't search. I will choose the driver to install".

Hardware Update Wizard	
Select the device driver you want to in	nstall for this hardware.
Select the manufacturer and model of the have a disk that contains the driver your show compatible hardware	your hardware device and then click Next. If you u want to install, click Have Disk.
Model	
Trenz Electronic TE03xx USB Trenz Electronic USB FX2	
This driver is not digitally signed! <u>Tell me why driver signing is important</u>	Have Disk
	< <u>Back</u> Next > Cancel

The DEWESoft driver is "Trenz Electronic TE03xx USB".

The Trenz Electronic driver is "Trenz Electronic USB FX2".

2.1.4.2 Advanced Operations

If the user wishes to go back to a former device driver, it is recommended to uninstall the current device driver and then reinstall the old device driver.

As Microsoft Windows XP dos not offer the "*Delete the driver software for this device*." uninstall option, it might be useful to:

- delete TE03xx-USB*.sys and TE_USB_FX2*.sys files in the C:\WINDOWS\system32\drivers\ folder after uninstalling the current device driver and before installing the new device driver;
- delete oem*.inf files (along with their companion oem*.pnf files) in the C:\WINDOWS\inf\ folder corresponding to the relevant VID/PID after uninstalling the current device driver and before installing the new device driver.

2.2 Generic Cypress Driver Installation

Most **users don't need this driver**, this driver is used only for initial USB microcontroller programming, which was already done for all supplied TE modules.

If the USB microcontroller (Cypress EZ-ESB FX2) driver is not installed on the host computer, then the easiest way to do it, is the following:

- disconnect the module if it connected or leave the module unconnected;
- configure the module such that the USB microcontroller will provide its default vendor ID and device ID to the USB host. To do it, set "EEPROM" switch to "OFF" state (EEPROM disconnected from USB microcontroller). Refer to your module manual for switch location;
- connect the module to the host computer through the USB interface;
- wait until the operating system detects new hardware and starts the hardware assistant;
- set "EEPROM" switch to "ON" state (EEPROM connected to USB microcontroller);
- answer the hardware assistant questions as shown in the following example

Check that, in the "Device Manager" under "USB-Controller", the "Cypress Generic USB Device" has been added.

After that, the I2C EEPROM should be programmed with the right Vendor ID / Device ID pair; see firmware recovery chapter in UM-Firmware.pdf.

3 Document Change History

Version	Date	Author	Description
1.00	2012-06-11	SP, FDR	Initial release.
1.10	2012-07-02	Sp, FDR	Added XP, Vista. Improved 7 and 8