

Your Global Automation Partner

TX Update Instructions Bootloader, Config OS, Main OS, Codesys/TX VisuPro Runtimes

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1 General Information

1.1 About these instructions

The following user manual describes the setup, functions, and use of the system. It helps you to plan, design, and implement the system for its intended purpose.

Please read this manual carefully before using the system. This will prevent the risk of personal injury or damage to property or equipment. Keep this manual safe during the service life of the system. If the system is passed on, be sure to transfer this manual to the new owner as well.

1.2 Explanation of symbols used

1.2.1 Warnings

Action-related warnings are placed next to potentially dangerous work steps and are marked by graphic symbols. Each warning is initiated by a warning sign and a signal word that expresses the gravity of the danger. The warnings absolutely have to be observed:



DANGER!

DANGER indicates an immediately dangerous situation with high risk of death or severe injury if not avoided.



WARNING!

WARNING indicates a potentially dangerous situation with medium risk of death or severe injury if not avoided.



ATTENTION!

ATTENTION indicates a situation that may lead to property damage if not avoided.



In NOTES you will find tips, recommendations, and important information. The notes facilitate work, provide more information on specific actions, and help to avoid unnecessary effort caused by not following the correct procedure.

CALL TO ACTION

This symbol identifies steps that the user has to perform.

→ RESULTS OF ACTION

This symbol identifies relevant results of steps

1.3 Contents

- Before you begin
- Updating the bootloader
- Updating the operating systems
- Installing a Codesys or TX VisuPro runtime

1.4 Feedback about these instructions

We make every effort to ensure that these instructions are as informative and as clear as possible. If you have any suggestions for improving the design, or if some information is missing in the document, please send your suggestions to <u>techdoc@turck.com</u>.

1.5 Technical support

For additional support, please send all inquiries to appsupport@turck.com, or call Application Support at 763-553-7300, Monday-Friday 8AM-5PM CST.



2 Background Information

2.1 The Software Components of a TX Device

TX devices rely on a handful of upgradeable software and firmware components to function. These are: a bootloader, two operating systems (Config OS and Main OS), and finally, applications that run on top of the operating systems. Two such applications are a Codesys runtime and a TX VisuPro runtime, which are responsible for running Codesys and TX VisuPro projects respectively. This guide covers installing and/or updating all these components. All upgrade methods will be outlined for each component.

2.2 Delivered State

In its delivered state, your TX will have the most up-to-date Main OS and Config OS as of the date it was produced, plus a Codesys runtime if it is a member of the TX200 or TX700 product families. Like most computers, by the time the end user receives the TX device, one or more components will likely be out of date.



ATTENTION!

Unless instructed to, do not remove power from your TX device while performing any upgrades outlined in this manual. Doing so could result in irreparable damage to the device.



WARNING!

It is possible to downgrade any component of a TX device to a previous version, but doing so could result in malfunctions or unrecoverable errors. Turck is not responsible for devices damaged in this manner.

3 Necessary Files for Updating Software Components



In the context of upgrading a TX device, "image" files are upgrade data, and "MD5" files verify the integrity of that data.

3.1 Bootloader

A bootloader upgrade consists of an image file and an MD5 file. Contact your distributor, local Turck business development manager, or application support to obtain them. They will be delivered in a folder named "Bootloader," and it should be unzipped.

3.2 Config OS and Main OS ("BSP")

Config OS and Main OS are always released in pairs with the same version number. They are often referred to together as a Board Support Package, or "BSP." Contact your distributor, local Turck business development manager, or application support to obtain them. They will be delivered in two folders named ConfigOS and MainOS, which should be unzipped. Leave the TAR file and MD5 file inside those folders as they are.



For instructions on how to check your TX device's BSP version, see section 7.6 in the appendix.

3.3 Codesys Runtime

The Codesys runtime is an application that runs on top of the operating systems. It is what automatically runs your Codesys project after the TX device starts up. Contact your distributor, local Turck business development manager, or application support for the necessary files. The folder should remain zipped, but ensure that it is not "double-zipped," i.e. there should not be any other zipped folders inside the zipped folder that is downloaded to the TX.

3.4 TX VisuPro Runtime

The TX VisuPro runtime is an application that runs on top of the operating systems. It contains a Codesys runtime as well, provided your TX device has that ability. It is what automatically runs your TX VisuPro visualization and (optionally) your Codesys project after the TX device starts up. The TX VisuPro runtime is downloaded to the TX device by either your computer or a USB drive. In either case, you will need the TX VisuPro IDE, which is available <u>here</u>. The version of the runtime is tied to the version of the IDE, so for the latest runtime, ensure you are running the latest IDE.



3.5 Software Component Diagram



4 Bootloader

4.1 Overview

It is rare that you must upgrade the bootloader in your TX device, but that process is outlined here. The upgrade can be performed using the device's touchscreen (if it has one) or VNC connection with the upgrade files stored on a USB drive, or you may perform the upgrade using the TX device's webserver with the upgrade files stored locally on your computer.

4.2 Touchscreen/VNC + USB Drive Method

- 1. Load the Bootloader folder onto a USB drive.
- 2. Plug the USB drive into your TX device.
- 3. Get to the System Setup screen using any of the methods outlined in <u>section 7.3</u> of the appendix.
- 4. Tap or click System Settings. If you see a login box, enter administrator-level credentials.

System Settings	
Startup sequence	
	Empty boot sequence
	IP Address: eth0 192.168.2.100

5. Tap or click Management

System Settings
Localisation
System
Logs
Date & Time
Network
Security
Applications
Services
Management
Display



6. Tap or click **Bootloader**

MENU	Management
Config OS	
Main OS	
Settings	
Data	
Splash image	
Bootloader	
Xloader	

7. Tap or click Update

MENU	Management
Main OS	
Settings	
Data	
Splash image	
Bootloader	
Signature	UN60HSXXB
Version	1.0.7
Date	2018-01-25T00:00:00.000Z
Xloador	

8. Tap or click Browse Image

Management		
Browse Image		
	CANCEL	

9. Double-tap or double-click the folder named usbmemory

Select an update package:
🚞 configos
🚞 data
🚞 factory
🚞 media
🛱 usbmemory

10. Double-tap or double-click the folder named **bootloader**



11. Tap or click the file that ends in .img, then tap or click ${\bf Ok}$





12. Tap or click Proceed

Browse Image	
File Name: /mnt/usbmemory/bootloader/b03d-hsxx-b	ootloader-1.0.23.img
Size: 275 KB	
MD5 File Name: /mnt/usbmemory/bootloader/b03d-hs	xx-bootloader-
1.0.23.img.md5	
Proceed	
	CANCEL

13. Let the update complete.

4.3 Webserver + Local Files Method

- 1. Navigate to the System Settings page of the TX device's webserver. If you are unsure how to do this or are having difficulty, see <u>section 7.4.2</u> of the appendix.
- 2. Click Management

System Settings	Management
Localisation	Config OS
System	Main OS
Logs	Settings
Date & Time	Data
Network	Splash image
Security	Bootloader
Services	Xloader
Management	

3. Click Bootloader

	Management
Config OS	
Main OS	
Settings	
Data	
Splash image	
Bootloader	
 Xloader	

4. Click Update

MENU	Management
Main OS	
Settings	
Data	
Splash image	
Bootloader	
Signature Version Date	UN60HSXXB 1.0.7 2018-01-25T00:00:00.000Z Get 🛓 Update 🛓
Yloader	

5. Drag in or navigate to the bootloader image (ends in .img) and the bootloader MD5 (ends in .md5)

	Manageme	nt
fig (Browse Image OR Drag and Drop your file HERE	E
0		5
nge	Browse MD5 OR Drag and Drop your file HERE	
	CANCEL	ľ
sh im	nade	



6. With the bootloader image and MD5 files selected, click Proceed



7. Let the update complete.

5 Config OS and Main OS ("BSP")

5.1 Overview

This section covers updating Config OS and Main OS as a group, as they are always released in pairs with the same version number. They are often referred to as a Board Support Package, or "BSP." The upgrade process is the same for both operating systems. It can be performed using the device's touchscreen (if it has one) or VNC connection with the upgrade files stored on a USB drive, or you may perform the upgrade using the TX device's webserver with the upgrade files stored locally on your computer.



NOTE

For instructions on how to check your TX device's BSP version, see section 7.6 in the appendix.

5.2 Touchscreen/VNC + USB Drive Method

- 1. Load the ConfigOS and MainOS folders onto a USB drive.
- 2. Plug the USB drive into your TX device.
- 3. Get to the System Setup screen using any of the methods outlined <u>section 7.3</u> of the appendix.
- 4. Tap or click System Settings. If you see a login box, enter administrator-level credentials.

System Settings	
Startup sequence	
	Empty boot sequence
	<i>IP Address:</i> eth0 192.168.2.100



5. Tap or click Management

System Settings
Localisation
System
Logs
Date & Time
Network
Security
Applications
Services
Management
Display

6. Tap or click the operating system you will be upgrading.

MENU 🕇	Management	ADMIN 🗗
Config OS		
Main OS		
Settings		
Data		
Splash image		
Bootloader		
Xloader		



ATTENTION!

When upgrading the operating systems, start with Config OS, then do Main OS.

7. Tap or click Update

Config OS	
Type Signature Version	ext4 UN60XXXXC
Date	2022-03-23T00:00:00.000Z 266 MB / 324 MB used
	Get 🛃 Update 🛎 Dheck 🌣

8. Tap or click Browse Image

Management			
	Browse Image		
			CANCEL

9. Double-tap or double-click the folder named usbmemory

Select an update package:
🚞 configos
🚞 data
🚞 factory
🚞 media
🛱 usbmemory

10. Double-tap or double-click the folder named **configos** or **mainos**, whichever one you are updating.

Select an update package:	
mnt usbmemory	
🚞 bootloader	
🚞 configos	
💳 FPGA	
💳 mainos	
System Volume Information	



11. Tap or click the file that ends in .tar.gz, then tap or click Ok

Select an update package: [mnt] usbmemory [configos]
un65-hsxx-configos-1.0.699.rootftar.gz
un65-hsxx-configos-1.0.699.rootfs.tar.gz.md5
Ok

12. Tap or click Proceed

File Name: /mnt/usbmemory/bootloader/b03d-hsxx-bootload	der-1.0.23.img
Size: 275 KB	
MD5 File Name: /mnt/usbmemory/bootloader/b03d-hsxx-bo	otloader-
1.0.23.img.md5	
Proceed	
	CANCEL

13. If you receive a warning that the device will restart, acknowledge it, and let the upgrade complete.



14. If you just upgraded Config OS, go back to the <u>start of this section (section 5.2)</u> and upgrade Main OS. If you have just upgraded Main OS, continue to <u>section 5.4: final steps.</u>

5.3 Webserver + Local Files Method

- 1. Navigate to the System Settings page of the TX device's webserver. If you are unsure how to do this or are having difficulty, see <u>section 7.4.2</u> of the appendix.
- 2. Click Management

System Settings	Management
Localisation	Config OS
System	Main OS
Logs	Settings
Date & Time	Data
Network	Splash image
Security	Bootloader
Applications	Xloader
Management	

3. Click the operating system you will be upgrading.

MENU 🕈	Management	ADMIN 🗗
Config OS		
Main OS		
Settings		
Data		
Splash image		
Bootloader		
Xloader		



ATTENTION!

When upgrading the operating systems, start with Config OS, then do Main OS.



4. Click Update

Config OS	
Type	ext4
Version	1.3.638
Date	2022-03-23 T00:00:00.000Z 256 MB / 324 MB used
	Get 🛃 Update 🛎 🔤 check 🌩

5. Drag in or navigate to the OS image (ends in .tar.gz) and the OS MD5 (ends in .md5)

		Management	
fig (Browse Image	OR Drag and Drop your file HERE	
10			
ng	Browse MD5	OR Drag and Drop your file HERE	
i.		CANCEL	
sh in	nage		

6. With the OS image and MD5 files selected, click Proceed

Browse Image	OR Drag and Drop ye	our file HERE
File Name: un65-hs	x-configos-1.0.699.rootfs.tar.gz	Size: 86.2 MB
Browse MD5	OR Drag and Drop yo	ur file HERE
File Name: un65-hsx	x-configos-1.0.699.rootfs.tar.gz.n	nd5 Size: 33 B
	CANCEL	PROCEED

15. If you receive a warning that the device will restart, acknowledge it and let the upgrade complete.



Depending on how extensive the upgrade is, this will take between 2-10 minutes.

16. If you just upgraded Config OS, go back to the <u>start of this section (section 5.3)</u> and upgrade Main OS. If you've just upgraded Main OS, continue to the final steps below.

5.4 Final Steps for OS Upgrade (REQUIRED)

There are two steps that must be completed after you have finished upgrading the operating systems. They are also required if you plan on only installing a new runtime without updating the operating systems.

- 1. Navigate to the System Settings screen using the same method as before.
- 2. Click or tap **Management**.

System Settings
Localisation
System
Logs
Date & Time
Network
Security
Applications
Services
Management
Display

3. Click or tap Data

	Management
Config OS	
Main OS	
Settings	
Data	
Splash image	
Bootloader	
Xloader	



4. Click or tap Clear

	Gettings	
_	Data	
	5 MB / 2675 MB used	
		Get 🛃 Update 🛎 Check 🗱 Clear 💼
	Splash image	

5. Click or tap **OK** on both popups

C M St	Clearing Do you really want to remove data? CANCEL OK	
С И Бъ	Confirm This operation will require a system reboot. Continue? CANCEL OK	

- 6. Once that has finished, navigate back to the System Settings screen using the same method as before.
- 7. Click or tap Management.

System Settings
Localisation
System
Logs
Date & Time
Network
Security
Applications
Services
Management
Display

8. Click or tap Settings

	Management
Config OS	
Main OS	
Settings	
Data	
Splash image	
Bootloader	
Xloader	



ATTENTION!

This necessary next step will reset almost everything on the TX device, including the network and service configurations. Any device-level usernames and passwords will remain.

9. Click or tap Restore

Conlig US	
Main OS	
Settings	
<mark>3 MB / </mark> 58 MB used	
	Get 🛃 Update 🛎 Restore C Check 🌣
Data	



10. Click or tap **OK** on both popups



11. Once this operation has finished, the TX device's operating systems are now upgraded. You will want to reassign an IP address; see <u>section 7.2</u> of the appendix for help.

6 Codesys or TX VisuPro Runtime

6.1 Overview

This section covers installing or upgrading the Codesys runtime or TX VisuPro runtime. There is an important choice to make:

- If you plan on using only Codesys, install only the Codesys runtime.
- If you plan on using Codesys and TX VisuPro, or just TX VisuPro, install <u>only the TX VisuPro</u> <u>runtime</u>; every TX VisuPro Runtime includes a Codesys Runtime (provided your TX device supports Codesys), and the two applications are often used together.



ATTENTION!

The process of "upgrading" a runtime involves completely deleting the existing runtime and installing a new one. If you are upgrading a device that is in service, make sure you have a copy of the existing programs before continuing!

6.2 Codesys Runtime

6.2.1 Startup Sequence Method

This method is only recommended for TX devices that are running BSP <1.0.691. If your TX device is running BSP 1.0.691 or higher, we recommend the method outlined in the <u>next section</u>. To find out what BSP version your TX device is running, see section 7.6 in the appendix.

- 1. If you did not just update Config OS and Main OS, complete the steps listed in <u>section 5.4</u> before continuing.
- 2. Load the zipped Codesys runtime onto a USB drive.



NOTE

Leave the runtime folder zipped. Ensure the folder is not "double zipped," i.e. there should not be any other zipped folders inside the zipped folder you load onto the USB drive.

- 3. Plug the USB drive into your TX device.
- 4. Get to the System Setup screen using any of the methods outlined in <u>section 7.3</u> of the appendix.



5. Tap or click Startup Sequence. If you see a login box, enter administrator-level credentials.



The left box contains any installed applications, and the right box contains the applications that will be run at startup, in the order in which they will be run.

Installe	ed Apps		Boot Sequence	
		•		
		+		₹
Install	Uninstall		Done	

6. Tap or click Install.

Installe	ed Apps		Boot Sequence	_
		•		
		•		
Install	Uninstall		Done	

7. Double-tap or double-click mnt

Select an update package:			
/			
🗎 lib			
😑 lost+found			
😑 media			
🗐 mnt			
🗎 proc			
😑 run	😑 run		
🗎 sbin			
🗎 sys			
👼 tmp			
Ok	Cancel		



8. Double-tap or double-click usbmemory

Select an update package:	
/ mnt	
🗎 configos	
🗎 data	
🗎 factory	
🖶 usbmemory	
Ok	Cancel

9. Tap or click the file that starts with "CODESYS" and ends in ".zip", then tap or click **Ok**

Select an update package:			
/ mnt usbmemory			
🖮 bootloader			
😑 configos			
🗎 FPGA			
🖮 mainos	🚍 mainos		
System Volume Information			
🚍 turck usb			
UN60_TX_SingleCore_BSP_1.3.638			
CODESYS_TURCK_Linux_ARM_QT4_3.5.16.30_36.zip			
Copying			
Ok	Cancel		

10. The runtime will begin installing.

Installing HMI	
Cancel	

11. When it has completed, you will see the following screen:



The runtime may or may not be present in the Boot Sequence column; if it is not, select the runtime from the Installed Apps column, and tap the **right arrow** which moves it into the boot sequence.



NOTE

The **up and down arrows** change an application's position in the boot order; the correct boot order is entirely dependent on your use case.



12. The TX device may restart by itself, but if it doesn't, tap or click **Done**, then tap or click **Start HMI** on the System Setup screen





13. Once the HMI has restarted, you will see a screen that looks like this:

System Settings	TURCK
No CODESYS TargetVisu Loaded	<u>~</u>
Device Type: TX705-P3CV01 Ident no.: 100002029	
Target Version: 3.5.16.30 PLC Status: None	
Application Name: None	_
IP Address: 192.168.2.100 Subnet Mask: 255.255.255.0 Std. Cateway: 192.168.2.1	
Siu. Galeway. 192.100.2.1	. •

14. The displayed Target Version should match the version specified in the upgrade filename.

6.2.2 System Settings Method

This method requires your TX device to be running BSP 1.0.691 or higher. To find out what BSP version your TX device is running, see <u>section 7.6</u> in the appendix. It is recommended for all TX devices, especially those that do not have displays. Recall that the System Settings can be accessed by either the webserver or the TX device's touchscreen if it has one.

- 1. If you did not just update Config OS and Main OS, complete the steps listed in <u>section 5.4</u> before continuing.
- 2. If you are using the webserver, locate the zipped Codesys runtime on your computer. If you are using the TX device's touchscreen, put the zipped Codesys runtime on a USB drive and plug it into the TX device.



NOTE

Leave the runtime folder zipped. Ensure the folder is not "double zipped," i.e. there should not be any other zipped folders inside the zipped folder you load onto the USB drive.

- Access the TX device's System Settings. If you are unsure how to do this or are having difficulties, see <u>section 7.4</u> of the appendix.
- 4. Click or tap Applications

System Settings
Localisation
System
Logs
Date & Time
Network
Security
Applications
Services
Management
Display

5. Click or tap App Management

System Settings	Applications ADMIN C			
Localisation	Name		Autostart	
System				App Management 🗭
Logs				
Date & Time				
Network				



6. Click or tap Install / Update

ВАСК ←			EDIT 🗹
App Manage	ement		
Name	Version	Autostart	Boot Sequence
			Install / Update 🕂

7. Click or tap Browse Image



8. Whether you are using the webserver or USB drive, navigate to where you have the zipped Codesys runtime saved.

Name Date modified Type Image: CODESYS_TURCK_Linux_ARM_QT4_3.5.16.30_36.zip 9/22/2021 11:13 AM Compressed (zippund) Image: CODESYS_TURCK_Linux_ARM_QT4_3.5.16.30_36.zip All Files (*.*) Concel Image: CODESYS_TURCK_Linux_ARM_QT4_3.5.16.30_36.zip All Files (*.*) Cancel Image: CODESYS_TURCK_Linux_ARM_QT4_3.5.16.30_36.zip All Files (*.*) Cancel Image: CODESYS_TURCK_Linux_ARM_QT4_3.5.16.30_36.zip Cancel Image: Concel Image: CODESYS_TURCK_Linux_ARM_QT4_3.5.16.30_36.zip Cancel Image: Concel Image: CODESYS_TURCK_Linux_ARM_QT4_3.5.16.30_36.zip Cancel Image: Concel	> CODESYS_Linux_TURCK_3.5.16.30_wi > 🗸 🗸	ල 🔎 Search CC	DESYS_Linux_TUR
Name Date modified Type If CODESYS_TURCK_Linux_ARM_QT4_3.5.16.30_36.zip 9/22/2021 11:13 AM Compressed (zipp) Image: CodeSyS_TURCK_Linux_ARM_QT4_3.5.16.30_36.zip All Files (*.*) Test Document		I	= • 🔳 👔
CODESYS_TURCK_Linux_ARM_QT4_3.5.16.30_36.zip V22/2021 11:13 AM Compressed (zipp Runtime - Read me.txt V107/2021 2:38 PM Text Document CODESYS_TURCK_Linux_ARM_QT4_3.5.16.30_26.zip Concel C	Name	Date modified	Туре
Runtime - Read me.txt 10/7/2021 2:38 PM Text Document Text Document re CODESYS_TURCK_Linux_ARM_QT4_3.5.16.30_36.zip All Files (*.*) Open Cancel Select an update package: 1 mat usbmemody Bootloader configos FPGA mainos System Volume Information turck usb UN60_TX_SingleCore_BSP_1.3.638 CODESYS_TURCK_Linux_ARM_QT4_3.5.16.30_36.zip	CODESYS_TURCK_Linux_ARM_QT4_3.5.16.30_36.zip	9/22/2021 11:13 AM	Compressed (zipp
Select an update package: Immt usbnemody Cancel Immt usbnemody Bootloader Configos FPGA mainos System Volume Information turck usb UN60_TX_SingleCore_BSP_1.3.638 CODESYS_TURCK_Linux_ARM_QT4_3.5.16.30_36.zip		10) / 202 230 FWI	rext bocoment
Select an update package: mmt usbmemory configos configos FPGA mainos System Volume Information turck usb UN60_TX_SingleCore_BSP_1.3.638 CODESYS_TURCK_Linux_ARM_QT4_3.5.16.30_36.zip COpying Copying	ne: CODESYS_TURCK_Linux_ARM_QT4_3.5.16.30_36.zip	✓ All Files (*.*) Open	Cancel
bootloader configos FPGA mainos System Volume Information turck usb UN60_TX_SingleCore_BSP_1.3.638 CODESYS_TURCK_Linux_ARM_QT4_3.5.16.30_36.zip Copying	Select an update package:		
Configos Configos FPGA mainos System Volume Information turck usb UN60_TX_SingleCore_BSP_1.3.638 CODESYS_TURCK_Linux_ARM_QT4_3.5.16.30_36.zip CODying			
FPGA mainos System Volume Information turck usb UN60_TX_SingleCore_BSP_1.3.638 CODESYS_TURCK_Linux_ARM_QT4_3.5.16.30_36.zip COpying	🚍 bootloader		
mainos System Volume Information turck usb UN60_TX_SingleCore_BSP_1.3.638 CODESYS_TURCK_Linux_ARM_QT4_3.5.16.30_36.zip COpying	😑 bootloader 🖴 configos		
System Volume Information Introductors Volume Information Volume Info	 bootloader configos FPGA 		
trck usb UN60_TX_SingleCore_BSP_1.3.638 CODESYS_TURCK_Linux_ARM_QT4_3.5.16.30_36.zip Copying	bootloader configos FPGA mainos		
Orivo_ix_ongiecore_ESF_1.3.638 CODESYS_TURCK_Linux_ARM_QT4_3.5.16.30_36.zip Copying	booloader configos FPGA mainos System Volume Information		
Copying	bootloader configos FPGA mainos System Volume Information turke usb		
	booloader configos FPGA mainos System Volume Information turck usb UN60_TX_SingleCore_BSP_1.3.638 CODESYS_TURCK_Linux_ARM_QT4_3.5.16	3.30_36 <i>.z</i> ip	
Ok Cancel	booloader configos FPGA mainos System Volume Information turck usb UN60_TX_SingleCore_BSP_1.3.638 CODESYS_TURCK_Linux_ARM_QT4_3.5.16 COpying	3.30_36.zip	

9. With the zipped Codesys runtime selected, click or tap Proceed



10. The runtime will begin installing. The TX device may restart. When installation has finished, go back to **System Settings** → **Applications** → **App Management**, and you will see your installed runtime.

BACK ←			EDIT 🕑
App Managemen	t		
WARNING: All applications	tions have been terminated. D	evice needs a reboot to apply changes	s and resume
Name Codesys3	Version	Autostart 또	Boot Sequence
			Install / Update 🕂

By default, it will be marked to autostart. If you have more than one application installed, you may use the up/down arrows and edit button to change the boot order or make the application not start automatically. This page functions just like the Startup Sequence page found on the System Startup screen.



11. Click or tap Restart

Services
Management
Display
Fonts
Authentication
Restart
EXIT

12. Click or tap Main OS

- cycloni	Restart
Logs	Config OS
Date & Time	
Network	Main OS
Security	
Applications	
Services	

13. Click or tap **OK**

Confirm		
Restart the system?		
CANCEL	ок	

15. Assuming you have Codesys marked to autostart, once the HMI has restarted, you will see a screen that looks like this:



16. The displayed Target Version should match the version specified in the upgrade filename.



6.3 TX VisuPro Runtime

The TX VisuPro runtime (containing the optional Codesys runtime) is installed on the TX device by either your computer or a USB drive. In either case, you will need the TX VisuPro IDE, which is available <u>here</u>. The version of the runtime is tied to the version of the IDE, so for the latest runtime, ensure you are running the latest IDE.

6.3.1 Recommended: Delete Existing Application(s) and Runtime(s)

Starting with a TX device that does not have any applications or runtimes installed will streamline the updating process and eliminate many sources of frustration before they become a problem. It is not required, but it is *strongly* recommended. Should you elect not to, and you have any difficulty installing the VisuPro runtime, come back to this section and complete these steps.

- 1. If you are deleting any non-Codesys or non-VisuPro applications, obtain installation files for those applications, and write them onto a USB drive. You will use that USB drive to reinstall them later.
- 2. Navigate to the System Settings screen using any method. If you are unsure how to do this or are having difficulties, see <u>section 7.4</u> of the appendix.
- 3. Click or tap **Management**.

System Settings
Localisation
System
Logs
Date & Time
Network
Security
Applications
Services
Management
Disolay

4. Click or tap Data

		Management
Config C	S	
Main OS		
Settings		
Data		
Splash ir	nage	
Bootload	ler	
Xloader		

5. Click or tap Clear

Settings	
Data	
5 MB / 2675 MB used	
	Get 🛃 Update 🛎 Check 🗱 Clear 💼
Splash image	

6. Click or tap **OK** on both popups





6.3.2 The PC Method

This is the simplest method. Your computer will need to be on the same subnet as your TX device. For instructions on how to assign an IP address to your computer and your TX device, see <u>section 7.1</u> or <u>section 7.2</u>, respectfully.

- 1. Connect your TX device to your computer and power it on.
- 2. Once the TX has booted, open the TX VisuPro IDE, and click **Run → Manage Target...**



3. Click the dropdown arrow in the Target section, and select your TX device

💣 Manage	Target					×
Runtime	License	Board				
		_				
Retrie	ve Projects		Load Project	Unload Project	Upload Project	Delete Project
Download	l System File	s F	lestart Target	Install Runtime	Update Package	Target Setup
Target			Note			
127.0.0	. 10	- 0				
Status:		👌 н	MI-21a0@192.168	.2.100		
		A	avanced Settings			

4. If a popup appears, click **OK**.

5. Click Install Runtime

Manage Target				;
Runtime License Bo	ard			
Retrieve Projects	Load Project	Unload Project	Upload Project	Delete Project
Download System Files	Restart Target	Install Runtime	Update Package	Target Setup
Target	Note			
192.168.2.100 💌				
Status:				
Install Runtime : Checking Install Runtime : Authenti	connectivity to 192.168 cating with 192.168.2.1	B.2.100 00		

6. A popup will appear letting you know when the installation has completed. Click OK.

The TX device will restart, which is normal. Assuming you wiped any applications from the device before installing the TX VisuPro runtime, the runtime will be the only thing in the boot sequence.

7. You may reinstall any other deleted applications by following <u>the Codesys runtime installation</u> <u>instructions (section 6.2)</u>, but instead of a Codesys runtime, install the desired application(s).

From here, you may download your TX VisuPro project (and optionally your Codesys project using the Codesys IDE) to your TX device like normal.

6.3.3 The USB Drive Method

- 1. Connect the USB drive you plan to use for upgrading to your computer.
- 2. Open the TX VisuPro IDE, and click Run → Update Package

ΫŔ	TX VisuPro				
₿ F	ile Edit	Run	Format View Window Help		
i c) 💕 🕞	க்	Download To Target	田豊臣	l 😤 🔞 🚽 🗈
1 11	ProjectVie		Run Project Validator	џ ;	×
0	+ -		<u>M</u> anage Target		
bjec	_	P	Update Package		
tViev		茟	Start JS Remote Debugg	Package	
<		\odot	Start Simulator	pdate package	
		\odot	St <u>o</u> p Simulator		



3. A window will appear. Select your TX device from the dropdown.

🖋 Update Pa	ackage		×
Target	TX705-P3CV01		-
HMI Rur	ntime	O HMI Client	
Project			
	time (without Plug-I	n)	

4. Make sure the HMI Runtime radio button and checkbox are selected. Optionally, you can have this update package update the TX VisuPro project running on the device, update the device password, or download other files to the TX device.

🖋 Update Package		×
Target TX70	5-P3CV01	\sim
HMI Runtime	O HMI Client	
Project		
H <mark>r</mark> I Runtime (v	vithout Plug-In)	
Binary format		
Web Project		
Set Target Pass	word	
Delete runtime	dynamic files	
User Files		

5. Specify the location of your USB drive. This is where the update package will be saved.

Location :			
D:/			
	Create	Ca	incel

6. Click Create

D:/		
	Create	Cancel
	20	

7. Once the green progress bar at the top of the window fills up, a popup will appear letting you know the package has been created. Click **OK**

Update Package	
Target TX70	5-P3CV01 ~
HMI Runtime	🔘 HMI Client
Project	ithout Plug-In)
Binary format	
🥩 Up	odate Package Creation X
Web Pr	Lindate and there are started successfully.
1	opdate package created successfully
Set Tar	



- 8. Safely eject your USB drive and plug it into your TX device.
- 9. Get to the System Setup screen using any method. If you are unsure how to do this or need help, see <u>section 7.3</u> of the appendix.
- 10. Tap or click Startup Sequence. If a login box appears, enter administrator-level credentials.



11. Tap or click Install

Installe	ed Apps		Boot Sequence	
		•		
Install	Uninstall		Done	

12. Double-tap or double-click mnt

ui 📃					
🚞 lost+found					
🚞 media					
🚞 mnt					
🚞 proc					
🚞 run					

13. Double-tap or double-click usbmemory

Select an update package:							
1	mnt						
🚞 configos							
— (lata						
🚞 f	actory						
💼 media							
<u>ه</u> ۱۱	🛱 usbmemory						

14. Click or tap the update package, which will end in ".zip", then click or tap ${\bf OK}$

Select an update package:								
/ mnt usbmemory								
System Volume Information								
Ok	Cancel							



15. Let the TX device update.



16. Once installed, navigate back to the Startup Sequence page. You should see your TX VisuPro runtime installed.



NOTE

If necessary, install any other programs, and move them to the appropriate spot in the boot sequence. The correct sequence is entirely dependent on your application.

17. Click or tap **Done** to take yourself back to the System Setup screen.



18. Tap **Start HMI** to start booting into the runtime and/or application(s) specified in the Boot Sequence.



7 Appendix

7.1 Assign Static IP Address to Computer

1. Click the Start button. Type "ethernet" and click the first result.



2. Click Change Adapter Options under Related Settings





3. Right click the Ethernet adapter to which your TX device is connected, and click **Properties**



4. Double-click Internet Protocol Version 4 (TCP/IPv4)

Ethernet Properties	\times							
Networking Sharing								
Connect using:								
Intel(R) Ethemet Connection (11) I219-V								
Configure								
File and Printer Sharing for Microsoft Networks VirtualBox NDIS6 Bridged Networking Driver Npcap Packet Driver (NPCAP) Internet Protocol Version 4 (TCP/IPv4) Microsoft Network Adapter Multipletor Protocol								
Install Uninstall Properties								
Install Uninstall Properties Description Transmission Control Protocol/Internet Protocol. The default wide area network protocol that provides communication across diverse interconnected networks.								
across diverse interconnected networks.	el							

5. Click the radio button next to **Use the following IP address**, type in the desired configuration for your computer's Ethernet adapter, and click **OK**

Internet Protocol Version 4 (TCP/IPv	/4) Properties ×
General	
You can get IP settings assigned au this capability. Otherwise, you need for the appropriate IP settings.	tomatically if your network supports I to ask your network administrator
Obtain an IP address automati	cally
Use the following IP address:	
IP address:	192.168.2.3
Subnet mask:	255.255.255.0
Default gateway:	· · ·
Obtain DNS server address aut	tomatically
Use the following DNS server a	ddresses:
Preferred DNS server:	
Alternate DNS server:	
Validate settings upon exit	Advanced
	OK Cancel

6. Your computer's Ethernet adapter now has a static IP address. You may close out of any related windows.

7.2 Assign IP Address to TX Device

7.2.1 The "Waiting" Method

If you leave any out-of-the-box TX device (or any TX device in DHCP mode) connected to a network without an active DHCP server running, the TX device will default to an IP address of 169.254.xxx.xxx after about 30 seconds. As long as your computer's Ethernet adapter is on the same 169.254 subnet, this is a usable Ethernet configuration for the purposes of upgrading your TX device, though it is not advised to use this address when commissioning the TX device.

7.2.2 Dynamic IP via DHCP



ATTENTION!

IP addresses assigned via DHCP will not be retained through a power cycle. If you want the IP address to be "permanent," see either of the next two IP assigning methods.

DHCP is the default configuration for any TX device's Ethernet ports. If this is the method you wish to use, you do not need to do anything other than turn on your TX while a DHCP server is running on your network.

The Turck Service Tool has a simple DHCP server; using it is covered below.

1. Open the Turck Service Tool. If you do not have it, download it for free here.



2. By default, the Turck Service Tool is set to German. To change to English, click the **DE** button and select **EN**

ST Turck Service Tool - Vers. 3.3.0								
Sucher) n (F5) Ändern (F2)	Wink (F3) Aktio	nen (F4) Zv	vischenablage	DE - Sprache	Expertenmodus AUS	X Schließen	
Nr. MAC-Adresse		Stationsname IP-Adresse		Netzmaske	EN English DE Deutscl	(United States) h (Deutschland)	typ	

- 3. Connect your TX device to your computer.
- 4. Turn on your TX device and wait for it to boot.
- 5. Click Start DHCP

Search (F5) Change (F2) Wink (F3) Actions (F4) Clipboard Language Expert view ON Start DHCP No. M Station na IP No Ga Mode De FW V Ad Ar Pr Ke BE Protocol	
Search (F5) Change (F2) Wink (F3) Actions (F4) Clipboard Language Expert view ON Start DHCP No. M Station na IP Ne Ga Mode De FW V Ad A Pr Ke BE Protocol	
No. M Station na IP Ne Ga Mode De FW V Ad A Pr Ke BE Protocol	5) Con
	HCP se

6. A dialog box will appear. Ensure that you have the correct Ethernet adapter selected. If desired, set a lease time, and click **Start DHCP**

DHCP server settings	×
How to use the DHCP feature - Select network adapter. - Set Lease Time. - Start DHCP feature. - Wait for devices to be found.	
DHCP settings	
Network reset	
Ethemet (IP = 192.168.2.3)	~
Lease Time (s)	
Start DHCP Cancel	

- 7. Cycle power to the TX device.
- 8. After it has finished rebooting, you will be able to find it in the Turck Service Tool.

5T Turck Service Tool - Vers. 3.3.0															
Search (F) Change (F2) Wink (F3) Actions (F4) Clipboard Language Expert view ON Stop DHCP (F6) Configuration (F7) ARGEE (F8)															
Searc	h (F5) Change ((F2) Wink (F	Actions	(F4) Clipl	board La	nguage	Exp	ert view ON	Stop DHCP (F	6) Co	nfigura	ation (F	F7) AF	RGEE (F8)	BEEF
No.	h (F5) Change (MAC address	(F2) Wink (F Station na	 Actions I IP address 	(F4) Clipl Netmask	board La Gateway	nguage Mode	Exp De	ert view ON FW Version	Stop DHCP (F Adapter	6) Co A	nfigura Pr	ation (F	F7) AF	RGEE (F8) Protocol	BEEF
No.	h (F5) Change (MAC address 00:07:46:25:06:E6	(F2) Wink (F Station na	 Actions IP address 0.0.0.0 	(F4) Clipt Netmask 0.0.0.0	Gateway	nguage Mode	Exp De	ert view ON FW Version	Stop DHCP (F Adapter 192.168.2.3	6) Co A	nfigura Pr	ation (F Ke	F7) Al BE	RGEE (F8) Protocol DHCP	BEEF
No.	h (F5) Change (MAC address 00:07:46:25:06:E6	(F2) Wink (F Station na	3) Actions (IP address 0.0.0.0	(F4) Clipi Netmask 0.0.0.0	Gateway 0.0.0.0	nguage Mode	Exp De	ert view ON FW Version	Stop DHCP (F Adapter 192.168.2.3	6) Co A	nfigura Pr	Ke	F7) AI BE	RGEE (F8) Protocol DHCP	BEEF

9. Select your TX device, and click Change



10. A dialog box will appear. Fill in the desired IP Configuration values, and click Set in device

📕 Change device configu	ration	×
Station name :		
IP configuration :		
MAC address	IP address	
00:07:46:25:06:E6	192.168.2.100	
Netmask	Gateway	
255.255.255.0	192.168.2.1	
Set IP configuration tem	porarily	
Status messages :		
Set in device	Cancel	

11. Click **Search** in the Turck Service Tool.





12. After a few seconds, your TX device will appear with the IP address you have assigned to it.

	ST Turck	Service Tool - Vers. 3	.3.0								
	\mathcal{Q}	\square	\bigcirc	කු.	Гі, Е	N .		\bigcirc	EIP	5	1
	Search	(F5) Change (F2)	Wink (F3) Act	tions (F4) Cli	pboard Langi	uage Expe	rt view ON	Stop DHCP (F6)	Configuration	(F7) ARGEE	(F8)
ſ	No.	MAC address	Station name	IP address	Netmask	Gateway	Mode	Device type	FW Ver	Adapter	Α
	- 1	00:07:46:25:06:E6		<u>192.168.2.100</u>	255.255.255.0	192.168.2.1	PGM_DHCP	TX110-00VPST	1.3.57.4	192.168.2.3	

13. Click Stop DHCP once you are done assigning IP addresses.

7.2.3 Static IP via Touchscreen

This method will work with any TX device that has a touchscreen. The first step is to get to the System Settings page.

If your TX device is showing the "No Codesys TargetVisu Loaded" page, tap the wrench in the upper left corner of the screen.



If your TX device is showing a user-created visualization of some kind, you must either use the webserver (section 7.2.4, requires you to already have a static IP address) or go into taptap mode (see section 7.3.1 for help) and tap System Settings. Enter administrator-level credentials if prompted.

Now that you are viewing the System Settings page, the process of assigning an IP address is continued from <u>step two of the following section (section 7.2.4)</u>.

7.2.4 Static IP via Webserver

This method will work with any TX device that already has a known IP address.

NOTE

For devices without a touchscreen, you must first assign an IP address using one of the first two methods outlined in <u>sections 7.2.1 or 7.2.2</u>, then return to this section.

- 1. Access your device's webserver. If you are unsure how to do this or require assistance, see <u>section 7.4.2</u> of the appendix.
- 2. Tap or click the Network tab that is shown on the left

System Settings					Network		EDIT	ő ADMIN 🗗
Localisation	Gener	al Set	tings					
System	Hostnan	ne		HMI-06e6				
Logs	Avani He	ostname	•	HMI-0666.	local			
Date & Time	Netwo	Network Interfaces						
Network	Name eth0	Label WAN	MAC 00:07:46:25:06:e6	DHCP Enabled	Address 192.168.2.100	Netmask 255.255.255.0	Gateway 192.168.2.1	Bridged
Security	DNS							
Applications	Restore	C						
Services								

3. Tap or click the EDIT button in the upper right

System Settings	Network						🖇 ADMIN 🗲
Localisation	General Settin	ngs					
System	Hostname Avahi Hostname	HMI-06e6 HMI-06e6.local					
Logs	Network Inter	faces					
Date & Time	Name Label M	MAC	DHCP	Address	Netmask	Gateway	Bridged

The TX100 used in this demonstration only has one Ethernet port. Many other models have more than one, but the process is the same.



4. Tap or click the **DHCP** slider to turn it off.

	SAVE 🗸	CANCEL X			
General Settings					
Hostname Avahi Hostname	HMI-06e6	al			
Network Interfaces		_			
Name Label MAC	DHCP	Address	Netmask	Gateway	Bridged
eth0 WAN 00:07:46:25:06:e6		192.168.2.100	255.255.255.0	192.168.2.1	
DNS		1			
Restore C					

5. Fill in the required information, then tap or click **SAVE**.

	SAVE 🗸	CANCEL X		
General Settings				
Hostname Avahi Hostname	HMI-06e6			
Network Interfaces				
Name Label MAC DHCP	Address	Netmask	Gateway	Bridged
eth0 WAN 00:07:46:25:06:e6	192.168.2.100	255.255.255.0	192.168.2.1	
DNS				

6. After about ten seconds, the Network page will show the updated configuration.

System Settings		Network
Localisation	General Settings	
System	Hostname Avahi Hostname	HMI-06e6 HMI-06e6.local
Logs	Network Interfaces	
Date & Time Network	Name Label MAC DHCP eth0 WAN 00:07:46:25:06:e6 Disable	Address Netmask Gateway Bridged d 192.168.2.100 255.255.255.0 192.168.2.1
Security	DNS	
Applications	Restore C	

7.3 Accessing the TX Device's System Setup Screen

The System Setup screen allows you to access **System Settings** (also accessible <u>via webserver</u>) and **Startup Sequence** (also accessible <u>via "Applications" tab in webserver</u> for devices running BSP 1.0.691 or higher). To find out what BSP version your TX device is running, see <u>section 7.6</u> in the appendix.



7.3.1 Via "Tap-Tap" Mode

This will only work for device that have a touchscreen. For TX devices that do not, you will have to use VNC, which is covered in <u>the next section (section 7.3.2)</u>.

- 1. Cycle power on the TX device, and repeatedly tap the screen as it boots until a menu appears on the top of the screen.
- 2. "System settings" is selected by default. There will be a counter. Let the counter expire.
- 3. A second menu will appear at the top of the screen with "Default mode" selected. There will be a counter. Again, let the counter expire.
- 4. You are now looking at the System Setup screen. From here, you can access the System Settings or Startup Sequence screen.

7.3.2 Via VNC

This is optional for any TX devices that have a touchscreen, but required for any TX devices that do not.

- 1. Assign a static IP address to your computer and an IP address to your TX device. They must be on the same subnet. For help, see <u>section 7.1</u> and <u>section 7.2</u>, respectively.
- 2. Access the System Settings screen, either through the webserver or through tap-tap mode if your TX device has a touchscreen. For help, see <u>section 7.4</u> in the appendix.



3. Click or tap Services, then VNC Service

System Settings		Service Settings	ADMIN 🕞
Turck Cloud	Autorun scripts from external storage		
Localisation	Avahi Daemon	< no	
System	Cloud / VPN Service	 mo 	
Logs	DHCP Server	< no	
Date & Time	Enable device restore via TAP TAP option		
Network	Enable device restore via USB		
Security	Firewall Service	Off >	
Applications	Router / NAT / Port forwarding	Off >	
Services	Show loading bar during boot		
Management	SNMP Server	ott >	
Display	SSH Server	off >	
Fonts	VNC Service	On 🔉	
Authentication	Web Server	On 🗦	
Restart			

4. Click or tap **Edit** in the upper right corner

BACK ←	EDIT
VNC Service	
Enabled	
Autostart	
Port	5900
Inactivity timeout (seconds)	600
Multiple clients	
View-only	
Encryption (compatible clients)	
Authentication	

5. Click or tap the Enabled switch

	SAVE 🗸	CANCEL 🗙
VNC Service		
Enabled		\bigcirc
Autostart		
Port		5900
Inactivity timeout (seconds)		600
Multiple clients		
View-only		
Encryption (compatible clients)		
Authentication		\bigcirc

6. Click or tap Save

	SAVE CANCEL
VNC Service	
Enabled	
Autostart	
Port	5900
Inactivity timeout (seconds)	600
Multiple clients	
View-only	
Encryption (compatible clients)	
Authentication	

7. If your TX device is running a Codesys or TX VisuPro project, or if you are not sure if it is, go to **Management → Data → Clear**, and click or tap **OK** in the popups that appear. If there are no projects on your TX device, then disregard this step.

System Settings	Management ADMIN C
Localisation	Config OS
System	Main OS
Logs	Settings
Date & Time	Data
Network	5 MB / 2675 MB used
Security	Get 🛓 Update 🛎 Check 💠 Clear 🏦
Applications	Splash image
Services	Bootloader
Management	Xloader
Display	Noudor
Fonts	



- 8. Open a VNC client. No third-party software is endorsed by Turck, but VNC Viewer or TightVNC are popular third-party VNC clients.
- 9. Type in your TX device's IP address into the VNC client, and click connect. The VNC client's default settings usually do not require modification.

New TightVNC Connection					
TightVNC Server:	192.168.2.100 🗸	<u>C</u> onnect			
tight VNC	Connection profile O Low-bandwidth connection	Options			
Configuration	○ High-speed network	Close			

10. You are now looking at the System Setup screen via VNC. From here, you can access the System Settings or Startup Sequence screen.

7.4 Accessing the TX Device's System Settings

The System Settings screen is where nearly all your TX device's settings are changed. It can be accessed in a couple different ways, which are covered below.

System Settings × +				\sim	-		×
← → C ▲ Not secure https://192	168.2.100/#/localisation?	uiSidebarLeft	Ê	☆			
System Settings		Localisation				ADM	IIN C+
Localisation	Language:						
	S	English					
System		Italiano					
Logs		Deutsch					
Date & Time		Français					
		简体中文					
Network		紫體中文					
Security		한국어					
Areliantara		日本語					
Applications		Español					
Services		Português - Precileiro					

7.4.1 Via the System Setup Screen

This is as simple as selecting **System Settings** button in the upper right of the System Setup screen. Instructions on accessing that screen via touchscreen or VNC are found in <u>section 7.3</u> of the appendix.

7.4.2 Via the TX Device's Webserver

- 1. Assign a static IP address to your computer and an IP address to your TX device. They must be on the same subnet. For help, see <u>section 7.1</u> and <u>section 7.2</u>, respectively.
- 2. Type in https://xxx.xxx.xxx into a web browser where xxx.xxx.xxx is the IP address of your TX Device, and press Enter.
 - a. If that produces an error or shows you something other than the System Settings screen, type in https://xxx.xxx.xxx/machine_config where xxx.xxx.xxx.xxx is the IP address of your TX Device, and press Enter.
- 3. There is a chance that your browser will deem the TX device's webserver as a potentially dangerous connection. If that happens, do what you have to in order to allow it. The pictures below show what is required in Google Chrome.

A
Your connection is not private
Attackers might be trying to steal your information from 192.168.2.100 (for example,
passwords, messages, or credit cards). <u>Learn more</u>
עבויינאל-רגו-ארו וויסעוד-זאאריה
Q To get Chrome's highest level of security, <u>turn on enhanced protection</u>
Advanced by Back to safety
Your connection is not private Attackers might be trying to steal your information from 192.168.2.100 (for example, passwords, messages, or credit cards). Learn more
Q To get Chrome's highest level of security, <u>turn on enhanced protection</u>
Hida educated
Hac definition
This server could not prove that it is 192.168.2.100; its security certificate is not trusted by
your computer's operating system. This may be caused by a misconfiguration or an attacker intercepting your connection.
Proceed to 192.168.2.100 (unsafe)

- 4. Enter administrator-level credentials if prompted.
- 5. You are now looking at System Settings in the webserver.



7.5 Change Codesys Runtime Contained Within TX VisuPro Runtime

It is rarely necessary and highly discouraged to change the Codesys runtime version that is contained within the TX VisuPro runtime, but that process is outlined below. Note that using a different Codesys runtime version than the one that came with the TX VisuPro IDE installation is <u>not guaranteed to work</u>.



ATTENTION!

The desired Codesys runtime must come from a different installation (i.e. a previous version) of the TX VisuPro IDE.

1. Navigate to the "runtime" folder in the install location of your previous version of the TX VisuPro IDE whose Codesys runtime you are going to use.

	Local Disk (C:) > Program Files (x86) > Turck Software > TX VisuPro 4.0 > runtime >				
▲ Name ▲	Date modified	Туре			
client_un60_linuxoe	12/15/2021 1:15 PM	File folder			
Client_WIN32	12/15/2021 1:15 PM	File folder			
VN30_SDK (ARMV4I)	12/15/2021 1:15 PM	File folder			
VIN31_SDK (ARMV4I)	12/15/2021 1:15 PM	File folder			
🖈 🔤 UN60_linuxoe	12/15/2021 1:15 PM	File folder			
UN65_linuxoe	12/15/2021 1:15 PM	File folder			
WIN32	12/15/2021 1:15 PM	File folder			

Every TX device is put into a certain "UN" category as defined by its processor. Find your TX device's UN category by looking at the first characters of the signature found under the TX device's System Settings → Management → Config OS

Config OS		
Type Signature	ext4 UN60X XXC	
Version Date	1.3.638 2022-03-23T00:00:00.000Z	
	254 MR / 324 MR used	

3. Now that you know your TX device's UN category, navigate to the corresponding subfolder in the "runtime" folder, then navigate to the "deploy" subfolder.

Program Files (x86)	> Turck Software > TX VisuPro	4.0 > runtime > UN60_linuxoe > deplo	oy ≽
^	Name	Date modified	Туре
	actions	12/15/2021 1:15 PM	File folder
*	config	12/15/2021 1:15 PM	File folder
*	imageformats	12/15/2021 1:15 PM	File folder
*	images	12/15/2021 1:15 PM	File folder
*	modules	12/15/2021 1:15 PM	File folder
	🚽 plugin	12/15/2021 1:15 PM	File folder
	📙 rts	12/15/2021 1:15 PM	File folder
	templates	12/15/2021 1:15 PM	File folder
	workenzen	12/15/2021 1-15 DM	File folder

- 4. Select the rts folder, and press Ctrl+C
- 5. In case you need this folder in the future, create a new folder somewhere on your computer, and press **Ctrl+V**, pasting the rts folder there.
- 6. Navigate to the corresponding "deploy" folder in your current installation of TX VisuPro IDE.
- 7. Press Ctrl+V, overwriting the existing rts folder with the old one.

You have now successfully changed the Codesys runtime that will be contained within the TX VisuPro runtime. To push it to your TX device, you will need to delete the existing TX VisuPro runtime on your TX device and reinstall it. See <u>section 6.3</u> for help on this.

7.6 Identifying BSP Version Installed on Your TX Device

Recall that BSP stands for "Board Support Package," i.e. the version of MainOS and Config OS your TX device has installed. Newer features, like the ability to install applications via the webserver or tighter cybersecurity, may require a newer BSP version. The steps below show you how to check your BSP version.

- 1. Navigate to the System Settings screen using any method. If you are unsure how to do this or are having difficulties, see <u>section 7.4</u> of the appendix.
- 2. Click or tap Management.

System Settings
Localisation
System
Logs
Date & Time
Network
Security
Applications
Services
Management
Display



3. Click or tap Main OS and Config OS to expand them.

MENU 🏫	Management	ADMIN 🗗
Config OS		
Main OS		
Settings		
Data		
Splash image		
Bootloader		
Xloader		

4. The version is displayed in those expanded tabs. In the examples below, the BSP version for the top picture is **1.3.638**, and **1.0.344** for the bottom picture.

Config OS	
Type Signature Version Date	ext4 UN60XXXXC 1.3.638 2022-03-23T00:00:00.000Z 256 MB / 324 MB used

Time	ovtd			
Version	UN65WSYXC01000344			
Petaloli				
Date	2018-05-21100:00:00.0002			
	265 M	b / 324 Mb used		
		Get 🛓	Update 🕌	Chec

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