

VTEM Firmware Download Instructions for V4.12.0

This document provides a step-by-step explanation of how to download the newest VTEM Firmware using Festo Field Device Tool. This Application Note describes a one-time migration which is required for all firmware versions older than 4.12.0. If firmware is already 4.12.0 or higher the migration step with bootloader-5.1.0 and misc-1.0.0 is not necessary.

VTEM, FFT

Title VTEM Firmware Download Instructions for V4.12.0
Version 1.40
Document no. 100255
Originalen
AuthorFesto

Last saved 23.07.2019

Copyright Notice

This documentation is the intellectual property of Festo AG & Co. KG, which also has the exclusive copyright. Any modification of the content, duplication or reprinting of this documentation as well as distribution to third parties can only be made with the express consent of Festo AG & Co. KG.

Festo AG & Co KG reserves the right to make modifications to this document in whole or in part. All brand and product names are trademarks or registered trademarks of their respective owners.

Legal Notice

Hardware, software, operating systems and drivers may only be used for the applications described and only in conjunction with components recommended by Festo AG & Co. KG.

Festo AG & Co. KG does not accept any liability for damages arising from the use of any incorrect or incomplete information contained in this documentation or any information missing therefrom.

Defects resulting from the improper handling of devices and modules are excluded from the warranty.

The data and information specified in this document should not be used for the implementation of safety functions relating to the protection of personnel and machinery.

No liability is accepted for claims for damages arising from a failure or functional defect. In other respects, the regulations with regard to liability from the terms and conditions of delivery, payment and use of software of Festo AG & Co. KG, which can be found at www.festo.com and can be supplied on request, shall apply.

All data contained in this document do not represent guaranteed specifications, particularly with regard to functionality, condition or quality, in the legal sense.

The information in this document serves only as basic information for the implementation of a specific, hypothetical application and is in no way intended as a substitute for the operating instructions of the respective manufacturers and the design and testing of the respective application by the user.

The operating instructions for Festo products can be found at www.festo.com/sp.

Users of this document (application note) must verify that all functions described here also work correctly in the application. By reading this document and adhering to the specifications contained therein, users are also solely responsible for their own application.

Table of contents

1	Components/Software used	5
2	Introduction	6
2.1	VTEM Firmware Update Flowchart	6
3	Hardware	7
4	Software.....	8
4.1	Festo Field Device Tool Scan	8
4.1.1	Windows 10 Ethernet adapter settings	9
4.1.2	Festo Field Device Tool Firmware Repository	11
4.1.3	Connect Festo Field Device Tool to device	11
4.1.4	Download Bootloader file	13
4.1.5	Download Misc file.....	14
4.1.6	Download Firmware file	15

1 Components/Software used

Type/Name	Version Software/Firmware
Festo Field Device Tool	2.9.9.50037 or higher
VTEM	Bootloader: 5.1.0 Misc: 1.0.0 Firmware: 4.12.0

Table 1.1: 1 Components/Software used

2 Introduction

This document shows how to execute a complete Firmware update for VTEM to firmware version 4.12.0.



Warning

Festo Field Device Tool Version 2.9.9 or higher must be used.

Result if disregarded:

- Firmware might not be downloaded correctly to device.



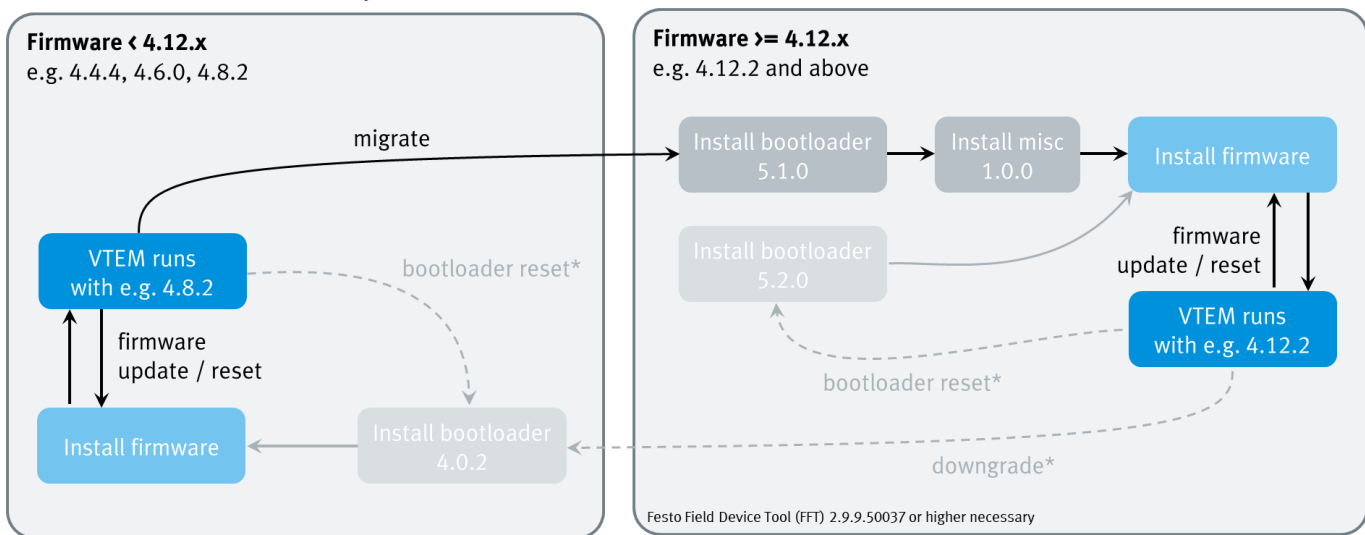
Warning

Bootloader, Misc and Firmware must be downloaded in the order described in this document.

Result if disregarded:

- Firmware update is not successful.

2.1 VTEM Firmware Update Flowchart



*for experts only: restrictions apply, damage of VTEM possible

3 Hardware

Remove the plastic cover to make the Ethernet port available.

Connect your laptop to the Ethernet port of the VTEM and power on your VTEM.

**Note**

If you're using a USB to Ethernet adapter and not your internal network card, it is recommended to place a network switch between the laptop and the VTEM.



4 Software

4.1 Festo Field Device Tool Scan

Start Festo Field Device Tool and execute a SCAN. Pay attention to the **IP Address** and **IP Netmask** settings of VTEM.

In the following screenshot the IP settings for the VTEM are:

IP Address: 192.168.7.4
IP Netmask: 255.255.255.0

The screenshot shows the Festo Field Device Tool interface. The 'Scan' button is highlighted with a red box. The 'Device properties' panel on the right shows the following information:

Devicename:	MotionTerminal
Devicetype:	VTEM
Serialnumber:	236522390100150024180217330E
Partnumber:	8047502
Firmware:	4.8.2-12ed48619699.20181128.14945
DHCP:	no
IP Address:	192.168.7.4
IP Netmask:	255.255.255.0
Gateway:	0.0.0.0
DNS:	0.0.0.0
MAC:	00:0E:F0:55:37:E1
State:	Operational

A red box highlights the IP Address and IP Netmask fields. A text box at the bottom right of the screenshot reads: **FFT version 2.9.9 or higher**. The status bar at the bottom right shows the version number **V2.9.9.50037**.

They can be changed with a right click -> "Network".

The screenshot shows the 'List view' of the Festo Field Device Tool. A right-click context menu is open over the 'MotionTerminal' device. The 'Network' option is highlighted by the mouse cursor.

Device name	IP Address	Device type
MotionTerminal	192.168.7.4	VTEM

- Firmware
- Firmware with Backup
- Network**
- Diagnosis
- Backup
- Restore



Warning

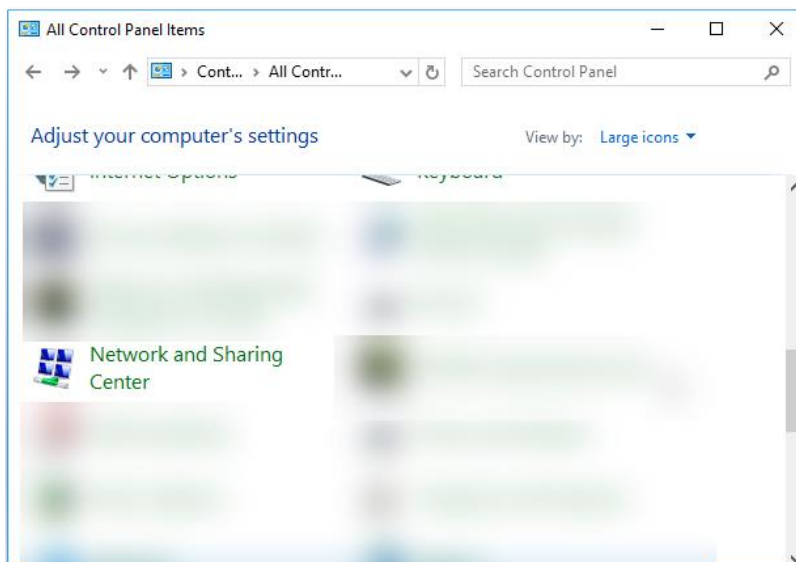
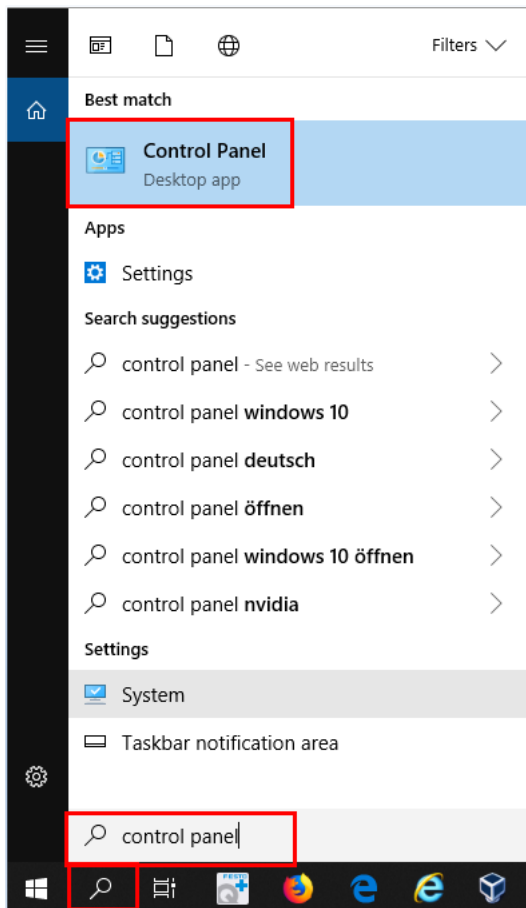
Do not change the network settings of the VTEM to "DHCP" unless you have a running DHCP in your local network. Otherwise a Firmware update is not possible.

**Note**

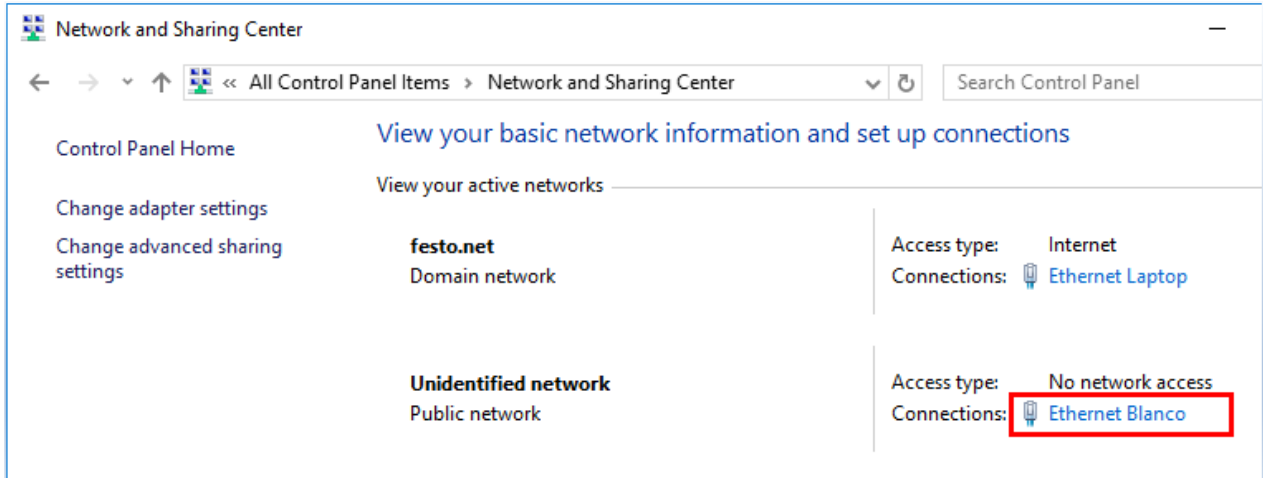
It is important that the VTEM is within the network range of the laptop's Ethernet adapter before the Firmware download is started, a scan for devices works regardless of the network settings of the laptop.

4.1.1 Windows 10 Ethernet adapter settings

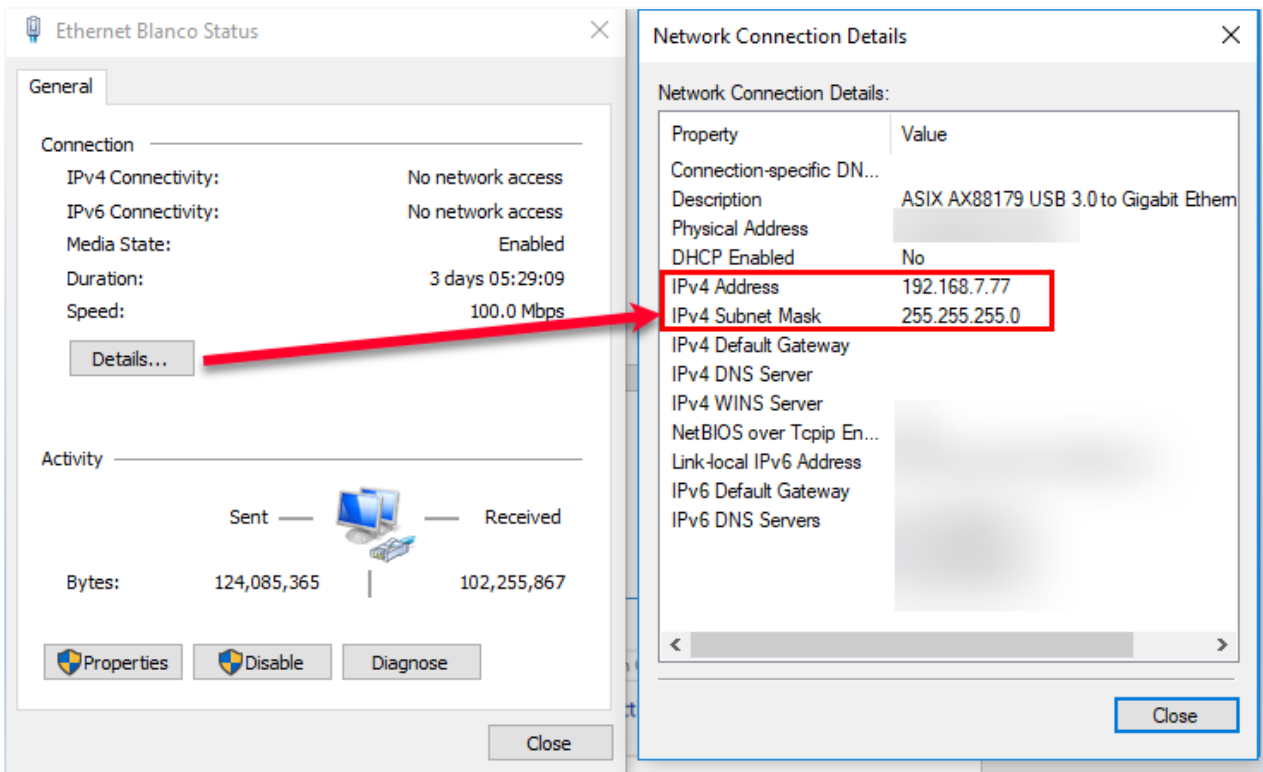
The Ethernet adapter settings can be found on the Control Panel -> Network and Sharing Center.



Click on the Ethernet adapter to which the VTEM is connected.



Click on Details and make sure that the IPv4 Subnet Mask is the same as for VTEM and the IPv4 Address is within the same network range with a UNIQUE number on the last octet.



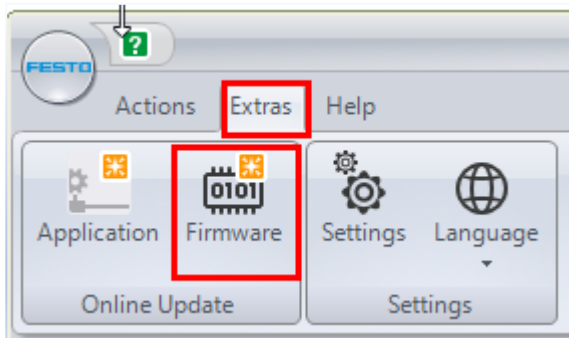
IPv4 Subnet Mask = 255.255.255.0

IPv4 Address VTEM = 192.168.7.4

IPv4 Address Laptop = 192.168.7.77

4.1.2 Festo Field Device Tool Firmware Repository

Verify that the newest Firmware version of VTEM is available in Festo Field Device Tool by clicking on “Extras” -> “Firmware”.



The following 3 file types should be available.

1x Bootloader

1x Misc

1x Firmware

Device	File Name	Version	Date
VTEM	4.12.0-886fced51bfe.20190410.16817	vtem-firmware-4.12.0-886fced51bfe.2019041...	2019-04-10
VTEM	1.0.0-805351020847.20190410.16814	vtem-misc-1.0.0-805351020847.20190410.1...	2019-04-10
VTEM	5.1.0-805351020847.20190410.16814	vtem-bootloader-5.1.0-805351020847.20190...	2019-04-10



Note

For Firmware 4.12.0, Bootloader 5.1.0 and Misc 1.0.0 are required.

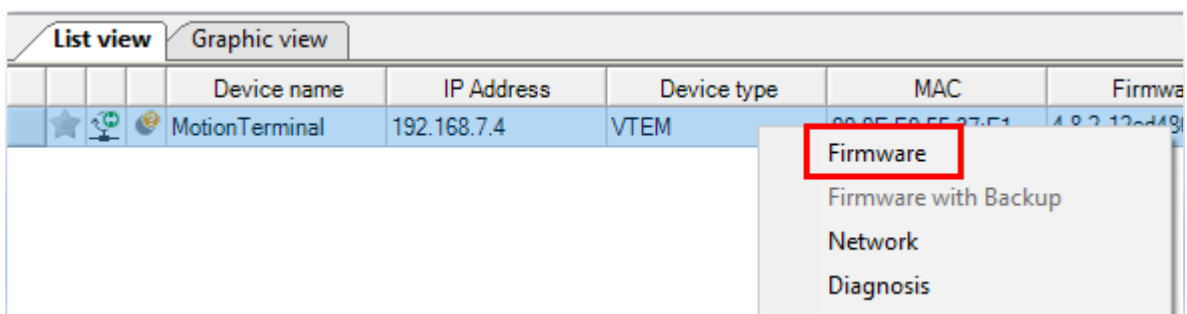
4.1.3 Connect Festo Field Device Tool to device



Warning

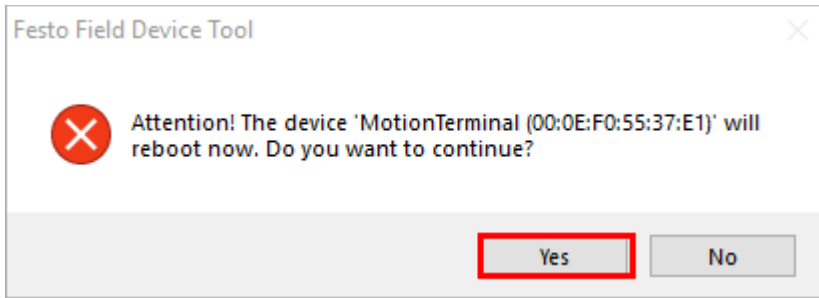
Make sure the Ethernet cable is securely connected to the VTEM and the power supply is stable. Disconnecting the cable or switching off the VTEM during Firmware or Bootloader download will result in irreparable damage to VTEM.

Right click on the VTEM and click on “Firmware”.



Software

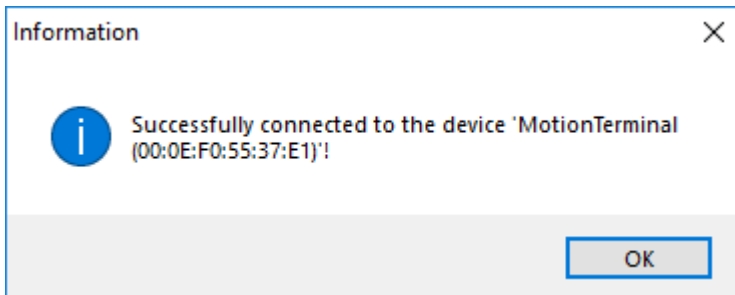
A warning appears that the VTEM will be rebooted. Click “Yes“.



The Festo Motion Terminal will be rebooted and the Festo Field Device Tool will try to establish a connection to it.

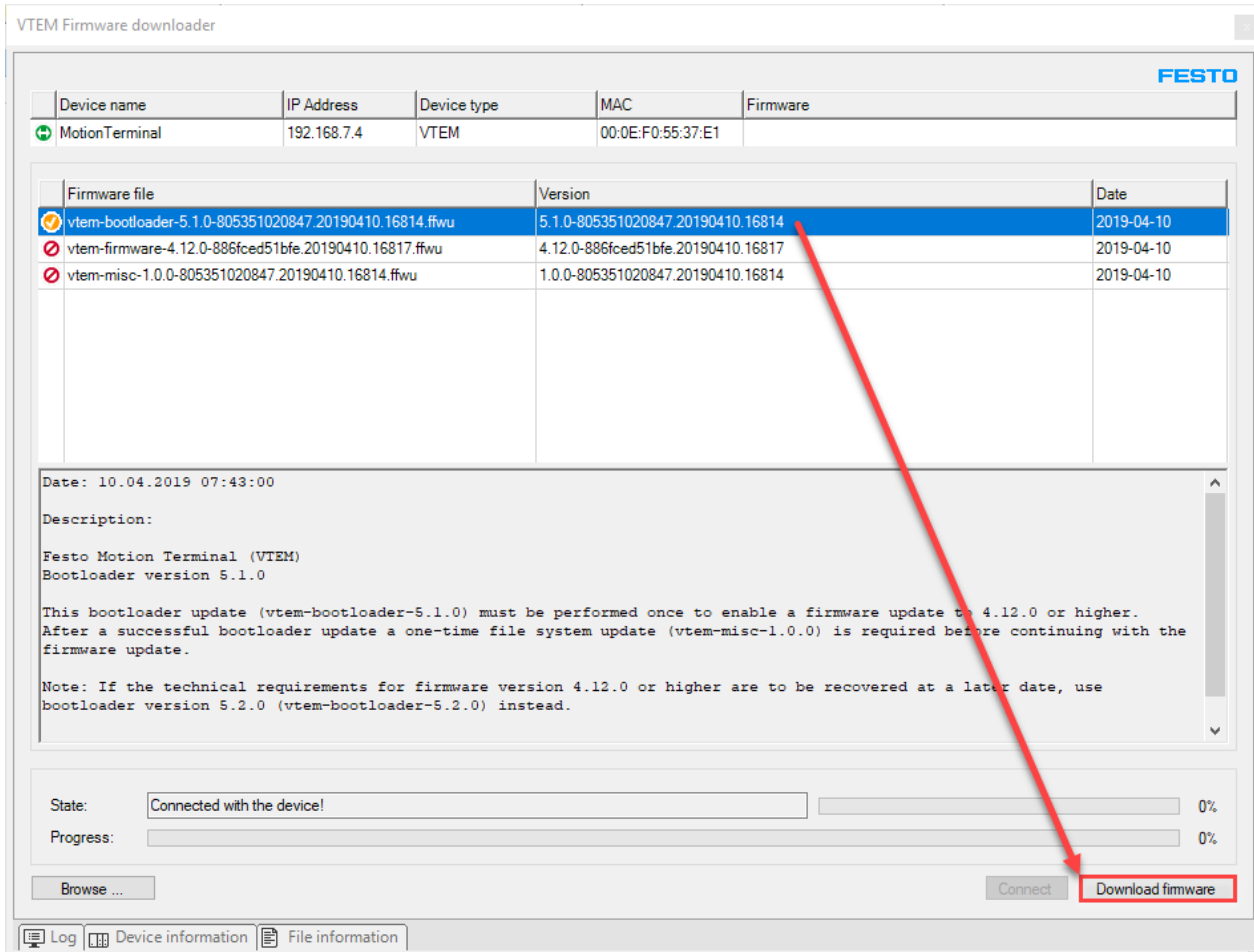


Wait for the message "Successfully connected".

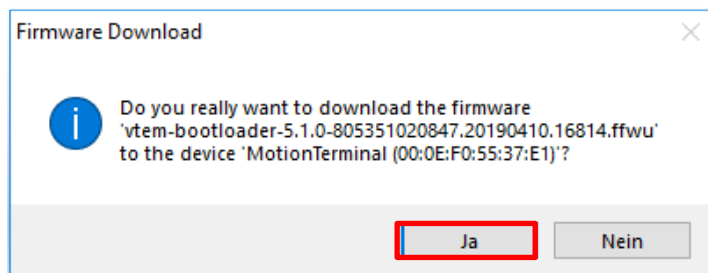


4.1.4 Download Bootloader file

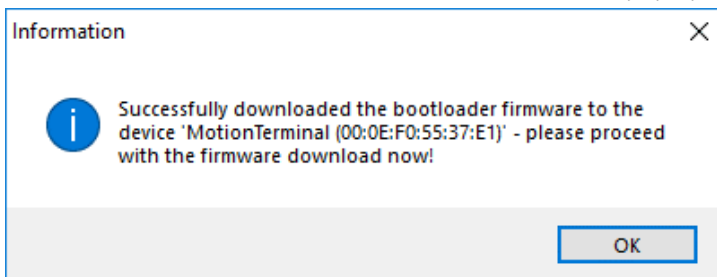
Select the bootloader version and click on “Download firmware”.



Click on “Yes”.



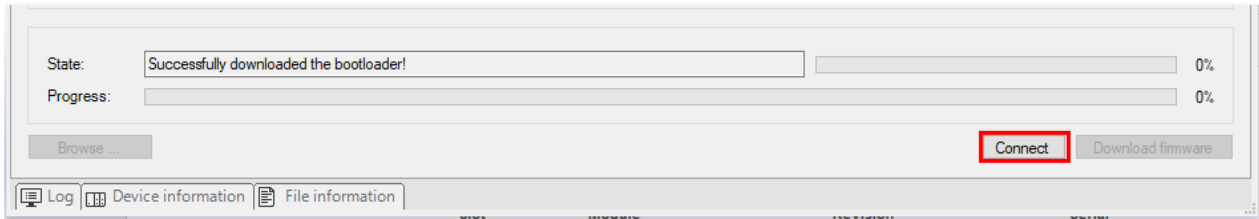
After a successful download the following message will pop up.



Note

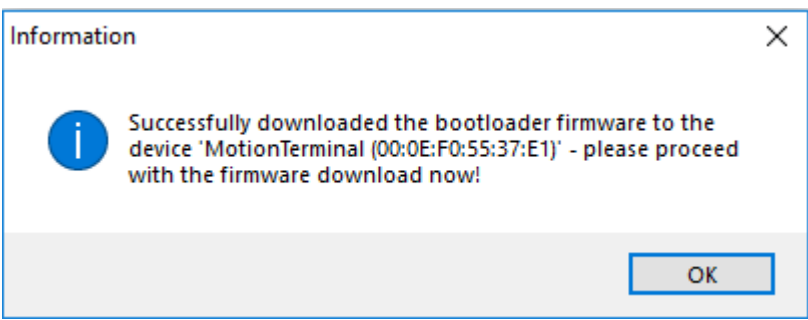
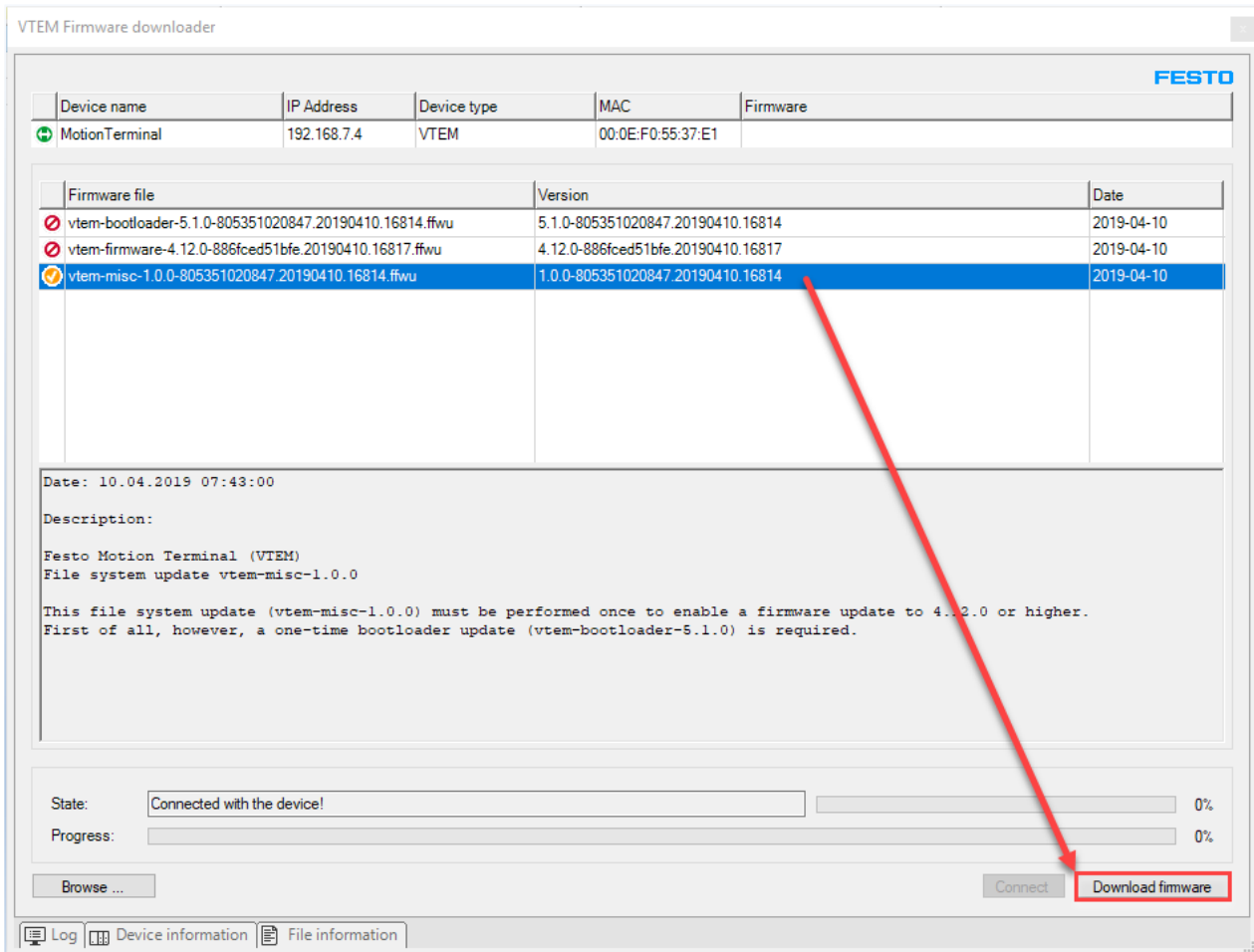
Ignore the message "proceed with the firmware download" and follow step 4.1.5 Download Misc .

Click on “Connect”.



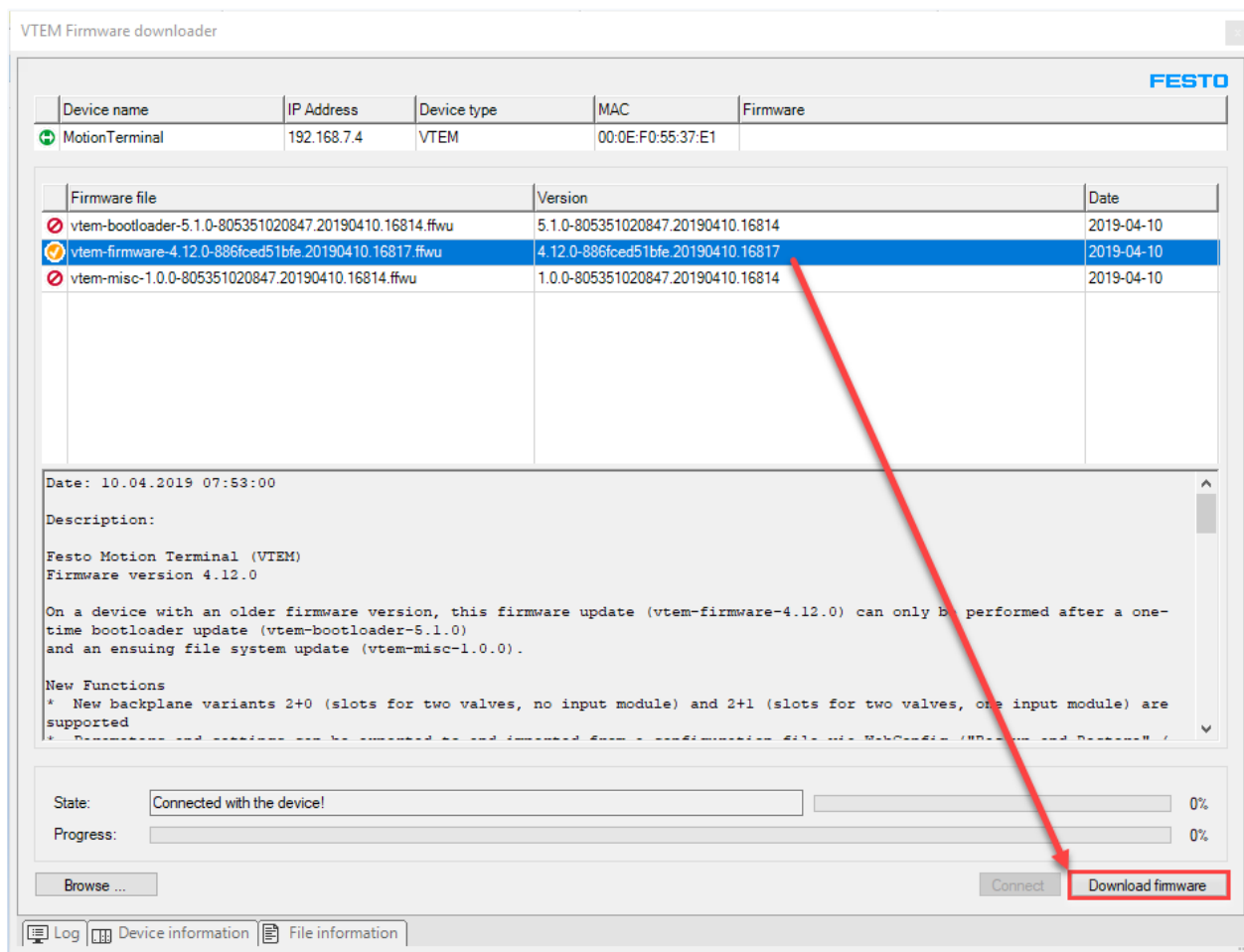
4.1.5 Download Misc file

Follow the same procedure as for the Bootloader to download Misc file.



4.1.6 Download Firmware file

Follow the procedure for the Firmware file.



Note

Misc file and Firmware download will take longer than the bootloader download.

After all three files have been downloaded successfully, restart the VTEM.



Note

If you're using a CPX-CEC with the VTEM, make sure that the corresponding CODESYS libraries are up to date.