

### 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

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## 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.



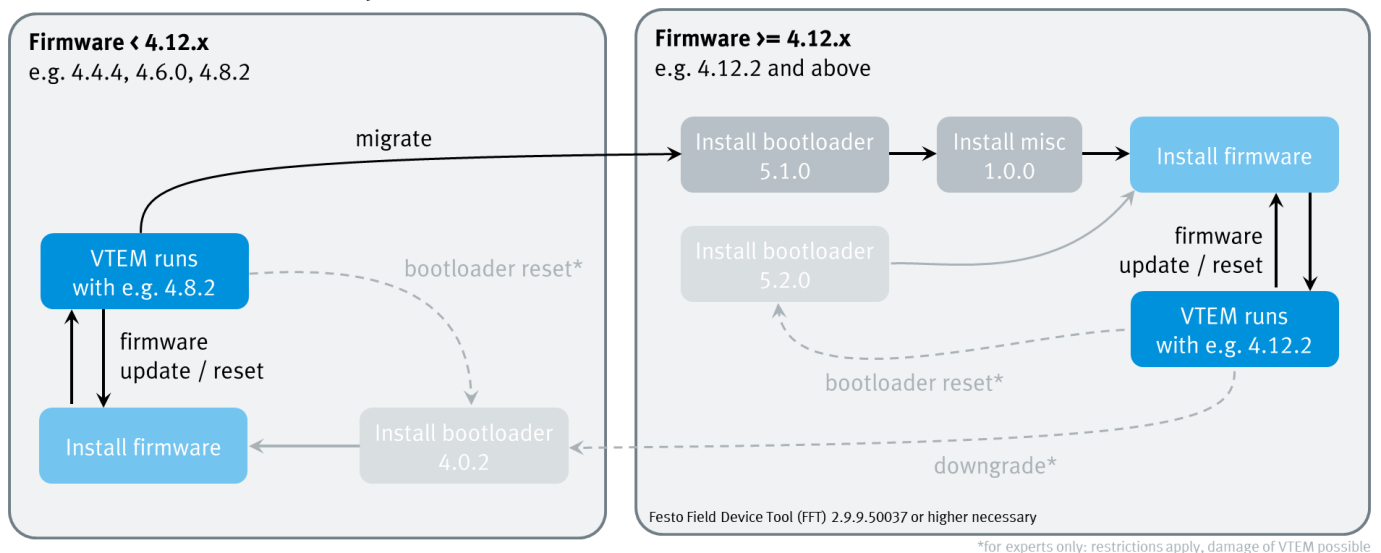
### Warning

**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



### 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.



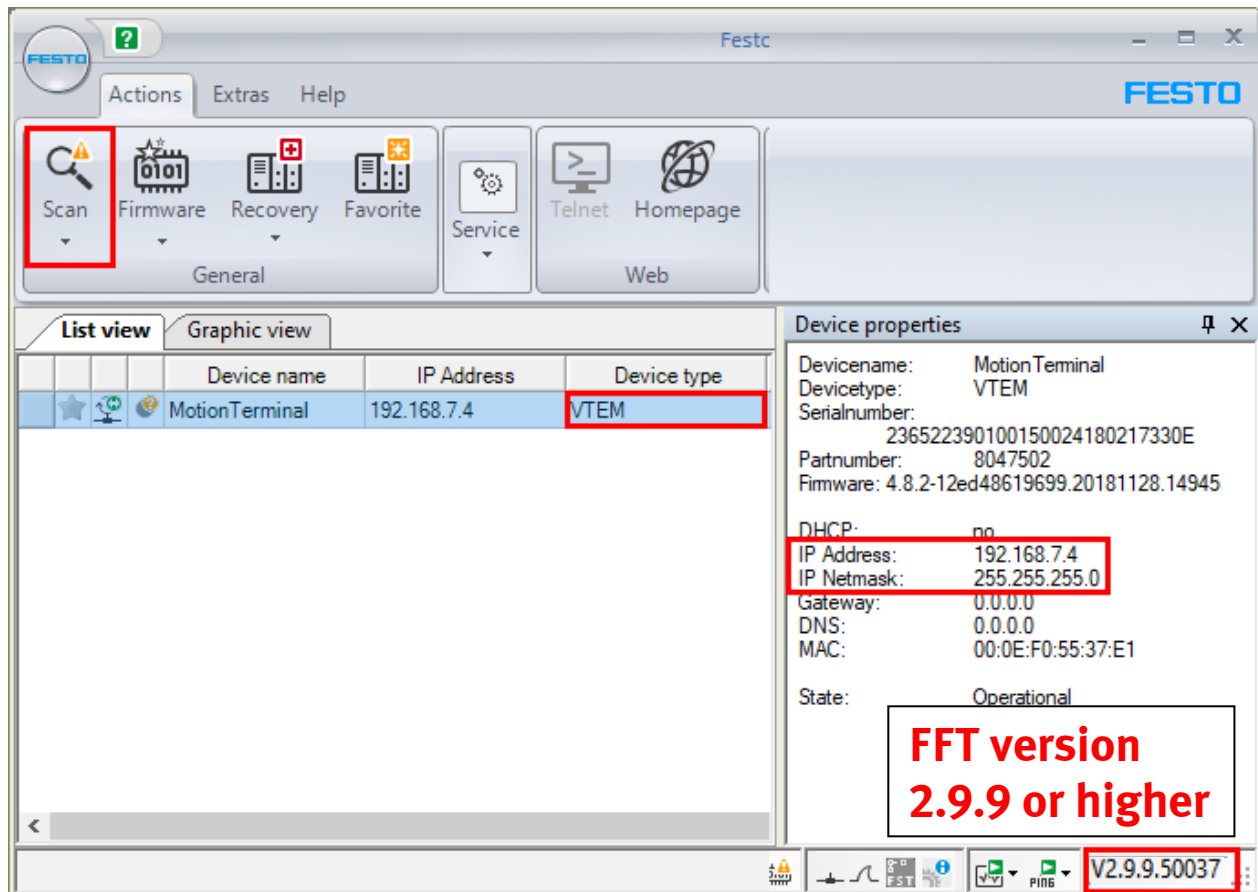
## 4 Software

### 4.1 Festo Field Device Tool Scan

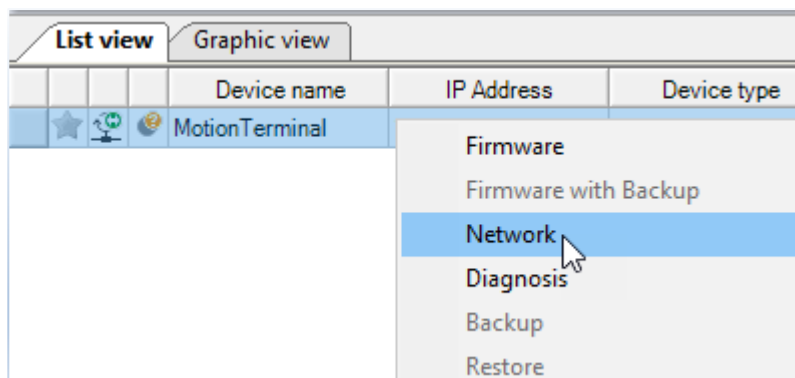
Start Festo Field Device Tool and execute a SCAN. Pay attention to the **IP Address** and **IP Netmask** settings of VTEM.

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

**IP Address:** 192.168.7.4  
**IP Netmask:** 255.255.255.0



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



#### Warning

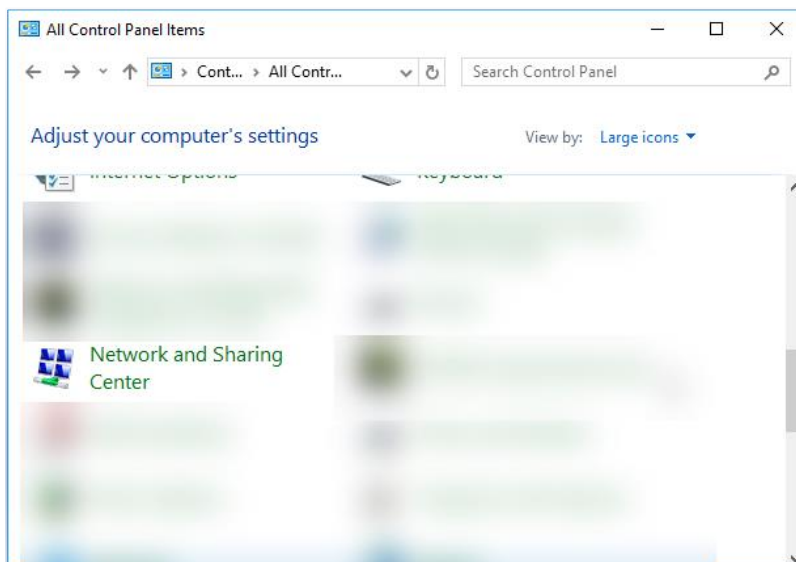
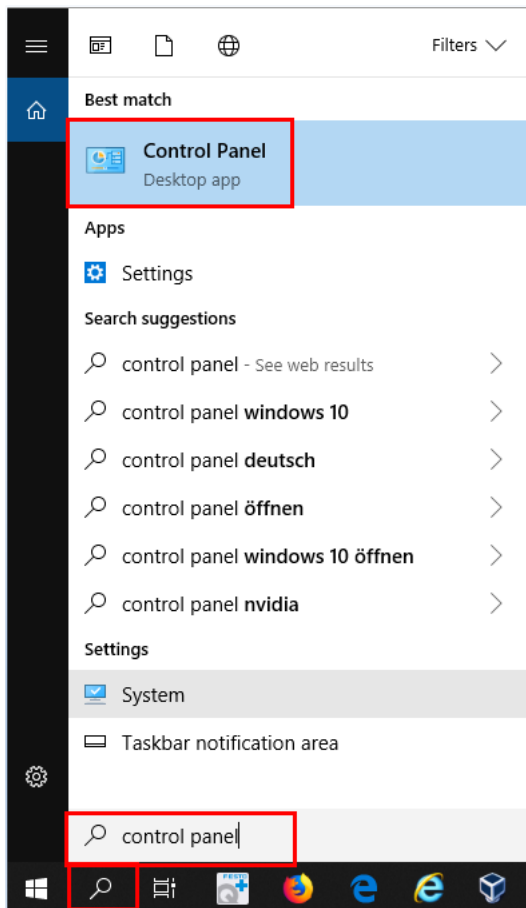
**Do not change the network settings of the VTEM to "DHCP" unless you have a running DHCP in your local network. Otherwise a Firmware update is not possible.**

**Note**

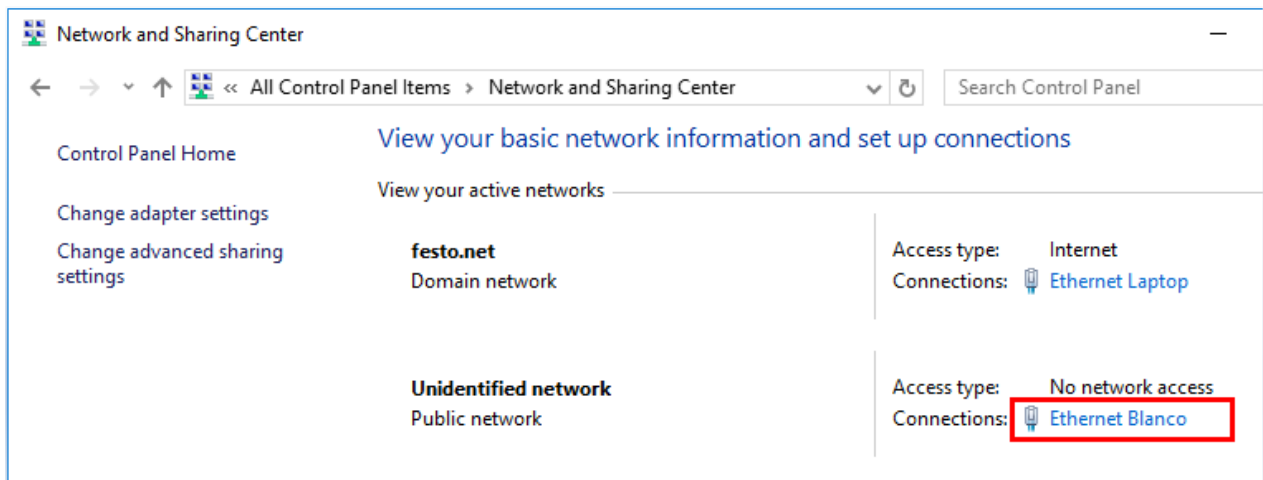
It is important that the VTEM is within the network range of the laptop's Ethernet adapter before the Firmware download is started, a scan for devices works regardless of the network settings of the laptop.

#### 4.1.1 Windows 10 Ethernet adapter settings

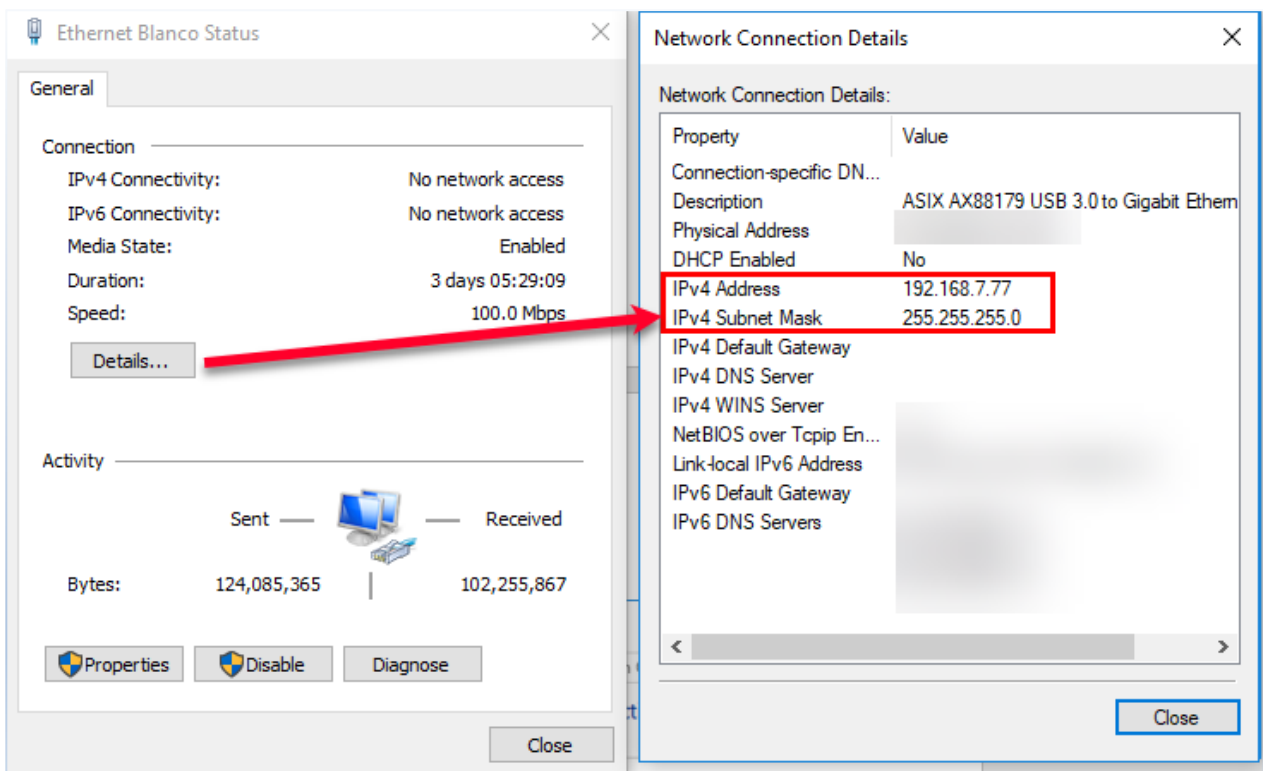
The Ethernet adapter settings can be found on the Control Panel -> Network and Sharing Center.



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.



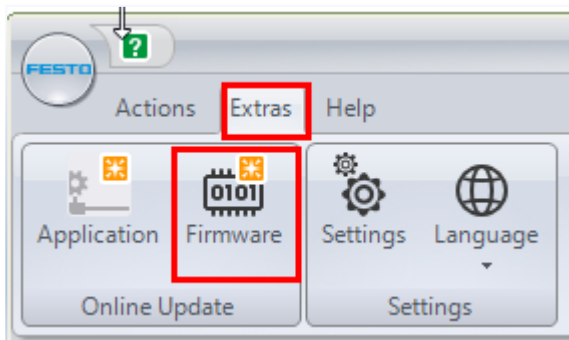
IPv4 Subnet Mask = 255.255.255.0

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

✓ VTEM	★	..	
✓ 4.12.0-886fced51bfe.20190410.16817		.. vtem-firmware-4.12.0-886fced51bfe.2019041...	2019-04-10
✓ 1.0.0-805351020847.20190410.16814		.. vtem-misc-1.0.0-805351020847.20190410.1...	2019-04-10
✓ 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.**

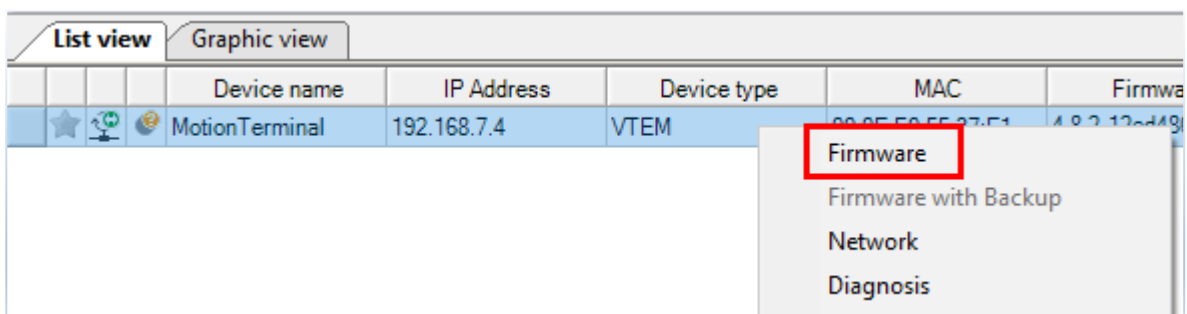
#### 4.1.3 Connect Festo Field Device Tool to device



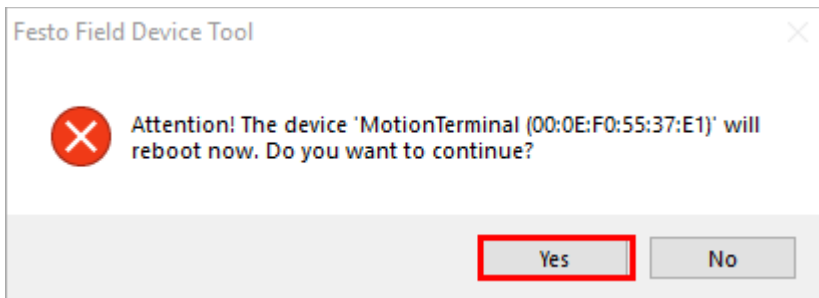
#### Warning

**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”.



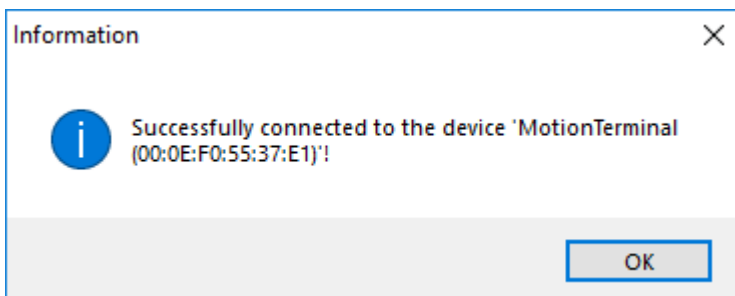
A warning appears that the VTEM will be rebooted. Click “Yes”.



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

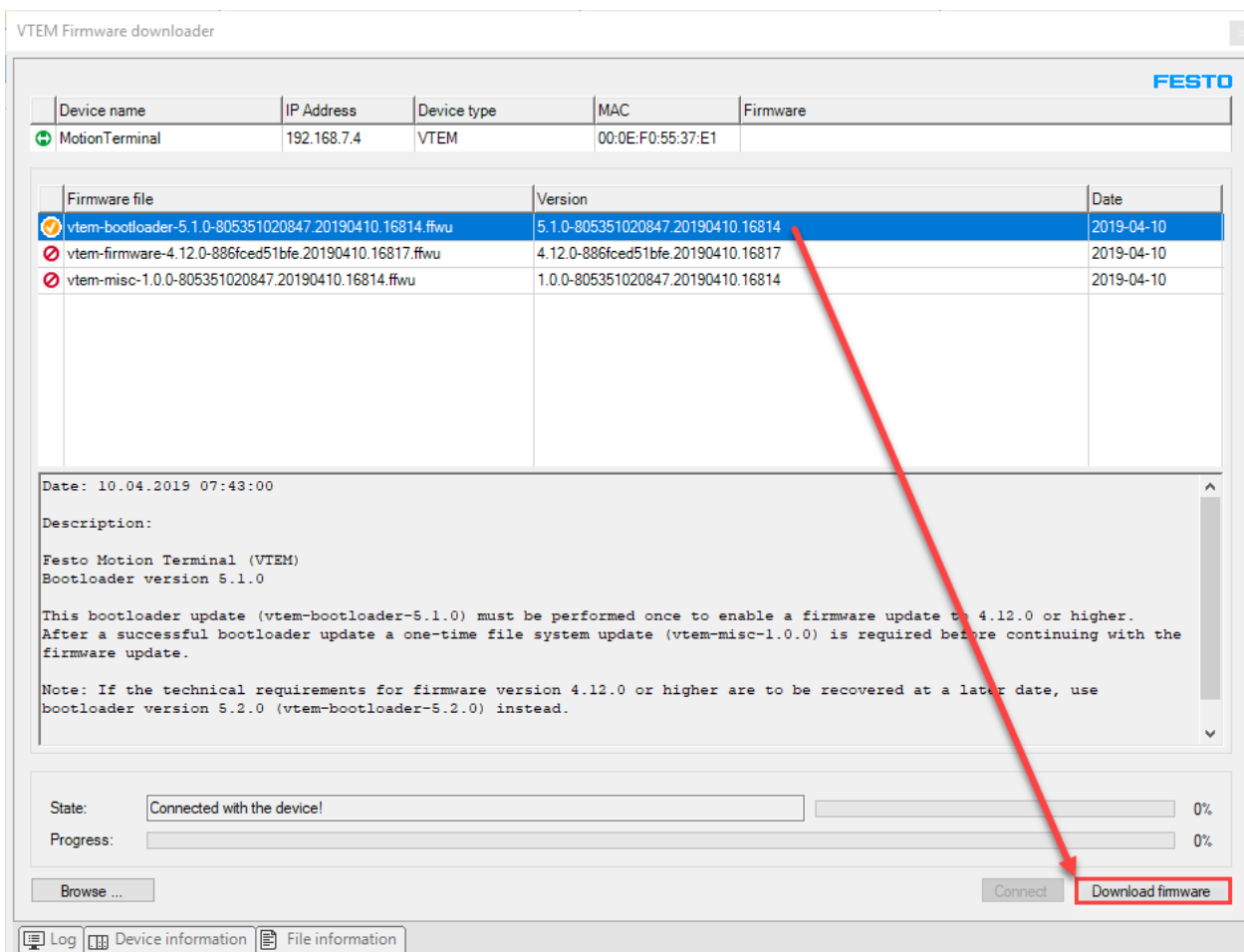


Wait for the message "Successfully connected".

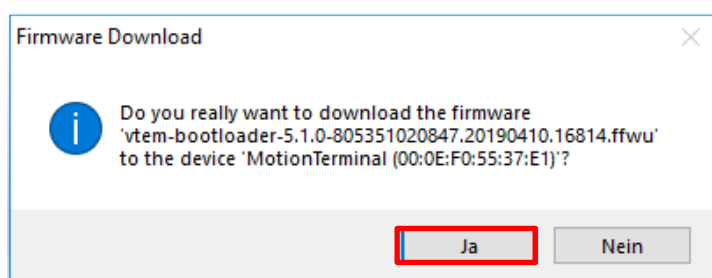


#### 4.1.4 Download Bootloader file

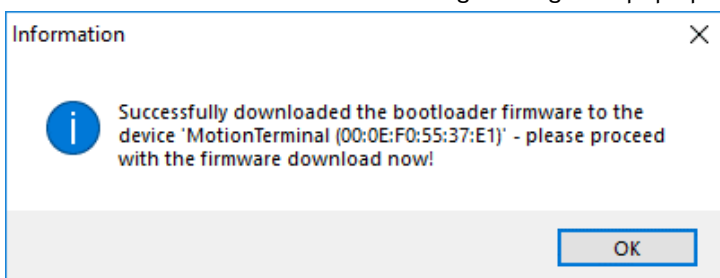
Select the bootloader version and click on “Download firmware”.



Click on “Yes”.



After a successful download the following message will pop up.



#### Note

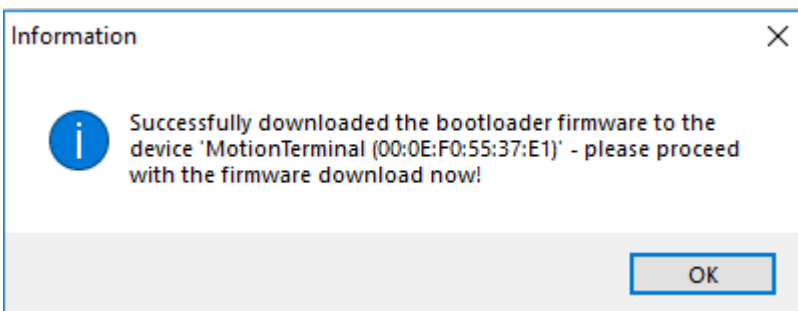
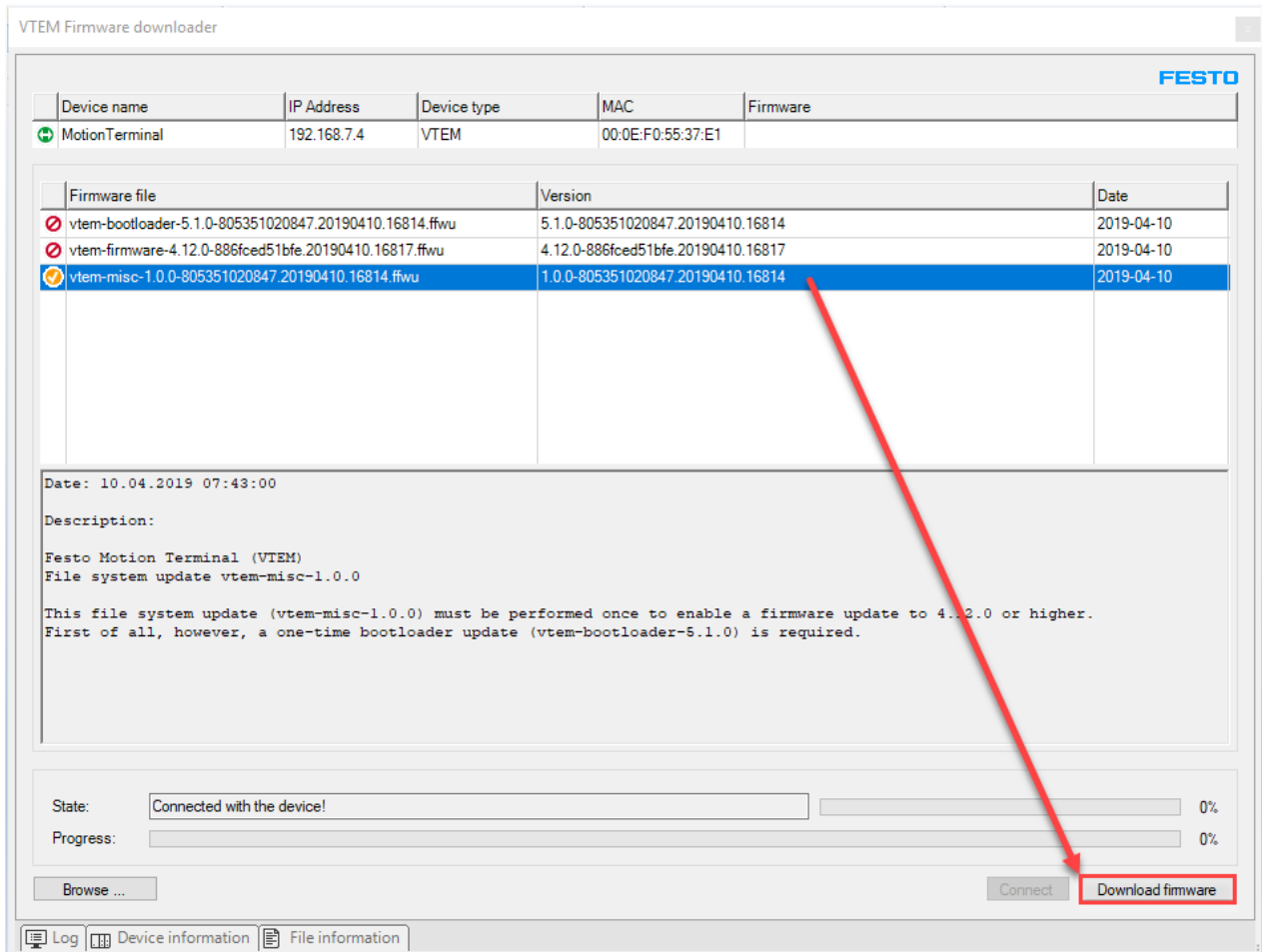
Ignore the message "proceed with the firmware download" and follow step 4.1.5 Download Misc .

Click on “Connect”.



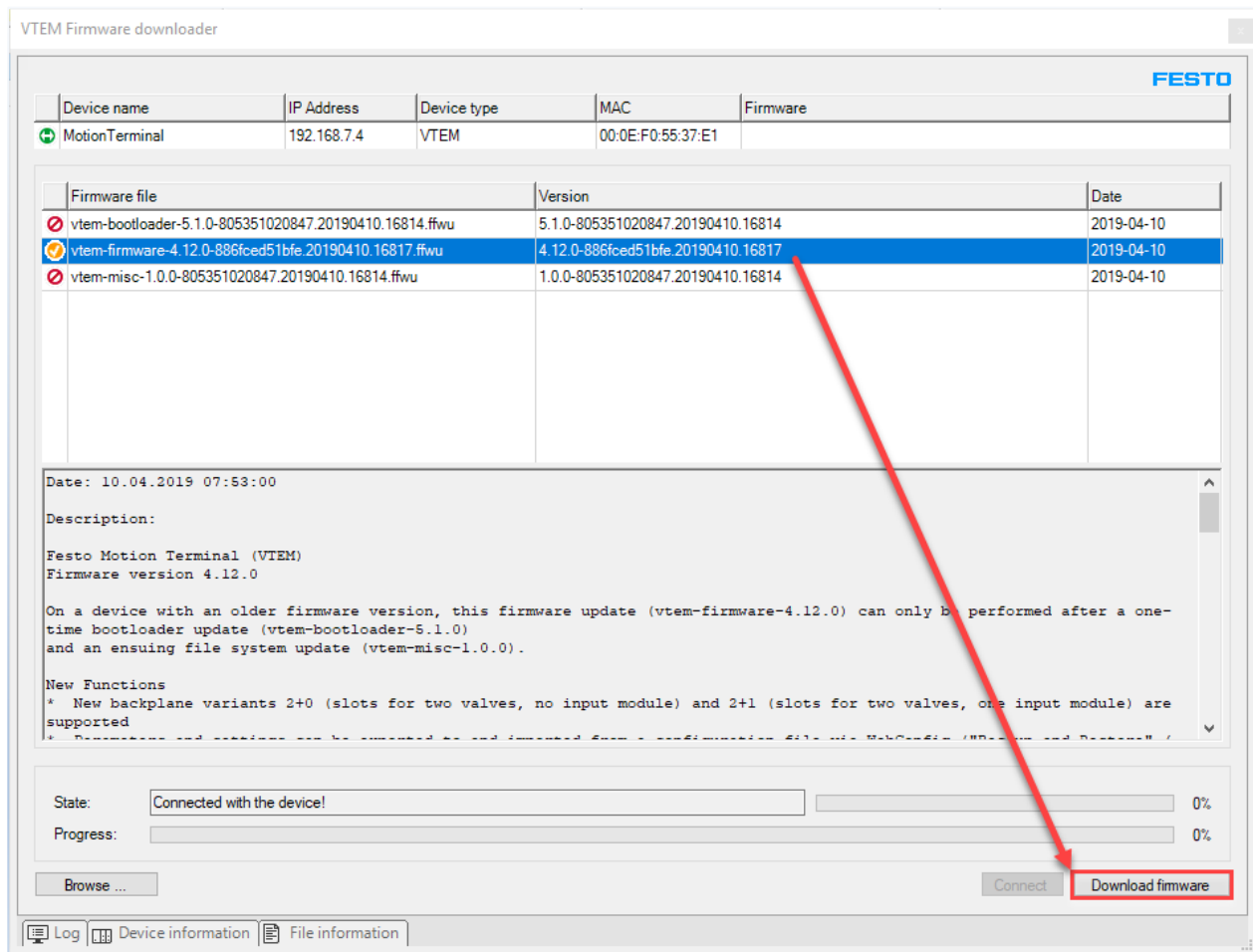
#### 4.1.5 Download Misc file

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.