Application Note

FESTO

How to connect CMMT to a BOSCH ctrlX-OS

Step by step description of how to start a project in BOSCH ctrlX-OS and what needs to be done to integrate CMMT into the motion control element

CMMT-ST
CMMT-AS

100804

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1 Components/Software used

Type/Name	Version Software/Firmware	Date of manufacture
CMMT-ST	36.11.0	
CMMT-AS	36.11.1	
CMMT-ST Plug-in	2.10.0.103	
CMMT-AS Plug-in	2.10.0.103	
Festo Automation Suite	2.10.1.1	
COREX-C-X3-11-ANNN-21.01	02RS-NN-NN	
ctrlX I/O Engineering	3.6.3	
ctrlX PLC Engineering	3.6.3	
EtherCat Master App	3.6.3	
Motion App	3.6.4	
PLC App	3.6.4	

Table 1.1: Components/Software used

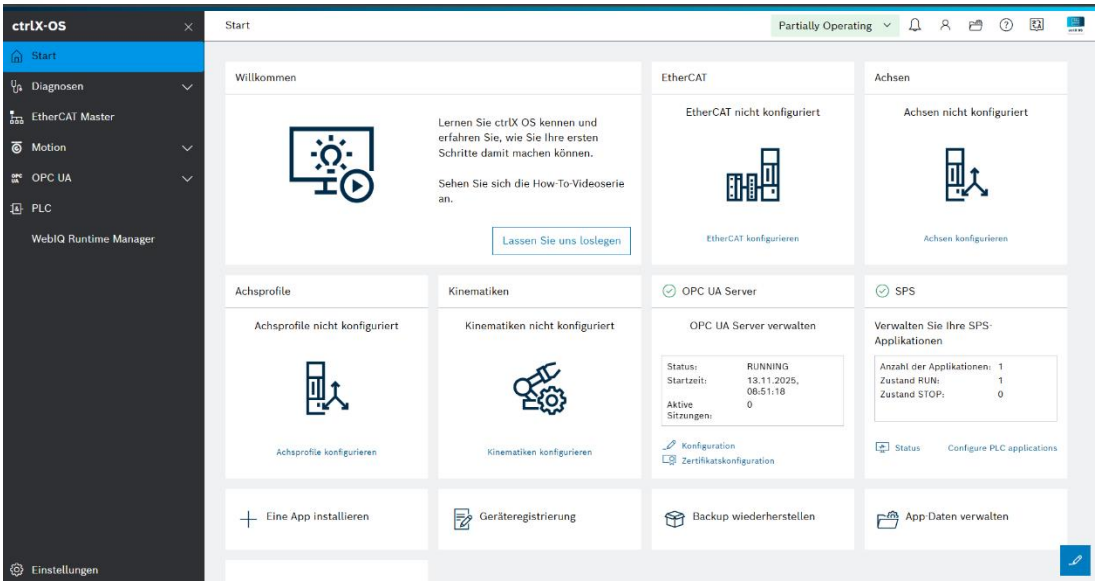
Information

This AppNote describes the procedure with the CMMT-AS motor controller. The CMMT-AS servo drive controller and CMMT-ST servo drive controller for extra-low voltage are based on the same software platform. Therefore, the described settings can also be used as a reference for its parameterization. It is hereby expressly pointed out, that this has not been explicitly tested and therefore the function cannot be guaranteed!

2 BOSCH ctrlX-OS

2.1 Connection to PLC

Open the web interface via the PLC's IP address

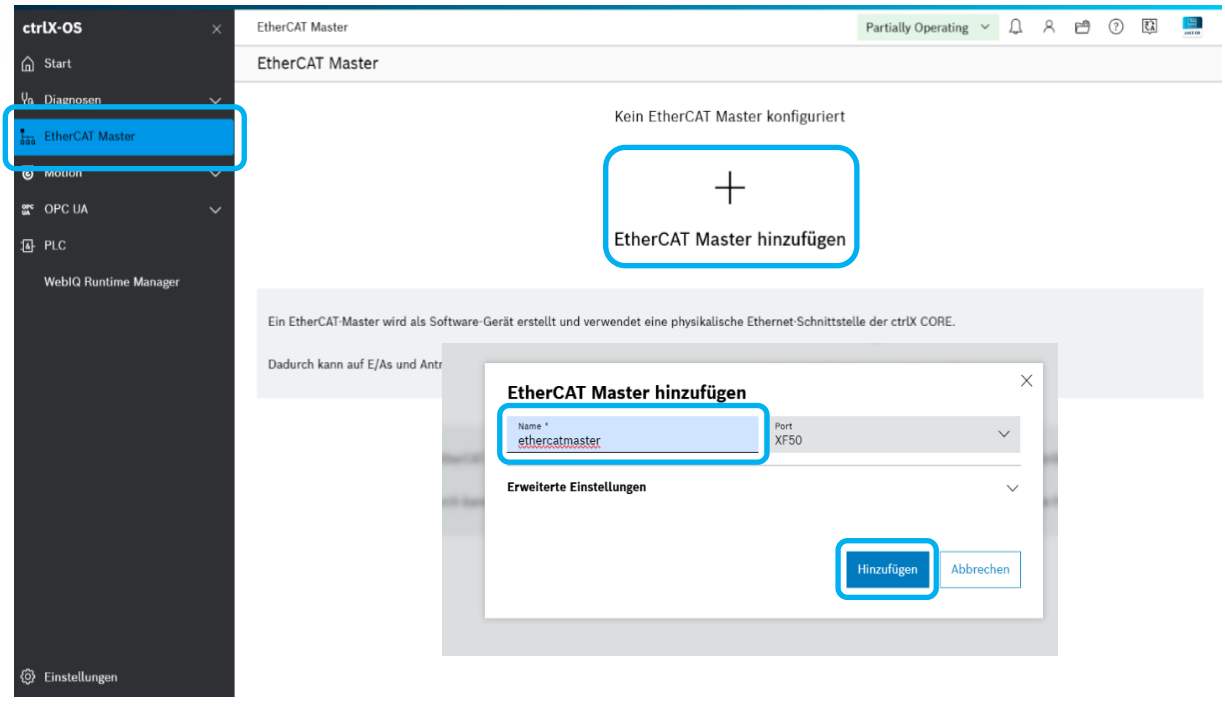


Note

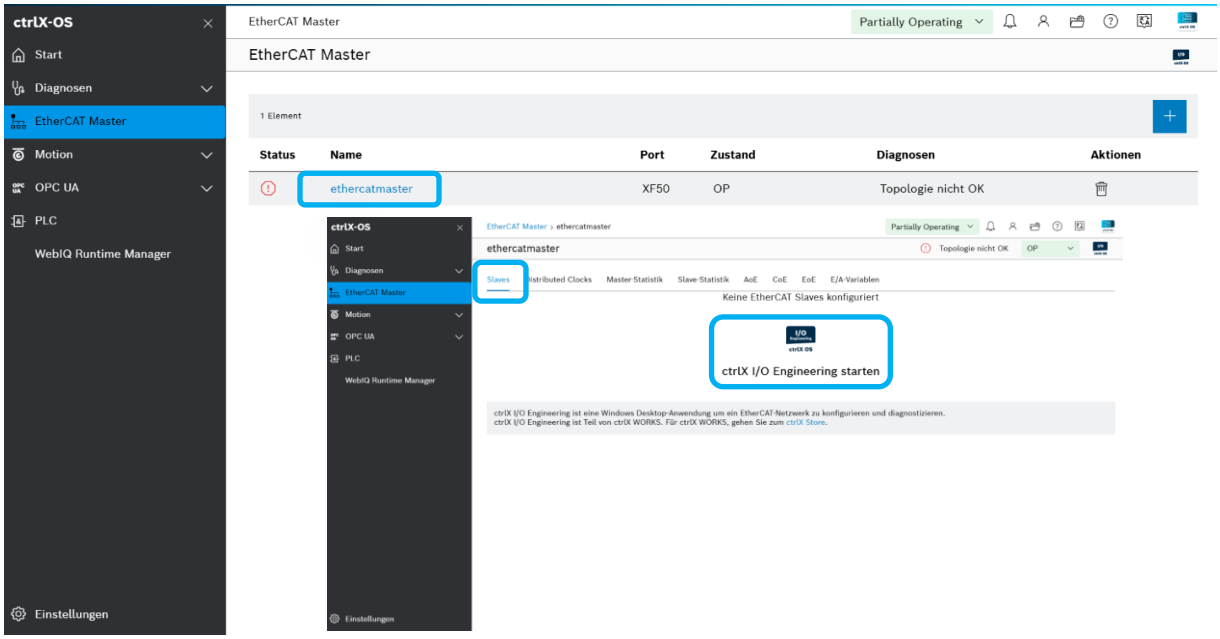
Make sure that the laptop and the PLC are within the same network through the IP settings

2.2 Configuration EtherCAT Master

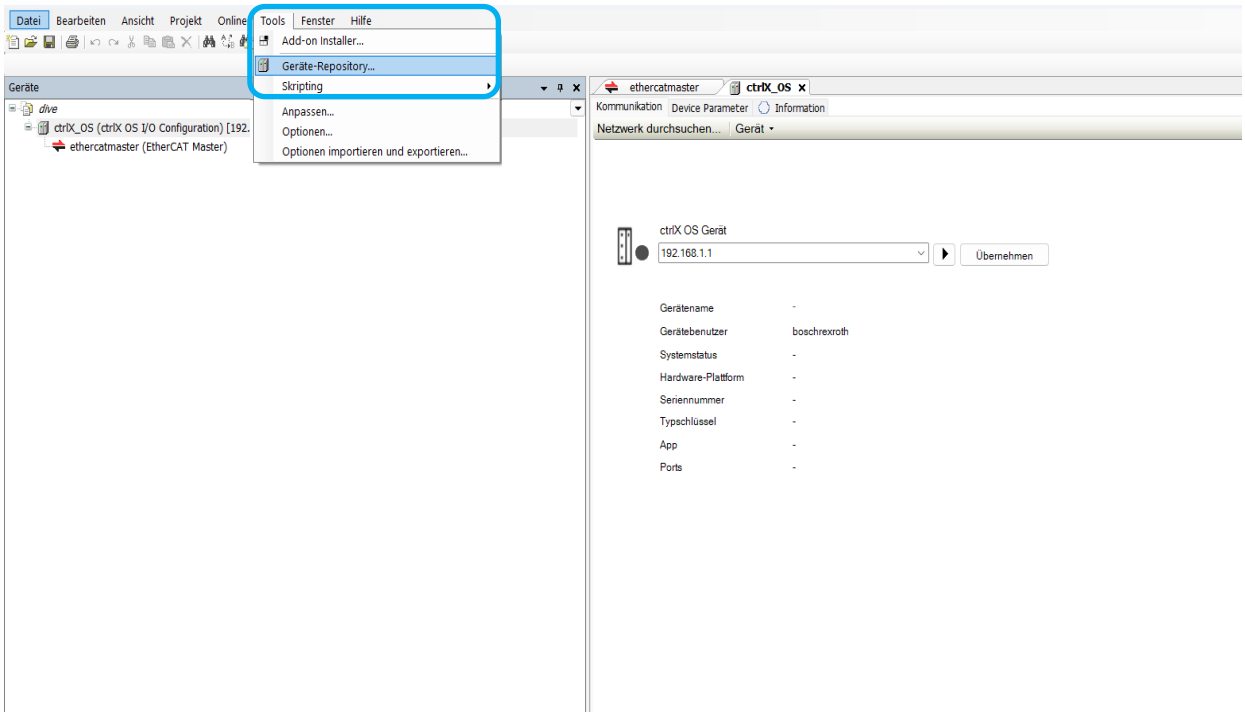
1. Adding an EtherCAT master in the ctrlX-OS web interface



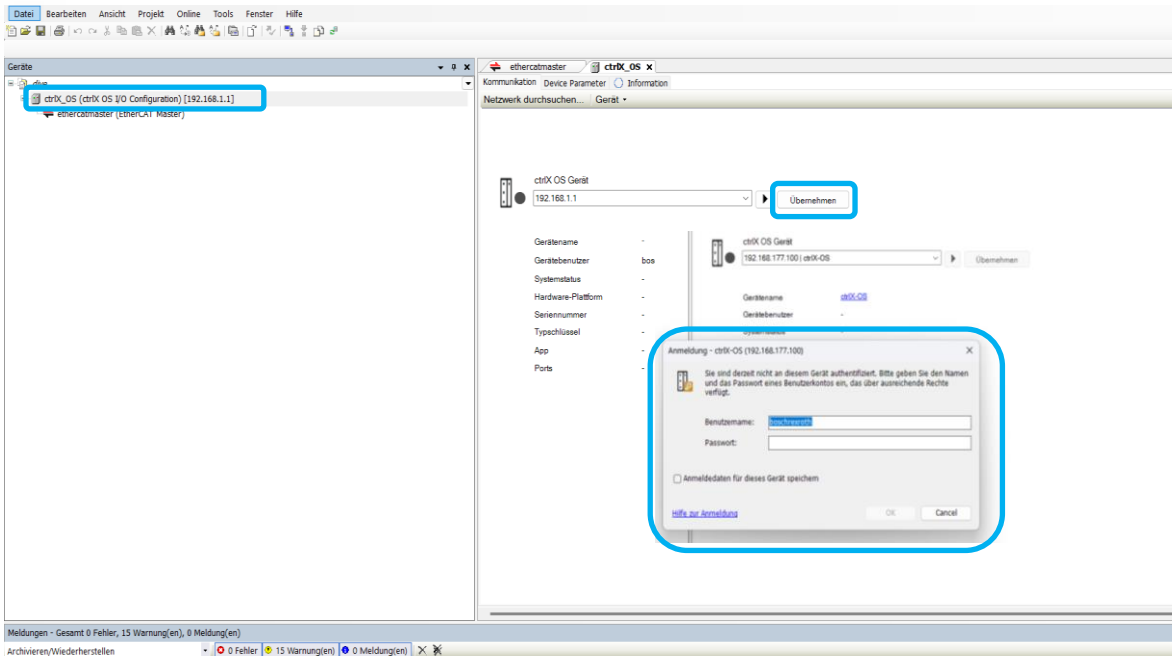
2. Open ctrlX I/O Engineering



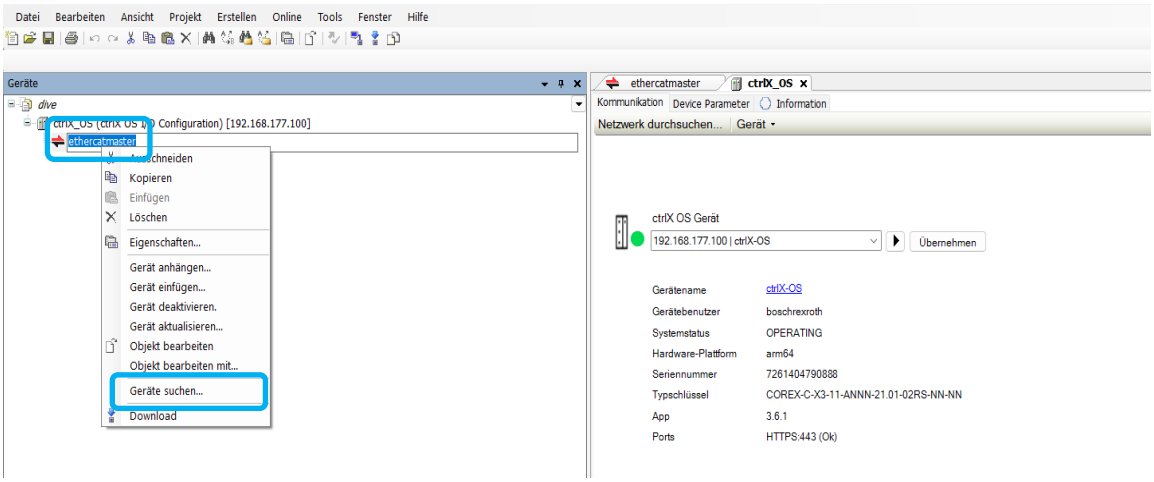
3. Installing the EtherCAT XML files



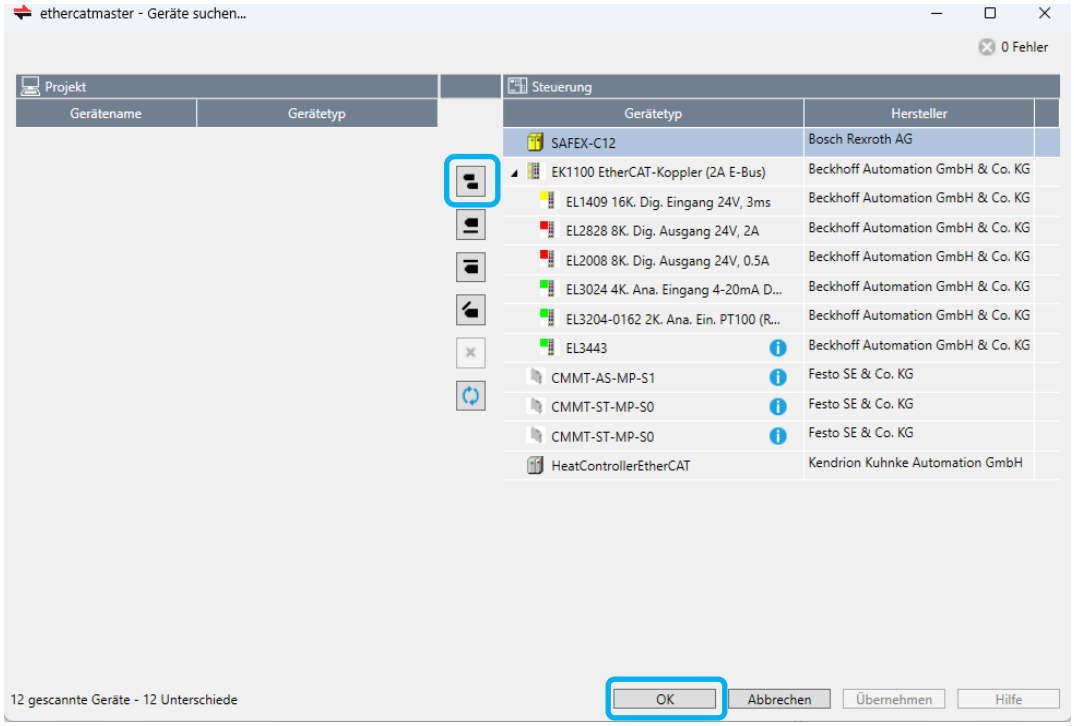
4. Connect to the controller via the correct IP address
5. Select IP address and press play button
6. Log in to the PLC with administrator password



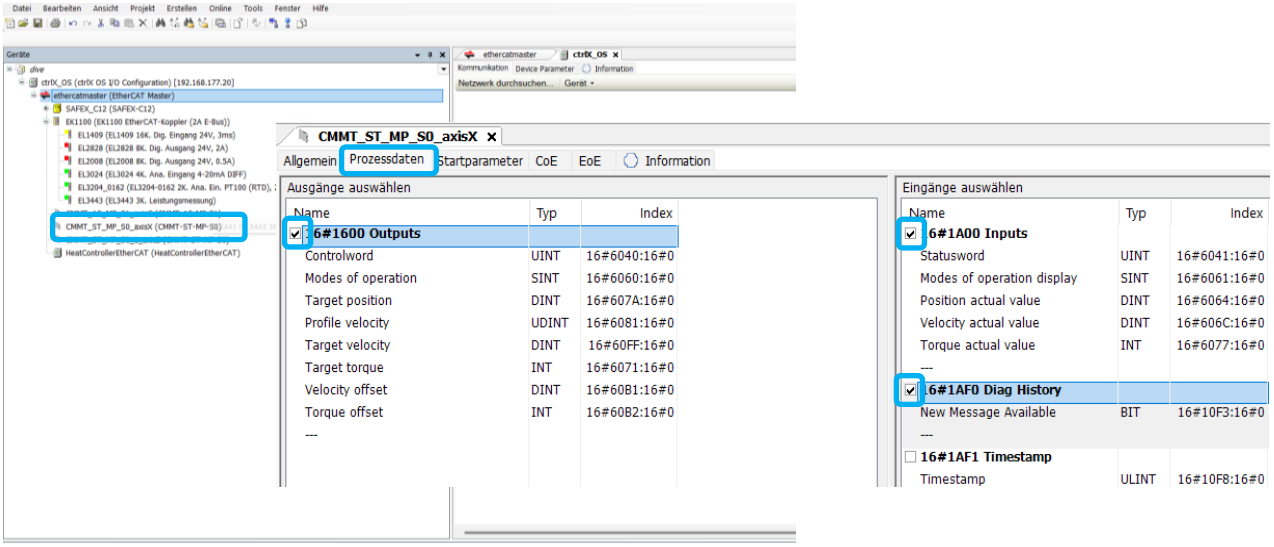
7. Online search for EtherCAT devices ➔ Right-click on EtherCAT Master ➔ Search devices



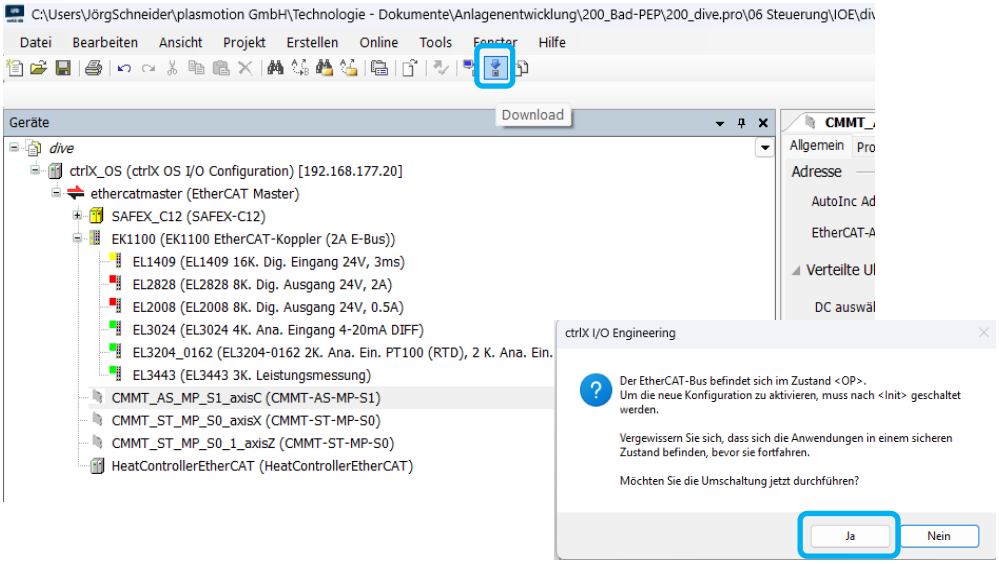
8. Copy online devices into the project using the top button and confirm with OK



9. Activate process data for the drive controller
   ➔ Open CMMT settings ➔ Process data tab ➔ Activate checkbox

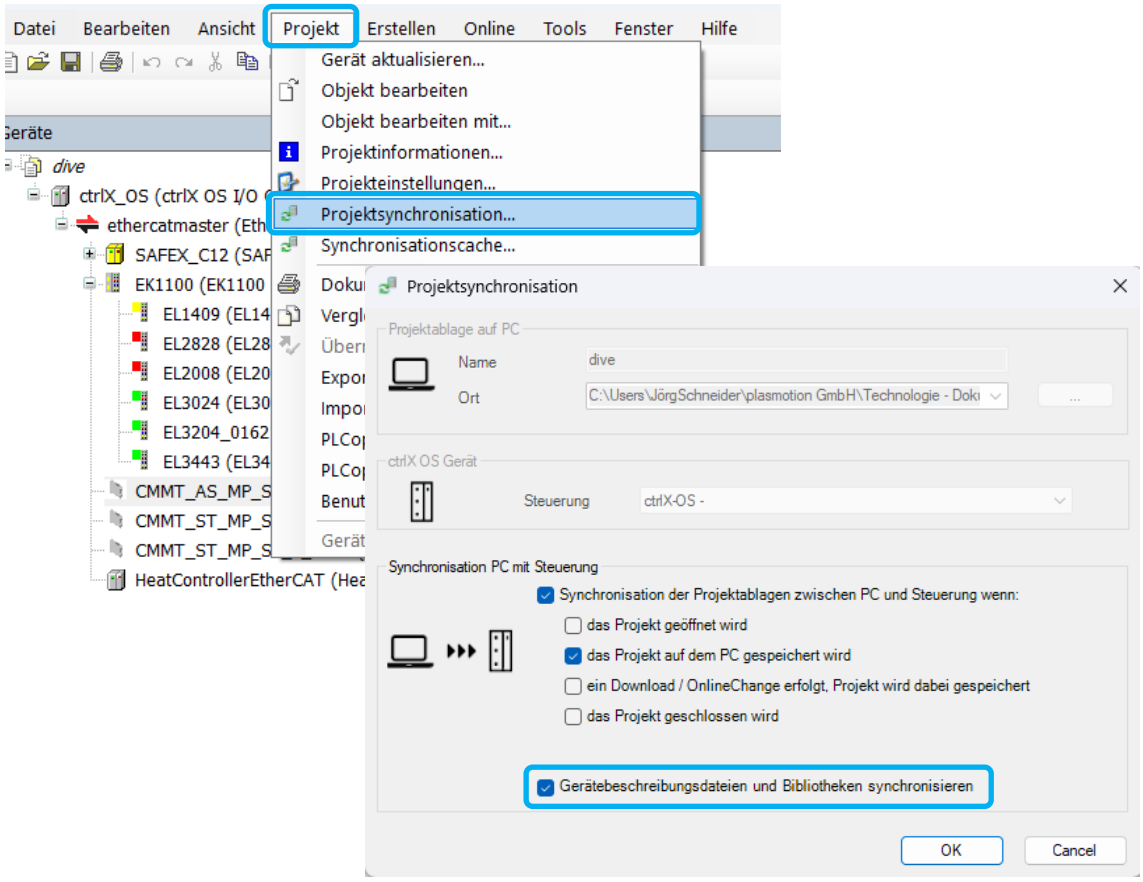


10. Download EtherCAT configuration ➔ Start EtherCAT Master



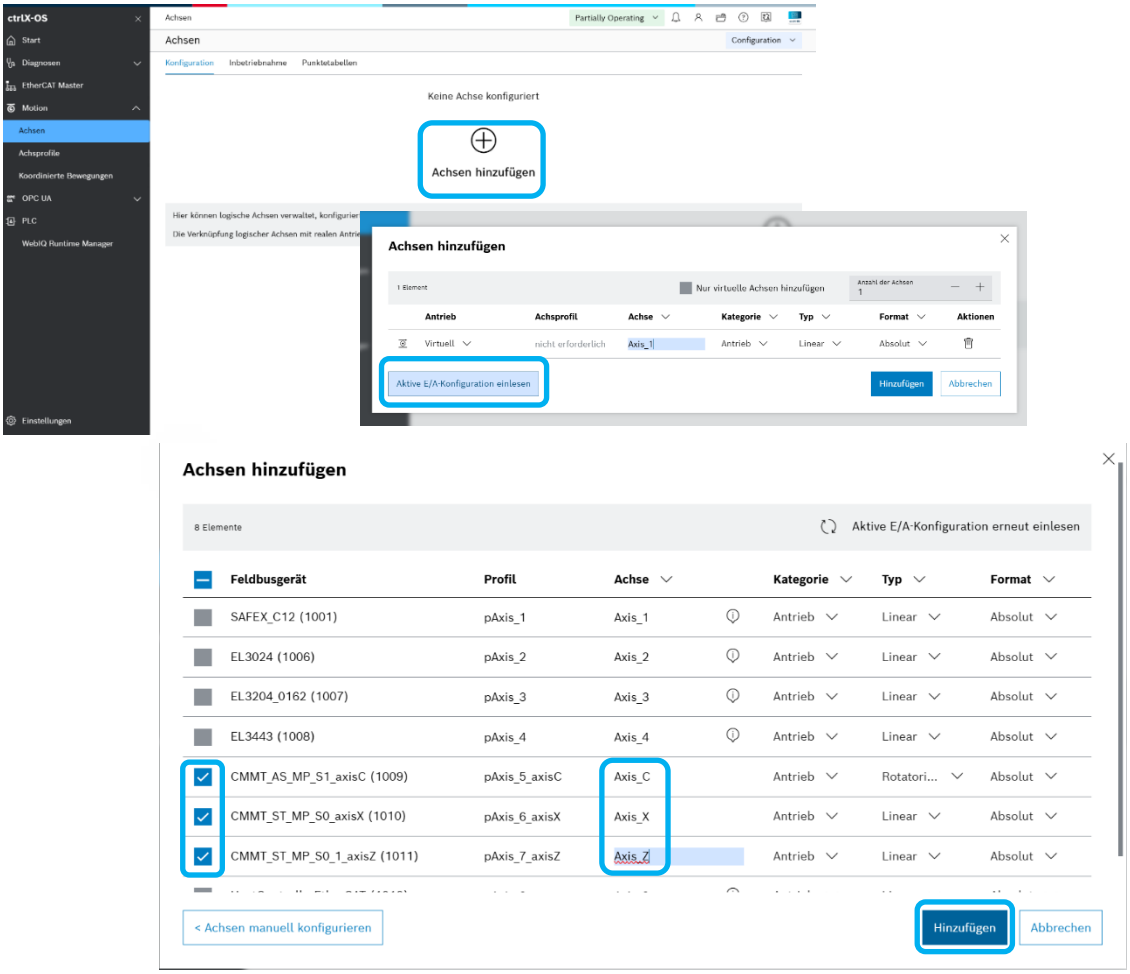
3 General settings

Set the check box to synchronize device description files and libraries

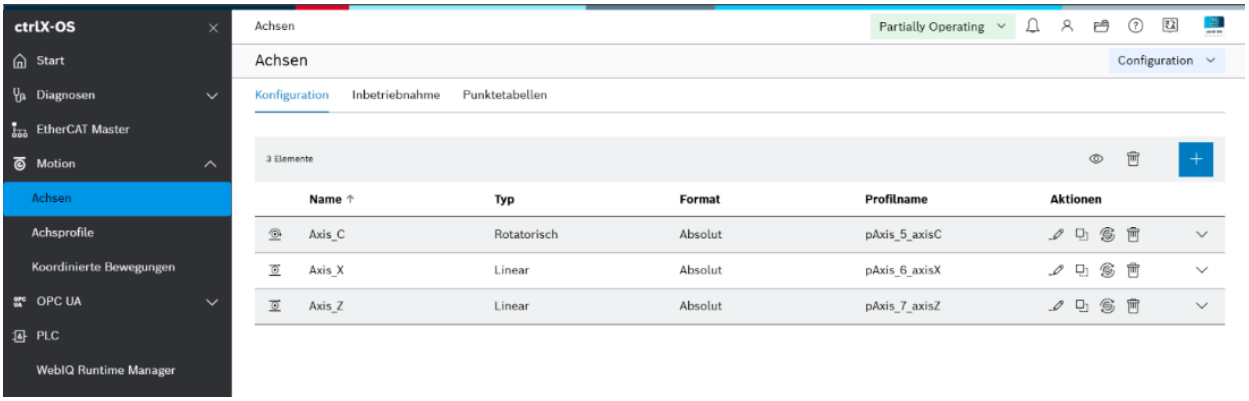


4 crtlX – create motion axis

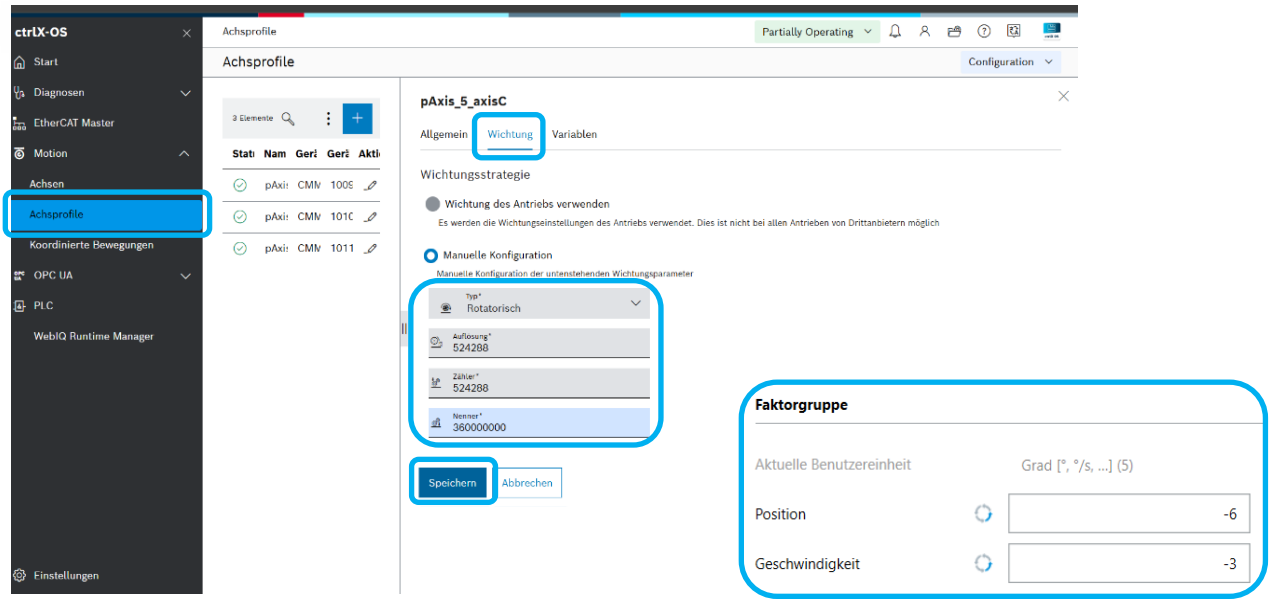
1. Add axis with "+" ➔ Read active I/O configuration ➔ Select CMMT Controller and edit axis name ➔ Add button



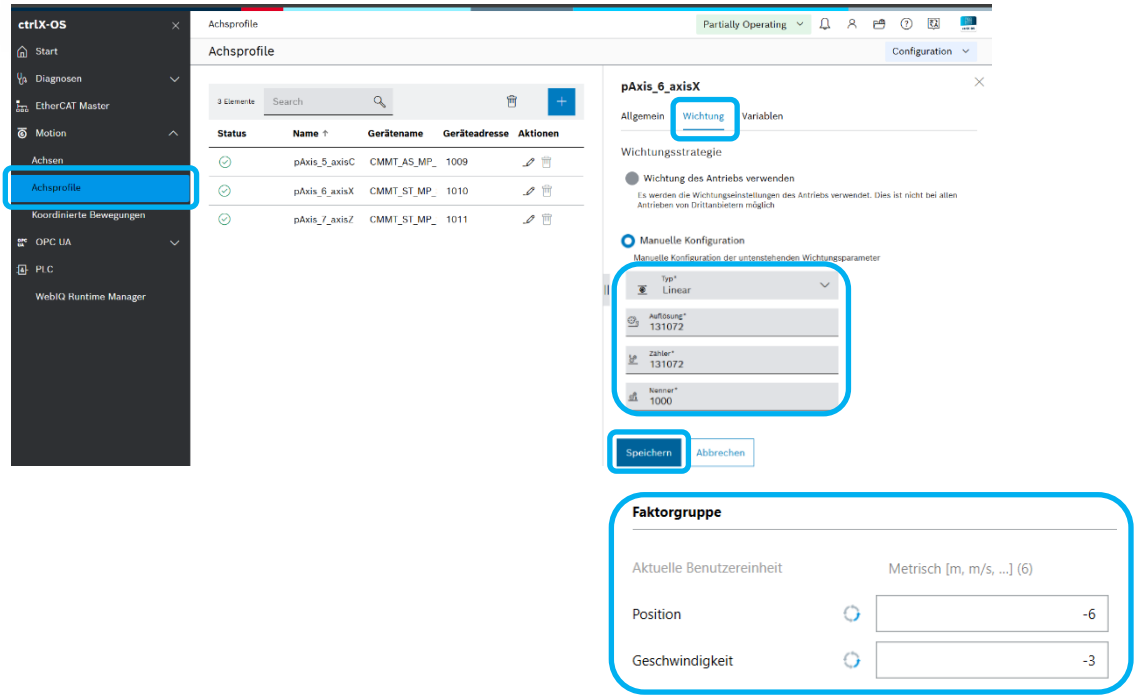
2. Adding axes is completed



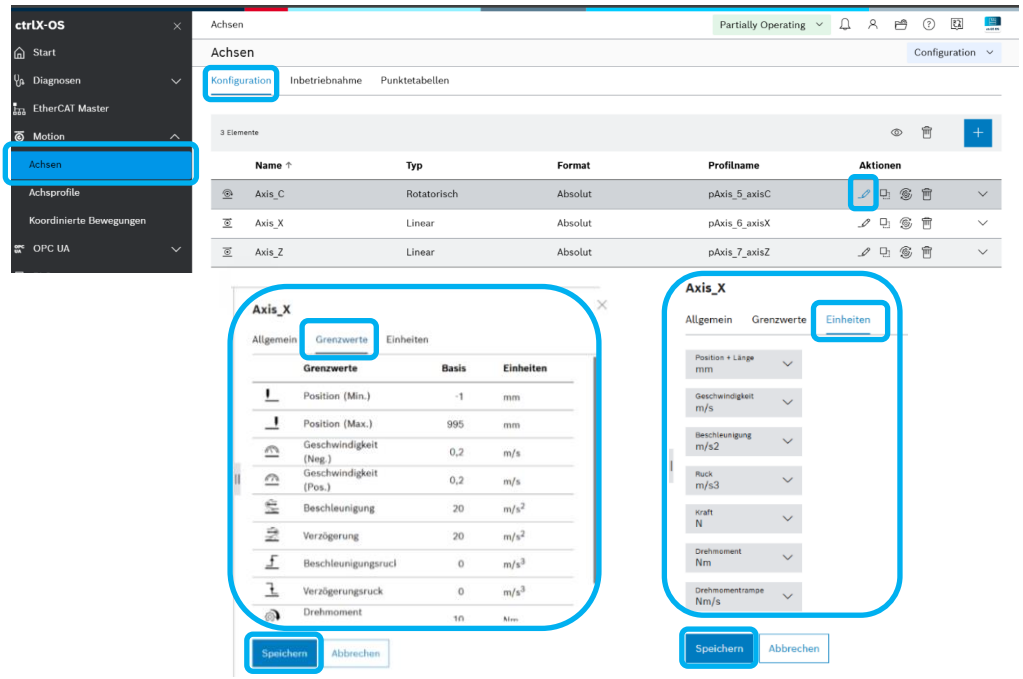
3. Axis profile settings - Manual weighting settings for **rotary axis.** The value for resolution and counter is determined by the encoder resolution of the motor (example 19bit = 524288), Denominator := 360.000.000 (360° ➔ Resolution in conjunction with the factor group in Festo Automation Suite)



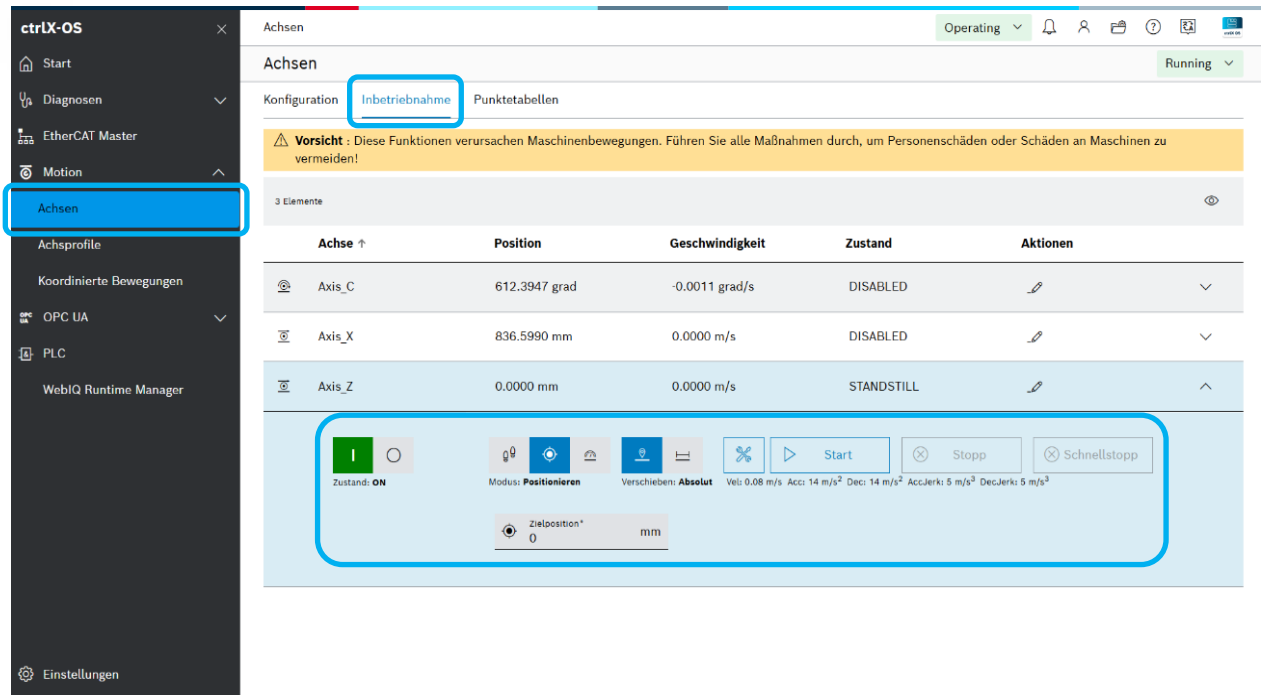
4. Axis profile settings - Manual weighting settings for **linear axis.** The value for resolution and counter is determined by the encoder resolution of the motor (example 17bit = 131072), Denominator := 1000 (Resolution in conjunction with the factor group in Festo Automation Suite ➔ Target value specification in mm)



5. Setting of units and limit values. Limit values are based on application



5 Commissioning/ testing/ manual movement



6 Programming

1. Open ctrlX PLC Engineering
2. Copy the axis name from ctrlX for the variable declaration