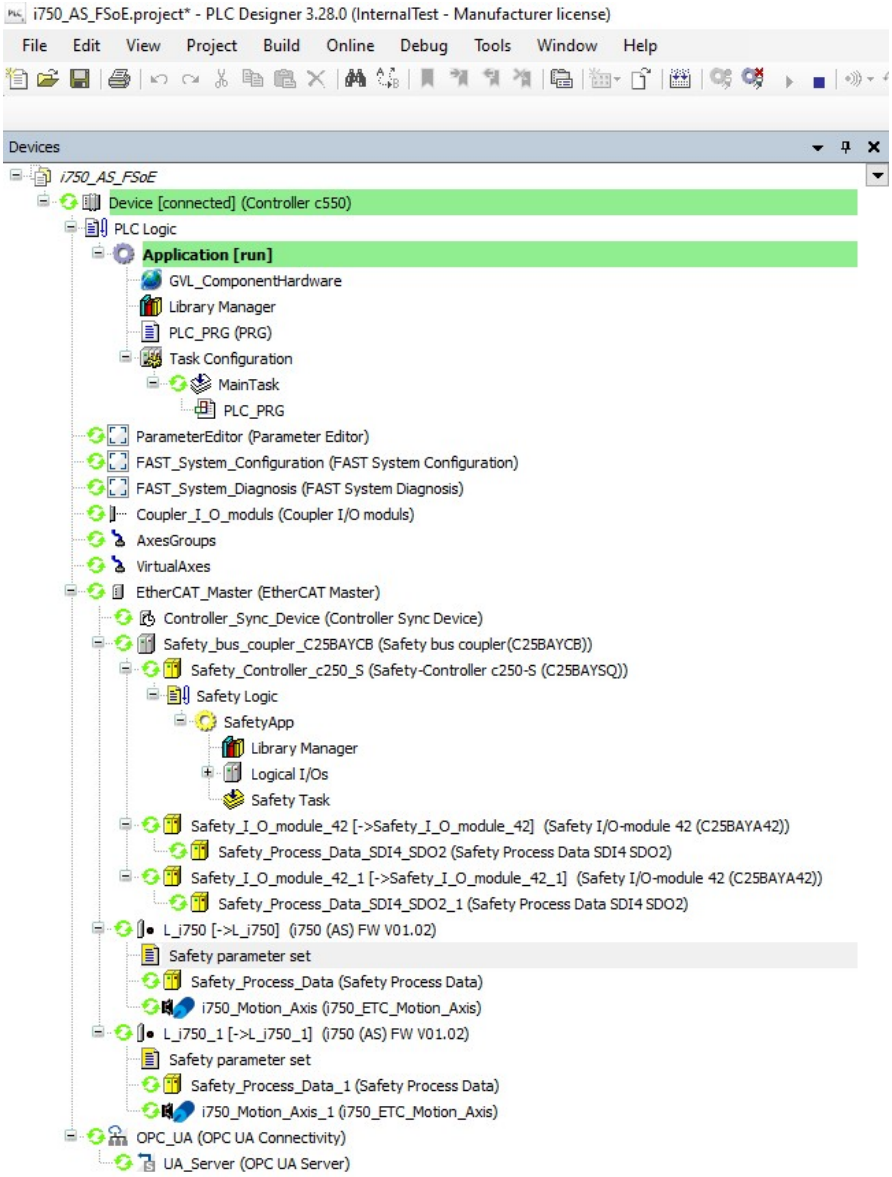
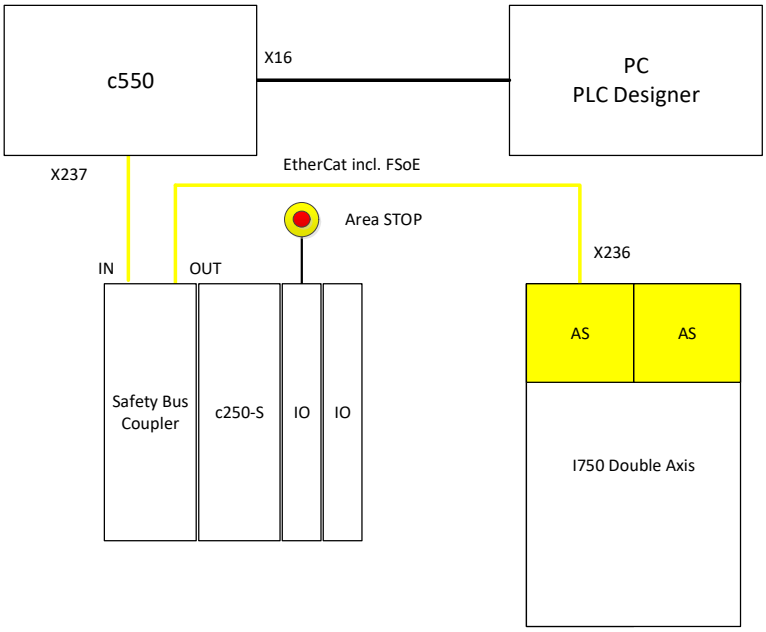
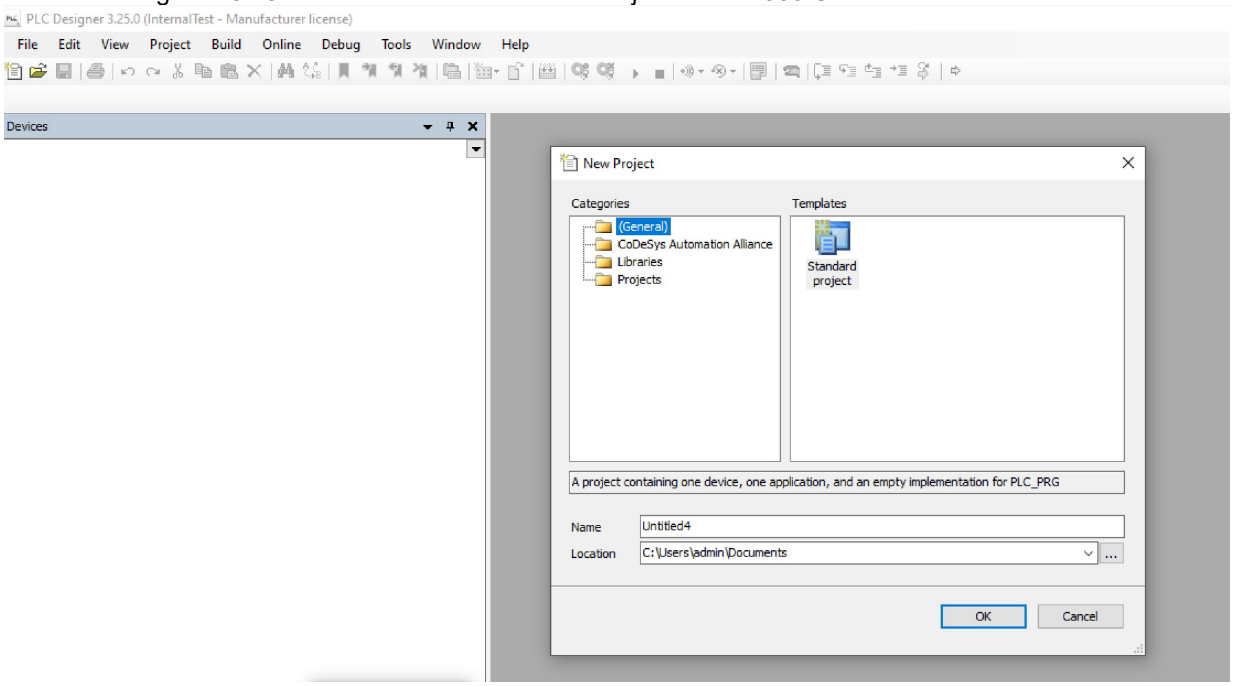
Commissioning manual for i750AS connected via FSoE to c250-S

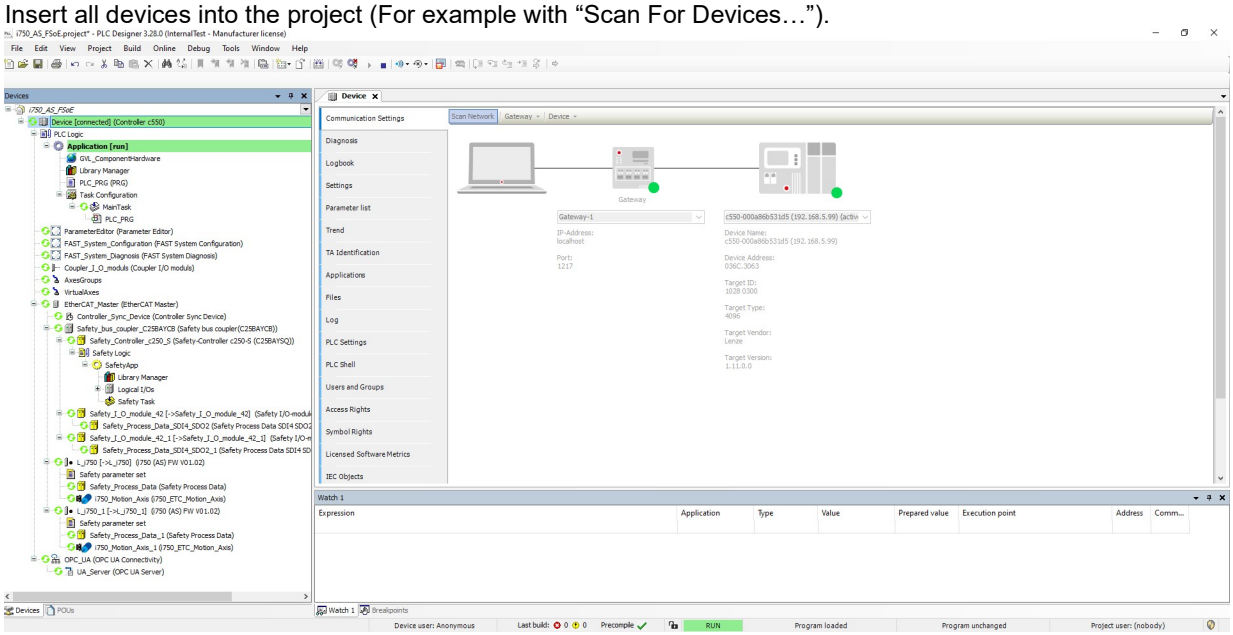
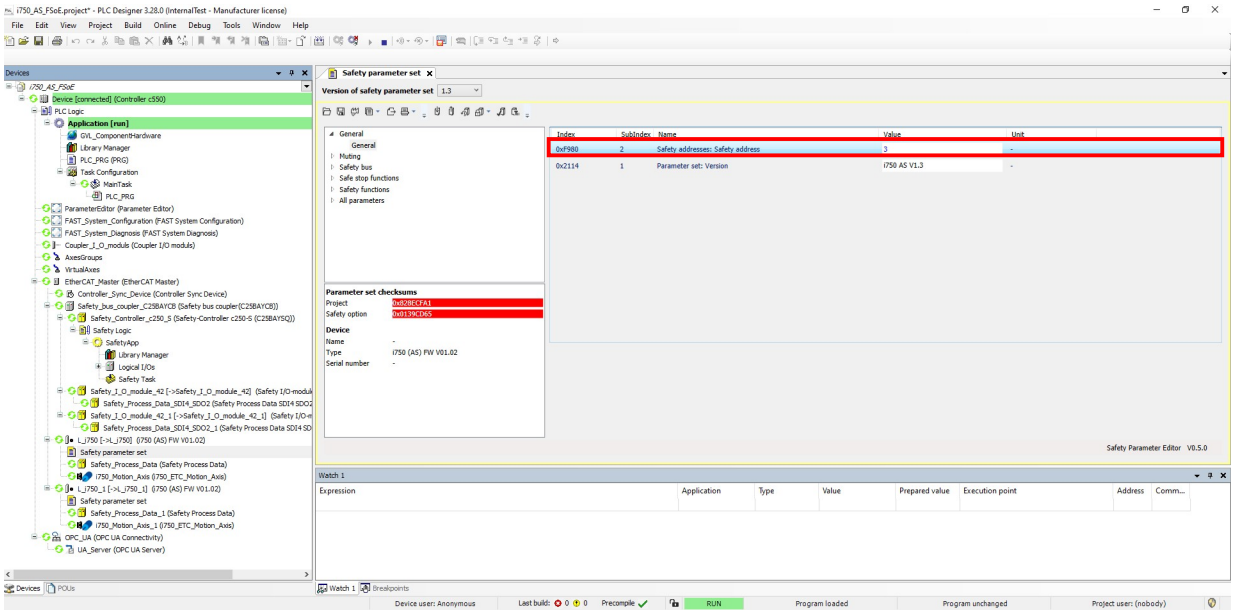
This document describes how the Lenze c250-S safety controller with an i750AS is commissioned. The standard controller is a Lenze c550. STO is activated via S-bus.

Used PC-Software: PLC Designer V3.28
Used Devices: c550 FW V1.11.0.3985, Device Description V1.11.0.17
Safety Controller c250-s V1.2.0, Device Description V1.0.0.6
Safety I/O module 42 V1.01, Device Description V1.0.0.7
Double Axis i750 AS FW V1.2.0.714, Safety FW 1.3.06.10382

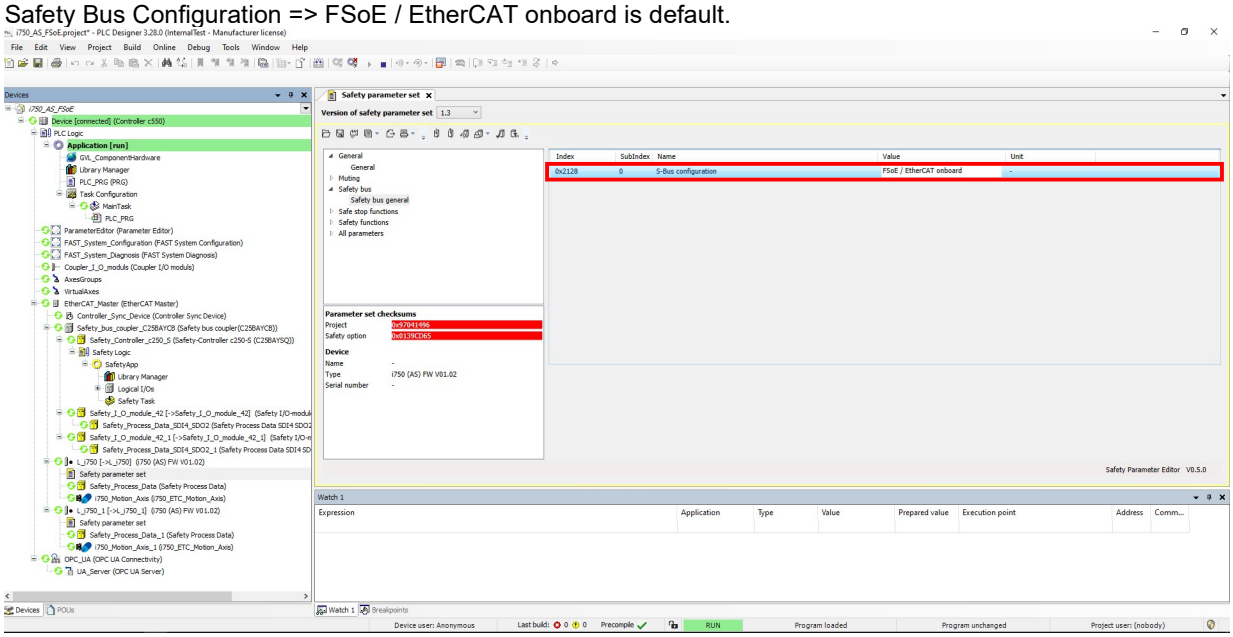




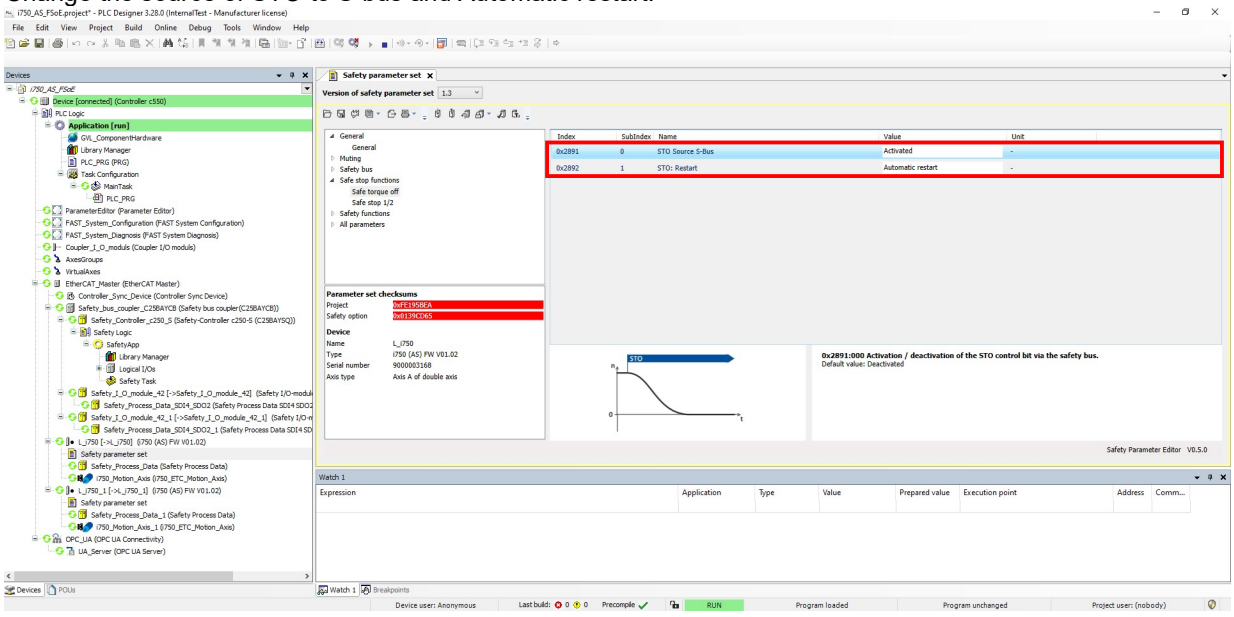
1	**PLC Designer:** Start Plc Designer V3.28 and create a new Standard Project with a c550 Controller. 

2	**EtherCAT:** Insert all devices into the project (For example with “Scan For Devices…”). 
3	**i750 AS Safety Settings:** Set the Safety Address. The Safety Address is the FSoE Address as well. The FSoE Address must be unique in the EtherCAT network. 

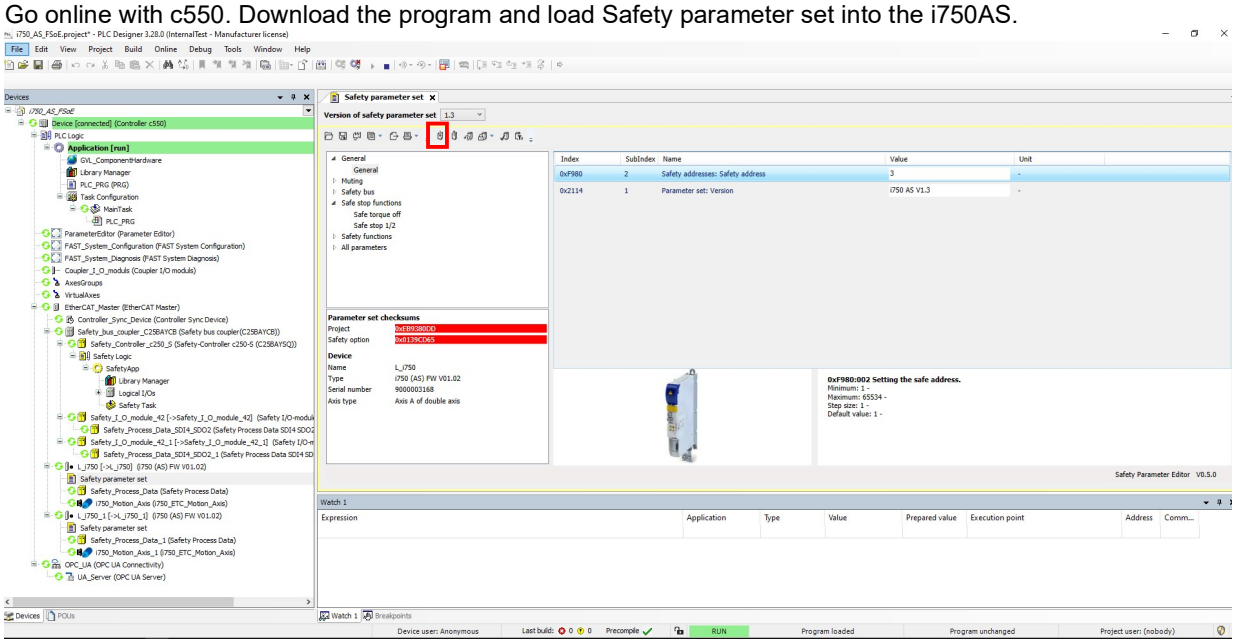
Safety Bus Configuration => FSoE / EtherCAT onboard is default.



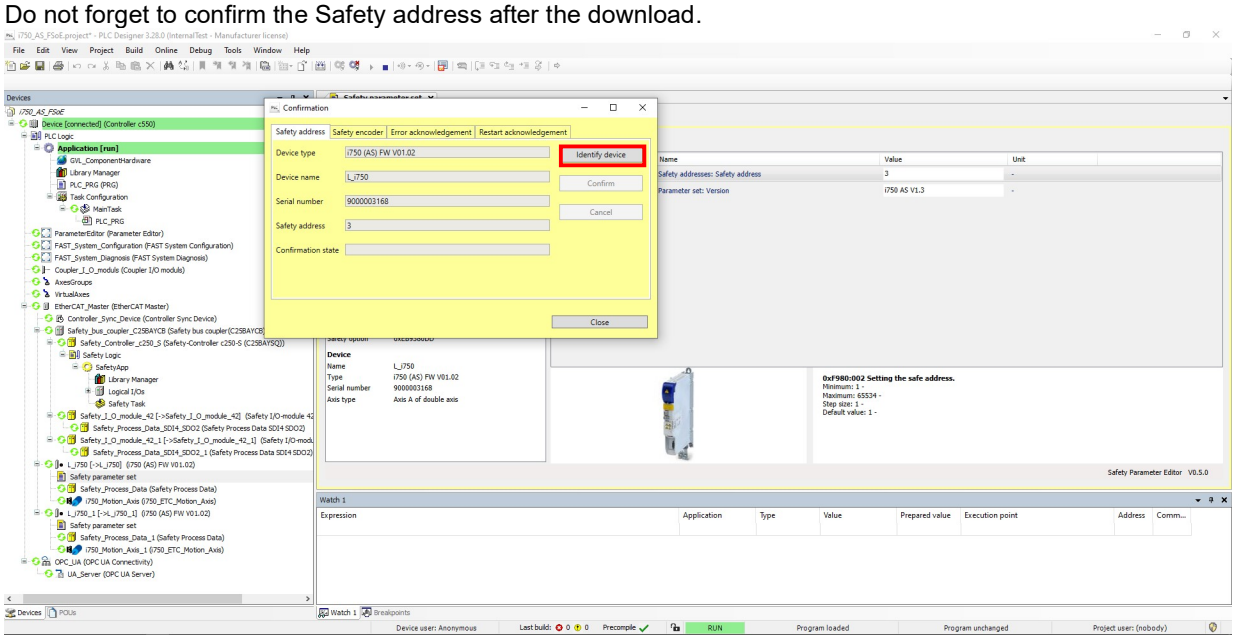
Change the source of STO to S-bus and Automatic restart.

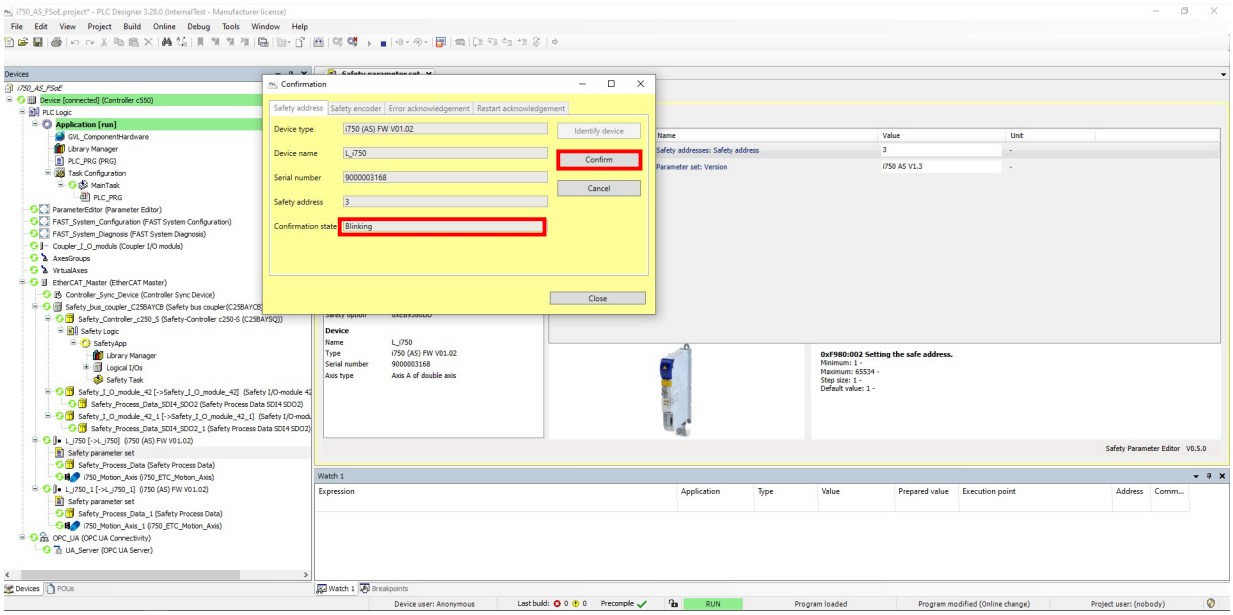


Go online with c550. Download the program and load Safety parameter set into the i750AS.

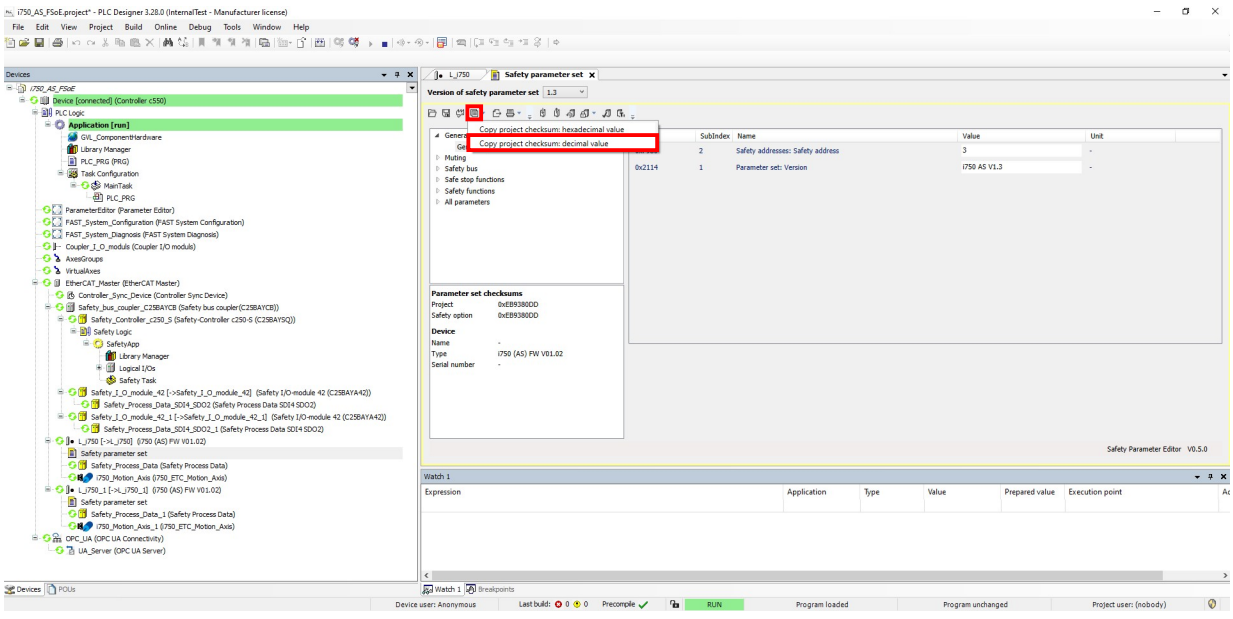


Do not forget to confirm the Safety address after the download.

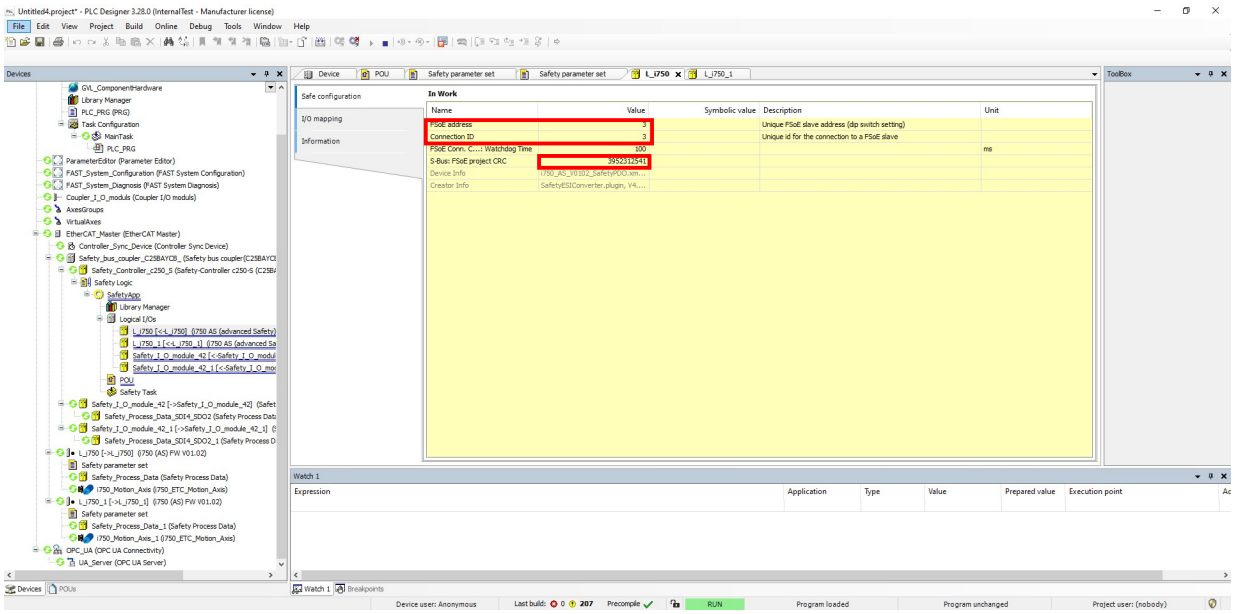




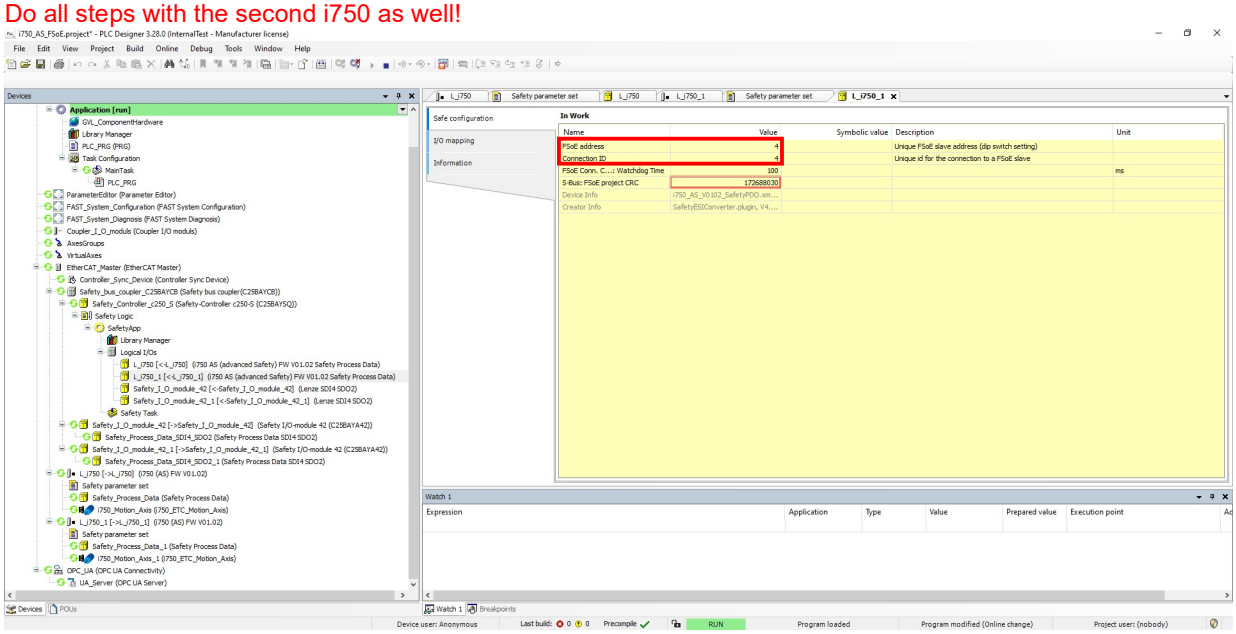
4 **FSoE:**
Insert in the Safety Plc the FSoE functionality.
The CRC (dec) of the i750 Safety parameter set is needed.
L_i950 => Diagnosis => Safety



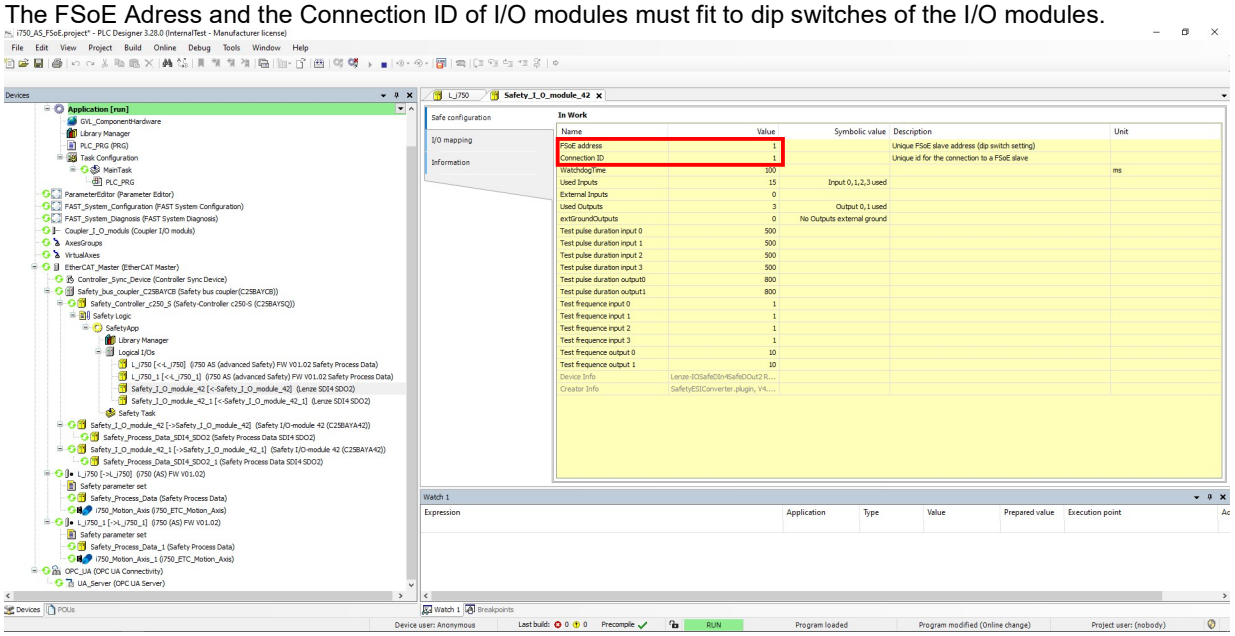
Change over to the Safety controller and open the Logical I/O of the i750. Copy the CRC of the i750 to Safe configuration.
Insert the FSoE Adress and the Connection ID to the same value, as the Safety Address of i750.

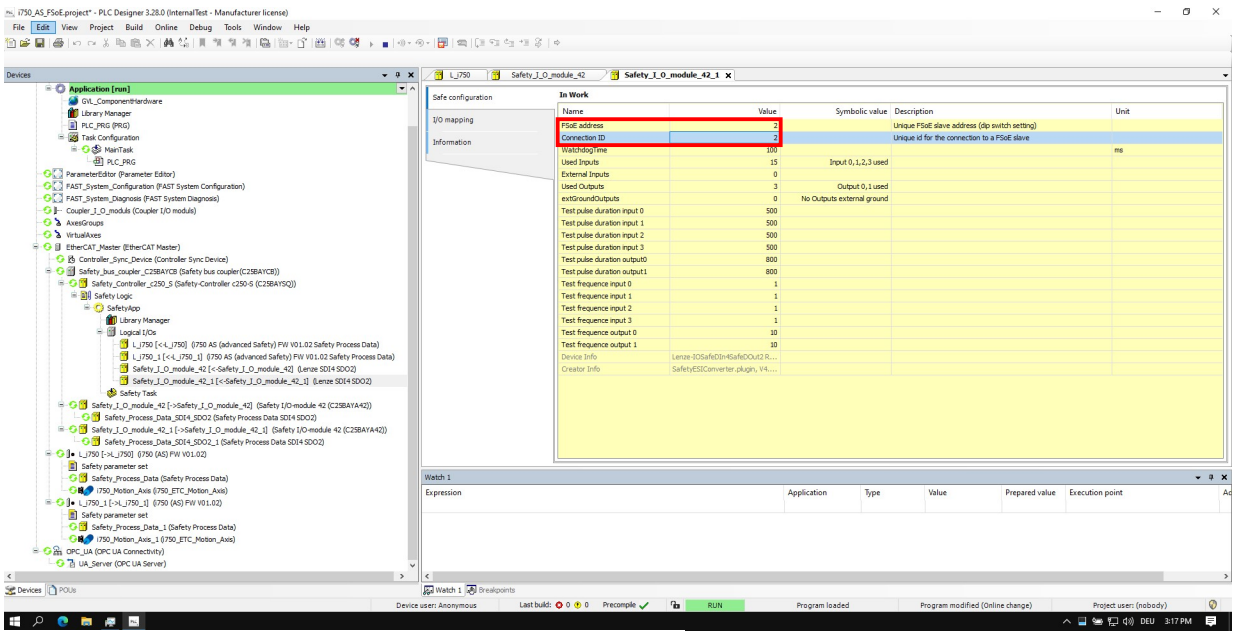


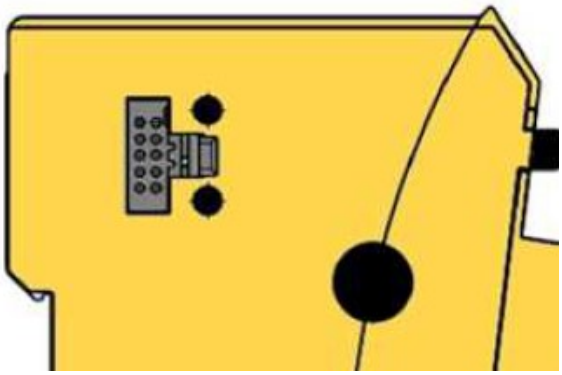
Do all steps with the second i750 as well!



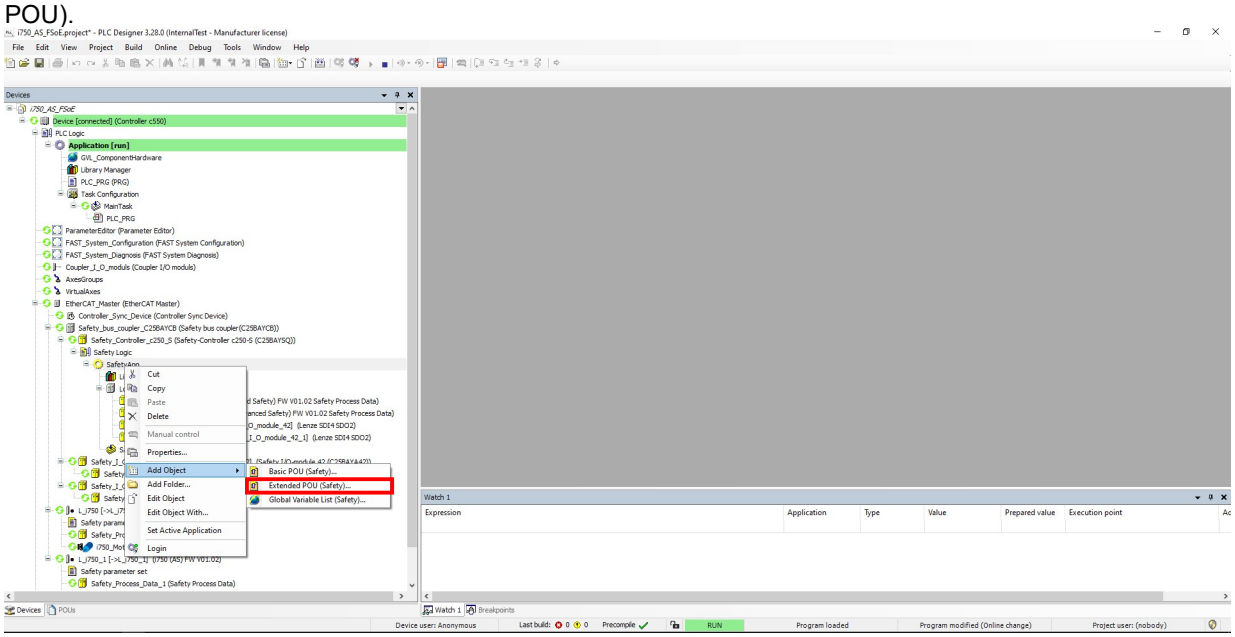
The FSoE Adress and the Connection ID of I/O modules must fit to dip switches of the I/O modules.



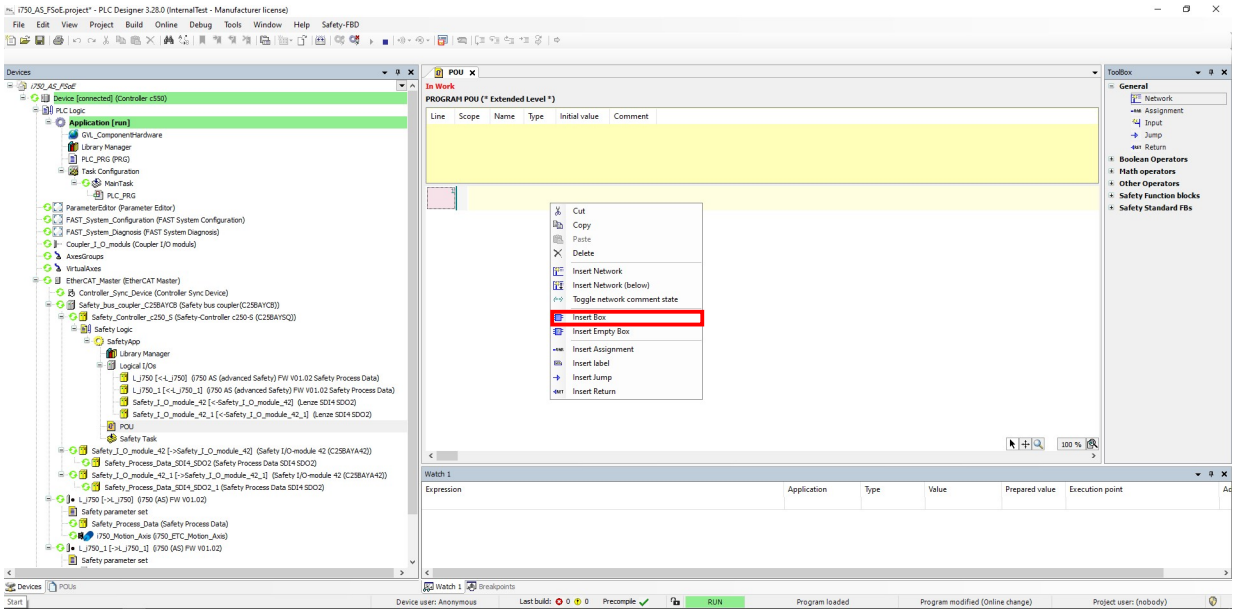


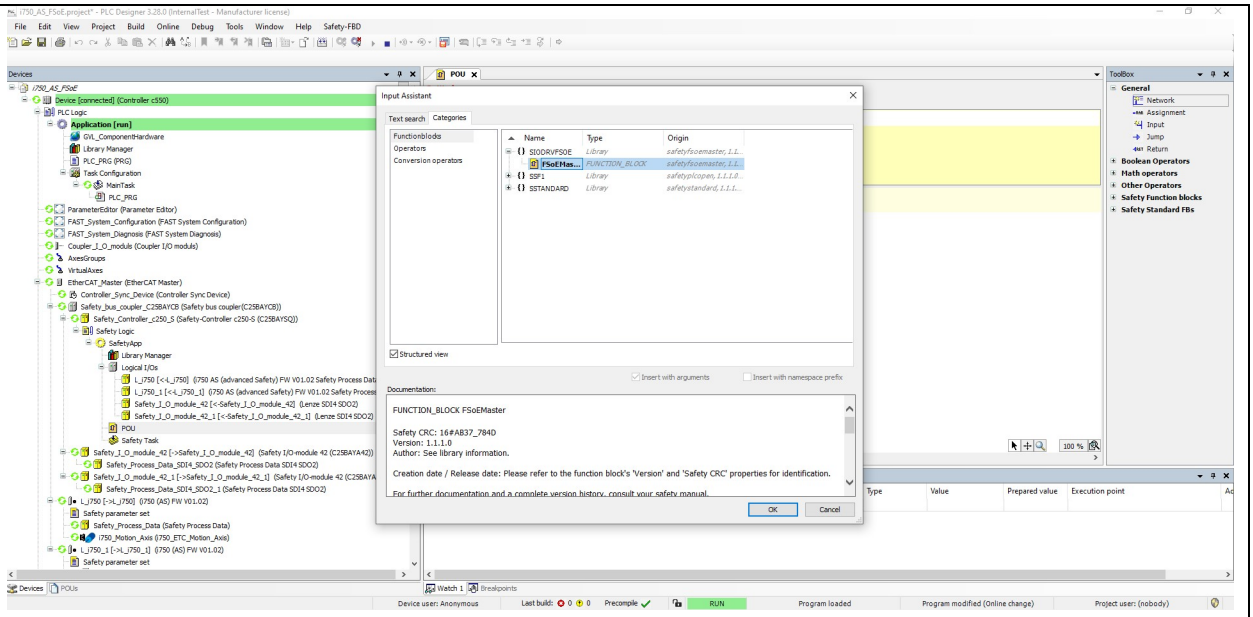


Insert a new POU into the Safety controller. Right mouse click on SafetyApp=> Add Object => Extended POU).

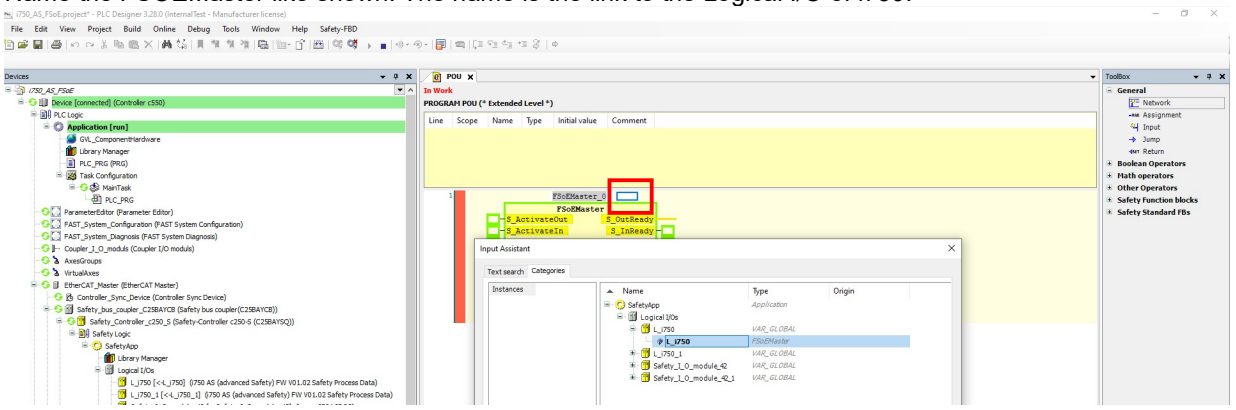


Insert in the POU a new box with Right-mouse-click. Choose from the library SIODRVFSOE the function block FSoE Master.

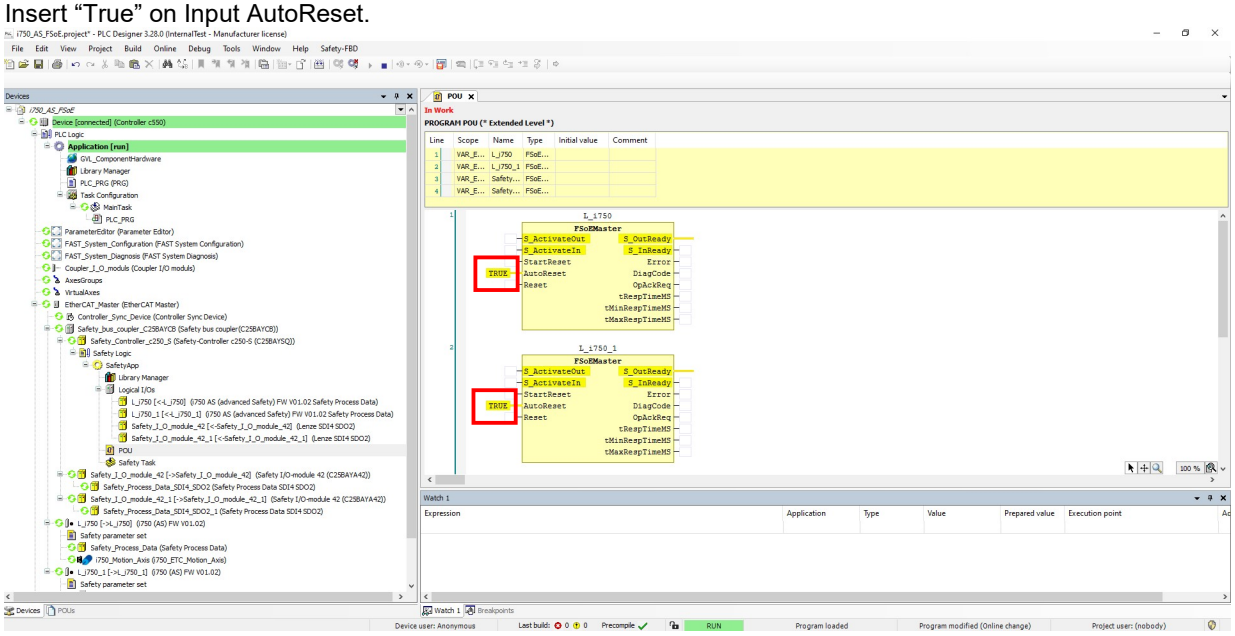




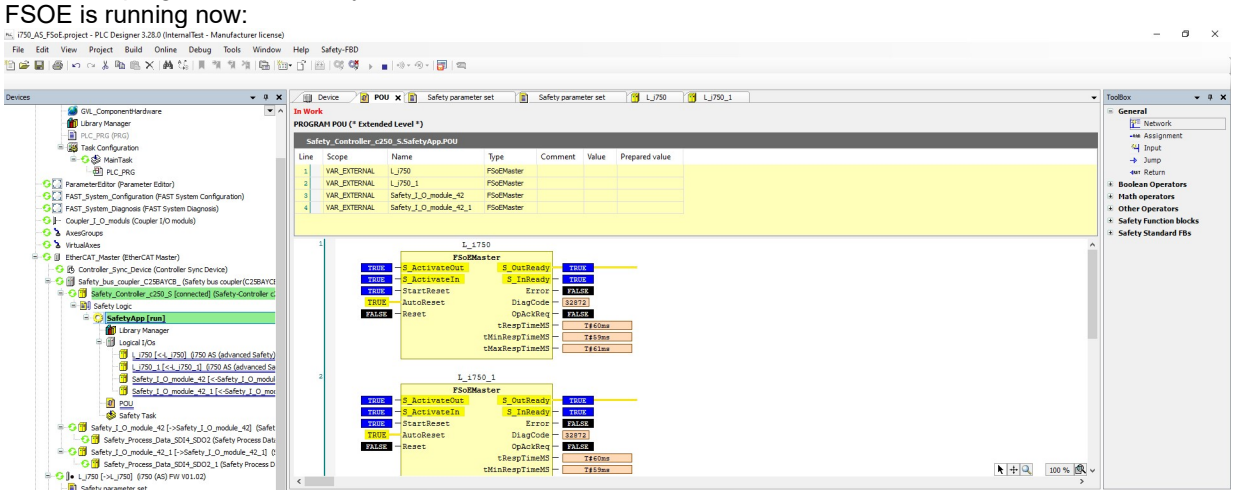
Name the FSOEMaster like shown. The name is the link to the Logical I/O of i750.

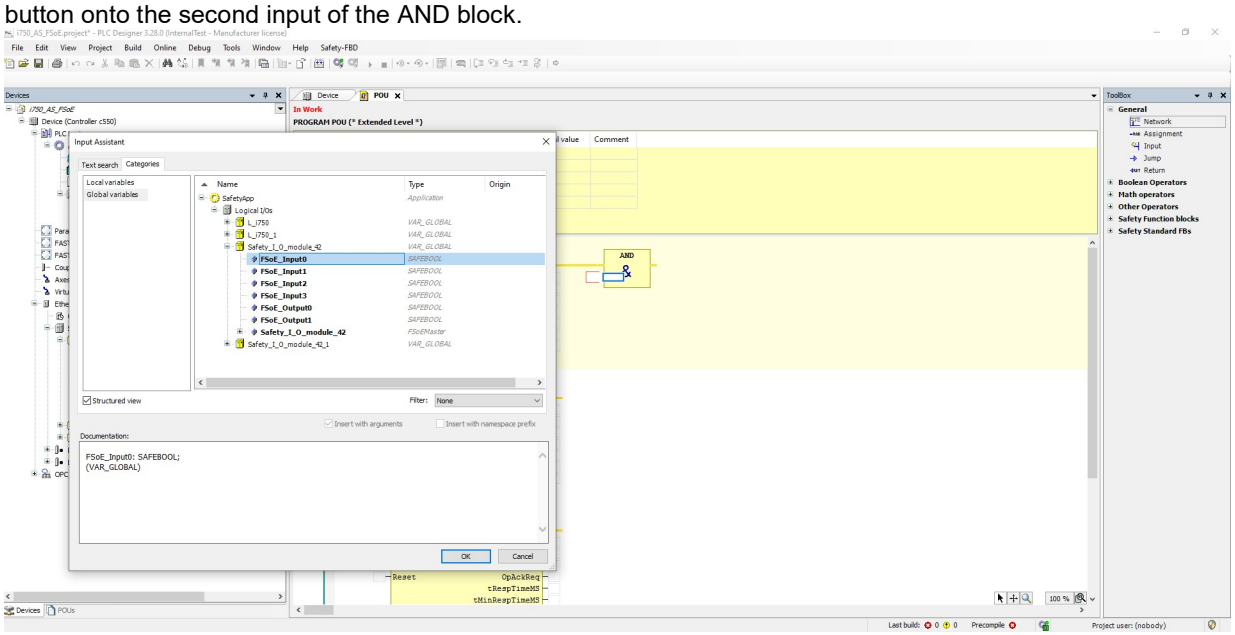
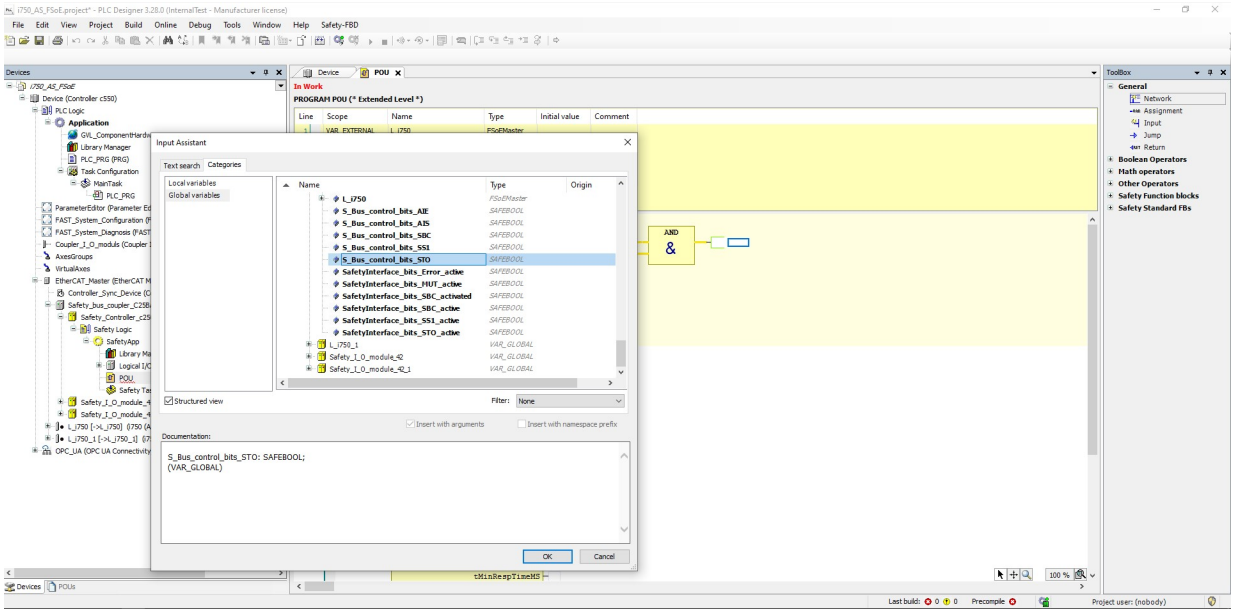


Do that for the I/O slices and the second i750 also.
Insert “True” on Input AutoReset.



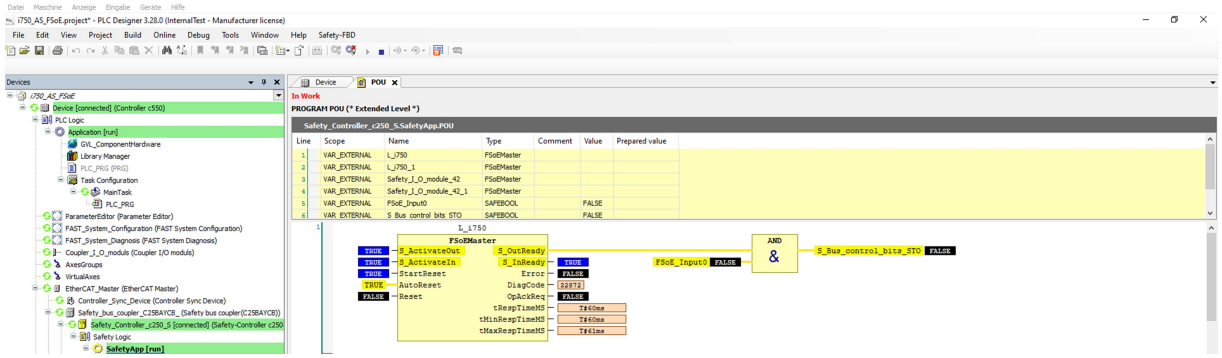
Download program to the Safety Controller.
FSOE is running now:



5	**S-bus:** For using STO via S-bus the logical I/O's have to be added in the application. First add an AND block at the S_OutReady Output of the FSoE Master Block. Then put an Input for the STO button onto the second input of the AND block.  Then insert the control bit for STO. 

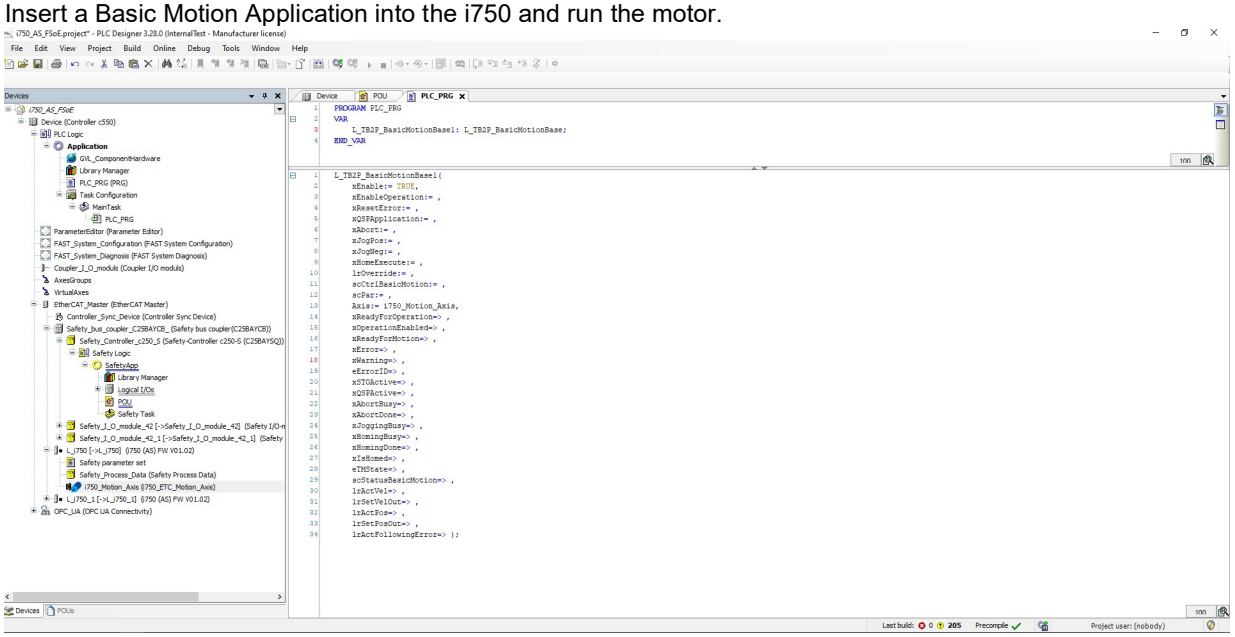
That's it!

Do all steps with the second i750 as well!

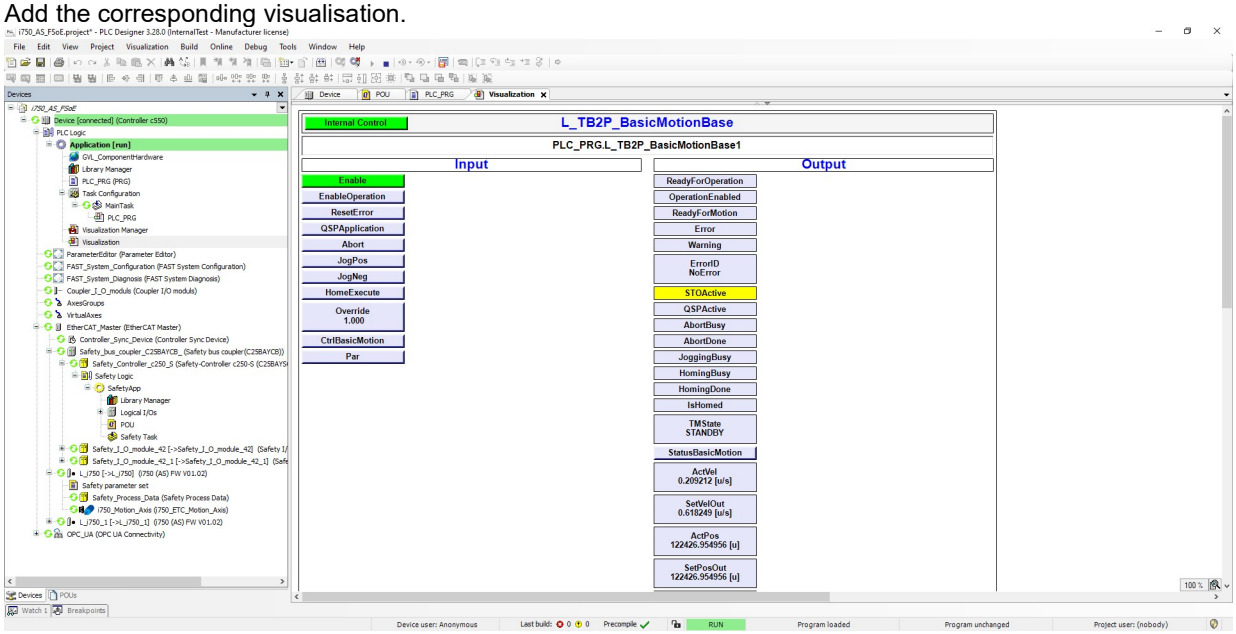


6 **i750 Application:**

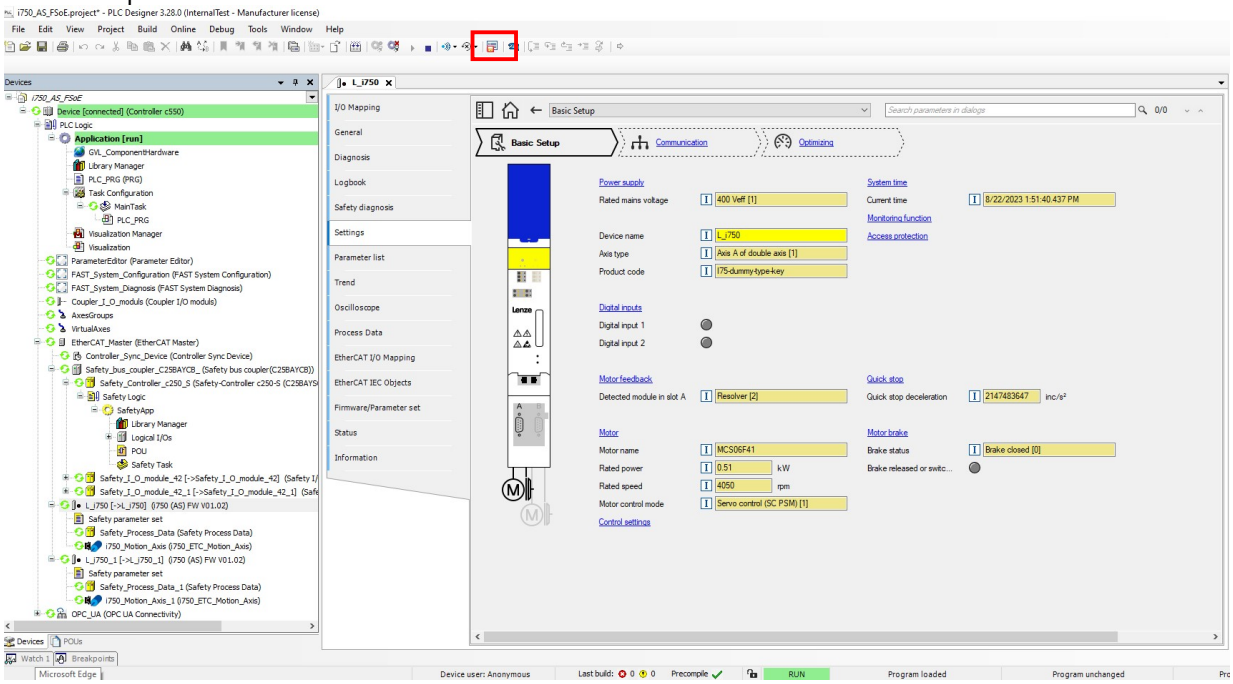
Insert a Basic Motion Application into the i750 and run the motor.



Add the corresponding visualisation.



Do not forget to choose the motor, brake, etc.! Check the Soft motion parameter (mechanical data) also.
At least all parameter sets must be saved on the controller.



Do all steps with the second i750 as well!

Safety information / disclaimer:

The safety application and parameterization notes are examples of possible subfunctions in machines.

The $T10_D$ value according to DIN EN ISO 13849-1, Annex C.4.2 is only indicated if a $B10_D$ value is available and the operating time is less than 20 years.

Commissioning is prohibited until the machine has been checked in accordance with the regulations set out in the relevant EU directives / national laws.

The safety instructions contained in the technical documentation must be observed.

Using the examples does not exempt the user from careful project planning. For possible damages and consequential damages Lenze assumes no liability to the extent permitted by law.