

u-remote

Setting PROFIsafe on Siemens PLC with TIA Portal

Commissioning instructions

Revisions

Version	Date	Changes
01	05.2016	First edition

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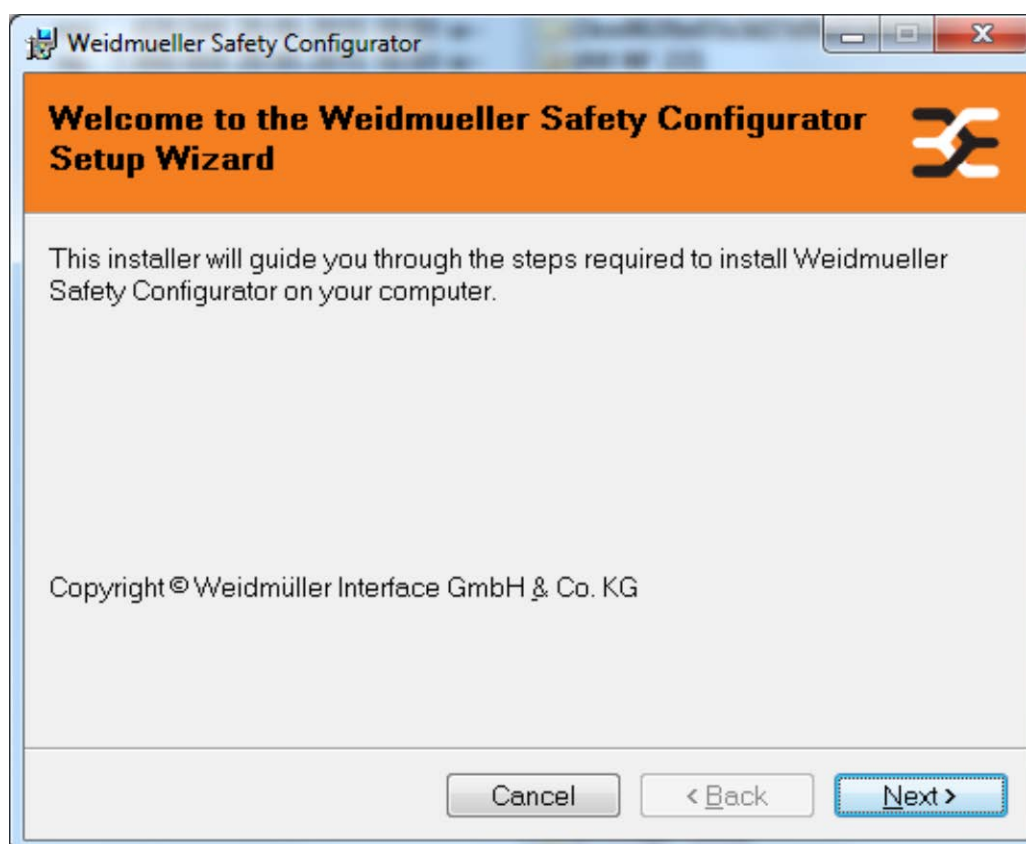
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1. Install the Weidmüller CPD – Tool

The Weidmüller CPD – Tool is an embedded program for the calculation of the check sum in STEP 7 or TIA Portal depending on the parameter set for the module UR20-4DI-4DO-PN-FSPS or UR20-8DI-PN-FSPS

- 1) Unzip the file "Setup_xx.zip"
- 2) Start the program "setup.exe" and wait until the installation is finished



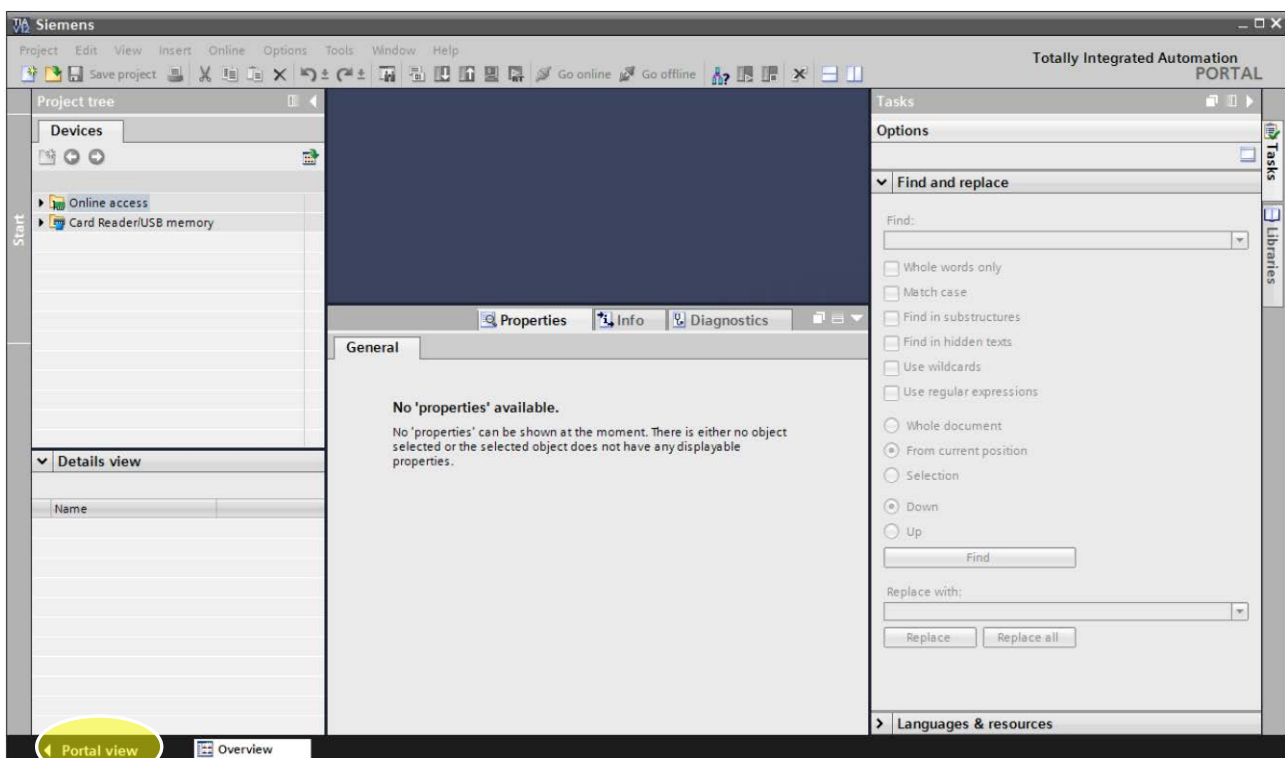
2. Creating a new project in Siemens TIA-Portal

Start TIA Portal from the desktop

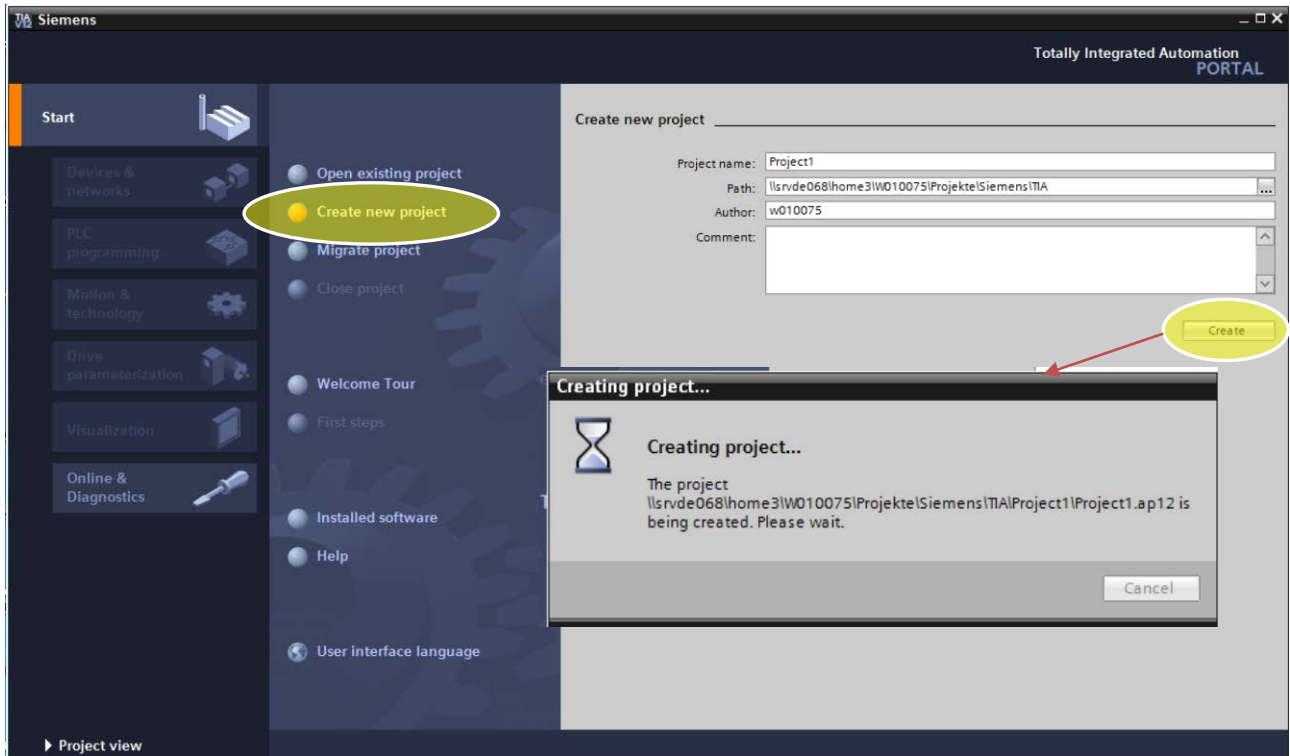
1) Double click the symbol like this



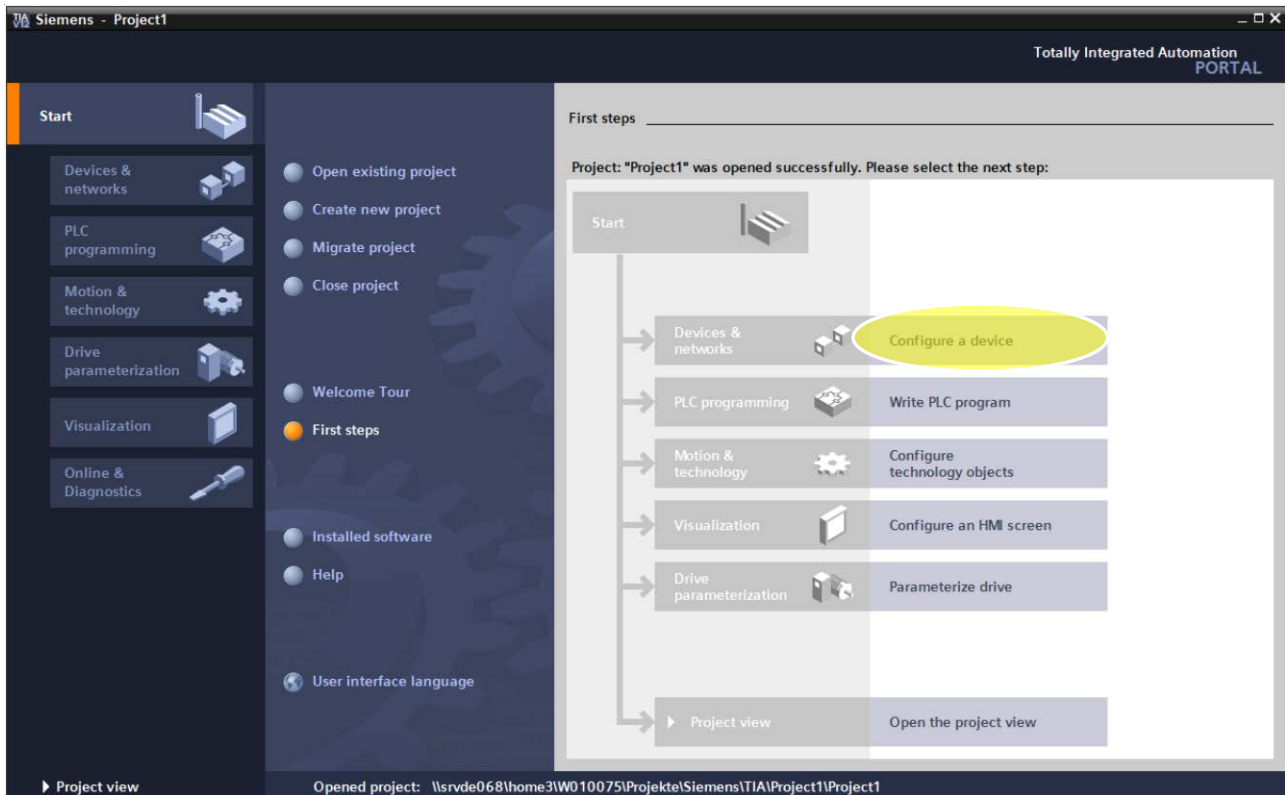
2) After TIA has opened, switch to the “Portal view” if necessary



Create a new project

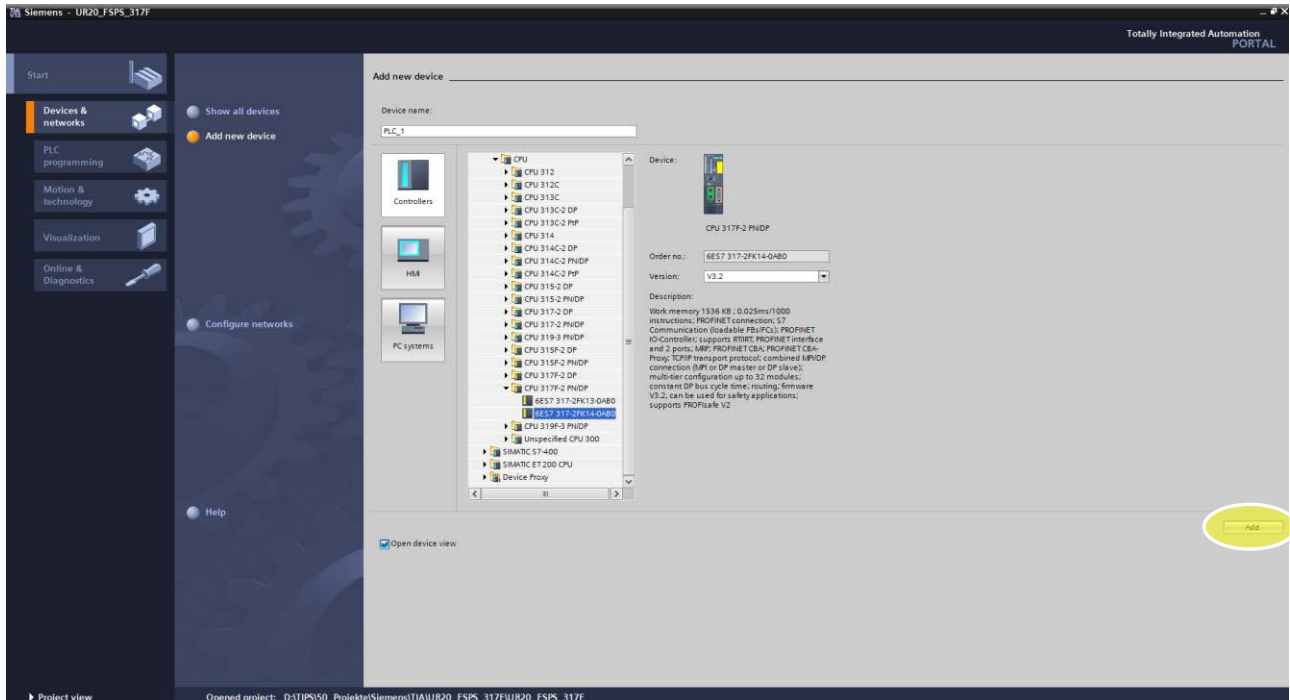


Add new device

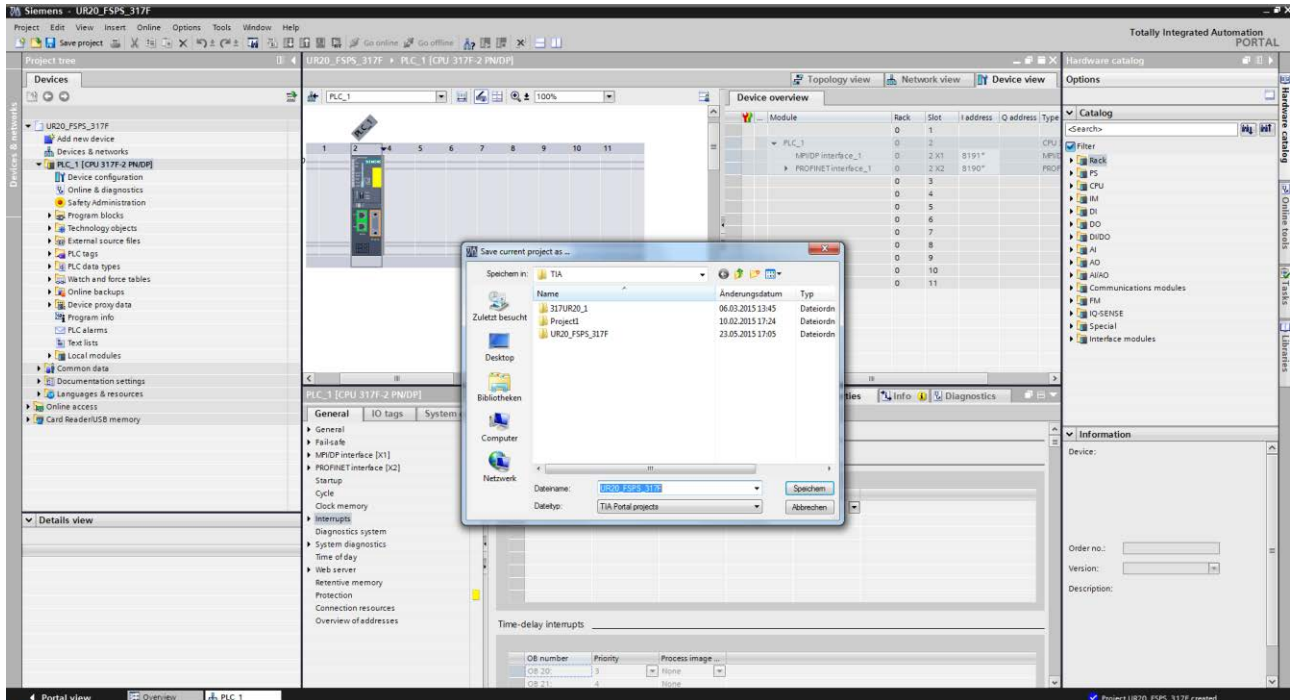


Setting PROFIsafe on Siemens PLC with TIA Portal

Choose the CPU



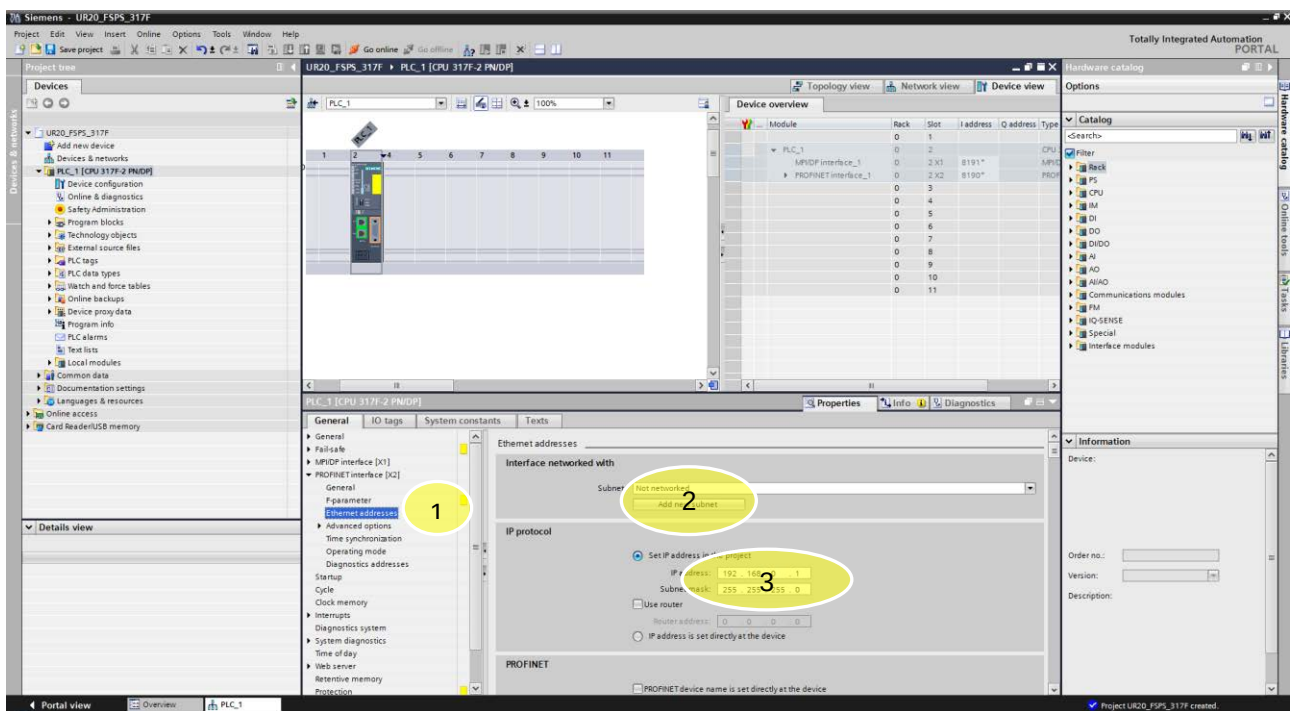
Save your Project



3. Integration of UR20-4DI-4DO-PN-FSPS and UR20-8DI-PN-FSPS on PROFINET

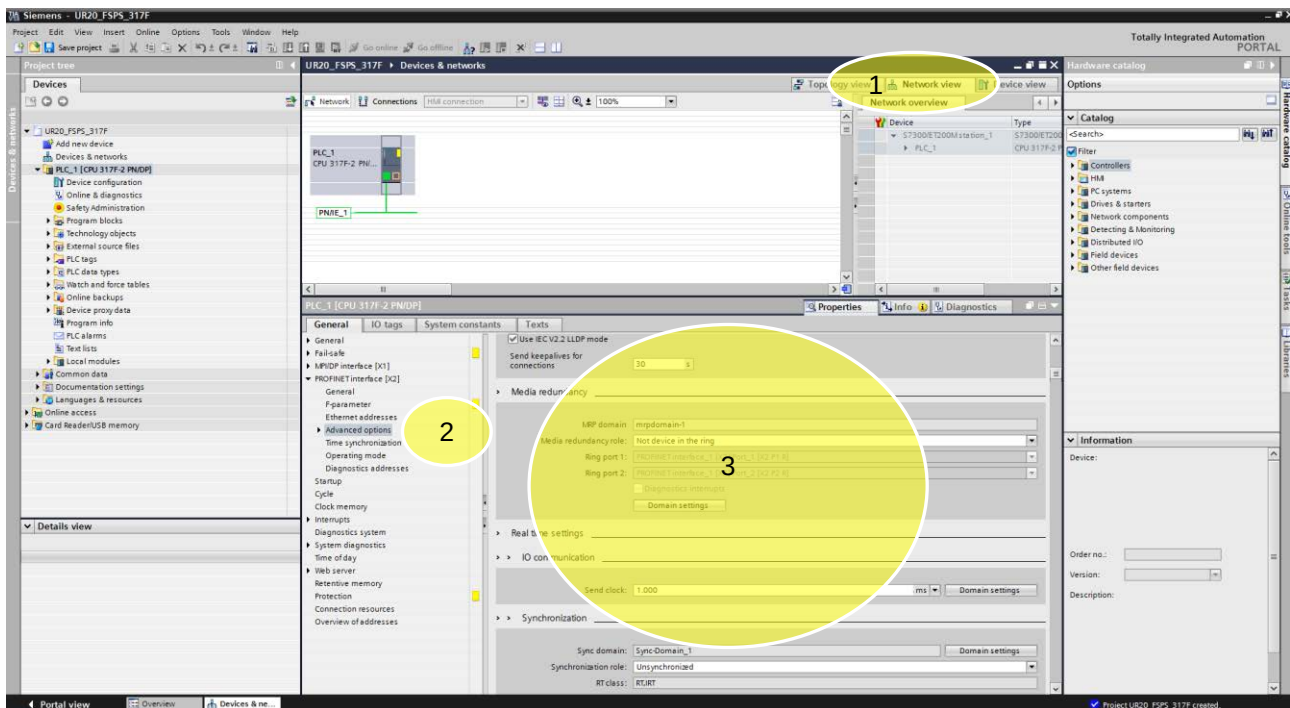
Insert a PROFINET net work

- 1) Expand the tree “PROFINET interface [X2]”
- 2) Choose the IP address
- 3) Add new subnet



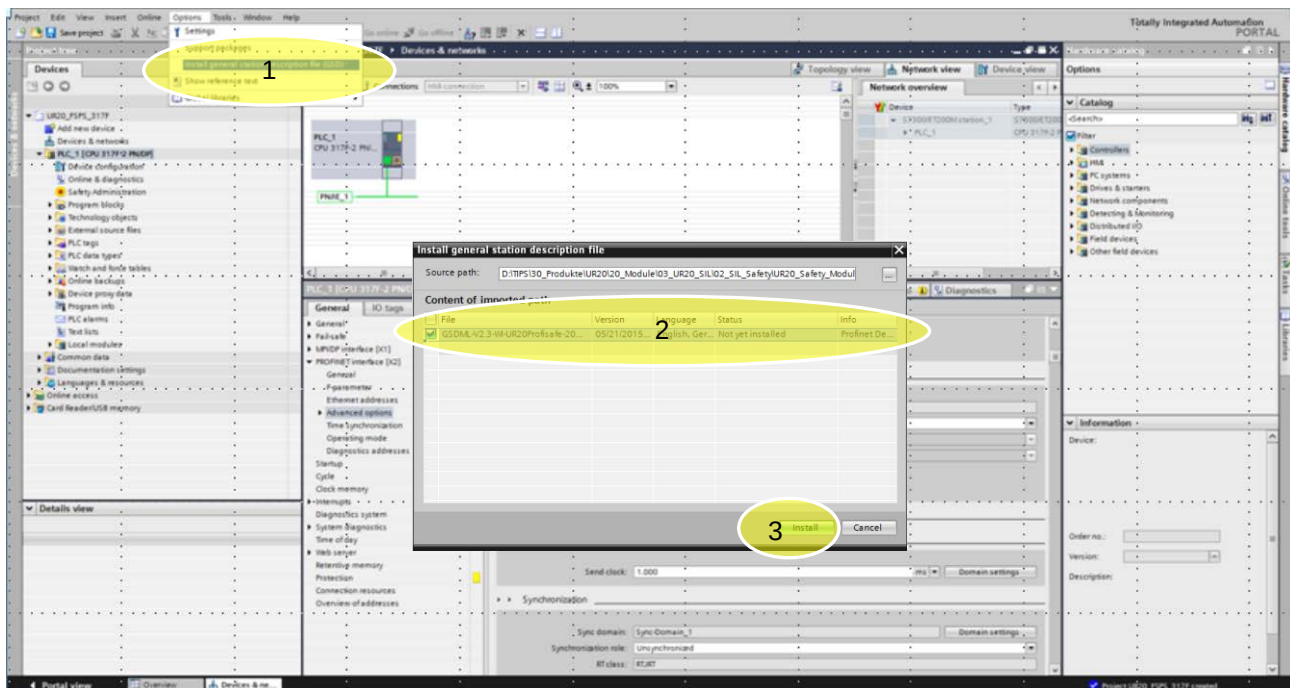
Advanced PROFINET settings

- 1) Open/Choose the folder “Net view”
- 2) Choose and expand Advanced options
- 3) Make further settings here



Install a GSDML file

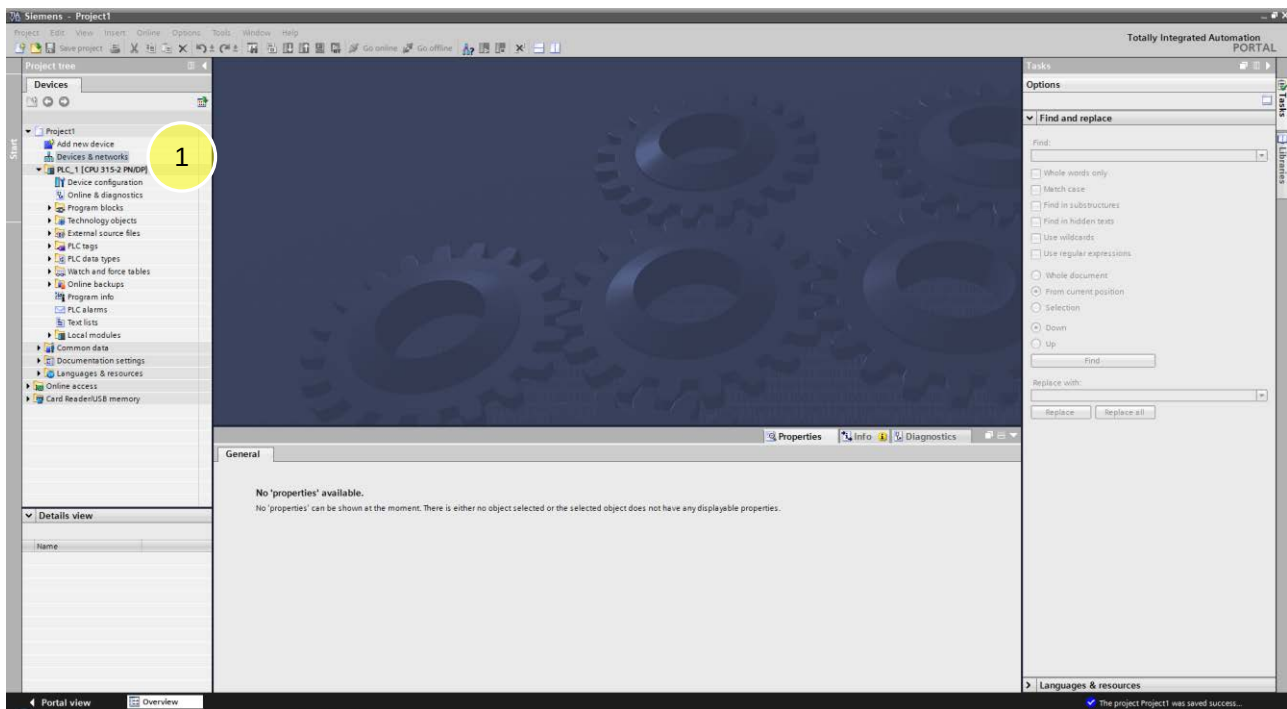
- 1) Open "Options" and click "install general station description file (GSD)"
- 2) Open the path and choose the GSDML file to install
- 3) Push the button "install". The files will be installed



Setting PROFIsafe on Siemens PLC with TIA Portal

Install a GSDML file

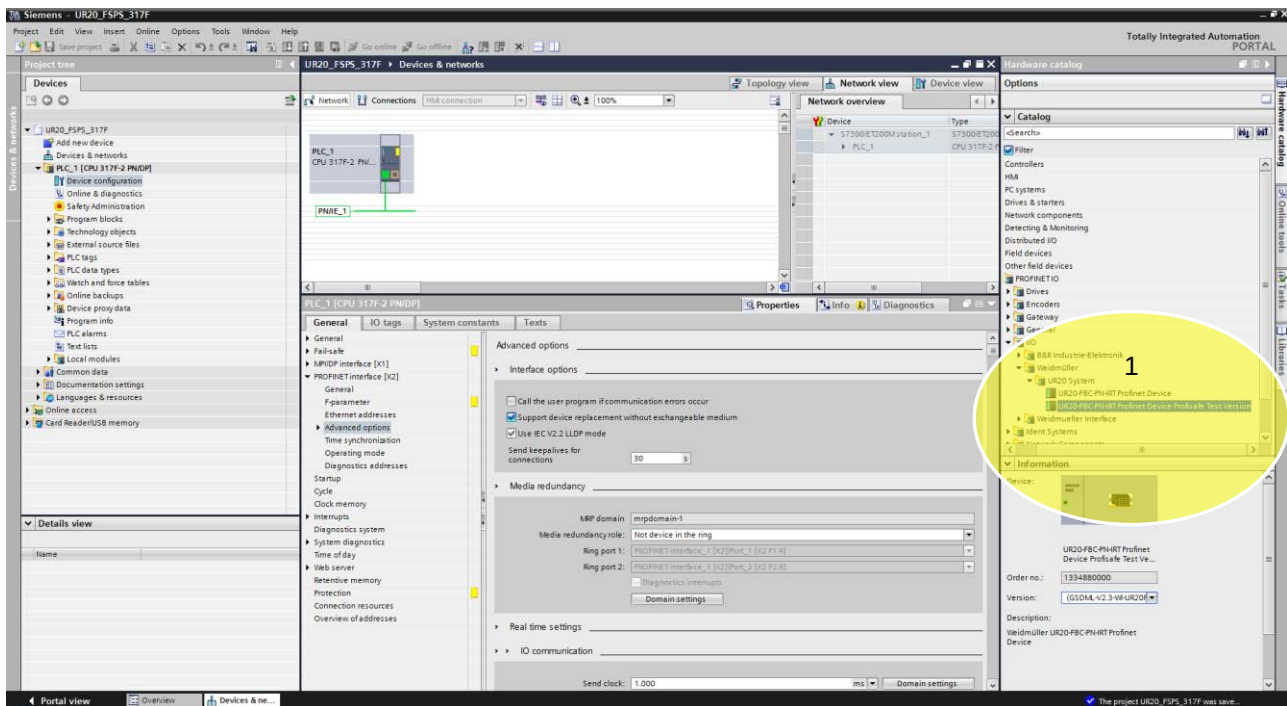
1) To reopen the view “Devices & Networks” double click the line



Setting PROFIsafe on Siemens PLC with TIA Portal

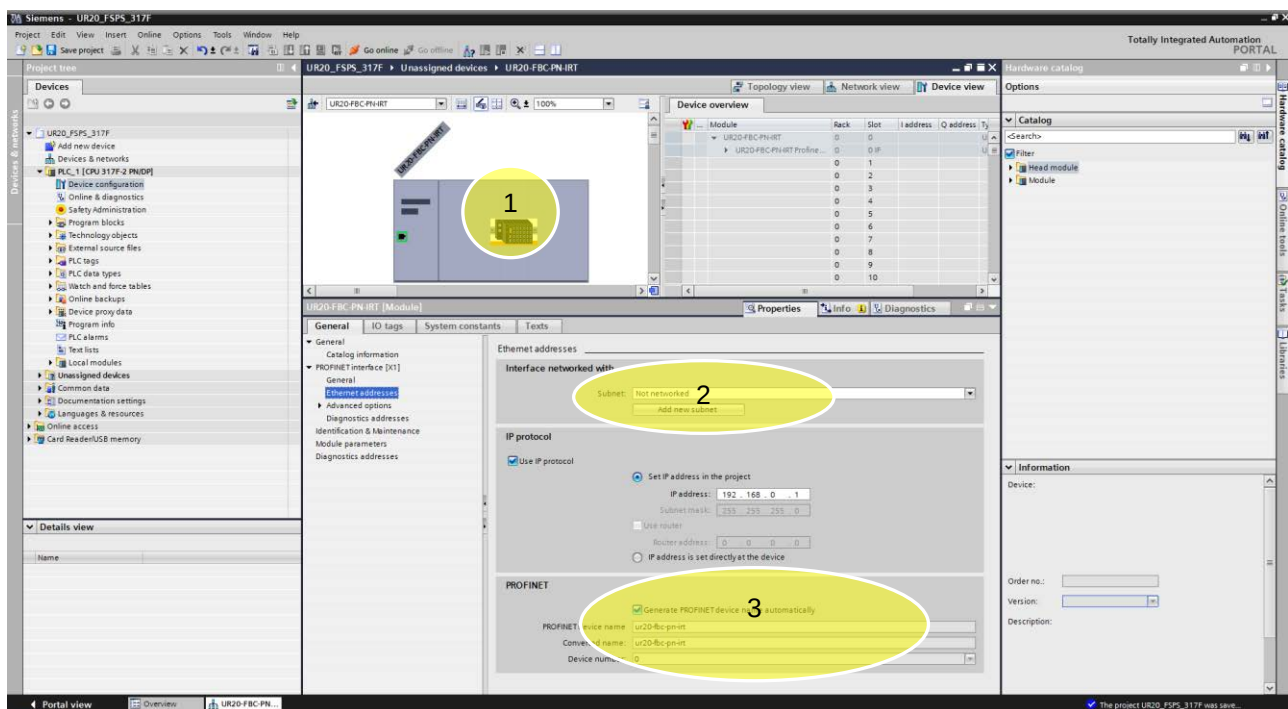
Insert UR20 to the PROFINET line.

1) Expand the branch “Other field devices” and place UR20 by drag and drop



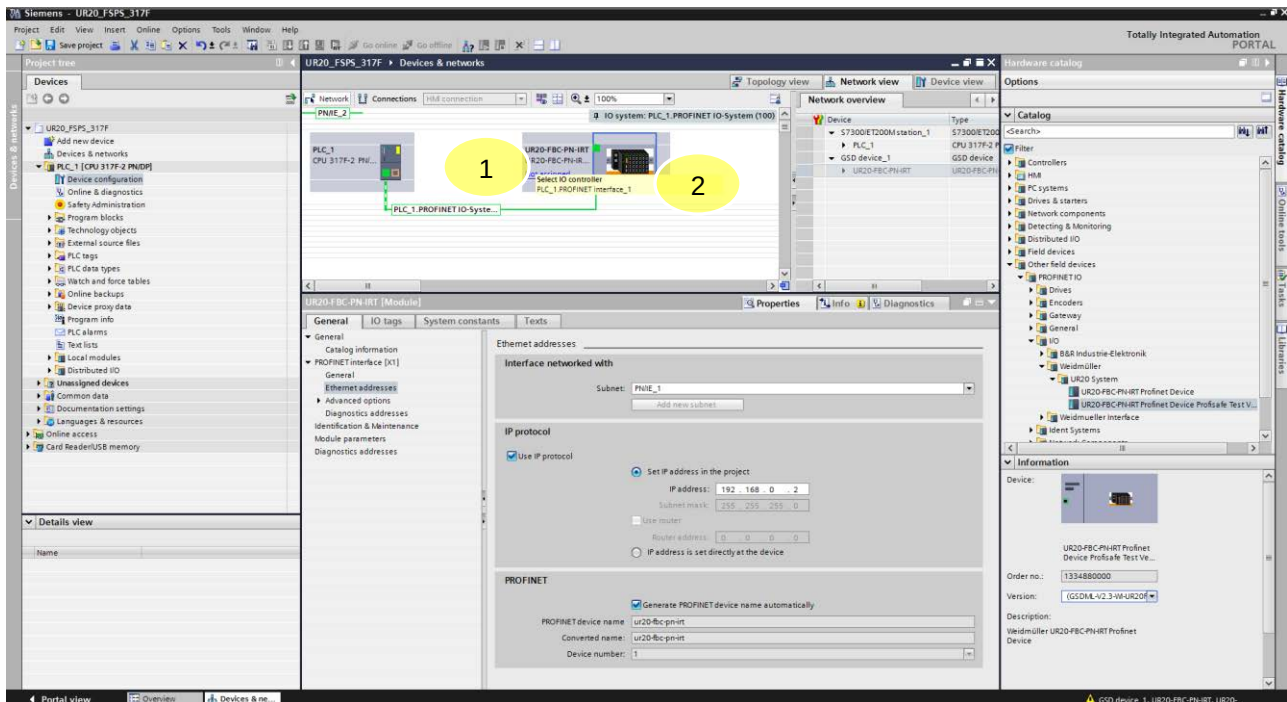
Further settings for UR20 PROFINET IO device.

- 1) Double click the symbol of UR20
- 2) Connect UR20 to the network PROFINET by choosing the subnet
- 3) Change the name of UR20 to a unique name according to the PROFINET requirements



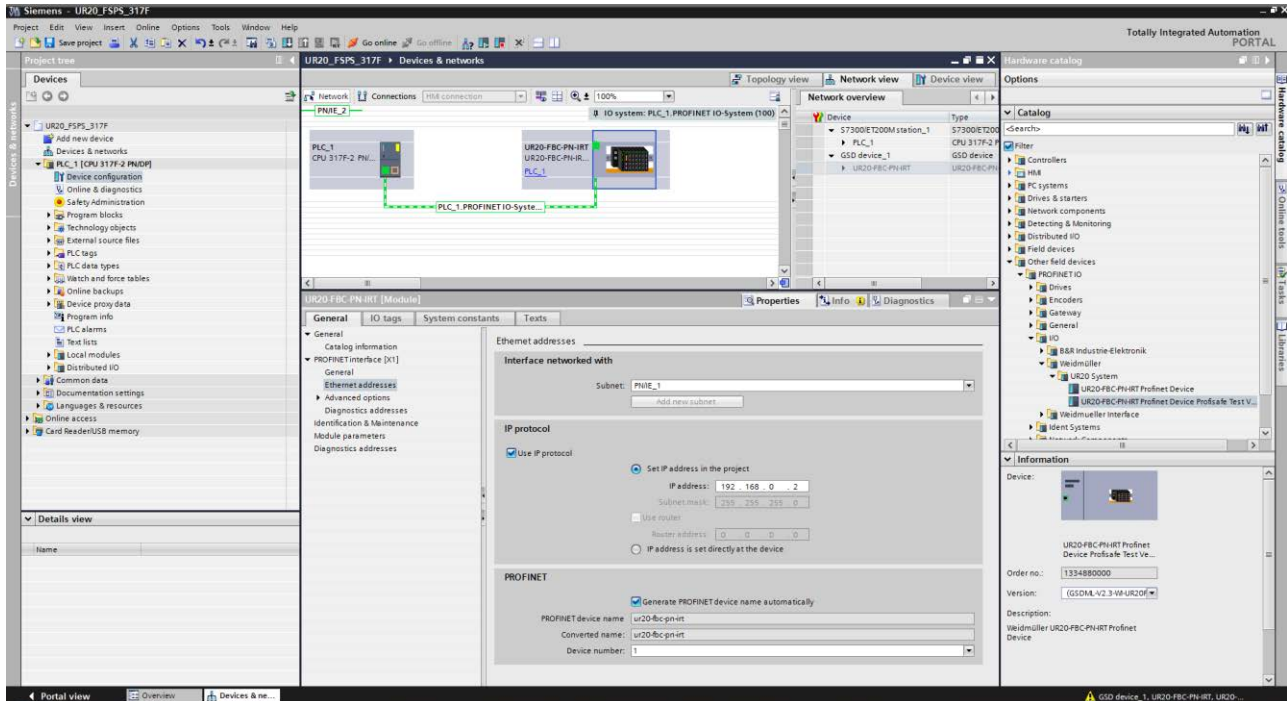
Connect UR20 PN IO device into the PLC PN IO controller system

- 1) Mark and right mouse click "Not assigned"
- 2) Select the IO controller



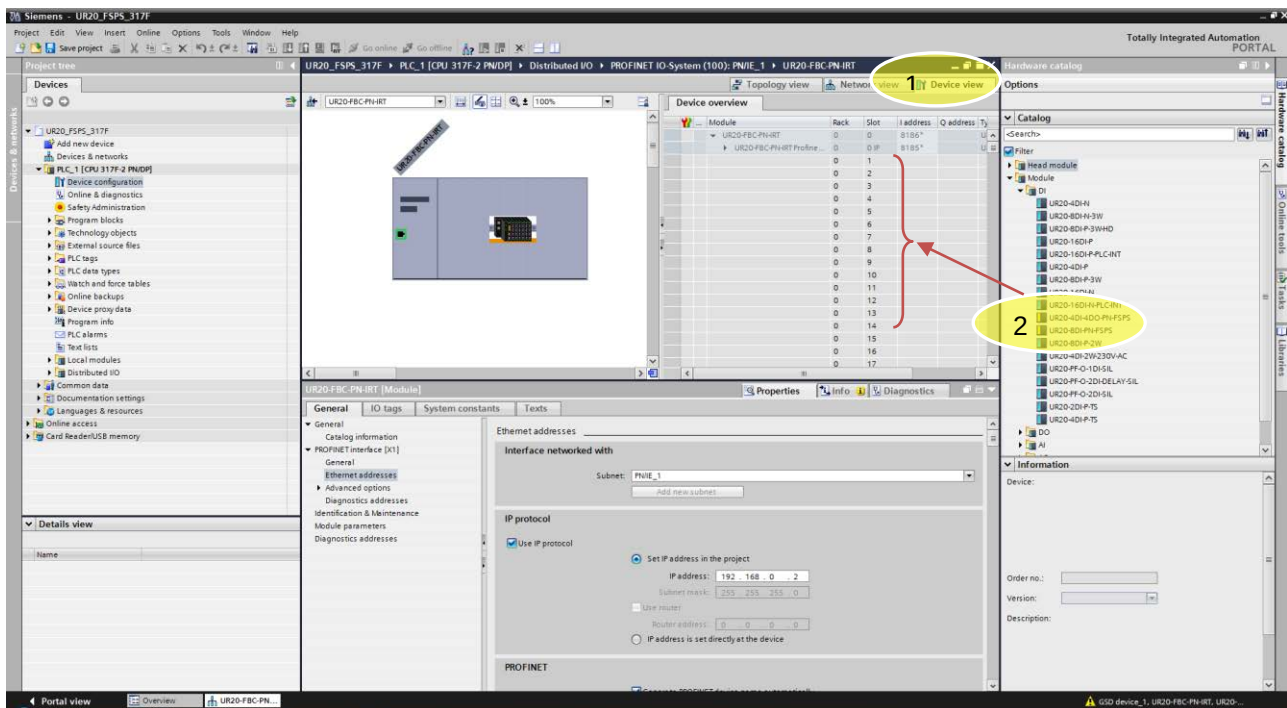
Setting PROFINET on Siemens PLC with TIA Portal

UR20 PN IO device is connected into the PLC PN IO controller system



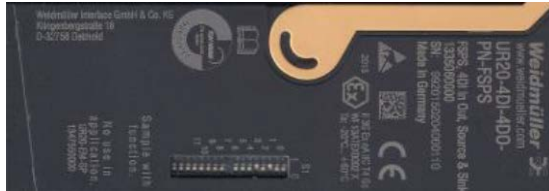
Add a UR20 safety module to the UR20 IO device

- 1) Change to the folder “Device view”
- 2) Choose a module e.g. “UR-4DI-4DO-PN-FSPS and place the module by drag and drop



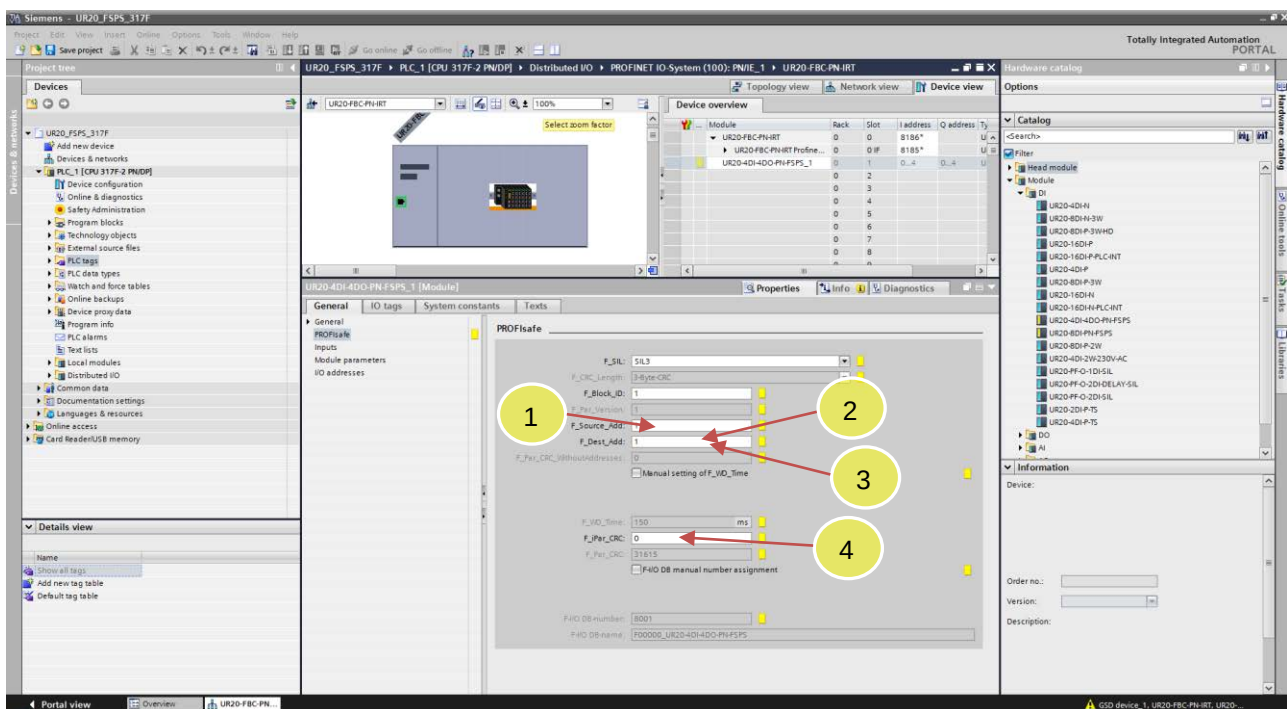
PROFIsafe parameter settings

- 1) Set the Source F-Address (F-CPU)
- 2) Set the F-Address of the module with the DIP switches



NOTE: Each address change needs first an address set to "0" and power up the module. Then set the new address and power up the module again.

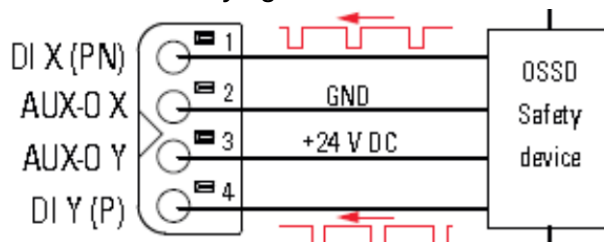
- 3) Set the Destination F-Address (I/O Device or DP-Slave e.g UR20) according to the DIP switches of the module
- 4) Set the check sum CRC getting from the CPD Tool (see the next page)



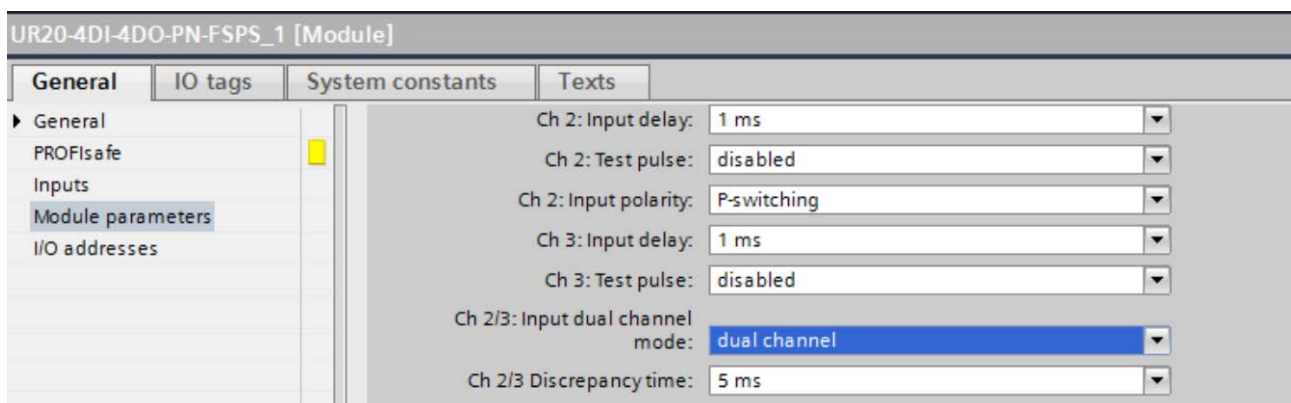
4. Examples of wiring and parameter settings of some safety devices to u-remote

Connecting an emergency STOP button

- Wire the safety light curtain as shown below (e.g. CH2 and CH3)



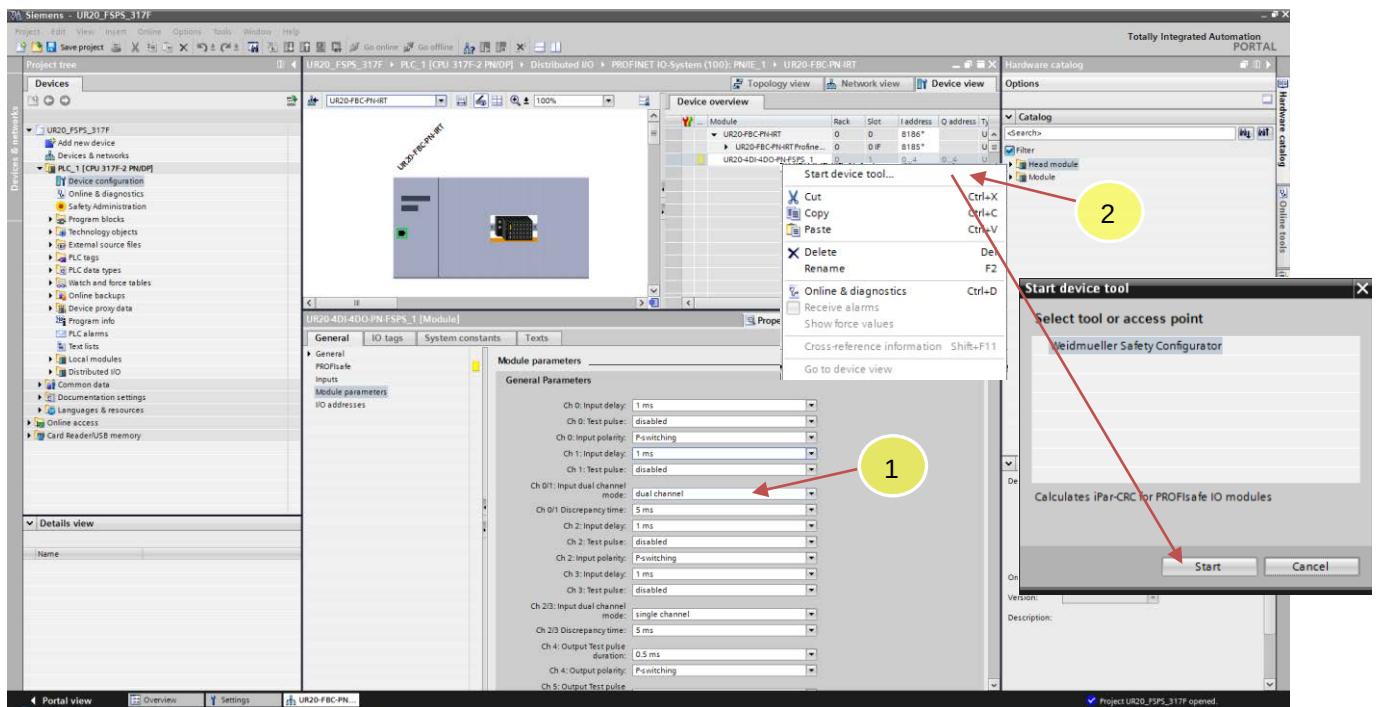
- For this using the test pulses have to be disabled



Further information you will find in the u-remote safety manual.

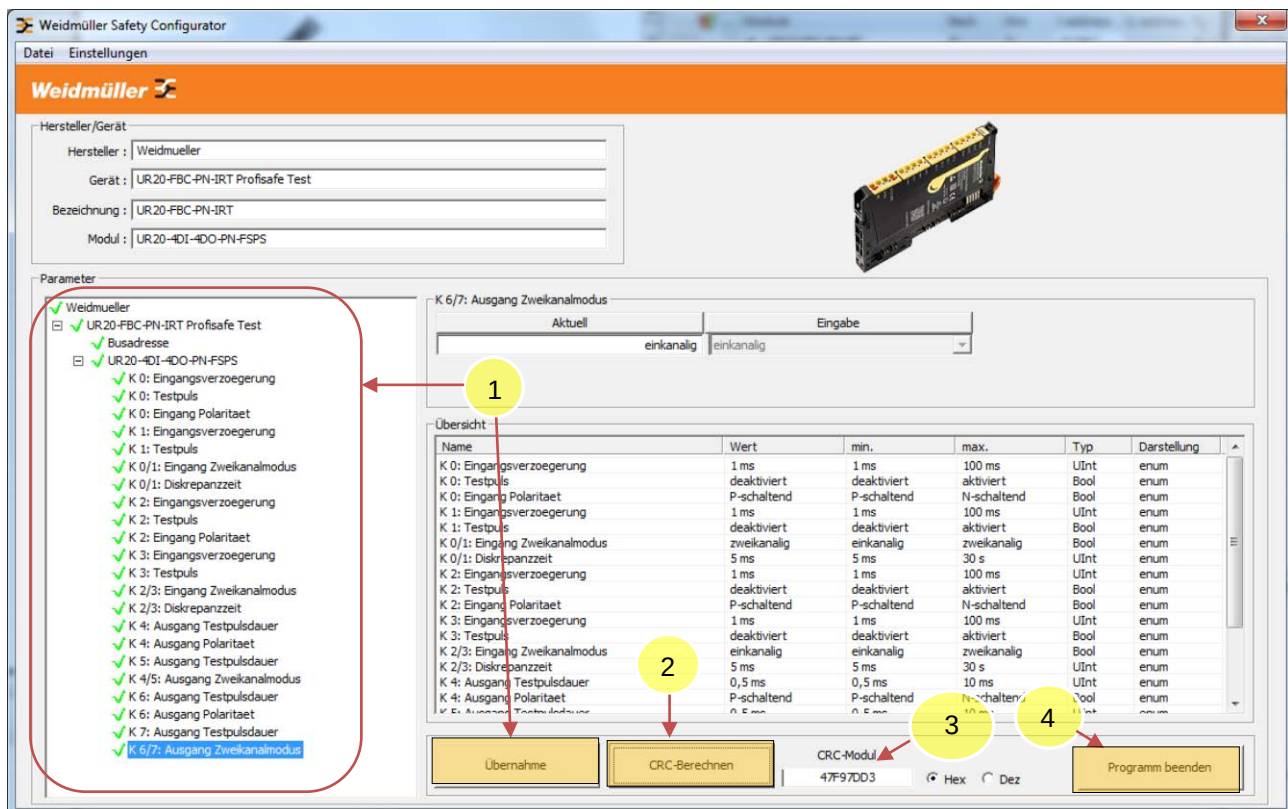
PROFIsafe parameter settings of the UR20 module

- 1) The parameter is adjusted to “dual channel”
- 2) Start the device Tool by mark the module and right mouse click



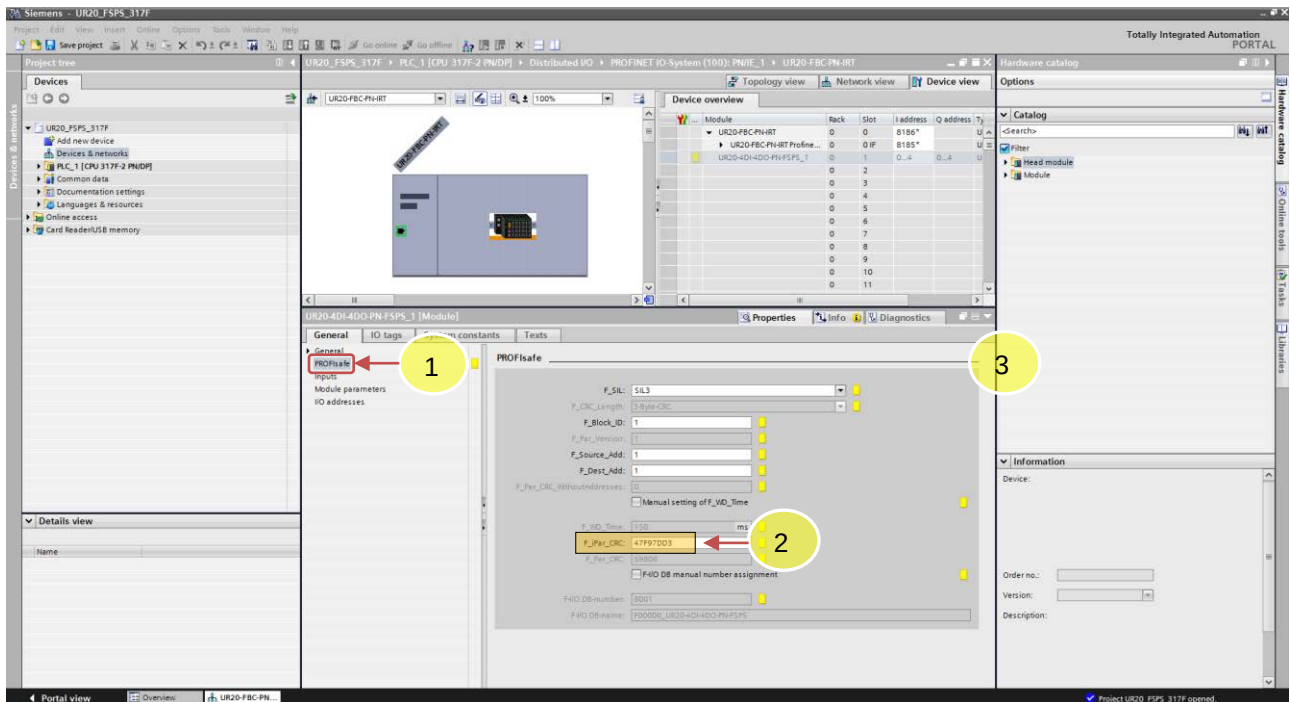
Calculate the check sum

- 1) Confirm each parameter
- 2) Click the button "CRC calculate" to get the CRC value
- 3) Mark and copy the CRC value
- 4) Close the program



Adjust the CRC value of the UR20 module

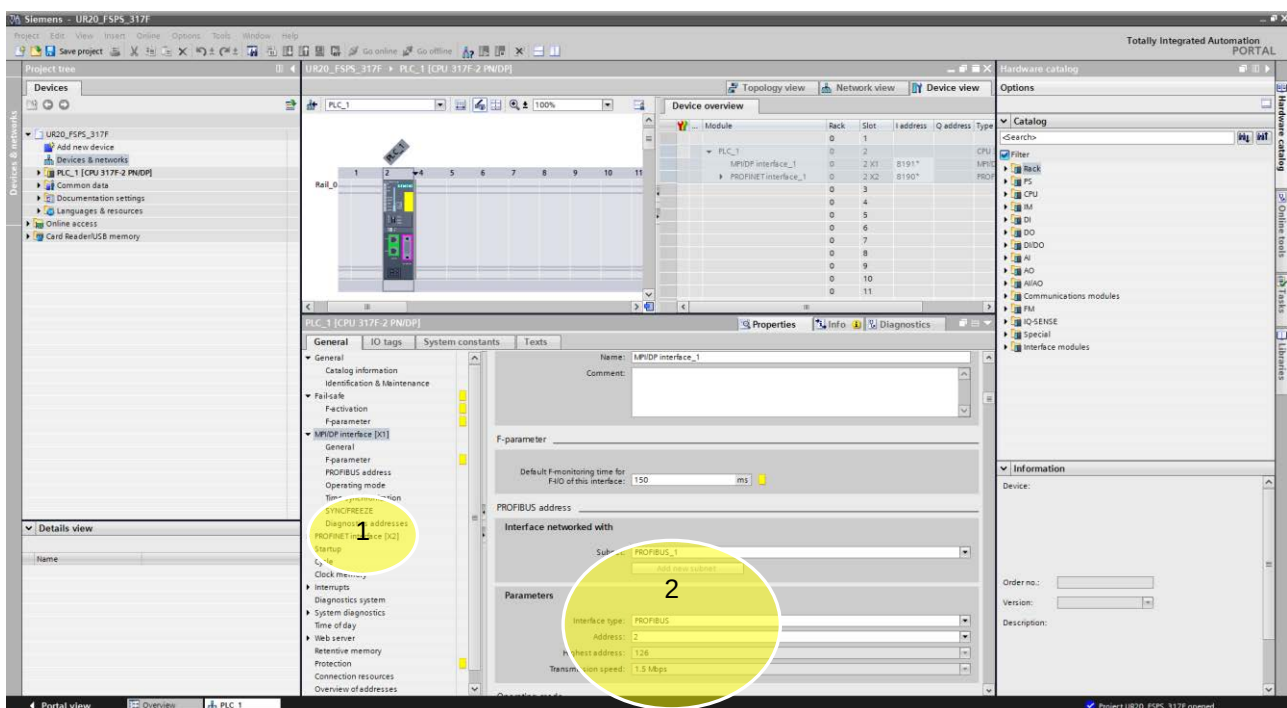
- 1) Click on "PROFIsafe". It will open the PROFIsafe settings of the module
- 2) Paste the CRC value into "F_iPar_CRC"
- 3) Download the configuration into the PLC



5. Integration of UR20-4DI-4DO-PN-FSPS and UR20-8DI-PN-FSPS on PROFIBUS

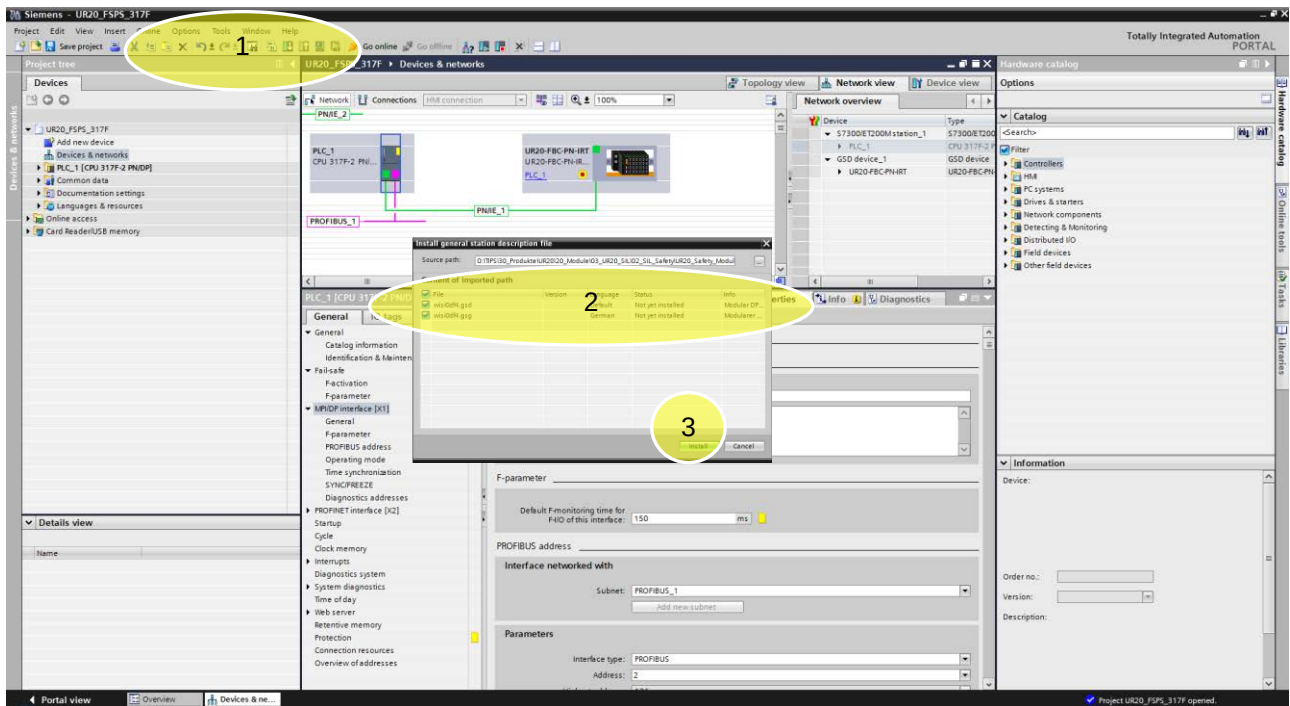
Insert a PROFIBUS net work

- 1) Expand the tree “MPI/DP interface [X1]”
- 2) Add a new subnet and make further settings for PROFIBUS



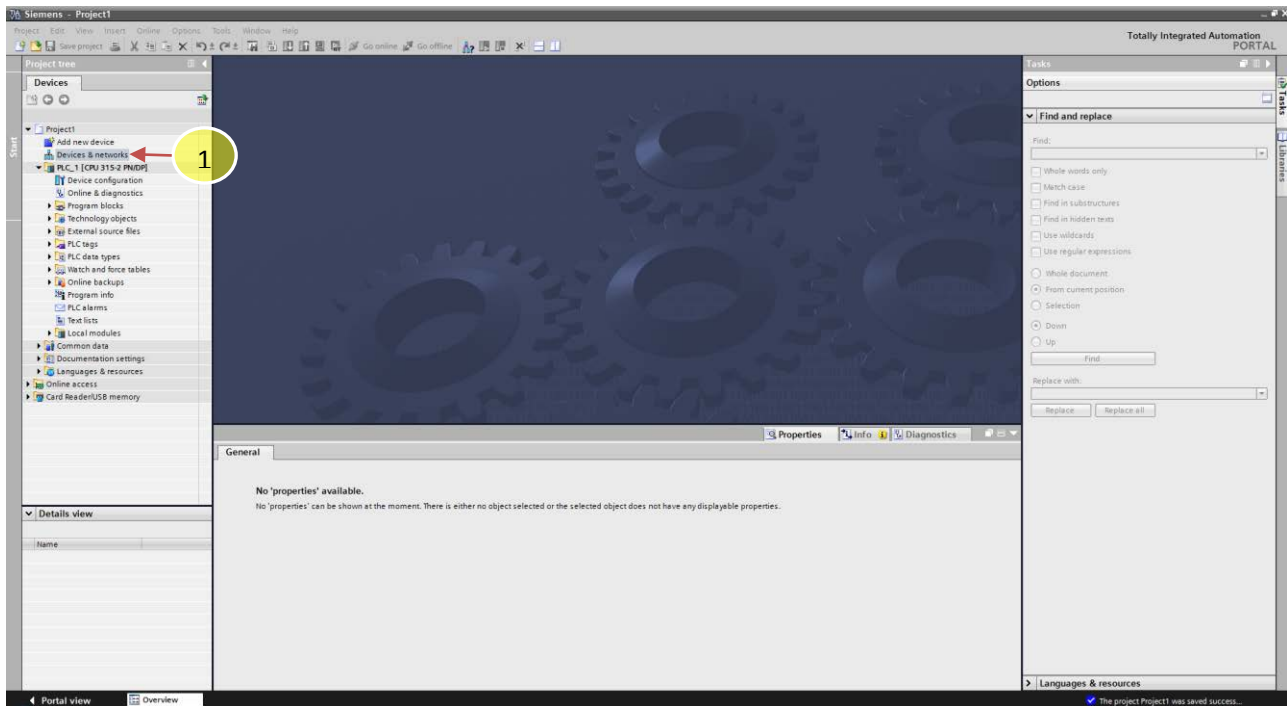
Install a GSD file

- 1) Open "Options" and click "install general station description file (GSD)"
- 2) Open the path and choose the GSD file to install
- 3) Push the button "install". The files will be installed



Reopen Devices and networks

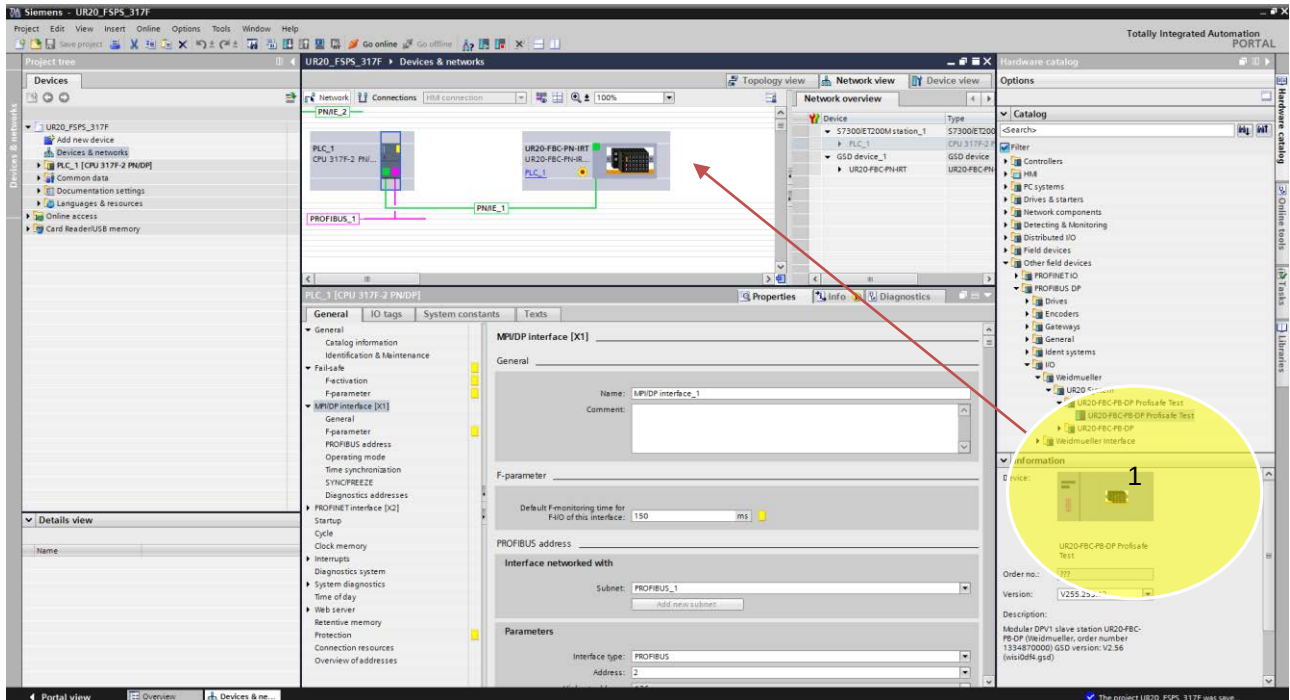
- 1) To reopen the view “Devices & Networks” double click the line



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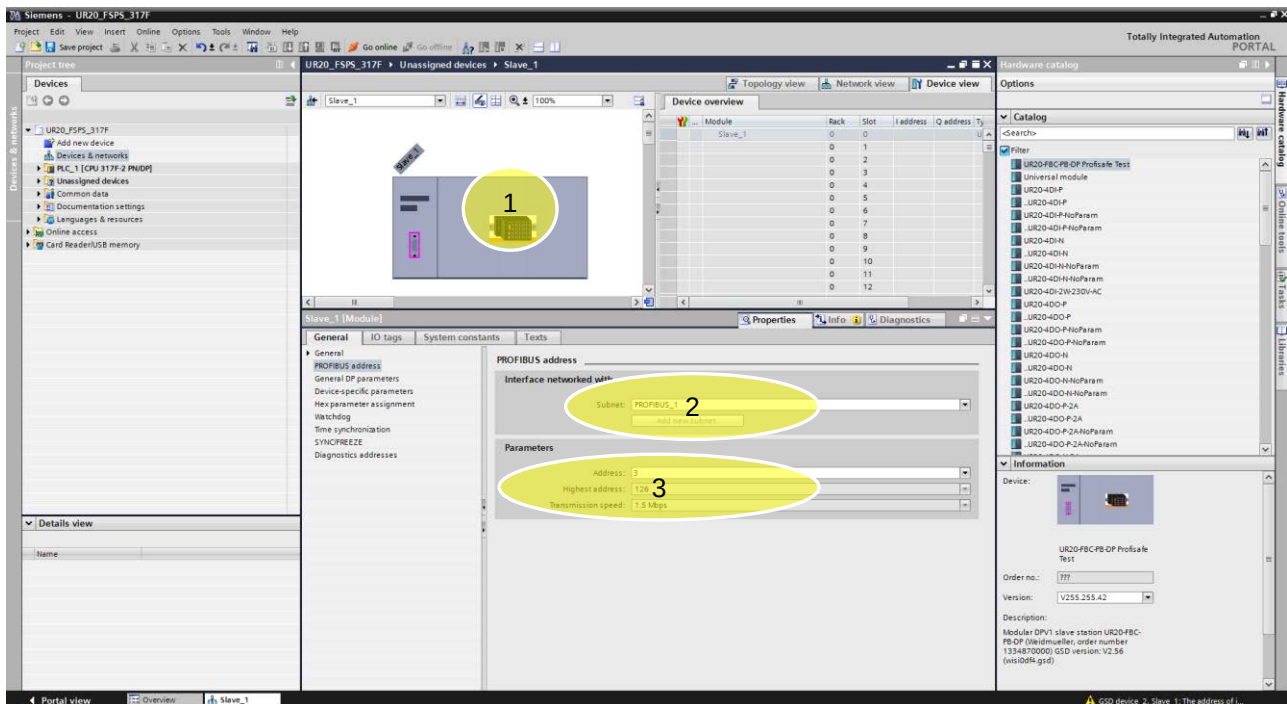
Insert UR20 to the PROFIBUS line

- 1) Expand the branch "Other field devices" and place UR20 by drag and drop



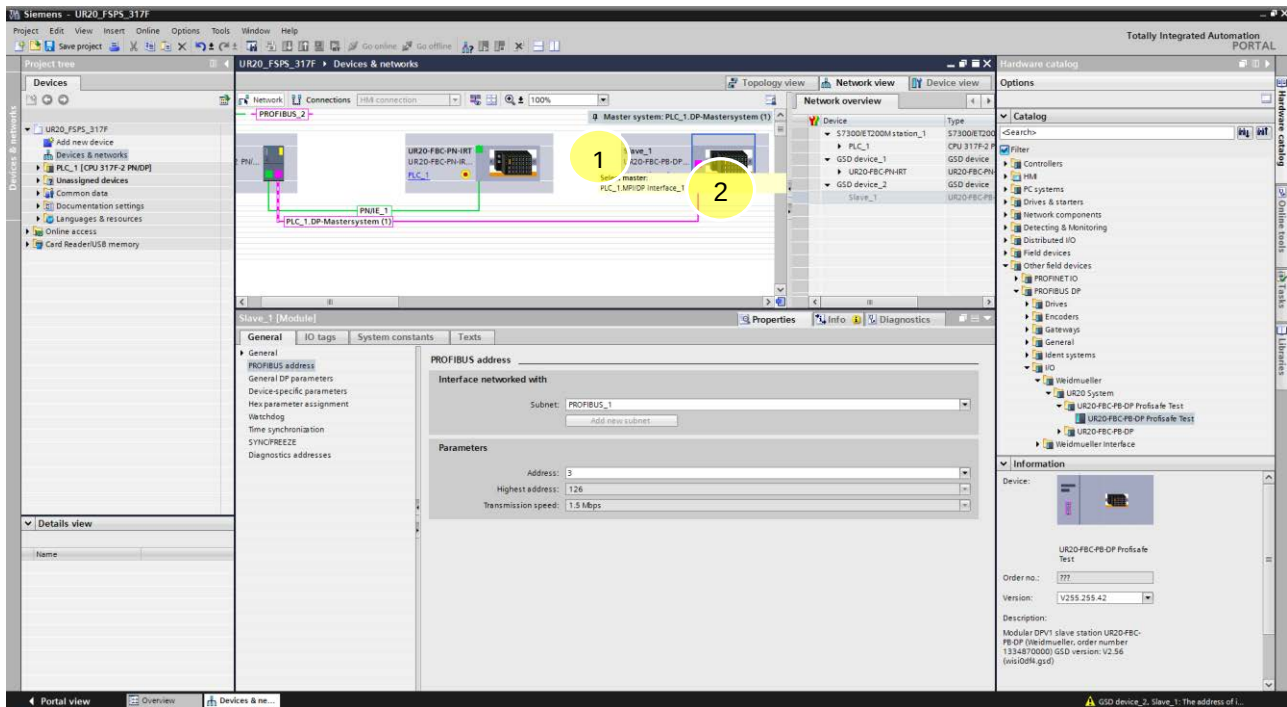
Further settings for UR20 PROFIBUS DP slave.

- 1) Double click the symbol of UR20
- 2) Connect UR20 to the network PROFINET by choose the subnet
- 3) Change the DP address of UR20 according to the rotary switches of the UR20 coupler



Connect UR20 DP slave into the PLC PROFIBUS system

- 1) Mark and right mouse click "Not assigned"
- 2) Select the DP master



UR20 DP slave is connected into the PLC PROFIBUS system

The screenshot displays the Siemens TIA Portal interface for configuring a PROFIBUS network. The main workspace shows a network diagram with a master system (PLC_1 DP-MasterSystem (1)) and a slave system (Slave_1 UR20-FBC-PB-OP PLC_1). The slave is connected to the master via a PROFIBUS line. The 'Properties' window for the slave is open, showing the 'General' tab. The 'PROFIBUS address' section is configured with 'Subnet: PROFIBUS_1' and 'Address: 0'. The 'Parameters' section shows 'Highest address: 128' and 'Transmission speed: 1.5 Mbps'. The 'Hardware catalog' on the right shows the 'UR20-FBC-PB-OP Profisafe Test' device selected. The 'Information' section for the device shows the order number 'V255.255.42' and the description 'Modular DP/1 slave station UR20-FBC-PB-OP (Wiedmüller, order number 1334870000) GSD version: V2.56 (wiedmüller.gsd)'.