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TURCK

Simatic Step 7 TIA Portal Profibus/Profinet Installation Guide

G1039

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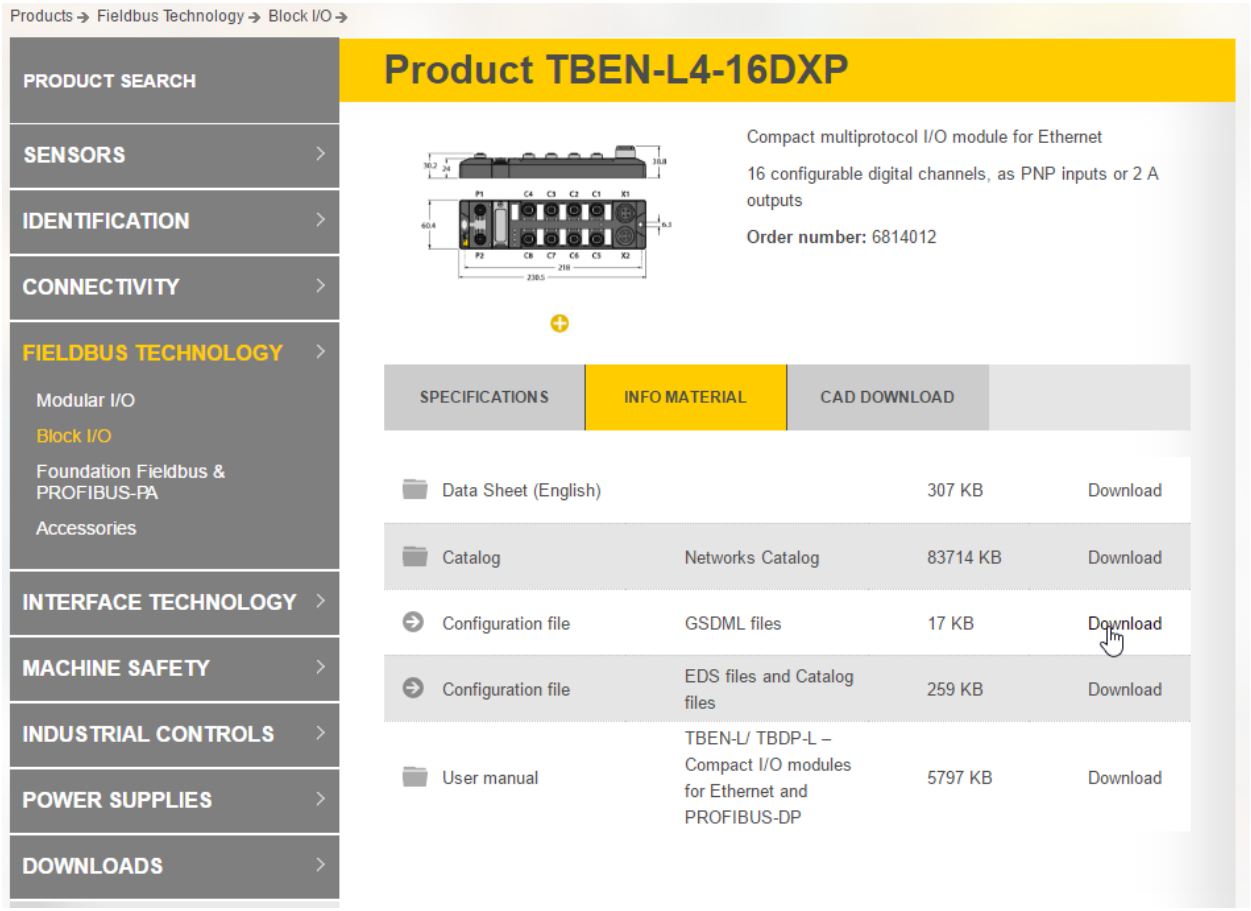
Software

Simatic Step 7 TIA Portal – Current Version is V13. Go to the below link to download the necessary GSD/EDS files.

Turck GSD(ML) Files. In this example, find your device on the TURCK website. Select the **Info Material** tab, then click on Download for GSDML files.

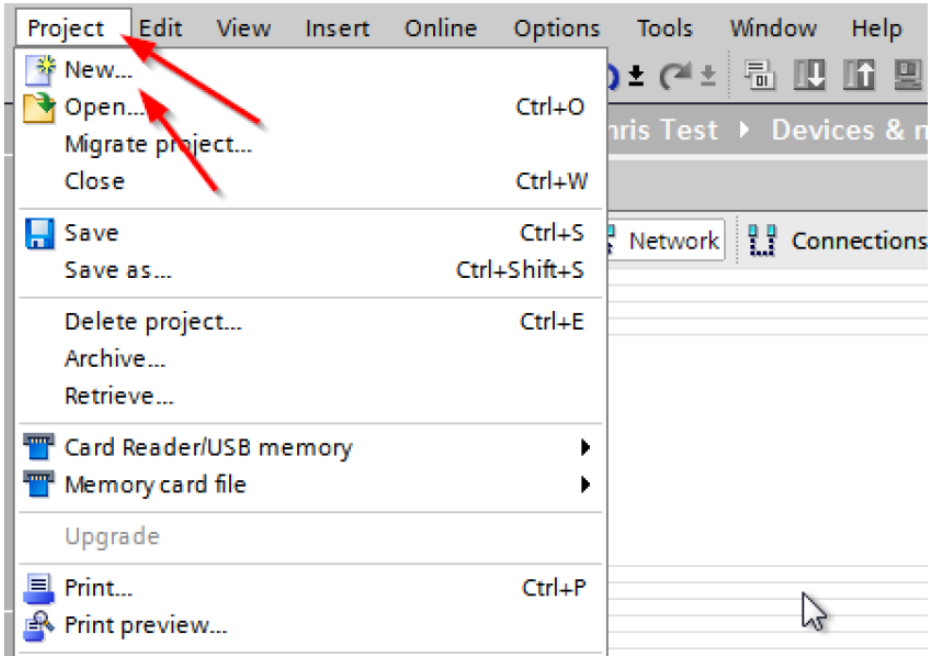


Target Files

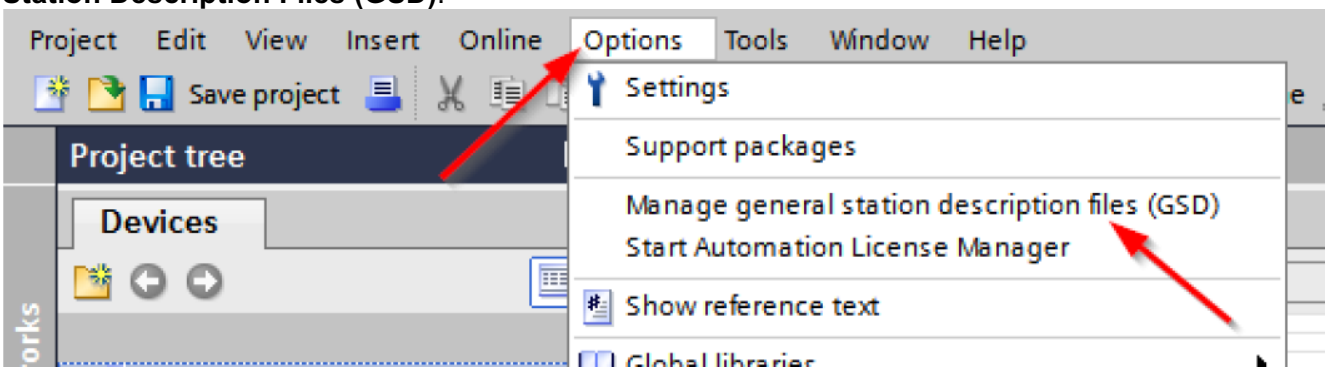
Target files are required for Turck Programmable Gateways. The only applicable gateway for Profibus is the BL67-PG-DP. Turck Target Files

Simatic Step 7 TIA Portal Setup

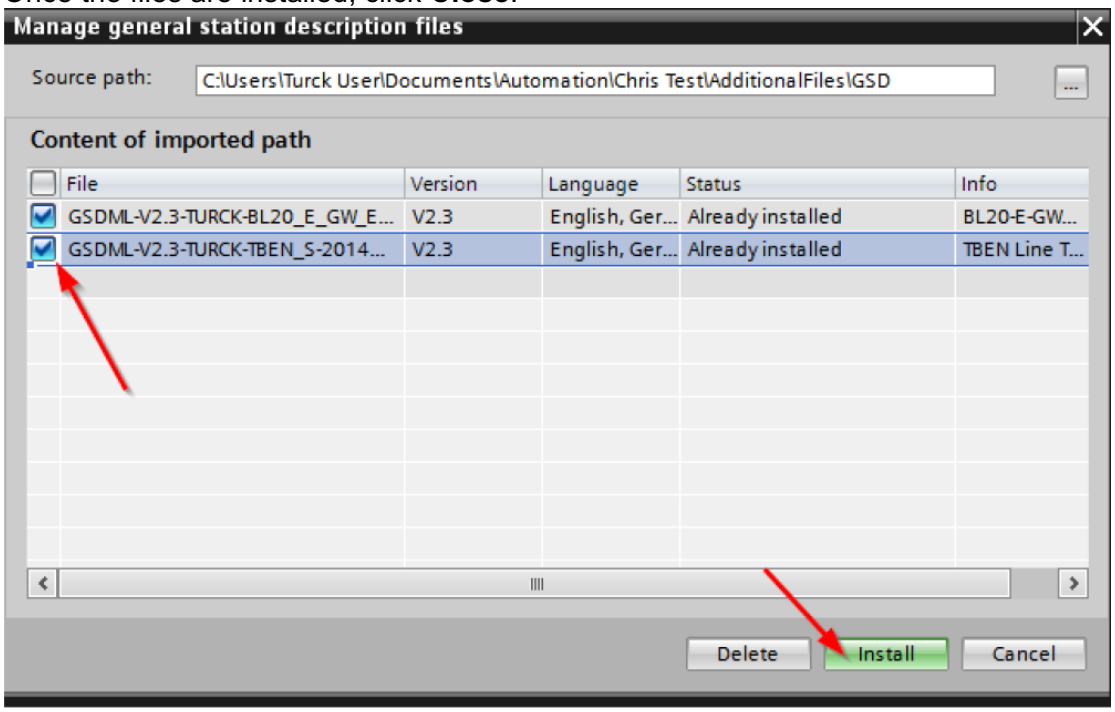
Create a new project in TIA portal using **Project -> New.** Save the project in the desired location with the desired name.



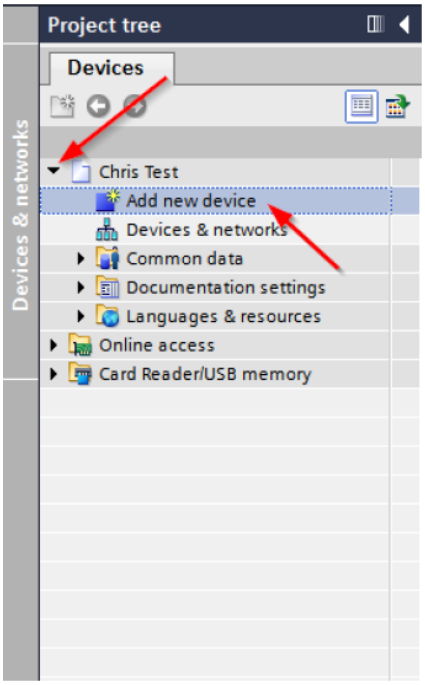
Load the previously downloaded GSD(ML) files by going to **Options -> Manage General Station Description Files (GSD)**.



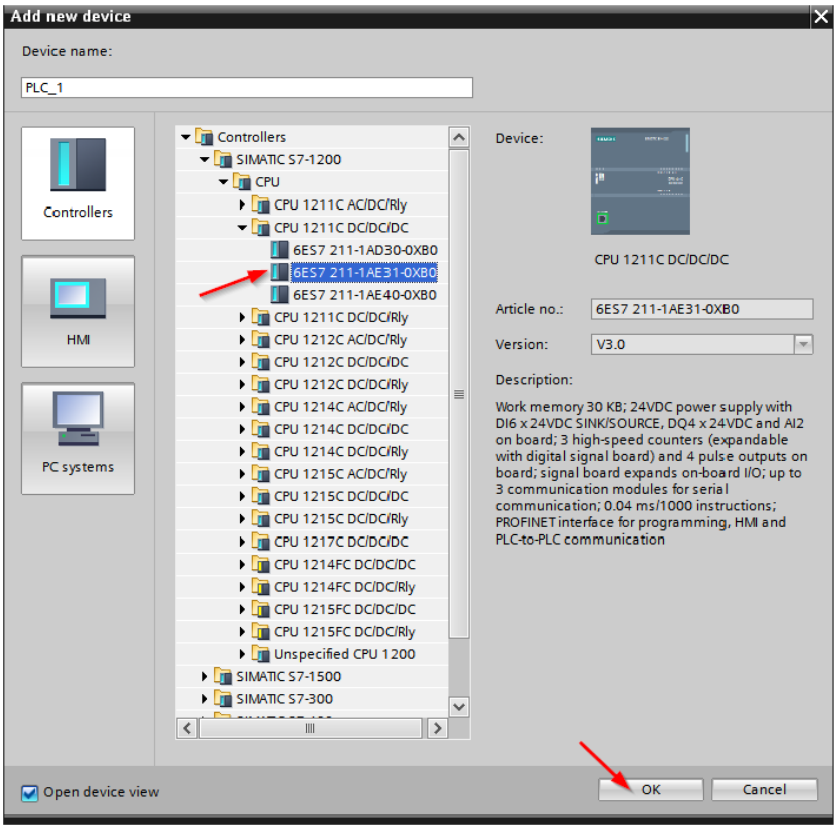
Navigate to where the GSD(ML) files were saved. Select them in the list and select **Install**. Once the files are installed, click **Close**.



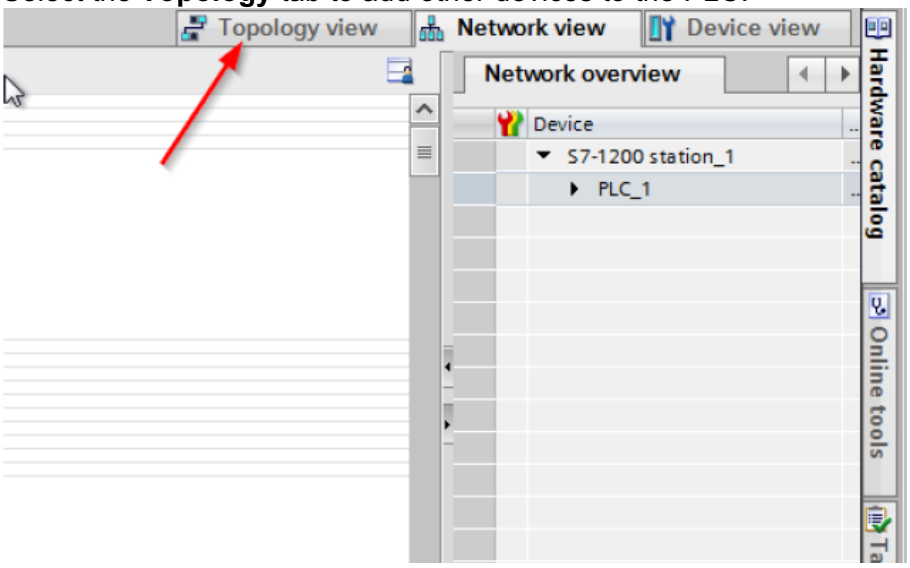
Now that the GSD files have been saved, a PLC can be added. To do this, open the drop down menu underneath the project name in the project tree on the left hand side. Then double-click **Add new device**.



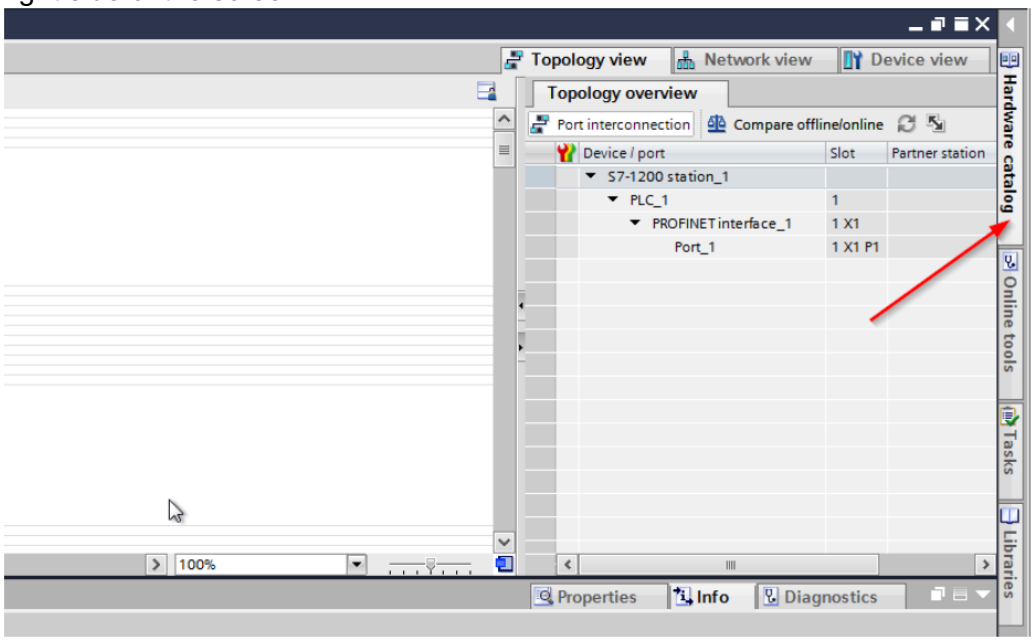
The **Add new device** window should pop up. Select the correct Simatics controller, CPU and the correct part number of your PLC. This information should be located on the side of your PLC. In this case, we're using **Simatics S7-1200 -> CPU -> CPU 1211C DC/DC/DC -> 6ES7 211-1AE31-0XB0**. Select **OK** when done.



Select the **Topology** tab to add other devices to the PLC.

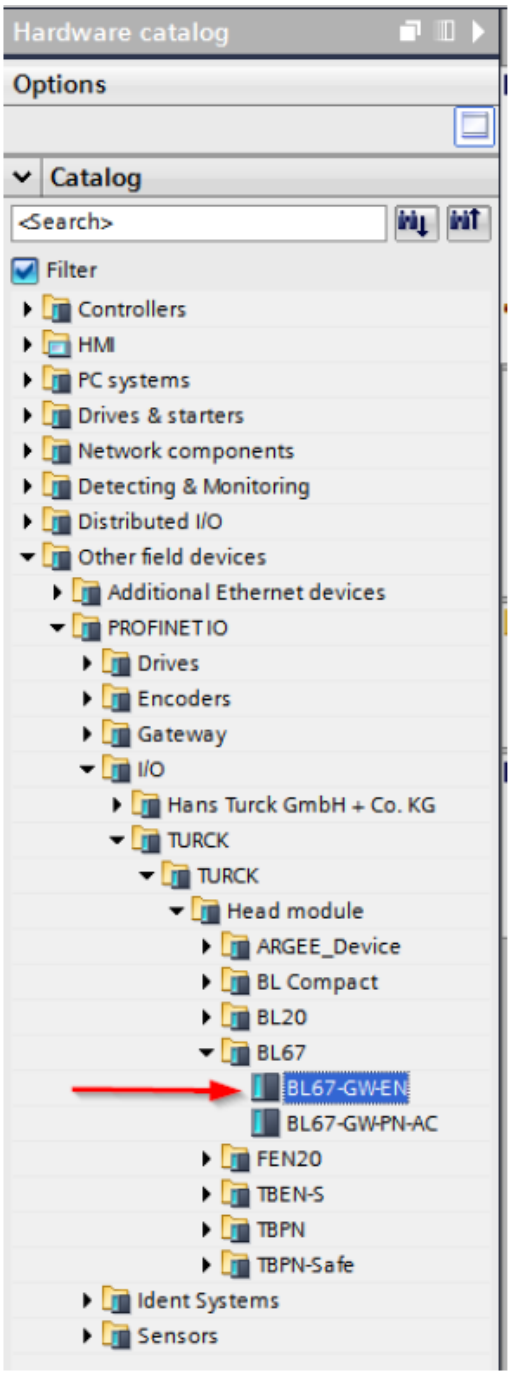


If **Hardware Catalog** is not already open, click on the **Hardware Catalog** tab located on the far right side of the screen.

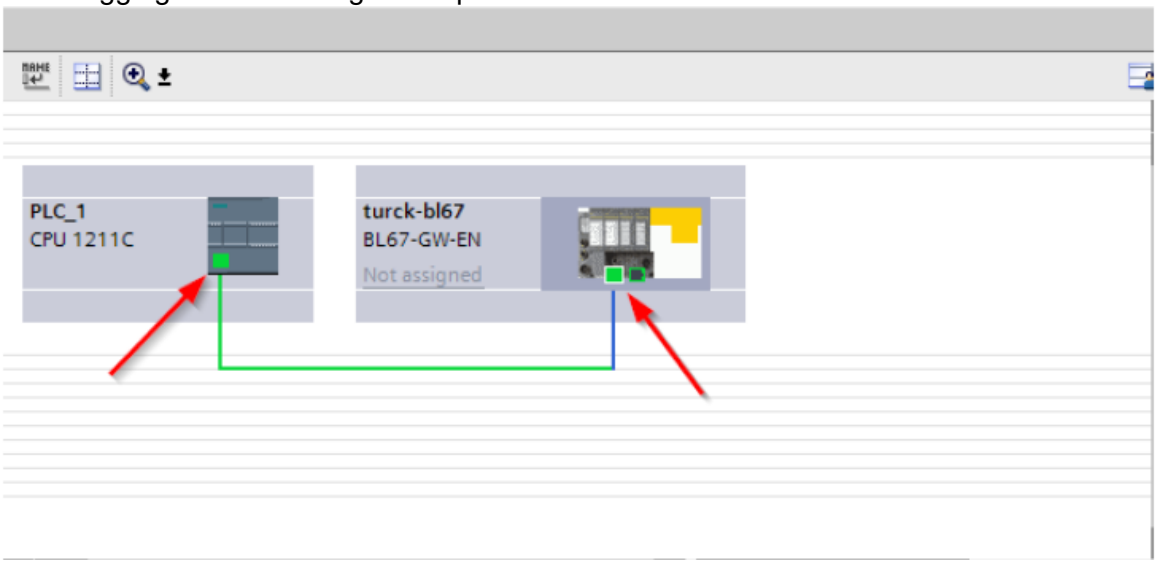


Adding a Profinet Device

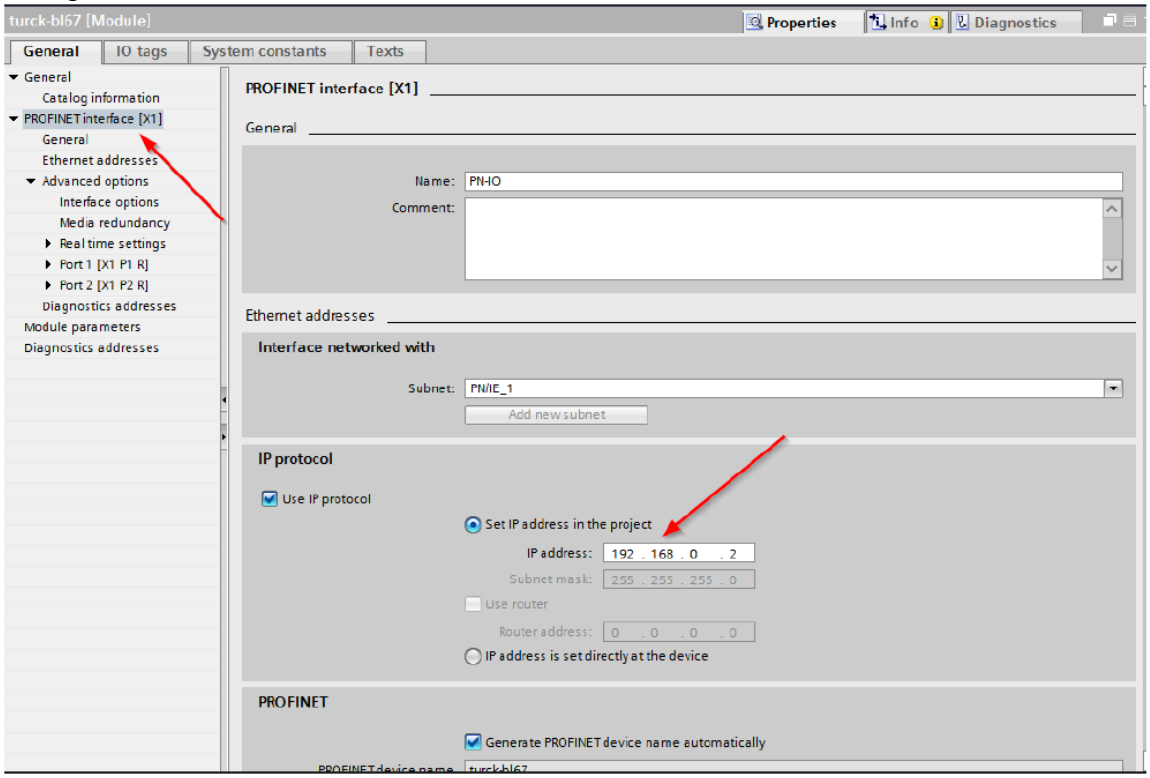
To add a Profinet device, click on the **Other field devices** drop down menu, select the appropriate device. In this example, a Turck BL67-GW-EN is added by selecting **Other field devices -> Profinet IO -> I/O -> Turck -> Turck -> Head Module -> BL67 -> BL67-GW-EN**.


Hardware catalog
Options
Catalog
<Search>
Filter
Controllers
HMI
PC systems
Drives & starters
Network components
Detecting & Monitoring
Distributed I/O
Other field devices
Additional Ethernet devices
PROFINET IO
Drives
Encoders
Gateway
I/O
Hans Turck GmbH + Co. KG
TURCK
TURCK
Head module
ARGEE_Device
BL Compact
BL20
BL67
BL67-GW-EN
BL67-GW-PN-AC
FEN20
TBEN-S
TBPN
TBPN-Safe
Ident Systems
Sensors

Once double clicked, the BL67 Gateway will be added to the workspace as seen below. The PLC and the Gateway can be connected by clicking on the appropriate green square of the PLC and dragging it over to the green square of the BL67.

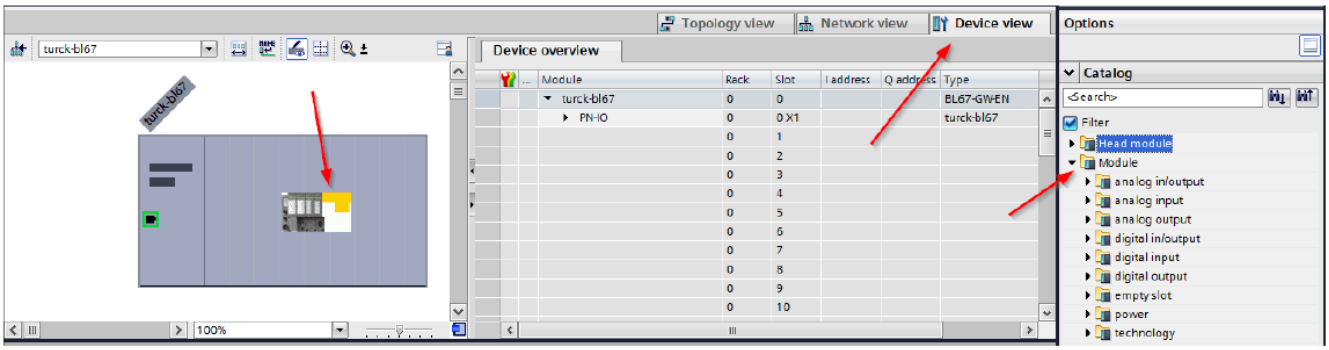


Clicking the BL67 Gateway will open up the properties for the BL67. The IP address can be changed under the **IP Protocol** section.

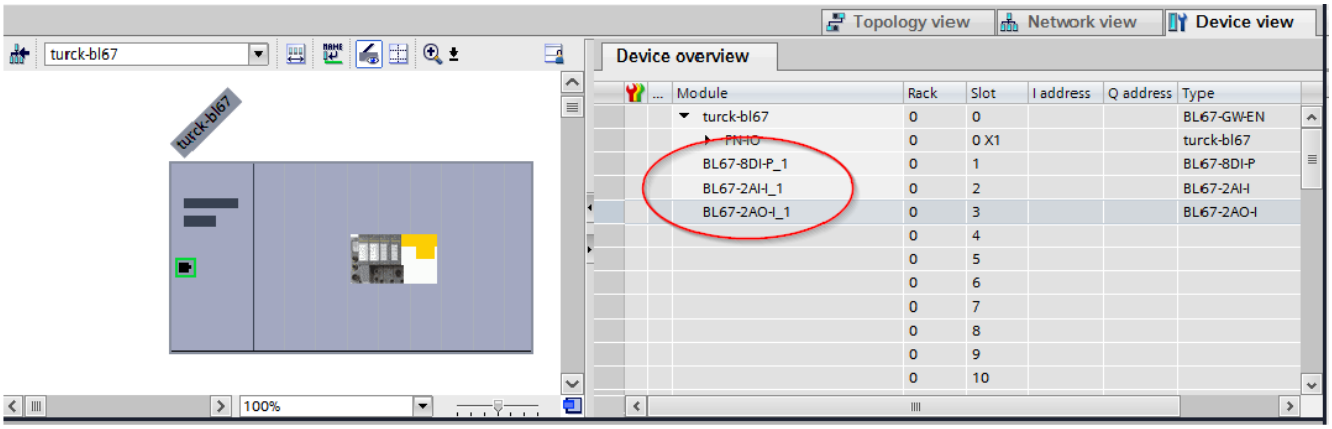


Adding Module to Profinet Device

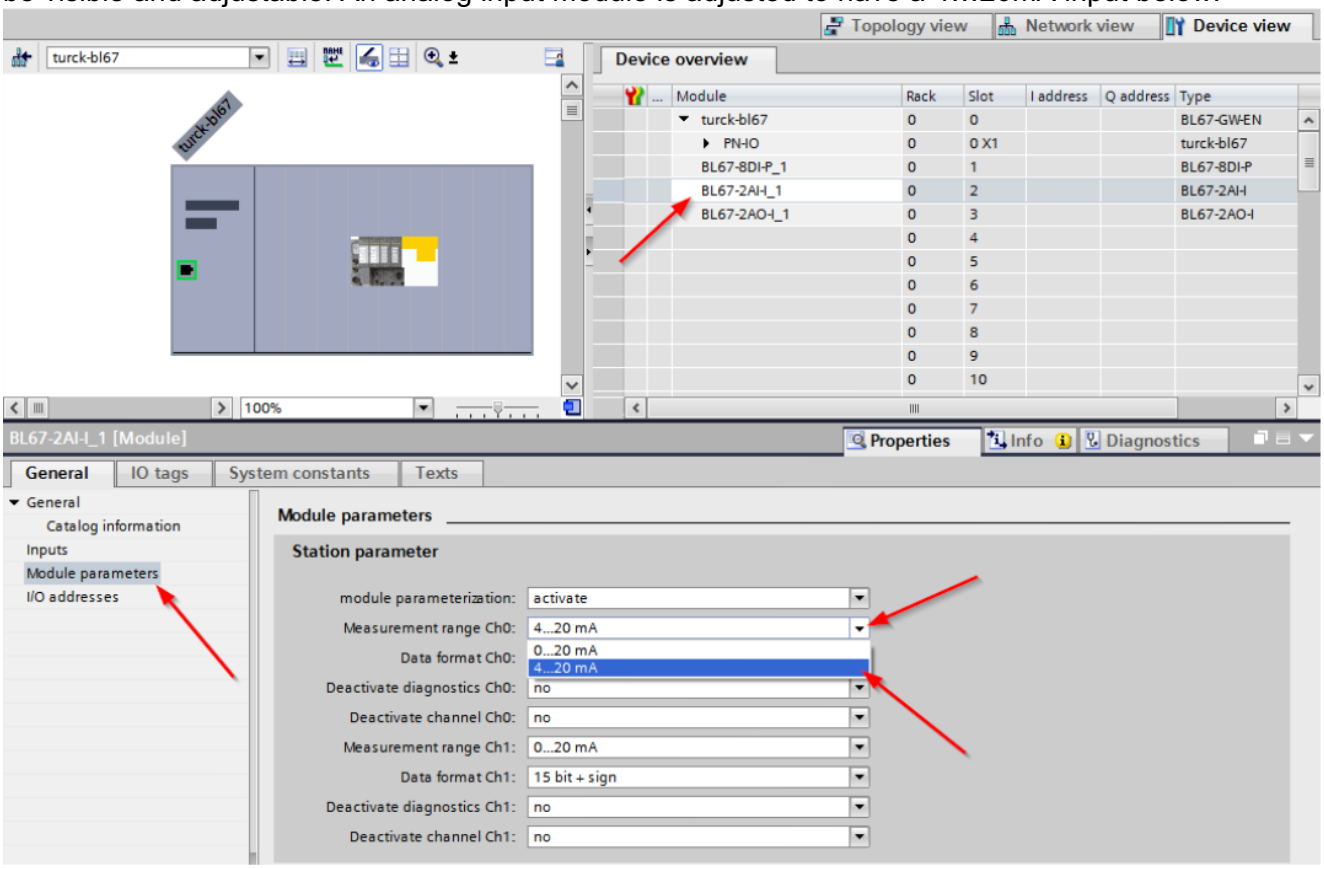
Double click the BL67 Gateway to bring up the **Device View**. BL67 modules can be added from the **Hardware Catalog** tab located on the right. Open the **Module** branch and select the correct modules attached to the BL67.



Once the BL67 modules are selected, the modules should populate in the **Device Overview** tab.

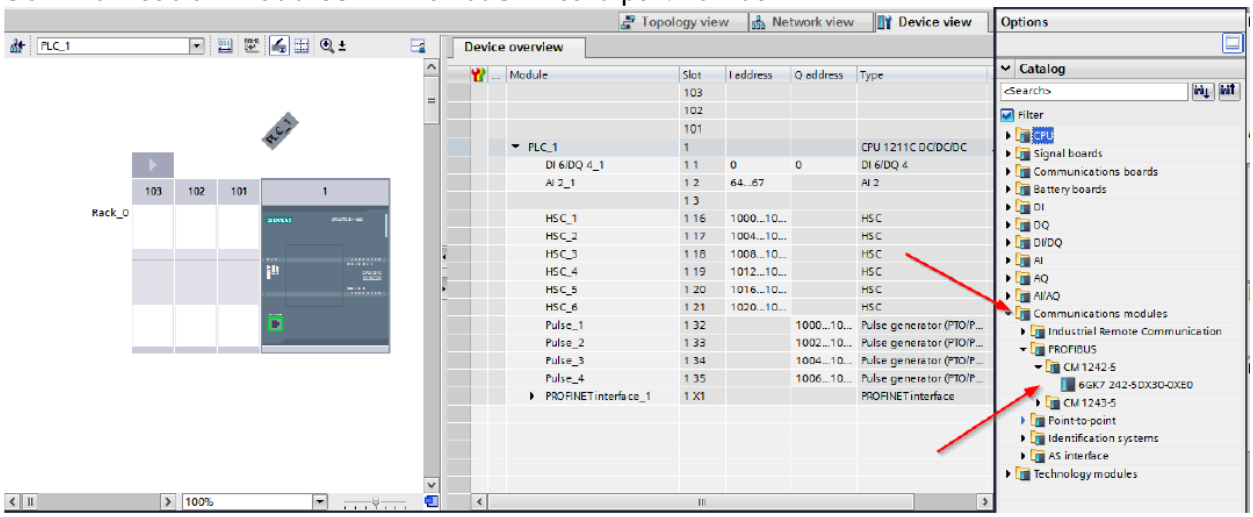


By selecting a BL67 module, the module properties will open. The parameters of the selected module can be changed by selecting **Module parameters**. The station parameters should now be visible and adjustable. An analog input module is adjusted to have a 4…20mA input below.

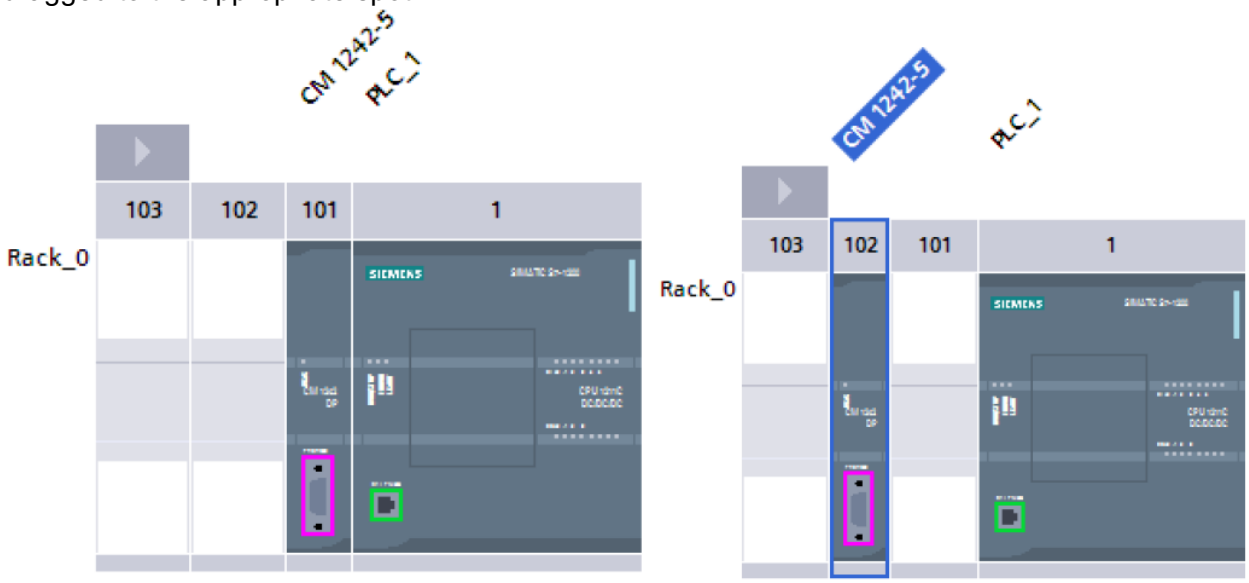


Adding a Profibus-DP Device

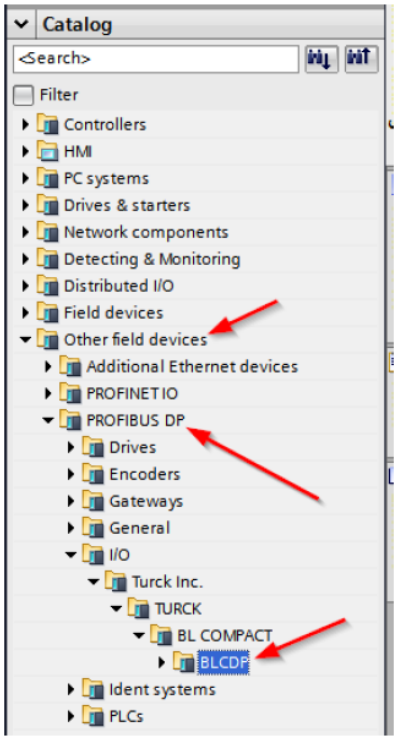
To add a Profibus-DP device, double click back on the PLC under the **Topology View** tab. In the **Hardware Catalog** section, add the appropriate Profibus-DP card by selecting **Communication Modules -> Profibus ->** card part number.



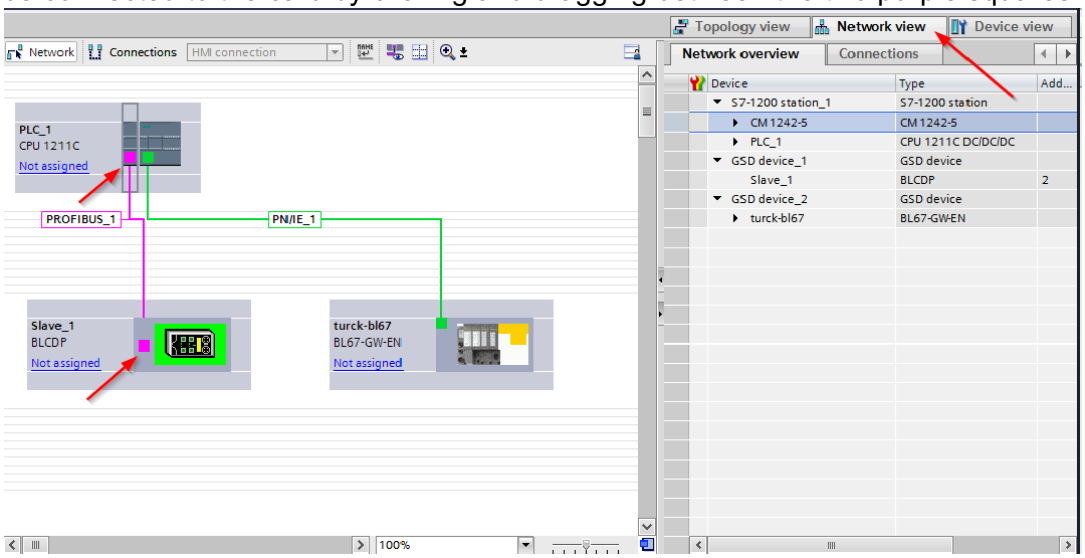
The Profibus card can be double clicked to add the card to the first available slot or clicked and dragged to the appropriate spot.



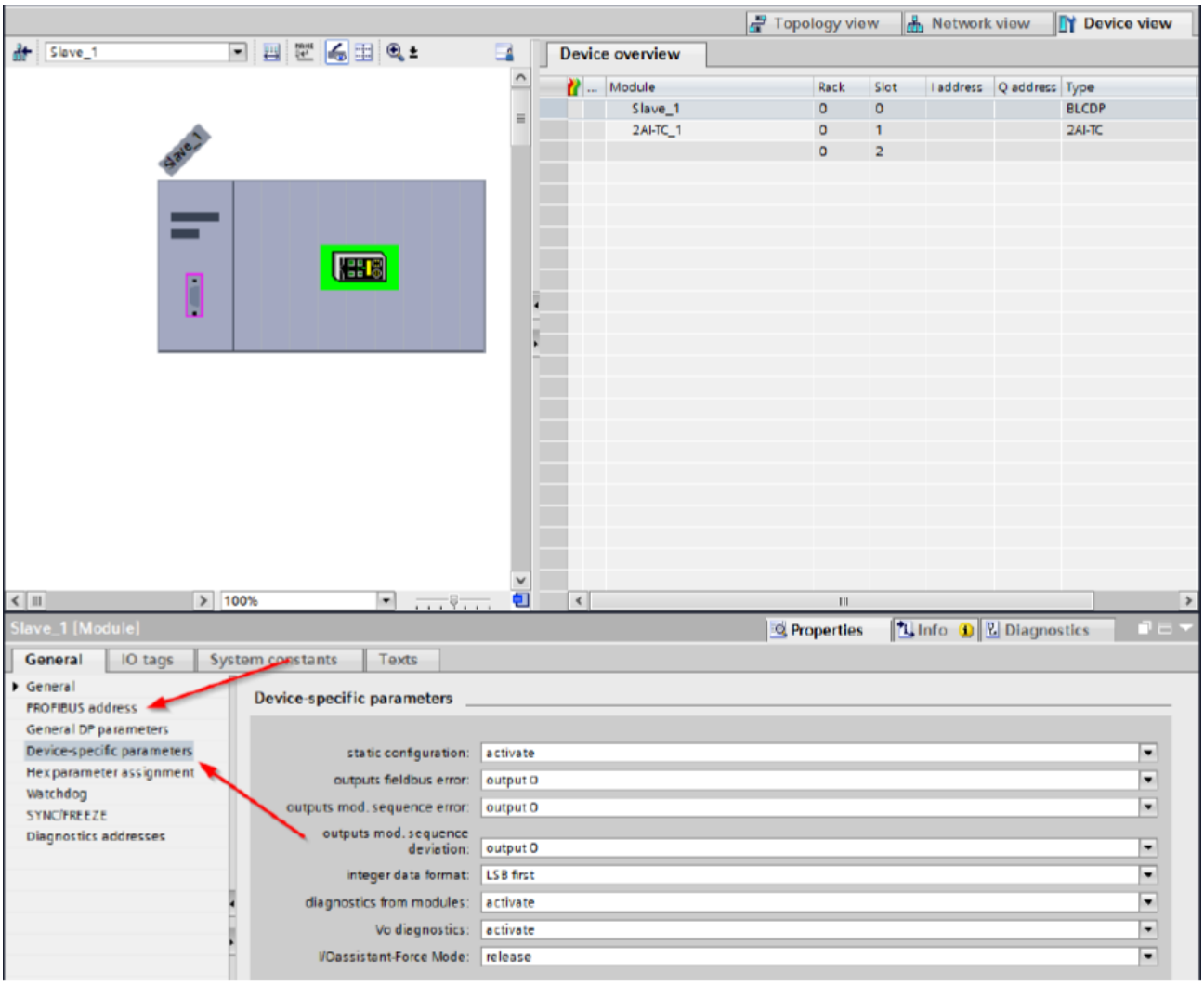
From here, a Profibus-DP module can be added by selecting the PLC. Then selecting **Other field devices** under **Hardware Catalog.** If **Other field devices** is not available, uncheck the filter button. Select **Profibus DP -> I/O -> Turck Inc. -> TURCK -> BL COMPACT -> BLCDP ->** Profibus DP module to add the module to the project. A BLCDP slave is added in this example.



Select the **Network View** tab to view the entire project. As before, the Profibus-DP device can be connected to the card by clicking and dragging between the two purple squares.



Double-click the Profibus-DP module to open the Device view. From here, the device address and the device parameters can be changed.


Topology view
Network view
Device view
Slave_1
Device overview
Module
Rack
Slot
I address
Q address
Type
Slave_1
0
0
BLCDP
2AI-TC_1
0
1
2AI-TC
0
2
100%
Slave_1 [Module]
Properties
Info
Diagnostics
General
IO tags
System constants
Texts
General
PROFIBUS address
General DP parameters
Device-specific parameters
Hex parameter assignment
Watchdog
SYNC/FREEZE
Diagnostics addresses
Device-specific parameters
static configuration:
activate
outputs fieldbus error:
output 0
outputs mod. sequence error:
output 0
outputs mod. sequence deviation:
output 0
integer data format:
LSB first
diagnostics from modules:
activate
Vo diagnostics:
activate
I/Oassistant-Force Mode:
release