

ABB industrial drives

Quick start-up guide

Drive Manager for SIMATIC



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List of related manuals

Drive firmware manuals and guides	Code (English)
<i>FPBA-01 PROFIBUS DP adapter module user's manual</i>	3AFE68573271
<i>RPBA-01 PROFIBUS DP Adapter Module User's Manual</i>	3AFE64504215
<i>FENA-01/-11 Ethernet adapter module User's Manual</i>	3AUA0000093568
<i>ABB Drives Profibus DP control SimaticS7</i>	3AUA0000099358
<i>ABB Drives function blocks for Siemens PLC's Quick start-up guide</i>	3AXD50000037864

You can find manuals and other product documents in PDF format on the Internet. See section [Document library on the Internet](#) on the inside of the back cover. For manuals not available in the Document library, contact your local ABB representative.

Drive Manager for SIMATIC

Quick start-up guide

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Introduction

About this guide

This guide provides the procedure to configure ABB drives with Siemens SIMATIC S7 PLC environment using PROFIBUS and PROFINET network.

Intended audience

The reader of this manual is expected to have a basic knowledge of ABB products, terminologies, standard electrical wiring practices, electronic components and electrical schematic symbols.

Compatibility

This manual is compatible with SIMATIC Manager V5.4, V5.5, TIA Portal V13.0 and Drive Manager 1.1.

Contents of the manual

This quick start-up guide consists of the following chapters:

- [Drive Manager for SIMATIC setup](#) provides the basic overview of PROFIBUS and PROFINET setup and the compatibility limitations of ABB drive library.
 - [Drive configuration in ABB Drive Manager](#) describes the procedure to install ABB Drive Manager and to configure drives in ABB Drive Manager.
 - [Appendix - SIMATIC Manager \(STEP 7\)](#) describes the procedure to configure SIMATIC Manager with ABB Drive Manager.
 - [Appendix - TIA Portal configuration](#) describes the procedure to configure TIA Portal with ABB Drive Manager.
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Related documents

A list of related manuals is printed on the inside of the front cover.

Cyber security disclaimer

This product is designed to be connected to and to communicate information and data via a network interface. It is Customer's sole responsibility to provide and continuously ensure a secure connection between the product and Customer network or any other network (as the case may be). Customer shall establish and maintain any appropriate measures (such as but not limited to the installation of firewalls, application of authentication measures, encryption of data, installation of anti-virus programs, etc) to protect the product, the network, its system and the interface against any kind of security breaches, unauthorized access, interference, intrusion, leakage and/or theft of data or information. ABB and its affiliates are not liable for damages and/or losses related to such security breaches, any unauthorized access, interference, intrusion, leakage and/or theft of data or information.

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Drive Manager for SIMATIC setup

About this chapter

This chapter provides the basic overview of PROFIBUS and PROFINET setup and the compatibility limitations of ABB drive compatibility with Siemens CPU.

Basic overview of PROFIBUS and PROFINET setup

PROFIBUS is an open serial communication standard that enables data exchange between automation components. The FENA-x1 ethernet adapter module is an optional device for ABB drives which enables the connection of the drive to an ethernet network. The following picture shows the overview setup of Siemens PLC and ABB Drives integration using PROFIBUS and PROFINET.

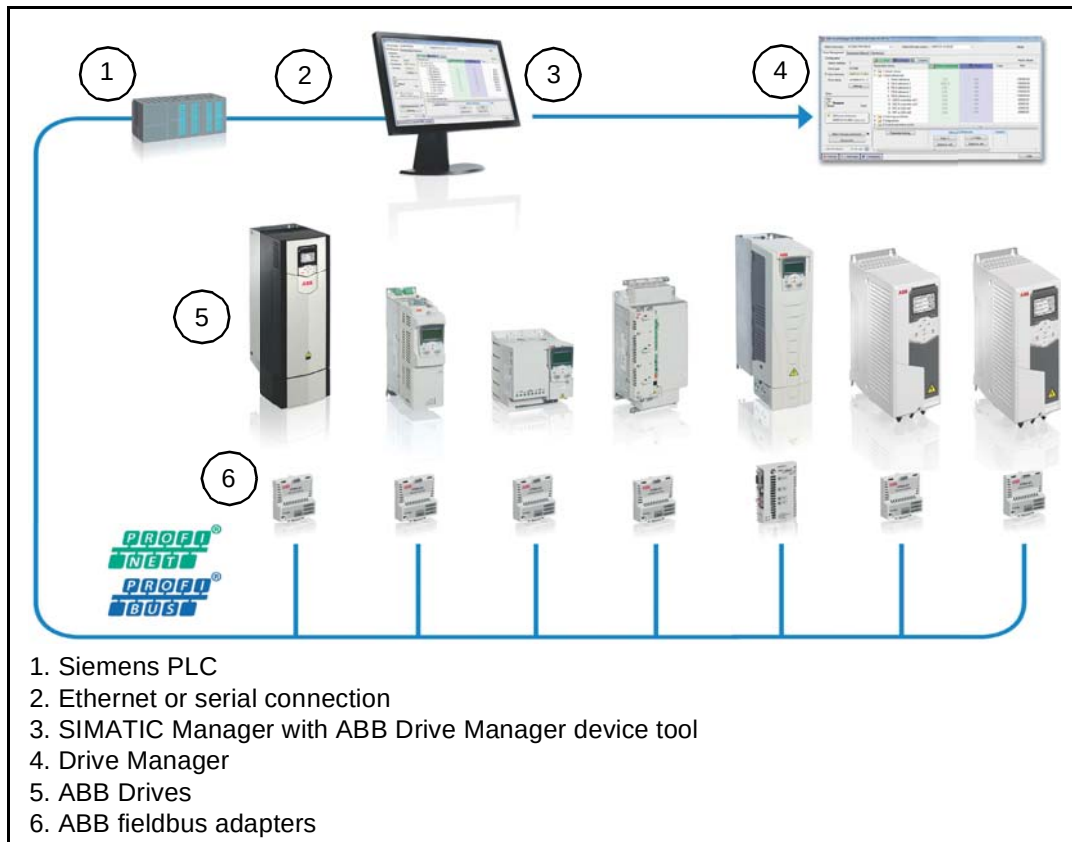


ABB drive compatibility with Siemens SIMATIC environment

The following limitations are valid for ABB drive compatibility with Siemens CPU:

- [SIMATIC Manager V5.4 compatibility](#)
- [SIMATIC Manager V5.5 compatibility](#)
- [TIA Portal V13.0 SP2 compatibility](#)
- [Drive Manager compatibility](#)
- [Siemens PLC CPU 300 series compatibility](#)
- [Siemens PLC CPU 400 series compatibility](#)
- [Siemens PLC CPU 1200 series compatibility](#)
- [Siemens PLC CPU 1500 series compatibility](#)

■ SIMATIC Manager V5.4 compatibility

The following limitations are valid for SIMATIC Manager V5.4 SP5 compatibility.

- PROFIBUS DP protocol: DP-V1.
- PROFINET IO communication profile: ABB drives.
- Drive types: All PROFIBUS compatible ABB drives.
- Application types: Speed/frequency control or torque control.
- PPO types: Only PPO types with consistent data are supported.
- For example, PPO-06, 0 PKW + 10 PZD are supported.
- ABB_DRIVE_LIB function block is supported only for PROFIBUS DP.

■ SIMATIC Manager V5.5 compatibility

The following limitations are valid for SIMATIC Manager V5.5 compatibility.

- PROFIBUS DP protocol: DP-V1.
- PROFINET IO communication profile: ABB drives.
- Drive types: All PROFIBUS compatible ABB drives.
- Application types: Speed/frequency control or torque control.
- PPO types: Only PPO types with consistent data are supported.
- For example, PPO-06, 0 PKW + 10 PZD are supported.
- ABB_DRIVE_LIB function block is supported only for PROFIBUS DP

Note: PPO types without consistent data, example, PPO-06, 0 PKW + (2+2+2+2+2) PZD or PPO-06, 0 PKW +NoCons. 10 PZD are not supported.

■ TIA Portal V13.0 SP2 compatibility

The following limitations are valid for TIA Portal V13.0 compatibility.

- PROFIBUS DP protocol: DP-V1.
- PROFINET IO communication profile: ABB drives.
- Drive types: All PROFIBUS compatible ABB drives.
- Application types: Speed/frequency control or torque control.
- PPO types: Only PPO types with consistent data are supported.
- For example, PPO-06, 0 PKW + 10 PZD are supported.

Note: PPO types without consistent data, example, PPO-06, 0 PKW + (2+2+2+2+2) PZD or PPO-06, 0 PKW +NoCons. 10 PZD are not supported.

■ Drive Manager compatibility

The following limitations are valid for Drive Manager compatibility.

- PROFIBUS DP protocol: DP-V1.
- PROFINET IO communication profile: ABB drives.
- Drive types: ACS355, ACS380, ACS550 (only for PROFIBUS), ACS580, ACQ810, ACS850, ACS880, ACSM1 Speed, ACSM1 Motion.
- Application types: Speed/Frequency control, Torque control or Motion control.
- PC to PLC online interface: Ethernet and serial communication.
- PC operating system for SIMATIC Manager V5.5 are Windows XP 32 bit, Windows 7 32 bit and Windows 7 64 bit.
- PC operative system for TIA Portal V13.0 are Windows XP 32 bit and Windows 7 32 bit.

■ Siemens PLC CPU 300 series compatibility

The following S7-300 CPU's are compatible.

CPU	Version
CPU 313C-2 DP	V3.3
CPU 314C-2 DP	V3.3
CPU 314C-2 PN/DP	V3.3
CPU 315-2 DP	V3.3
CPU 315F-2 DP	V3.0
CPU 315-2 PN/DP	V3.2
CPU 315F-2 PN/DP	V3.2
CPU 317-2 DP	V3.3
CPU 317F-2 DP	V3.3
CPU 317-2 PN/DP	V3.2
CPU 317F-2 PN/DP	V3.2
CPU 319-3 PN/DP	V3.2
CPU 319F-3 PN/DP	V3.2
IM154-8 PN/DP CPU	V3.2
IM154-8F PN/DP CPU	V3.2
IM154-8FX PN/DP CPU	V3.2
IM151-8 PN/DP CPU	V3.2
IM151-8F PN/DP CPU	V3.2

■ Siemens PLC CPU 400 series compatibility

The following S7-400 CPU's are compatible.

CPU	Version
CPU 412-1	V5.3
CPU 412-2 DP	V5.3
CPU 412-2 PN	V6.0
CPU 414-2 DP	V5.3
CPU 414-3 DP	V5.3
CPU 414-3 PN/DP	V5.1
CPU 414F-3 PN/DP	V6.0
CPU 416-2 DP	V5.3
CPU 416-3 DP	V5.3
CPU 416F-2 DP	V5.3
CPU 416-3 PN/DP	V6.0
CPU 416F-3 PN/DP	V6.0
CPU 417-4	V5.3
CPU 412-5H PN/DP	V6.0
CPU 414-5H PN/DP	V6.0
CPU 416-5H PN/DP	V6.0
CPU 417-5H PN/DP	V6.0

■ Siemens PLC CPU 1200 series compatibility

The following S7-1200 CPU's are compatible

CPU	Version
CPU 1211C AC/DC/Rly	4.1
CPU 1211C DC/DC/DC	4.1
CPU 1211C DC/DC/Rly	4.1
CPU 1212C AC/DC/Rly	4.1
CPU 1212C DC/DC/DC	4.1
CPU 1212C DC/DC/Rly	4.1
CPU 1214C AC/DC/Rly	4.1
CPU 1214C DC/DC/DC	4.1
CPU 1214C DC/DC/Rly	4.1
CPU 1215C AC/DC/Rly	4.1
CPU 1215C DC/DC/DC	4.1
CPU 1215C DC/DC/Rly	4.1
CPU 1217C DC/DC/DC	4.1
CPU 1214FC DC/DC/DC	4.1
CPU 1214FC DC/DC/DC	4.1
CPU 1215FC DC/DC/DC	4.1
CPU 1215FC DC/DC/DC	4.1

■ Siemens PLC CPU 1500 series compatibility

The following S7-1500 CPU's are compatible.

CPU	Version
CPU 1511-1 PN	1.8
CPU 1511C-1 PN	1.8
CPU 1512C-1 PN	1.8
CPU 1513-1 PN	1.8
CPU 1515-2 PN	1.8
CPU 1516-3 PN/DP	1.8
CPU 1517-3 PN/DP	1.8
CPU 1518-4 PN/DP	1.8
CPU 1511F-1 PN	1.8
CPU 1513F-1 PN	1.8
CPU 1515F-2 PN	1.8
CPU 1516F-3 PN/DP	1.8
CPU 1517F-3 PN/DP	1.8
CPU 1518F-4 PN/DP	1.8
CPU 1511-1 PN SIPLUS	1.7
CPU 1513-1 PN SIPLUS	1.7
CPU 1516-3 PN/DP SIPLUS	1.7

3

Drive configuration in ABB Drive Manager

About this chapter

This chapter provides the procedure to install ABB Drive Manager and to configure drives through PROFIBUS and PROFINET interface.

Prerequisites:

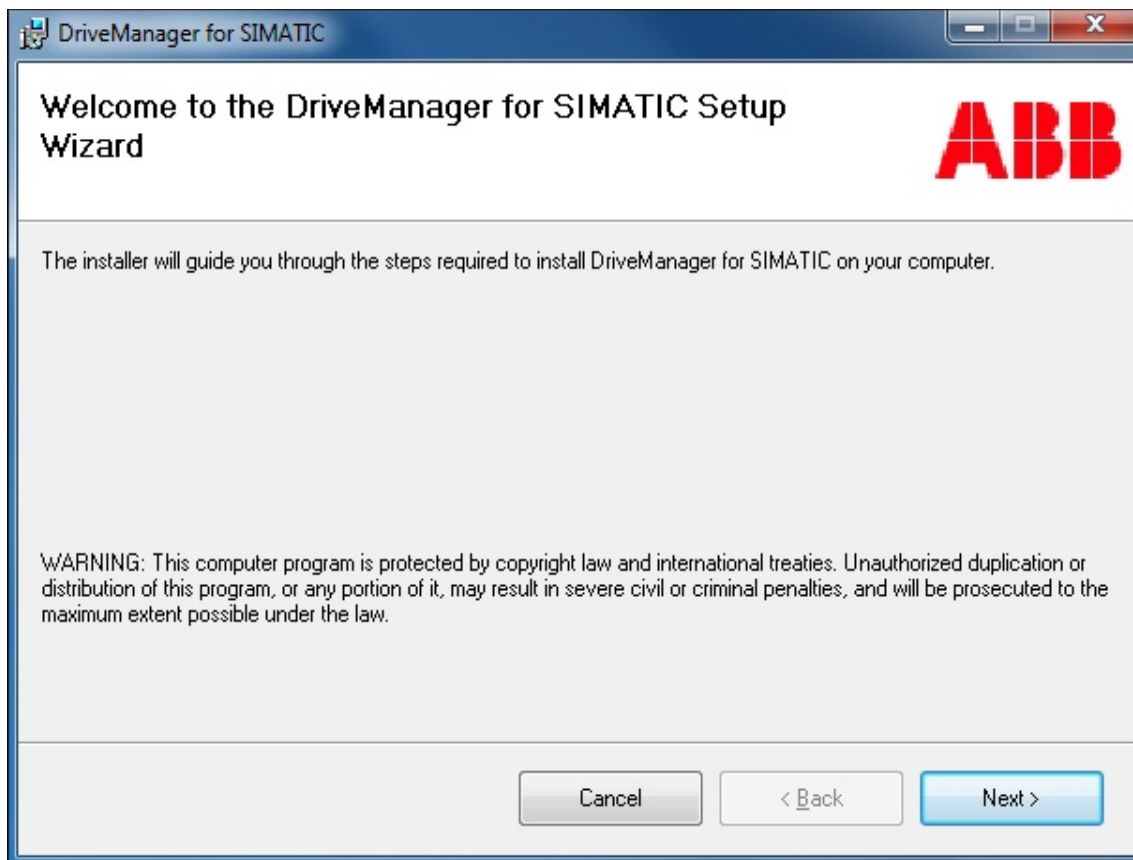
- Install SIMATIC Manager (STEP 7).
- Install TIA portal as a administrator to start ABB Drive Manager.
- Before starting ABB Drive Manager installation, close all the applications.

Installing ABB Drive Manager

To install ABB Drive Manager, follow these steps:

1. Double-click ABB Drive Manager setup file.

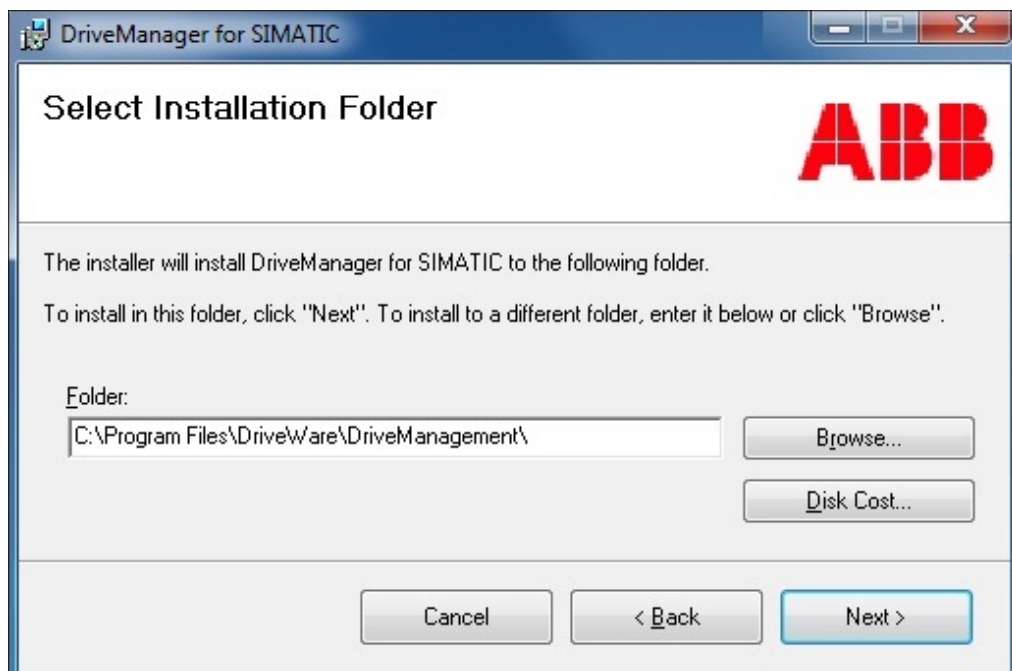
2. In **DriveManager for SIMATIC** window, click **Next**.



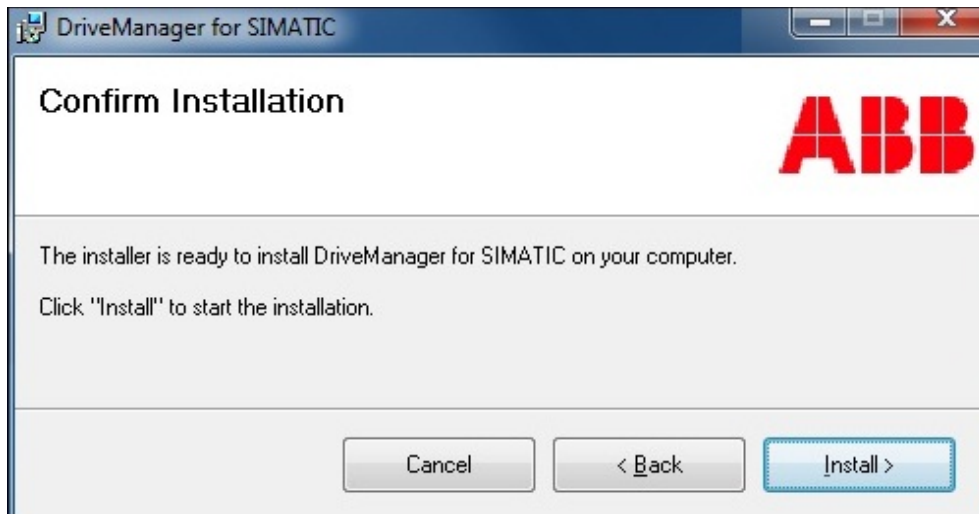
3. Read the licence agreement of ABB Drive Manager for SIMATIC. Select **Accept** check box and click **Next**.



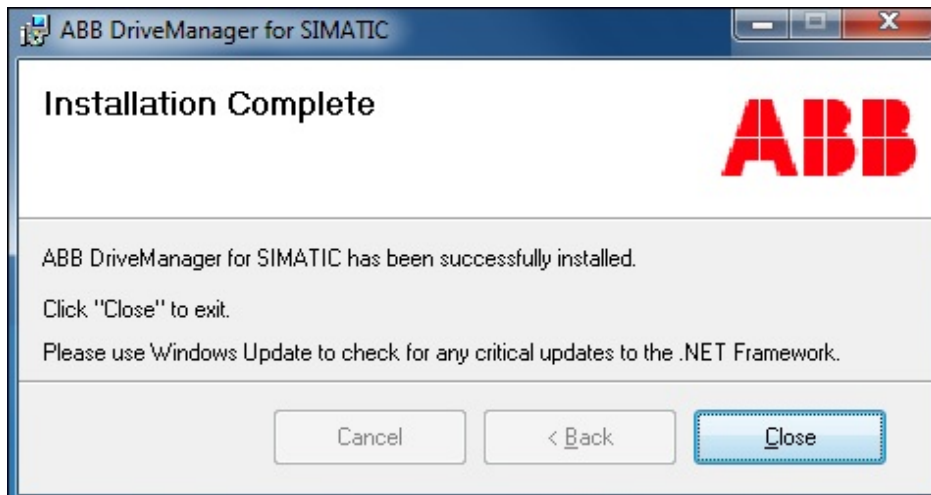
4. Select appropriate folder to install DriveManager for SIMATIC and click **Next**.



5. Click **Install** to start the installation.



6. DriveManager for SIMATIC is installed. Click **Close**.



Drive configuration

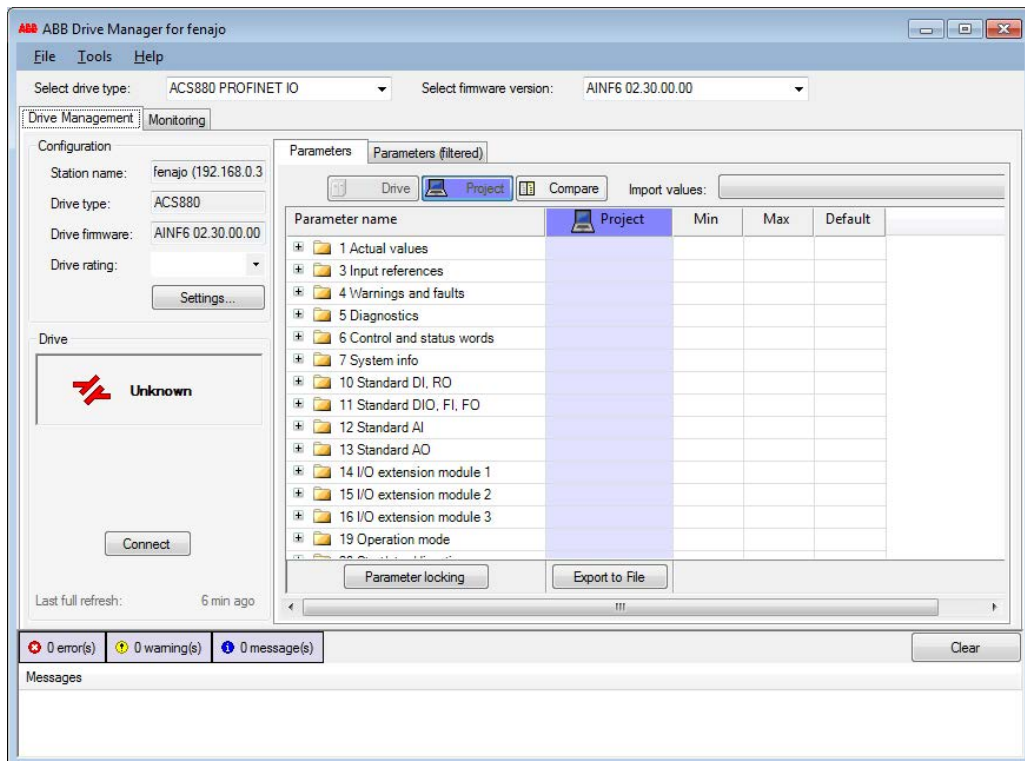
Before launching ABB Drive Manager, ensure [Appendix - SIMATIC Manager \(STEP 7\)](#) and [Appendix - TIA Portal configuration](#) are configured.

The ABB Drive Manager menu bar contains the following:

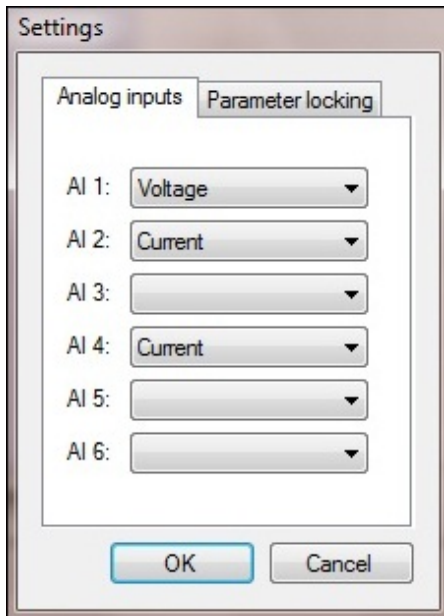
- File: To exit ABB Drive Manager window.
- Tools: To install application parameters to different firmwares and to exclude FINA firmware version.
- Help: To view contents, import license file and the product information.

To configure ABB Drive Manager, follow these steps:

1. In the **ABB Drive Manager** window, click **Drive Management** tab.



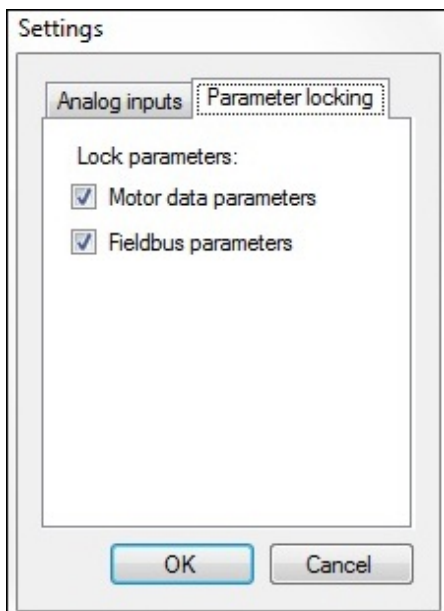
2. To configure the drive analog input channel settings for current/voltage configuration based on the hardware settings of the drive, click **Settings**.
3. Select the required **Analog inputs** from the drop-down list and click **OK**.



The screenshot shows the 'Settings' dialog box with the 'Analog inputs' tab selected. The 'Parameter locking' tab is also visible. The 'Analog inputs' section contains six drop-down menus labeled AI 1 through AI 6. AI 1 is set to 'Voltage', AI 2 is set to 'Current', AI 3 is empty, AI 4 is set to 'Current', AI 5 is empty, and AI 6 is empty. At the bottom of the dialog are 'OK' and 'Cancel' buttons.

Note: Analog inputs settings are applicable for ACQ810, ACS850 and ACSM1 drives. Whereas in ACS355 drives, localization settings are available. For ACS380, ACS580 and ACS880 drives, only Parameter locking settings are available.

4. Select the check boxes to disable editing of the motor data and fieldbus parameter and click **OK**.



The screenshot shows the 'Settings' dialog box with the 'Parameter locking' tab selected. The 'Analog inputs' tab is also visible. The 'Parameter locking' section contains a 'Lock parameters:' label and two checked checkboxes: 'Motor data parameters' and 'Fieldbus parameters'. At the bottom of the dialog are 'OK' and 'Cancel' buttons.

5. Click **Parameter locking** to prevent accidental changes of the motor data and fieldbus parameters.

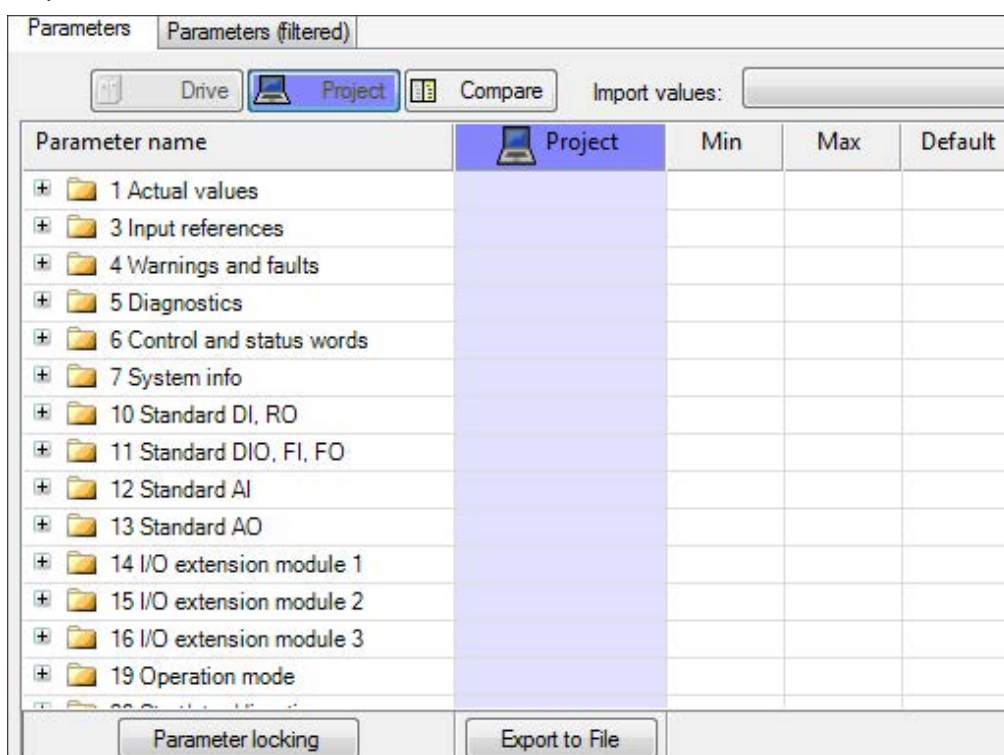
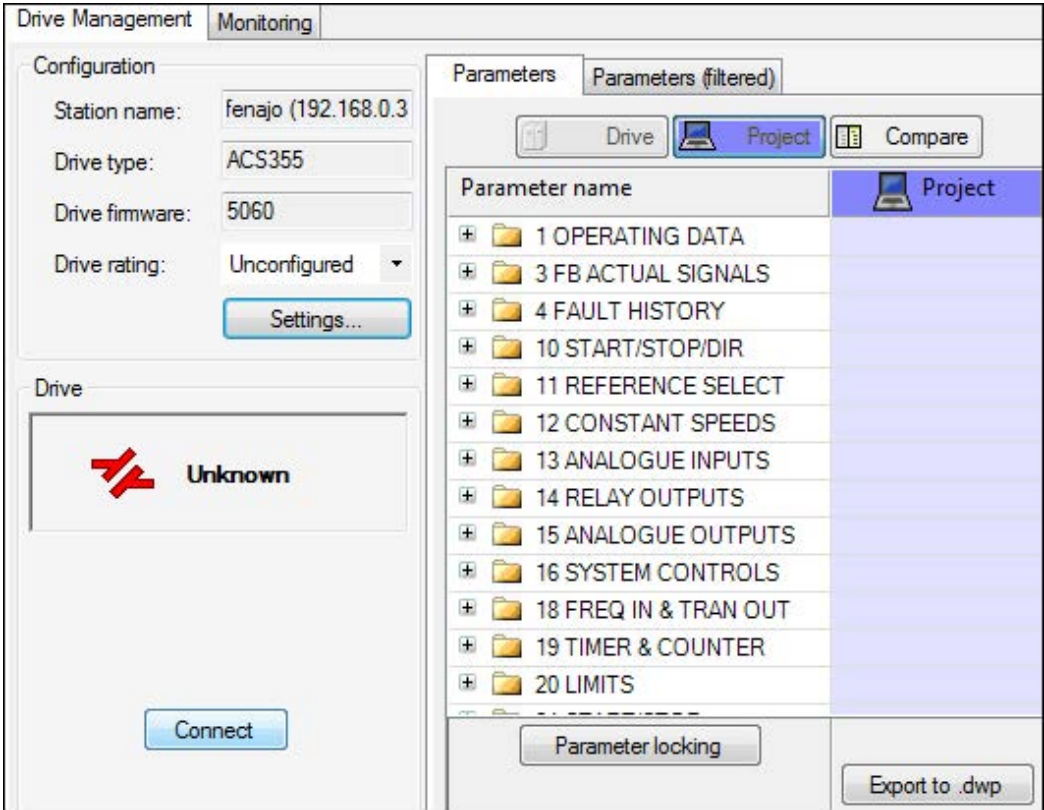


ABB Drive Manager is configured.

Connecting and disconnecting drive

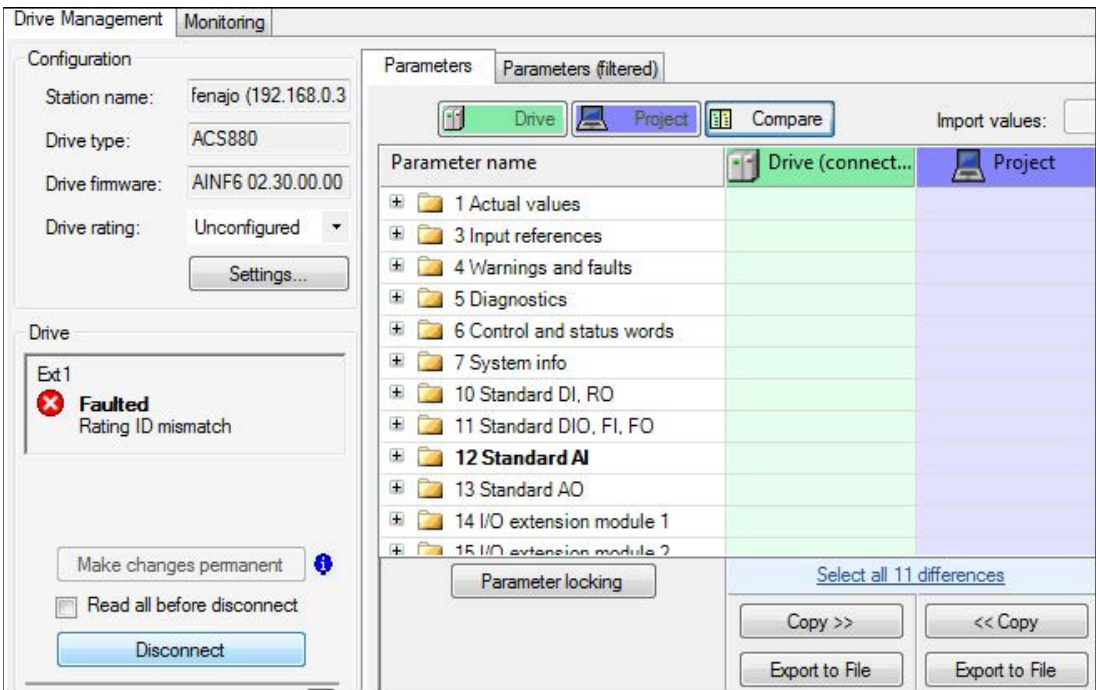
To connect (online) and disconnect (offline) drive from the ABB Drive Manager user interface, follow these steps:

1. In the **Drive Management** tab click **Connect**.



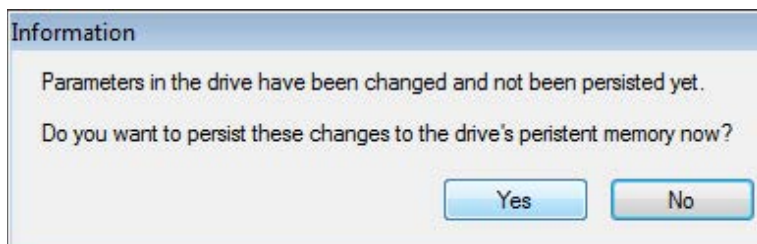
The configured drive connects.

2. To disconnect the drive, click **Disconnect**.



If you activate **Read all before disconnect** check-box, ABB Drive Manager reads all the parameters before disconnecting the drive.

3. On disconnecting, the ABB Drive Manager checks the changes to drive parameters which have not been stored to permanent memory. Click **Yes** to complete uploading all the parameter values.



Error and warning messages

The following errors are noticed when you try to connect to a drive:

- **Different drive type:** If the configured drive type is different from the actual drive connected, an error Different drive type is displayed and shows the actual drive type.

The screenshot shows the 'Drive Management' window with the 'Monitoring' tab selected. The 'Configuration' section contains the following fields:

- Station name: fenajo (192.168.0.3)
- Drive type: ACS850 (highlighted in red)
- Drive firmware: UIF1 2110
- Drive rating: Unconfigured (dropdown menu)

A 'Settings...' button is located below the configuration fields. The 'Drive' section shows a red 'Disconnected' status with a red lightning bolt icon. Below this, an error message box displays:

- Icon: Red lightning bolt
- Message: Different drive type
- Actual drive type: ACS880
- Link: [More info](#)

A 'Connect' button is located at the bottom of the window.

- **Different firmware version:** If the configured drive firmware version is different from the actual drive firmware version, the drive may be connected but the ABB Drive Manager displays a warning message Different firmware and also displays the actual drive firmware version.

The screenshot shows the 'Monitoring' tab of the ABB Drive Manager interface. It is divided into two main sections: 'Configuration' and 'Drive'.

Configuration section:

- Station name:** fenajo (192.168.0.3)
- Drive type:** ACS880
- Drive firmware:** AINF6 02.30.00.00 (indicated by a yellow warning icon)
- Drive rating:** Unconfigured (dropdown menu)
- Settings...** button

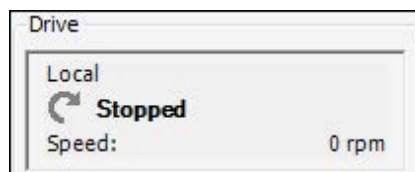
Drive section:

- Ext 1:** Faulted (indicated by a red 'X' icon), Rating ID mismatch
- Different firmware:** (indicated by a yellow warning icon), AINF6 02.30.255.17, [More info](#)
- Make changes permanent** button (with an information icon)
- ☐ **Read all before disconnect**
- Disconnect** button

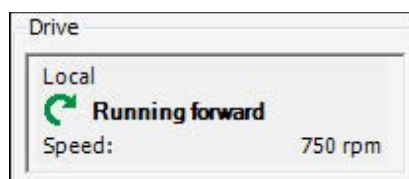
Drive status display

The ABB Drive Manager shows the following drive status messages:

- **Stopped:** Drive is in stop mode.



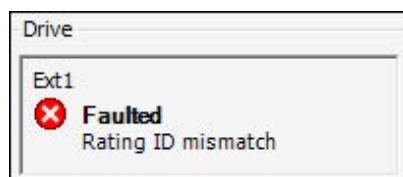
- **Running forward:** Drive is running in the forward direction.



- **Running reverse:** Drive is running in the reverse direction.



- **Faulted:** Drive fault status and fault code.



Handling parameters

This section provides instructions to handle parameters in the ABB Drive Manager.

■ Drive parameter view

Parameter types can be numeric, enumerated list, bit pointer and value pointer.

- In the **Drive Management** tab, click **Drive** to display the connected drive parameter groups and parameter values.

Select drive type: ACS880 PROFINET IO Select firmware version: AINF6 02.30.00.00

Drive Management Monitoring

Configuration

Station name: fenajo (192.168.0.3)

Drive type: ACS880

Drive firmware: AINF6 02.30.00.00

Drive rating: Unconfigured

Settings...

Drive

Ext1

 **Faulted**
Rating ID mismatch

Make changes permanent 

☐ Read all before disconnect

Disconnect

Parameters Parameters (filtered)

 Drive  Project  Compare

Parameter name	Drive (connected)
10 Standard DI, RO	
11 Standard DIO, FI, FO	
12 Standard AI	
1 AI tune	No action
3 AI supervision function	No action
4 AI supervision selection	0b0000000000000000
11 AI1 actual value	0.007 V
12 AI1 scaled value	1.025
15 AI1 unit selection	V
16 AI1 filter time	0.100 s
17 AI1 min	0.000 V
18 AI1 max	10.000 V
19 AI1 scaled at AI1 min	0.000
20 AI1 scaled at AI1 max	1500.000
21 AI2 actual value	-0.029 mA
22 AI2 scaled value	0.000
25 AI2 unit selection	mA

Parameter locking Export to File

- To edit a numeric parameter value, double-click parameter value and change the required value.

The screenshot shows the 'Parameters' window in ABB Drive Manager. The 'Parameters (filtered)' tab is active. The 'Drive (connected)' status is shown. The parameter list is expanded to show parameters 1 through 20. Parameters 1 and 2 are hexadecimal values. Parameters 11 through 20 are numeric values with units. The 'Parameter locking' and 'Export to File' buttons are at the bottom.

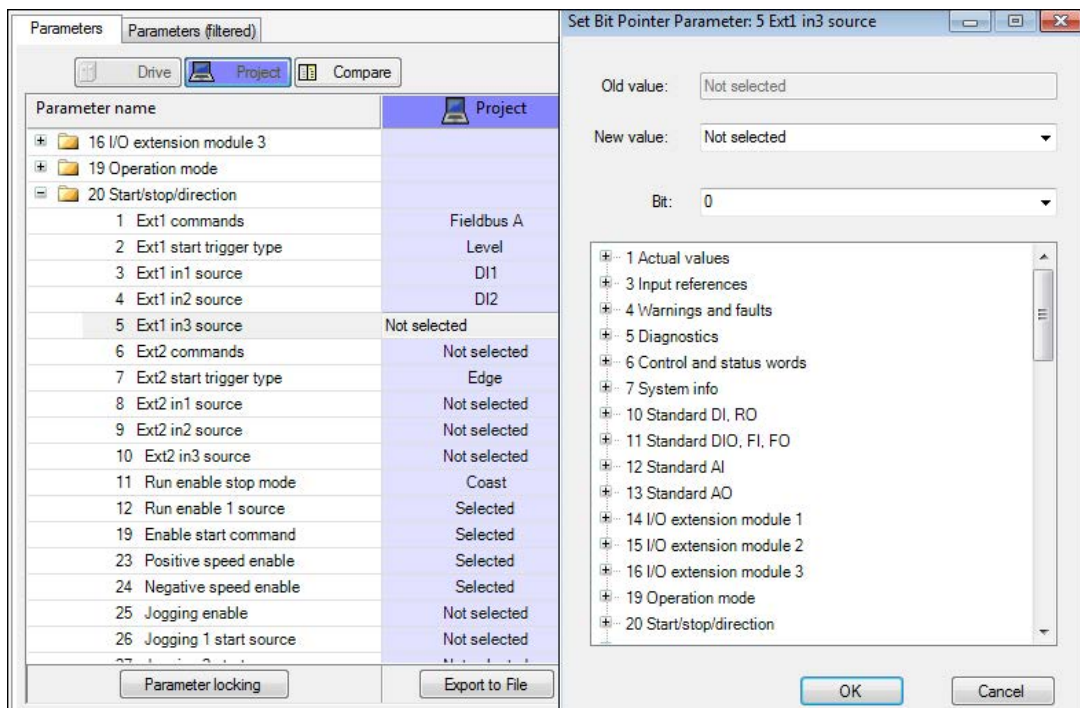
Parameter name	Value
1 Limit word 1	0b0000000000000000
2 Torque limit status	0b0000000000000000
11 Minimum speed	-1500.00
12 Maximum speed	1500.00 rpm
13 Minimum frequency	-50.00 Hz
14 Maximum frequency	50.00 Hz
15 Maximum start current en...	Disable
16 Maximum start current	0.00 A
17 Maximum current	0.00 A
18 Minimum torque sel	Minimum torque 1
19 Minimum torque 1	-300.0 %
20 Maximum torque 1	300.0 %

- To change a enumerated parameter value, select a value from the drop-down list.

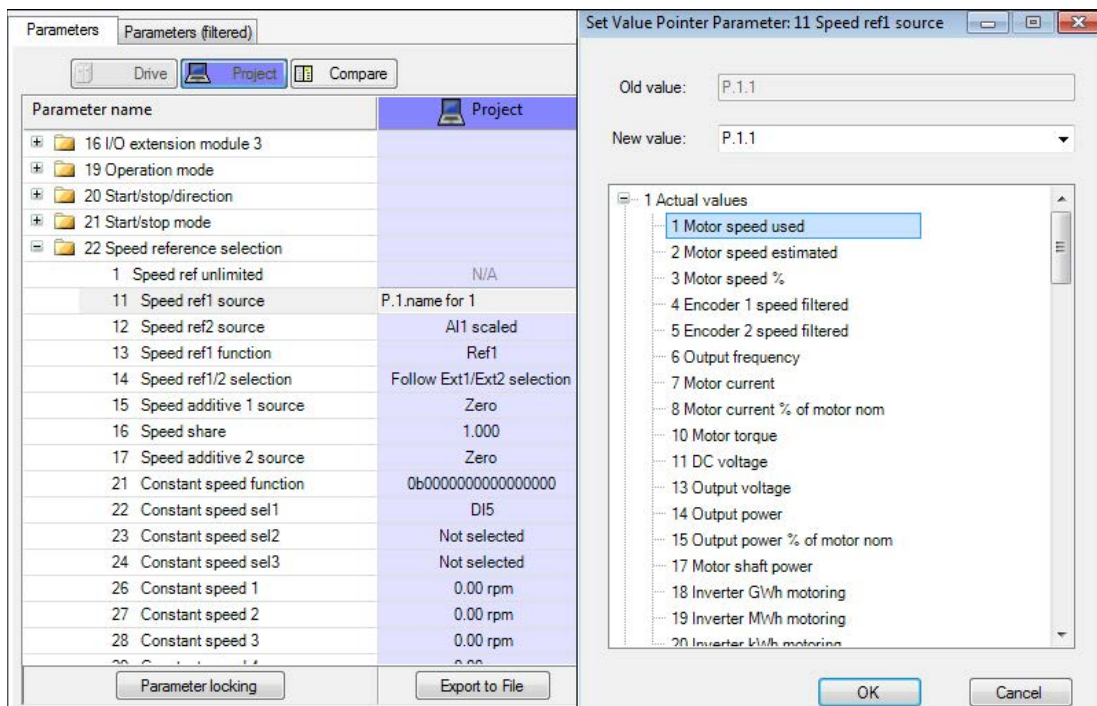
The screenshot shows the 'Parameters' window in ABB Drive Manager. The 'Parameters (filtered)' tab is active. The 'Drive (connected)' status is shown. The parameter list is expanded to show parameters 1 through 23. Parameter 1 'Ext1 commands' has a dropdown menu open, showing a list of options. The 'Parameter locking' and 'Export to File' buttons are at the bottom.

Parameter name	Value
1 Ext1 commands	In1 Start; In2 Dir
2 Ext1 start trigger type	Not selected
3 Ext1 in1 source	In1 Start
4 Ext1 in2 source	In1 Start; In2 Dir
5 Ext1 in3 source	In1 Start fwd; In2 Start rev
6 Ext2 commands	In1P Start; In2 Stop
7 Ext2 start trigger type	In1P Start; In2 Stop; In3 Dir
8 Ext2 in1 source	In1P Start fwd; In2P Start re
9 Ext2 in2 source	Control panel
10 Ext2 in3 source	Fieldbus A
11 Run enable stop mode	Embedded fieldbus
12 Run enable 1 source	M/F link
19 Enable start command	DDCS controller
23 Positive speed enable	Application Program

- To change bit pointer parameter value, double-click bit pointer value field and select the bit pointer parameter and then click **OK**.



- To change value pointer parameter value, double-click value pointer field and select the parameter value and then click **OK**.



■ Project parameter view

The ABB Drive Manager allows to view, change and save the drive parameters of the configured drive in the offline/project view mode. This set of parameters are visible even when the drive is not connected. You can select required parameters from the list and download to the drive which is connected.

- In the **Drive Management** tab, click **Project** to open the offline/project parameter view.

The screenshot displays the ABB Drive Manager interface with the 'Drive Management' tab selected. The 'Monitoring' sub-tab is active, showing a 'Configuration' section on the left with fields for Station name (fenajo (192.168.0.3)), Drive type (ACS880), Drive firmware (AINF6 02.30.00.00), and Drive rating (Unconfigured). Below this is a 'Drive' section showing 'Ext1' with a red 'X' icon and the text 'Faulted Rating ID mismatch'. At the bottom left are buttons for 'Make changes permanent', 'Read all before disconnect', and 'Disconnect'.

The main area is titled 'Parameters' and 'Parameters (filtered)'. It features three icons: 'Drive' (green), 'Project' (blue), and 'Compare' (yellow). The 'Project' icon is selected, and a table of parameters is displayed. The table has two columns: 'Parameter name' and 'Project'. The parameters are grouped under '19 Operation mode' and '20 Start/stop/direction'. The 'Project' column shows the selected value for each parameter.

Parameter name	Project
+ 19 Operation mode	
- 20 Start/stop/direction	
1 Ext1 commands	Fieldbus A
2 Ext1 start trigger type	Level
3 Ext1 in1 source	DI1
4 Ext1 in2 source	DI2
5 Ext1 in3 source	Not selected
6 Ext2 commands	Not selected
7 Ext2 start trigger type	Edge
8 Ext2 in1 source	Not selected
9 Ext2 in2 source	Not selected
10 Ext2 in3 source	Not selected
11 Run enable stop mode	Coast
12 Run enable 1 source	Selected
19 Enable start command	Selected
23 Positive speed enable	Selected
24 Negative speed enable	Selected

At the bottom of the parameters list are buttons for 'Parameter locking' and 'Export to File'.

■ Comparing drive parameters

Compare operation displays the difference in parameter settings of the Project in offline mode and Drive in online mode.

1. In the **Drive Management** tab, click **Compare** to compare drive parameter values and project parameter values.

Parameters Parameters (filtered)			
Drive Project Compare			
Parameter name	Drive (connected)	Project	Copy
+ 19 Operation mode			
- 20 Start/stop/direction			
1 Ext1 commands	In1 Start; In2 Dir	Fieldbus A	☐
2 Ext1 start trigger type	Edge	Level	☐
3 Ext1 in1 source	DI1	DI1	
4 Ext1 in2 source	DI2	DI2	
5 Ext1 in3 source	Not selected	Not selected	
6 Ext2 commands	Not selected	Not selected	
7 Ext2 start trigger type	Edge	Edge	
8 Ext2 in1 source	Not selected	Not selected	
9 Ext2 in2 source	Not selected	Not selected	
10 Ext2 in3 source	Not selected	Not selected	
11 Run enable stop mode	Coast	Coast	
12 Run enable 1 source	DIIL	Selected	☐
Parameter locking	Select all 12 differences		Unselect
	Copy >>	<< Copy	
	Export to File	Export to File	

The groups and parameters appear in bold when values of Project in offline mode and Drive in online mode are different. A check box appears to against the parameter with difference in values.

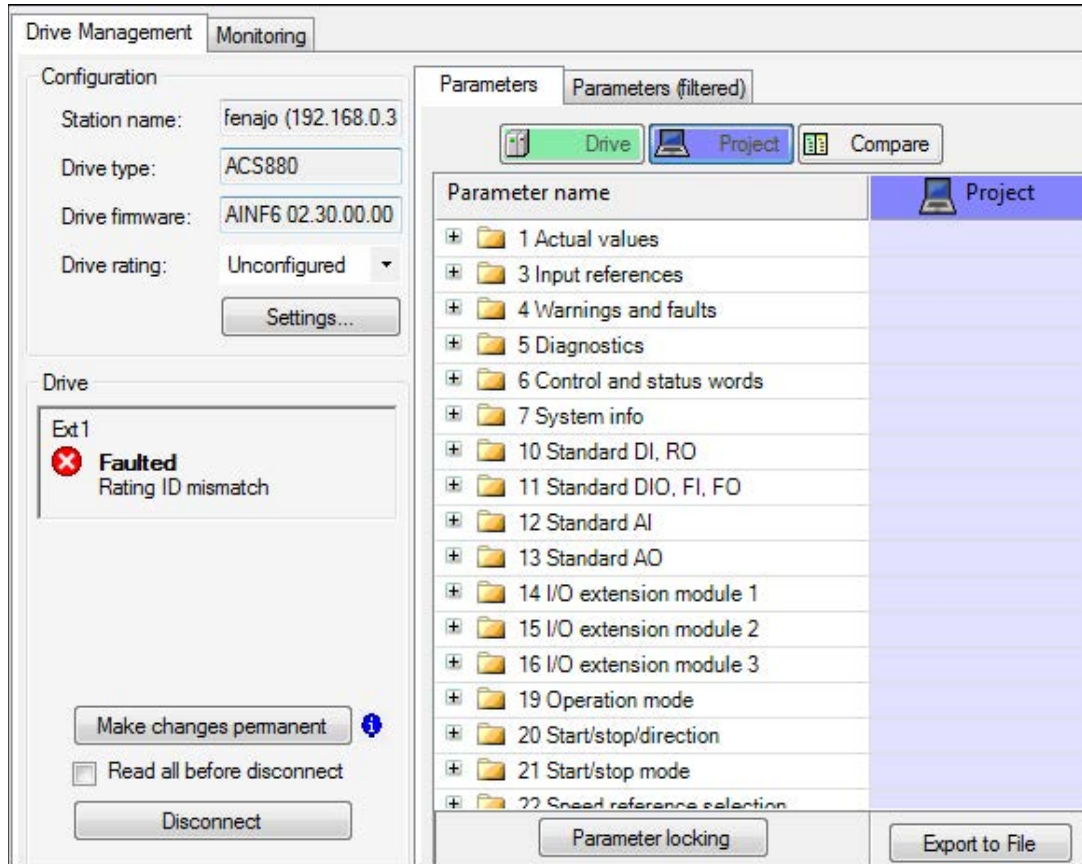
Parameters			
Parameters (filtered)			
Drive Project Compare			
Parameter name	Drive (connected)	Project	Copy
2 Torque reference used	0.0 %	N/A	
8 Minimum torque ref	-300.0 %	-300.0 %	
9 Maximum torque ref	300.0 %	300.0 %	
11 Torque ref1 source	Zero	P.12.name for 27	☒
12 Torque ref2 source	Zero	Zero	
13 Torque ref1 function	Ref1	Ref1	
14 Torque ref1/2 selection	Torque reference 1	Torque reference 1	
15 Load share	1.000	1.000	
16 Torque additive 1 source	Zero	Zero	
17 Torque ref filter time	0.000 s	0.000 s	
18 Torque ramp up time	0.000 s	0.000 s	
19 Torque ramp down time	0.000 s	0.000 s	
25 Torque additive 2 source	Zero	Zero	
26 Force torque ref add 2 zero	Not selected	Not selected	
Parameter locking		Select all 13 differences	Unselect
		Copy >>	<< Copy
		Export to File	Export to File

- Click **Copy >>** to write parameters to offline **Project** view from online **Drive** view.
- Click **<< Copy** to write parameters to online **Drive** view from offline **Project** view.

■ Exporting parameters

The ABB Drive Manager allows to export the parameter values to the respective drive parameter file format (.dsp, .dwp, .dcpparams). The file format for saving the file is automatically selected based on the drive configuration.

1. In the **ABB Drive Manager** window, select **Drive** or **Project** view.



2. Click **Export to File** (represents appropriate file format) and save the file to the desired location.

■ Importing parameters

The ABB Drive Manager allows to import the parameter values from the computer only in these file formats .dsp, .dwp, .dcparams.

Note: Import function works only in Project view.

1. In the **Project** view, click **Import values** drop-down and click Browse file to select the appropriate parameter file.

Parameters Parameters (filtered)

Drive Project Compare Import values: Project Browse file

Parameter name	Project	File	Copy
+ 13 Standard AO			
+ 14 I/O extension module 1			
+ 15 I/O extension module 2			
+ 16 I/O extension module 3			
+ 19 Operation mode			
- 20 Start/stop/direction			
1 Ext1 commands	Fieldbus A	In1 Start; In2 Dir	☐
2 Ext1 start trigger type	Level	Edge	☐
3 Ext1 in1 source	DI1	DI1	
4 Ext1 in2 source	DI2	DI2	
5 Ext1 in3 source	Not selected	Not selected	
6 Ext2 commands	Not selected	Not selected	
7 Ext2 start trigger type	Edge	Edge	
8 Ext2 in1 source	Not selected	Not selected	
9 Ext2 in2 source	Not selected	Not selected	
Parameter locking		Select all 13 differences	Unselect
		Copy >>	<< Copy
		Export to File	Export to File

- To copy imported parameter values to project parameter view, select the parameter value and click **<< Copy**.

Parameters Parameters (filtered)

Drive Project Compare Import values: C:\Users

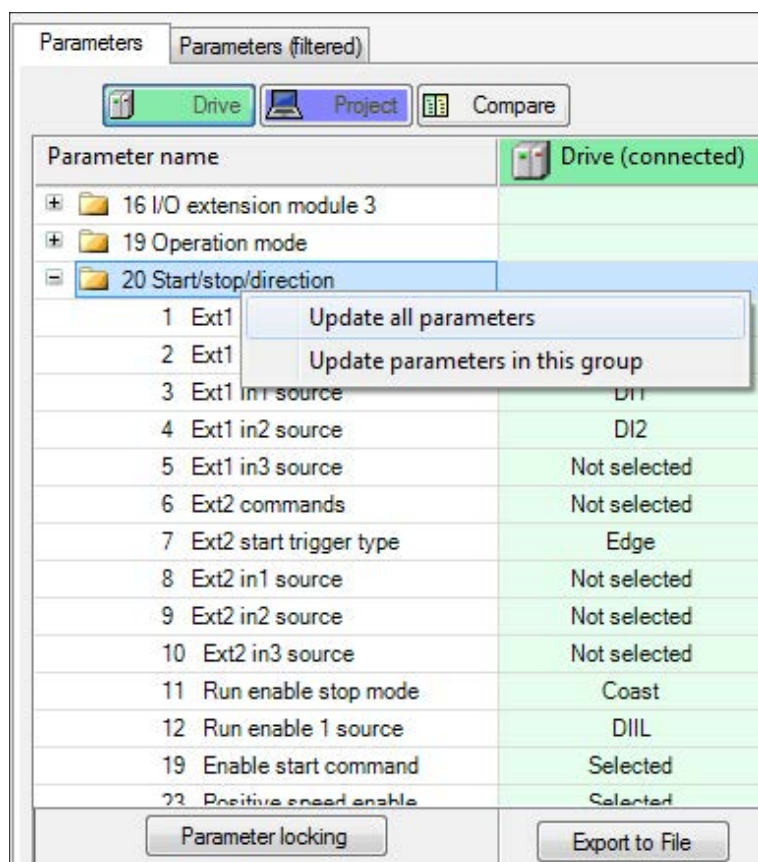
Parameter name	Project	File	Copy
+ 13 Standard AO			
+ 14 I/O extension module 1			
+ 15 I/O extension module 2			
+ 16 I/O extension module 3			
+ 19 Operation mode			
- 20 Start/stop/direction			
1 Ext1 commands	Fieldbus A	In1 Start; In2 Dir	☒
2 Ext1 start trigger type	Level	Edge	☒
3 Ext1 in1 source	DI1	DI1	
4 Ext1 in2 source	DI2	DI2	
5 Ext1 in3 source	Not selected	Not selected	
6 Ext2 commands	Not selected	Not selected	
7 Ext2 start trigger type	Edge	Edge	
8 Ext2 in1 source	Not selected	Not selected	
9 Ext2 in2 source	Not selected	Not selected	
Parameter locking	Select all 13 differences	Unselect	
	Copy >>	<< Copy	
	Export to File	Export to File	

The imported values are copied to the Project view.

■ Updating parameters

To update and save the parameter changes to the drive, follow these steps:

1. Right-click on a parameter group and select either **Update all parameters** or **Update parameters in this group**.



2. Click **Make changes permanent** to save the parameter changes to the drive.

The screenshot shows the ABB Drive Manager interface. On the left, the 'Configuration' section displays: Station name: fenajo (192.168.0.3), Drive type: ACS880, Drive firmware: AINF6 02.30.00.00, and Drive rating: (dropdown menu). Below this is the 'Drive' section showing 'Unknown' status and 'Speed: 0 rpm'. At the bottom left is a 'Make changes permanent' button and a 'Read all before disconnect' checkbox.

The main 'Parameters' section is titled 'Parameters (filtered)' and has tabs for 'Drive', 'Project', and 'Compare'. Below these tabs is a table comparing parameter values between the 'Drive (connected)' and 'Project' states.

Parameter name	Drive (connected)	Project
41 Process PID set 2		
43 Brake chopper		
44 Mechanical brake control		
45 Energy efficiency		
46 Monitoring/scaling settings		
47 Data storage		
1 Data storage 1 real32	500.000	0.000
2 Data storage 2 real32	0.000	0.000
3 Data storage 3 real32	0.000	0.000
4 Data storage 4 real32	0.000	0.000
5 Data storage 5 real32	0.000	0.000
6 Data storage 6 real32	0.000	0.000
7 Data storage 7 real32	0.000	0.000
8 Data storage 8 real32	0.000	0.000

Below the table, there is a 'Parameter locking' button and a 'Select all 14 differences' link. At the bottom right are 'Copy >>' and '<< Copy' buttons.

The parameter values are saved in the ABB Drive Manager.

■ Refresh parameters

- In the **Drive Management** tab, click  to refresh the drives parameters.

Drive Management

Monitoring

Configuration

Station name: fenajo (192.168.0.3)

Drive type: ACS880

Drive firmware: AINF6 02.30.00.00

Drive rating:

Settings...

Drive

Unknown

 **Unknown**

Speed: 0 rpm

Make changes permanent 

☐ Read all before disconnect

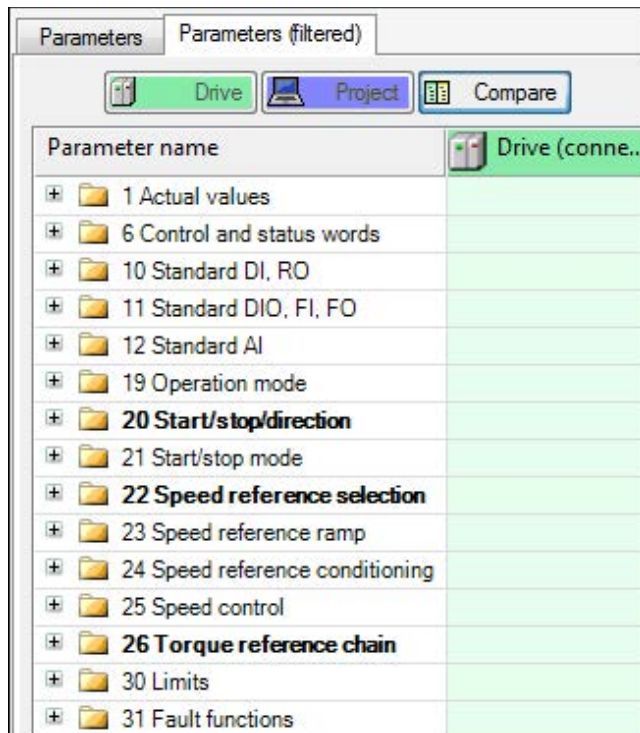
Disconnect

Last full refresh: 9 min ago 

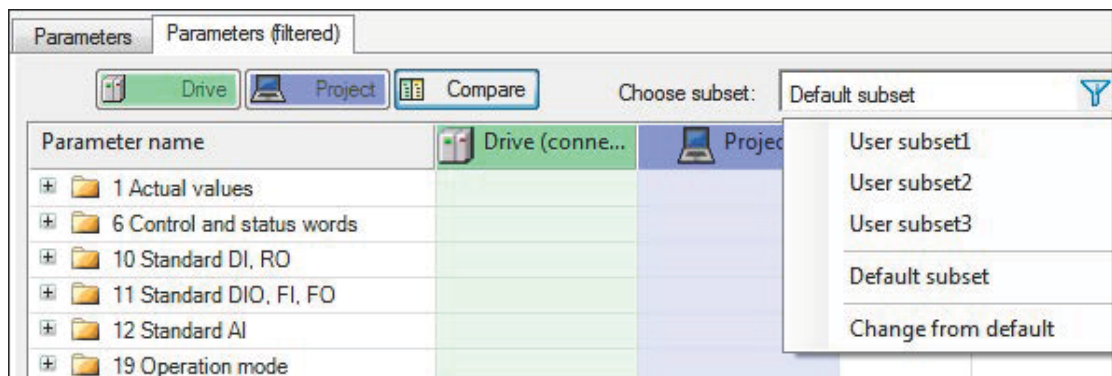
■ Filtering drive parameters

The ABB Drive Manager allows to filter the parameters and create subset views. You can create up to three subsets.

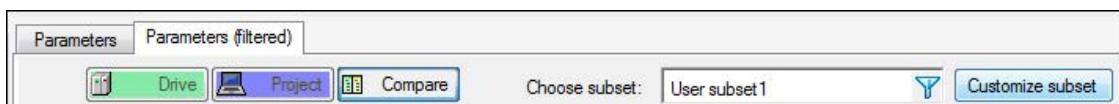
1. In the **ABB Drive Manager** window, click **Parameters (filtered)**.



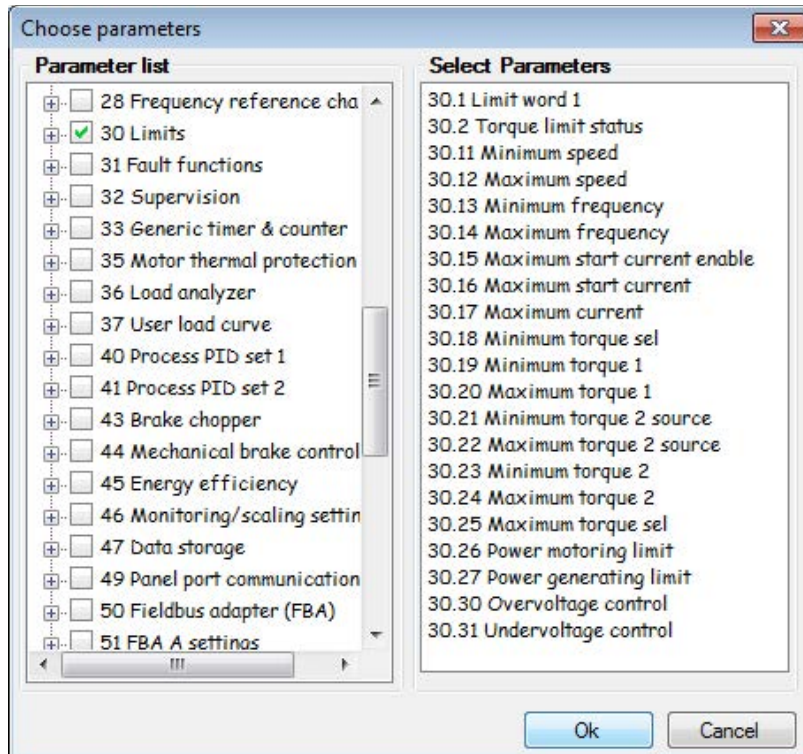
2. Select the required parameter subset in the **Choose subset** filter list.



3. Click **Customize subset** to configure the selected subset.



4. Select the required parameters from **Parameter list** to **Selected parameters** screen and click **Ok** to create subset.



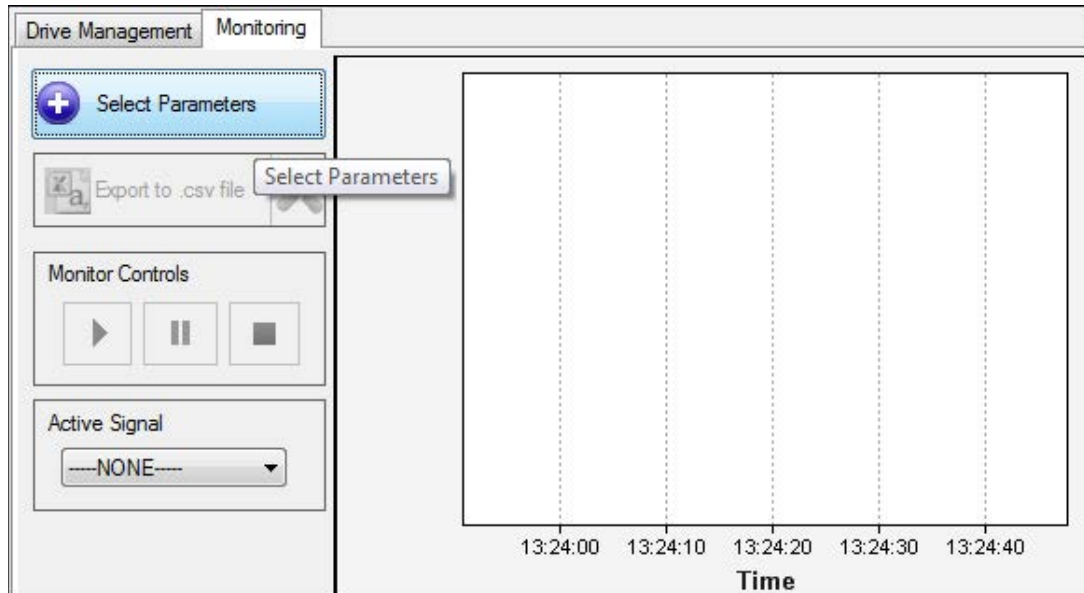
5. In the **Parameter (filtered)** tab, select the required subset to monitor.

Parameters (filtered)				
Drive Project Compare Choose subset: Default subset				
Parameter name	Drive (connect...)	Project	Copy	Min
1 Actual values				
1 Motor speed used	0.00 rpm	N/A		-30000.00
2 Motor speed estimated	0.00 rpm	N/A		-30000.00
6 Output frequency	0.00 Hz	N/A		-500.00
7 Motor current	0.00 A	N/A		0.00
11 DC voltage	0.00 V	N/A		0.00
14 Output power	0.00 kW	N/A		-32768.00
6 Control and status words				

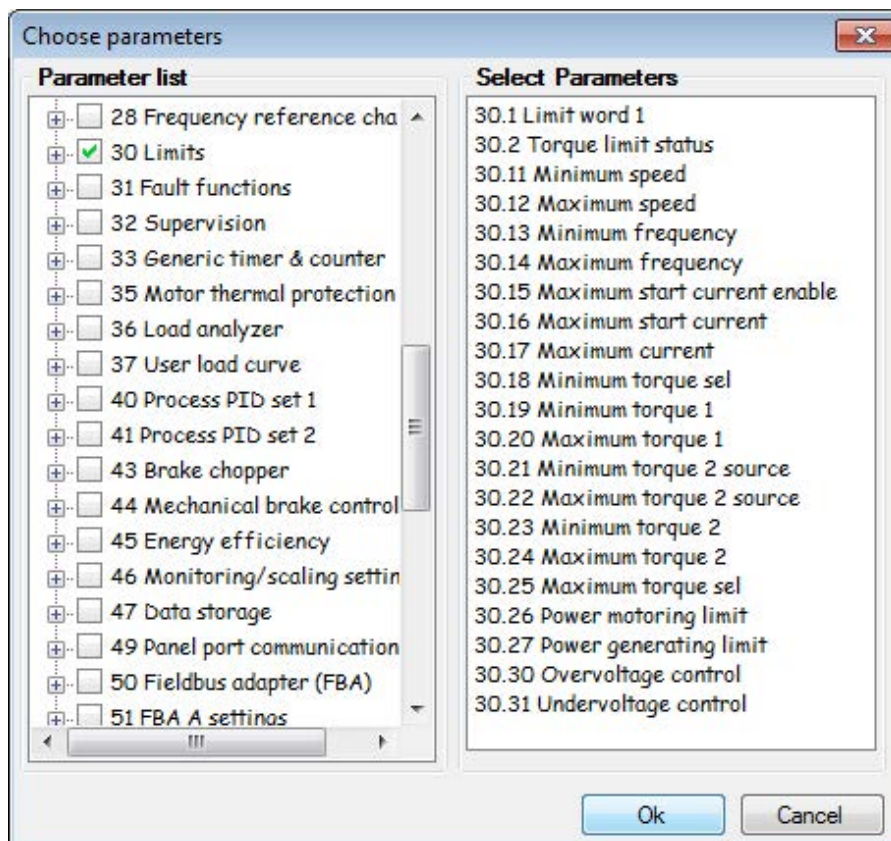
■ Selecting parameters to monitor

To select the parameters to monitor, follow these steps:

1. In the ABB Drive Manager window, click **Monitoring** tab and then click **Select Parameters** to add required parameters.



2. Select the required parameters from **Parameter list** to **Selected parameters** screen and click **Ok**.



Note: Maximum of 12 parameters are allowed.

After adding Parameters list to **Selected parameters** screen, the **Visible** check boxes are selected by default.

Parameter	Color	Visible	Autoscale	Minimum	Maximum	Alarm Low	Alarm High
0.1] Maximum ...		☒	☐	0	30000	0	30000
0.2] Minimum ...		☒	☐	-30000	0	-30000	0
0.3] Pos spee...		☒	☐	0	4294967295	0	4294967295
0.4] Neg spee...		☒	☐	0	4294967295	0	4294967295
0.5] Maximum ...		☒	☐	0	30000	0	30000
0.6] Torq lim sel		☒	☐	0	4294967295	0	4294967295

3. In the **Monitoring** tab, select the required parameter color from the drop-down list.

Parameter	Color	Visible	Autoscale	Minimum	Maximum
[20.1] Maximum s...	DarkBlue	☒	☐	0	30000
[20.2] Minimum s...	Brown	☒	☐	-30000	0
[20.3] Pos speed ...	Firebrick	☒	☐	0	4294967295
[20.4] Neg speed...	IndianRed	☒	☐	0	4294967295
[20.5] Maximum c...	Snow	☒	☐	0	30000
[20.6] Torq lim sel	LightCoral	☒	☐	0	4294967295
[20.7] Maximum t...	RosyBrown	☒	☐	0	1600
[20.8] Maximum t...	MistyRose	☒	☐	0	1600
[20.9] Maximum t...	Salmon	☒	☐	0	1600

4. To remove parameters from monitoring, deselect the specific check boxes.

Parameter	Color	Visible	Autoscale	Minimum	Maximum
[20.2] Minimum s...		☒	☐	-30000	0
[20.3] Pos speed ...		☐	☐	0	4294967295
[20.4] Neg speed...		☐	☐	0	4294967295
[20.5] Maximum c...		☐	☐	0	30000
[20.6] Torq lim sel		☐	☐	0	4294967295
[20.7] Maximum t...		☒	☐	0	1600

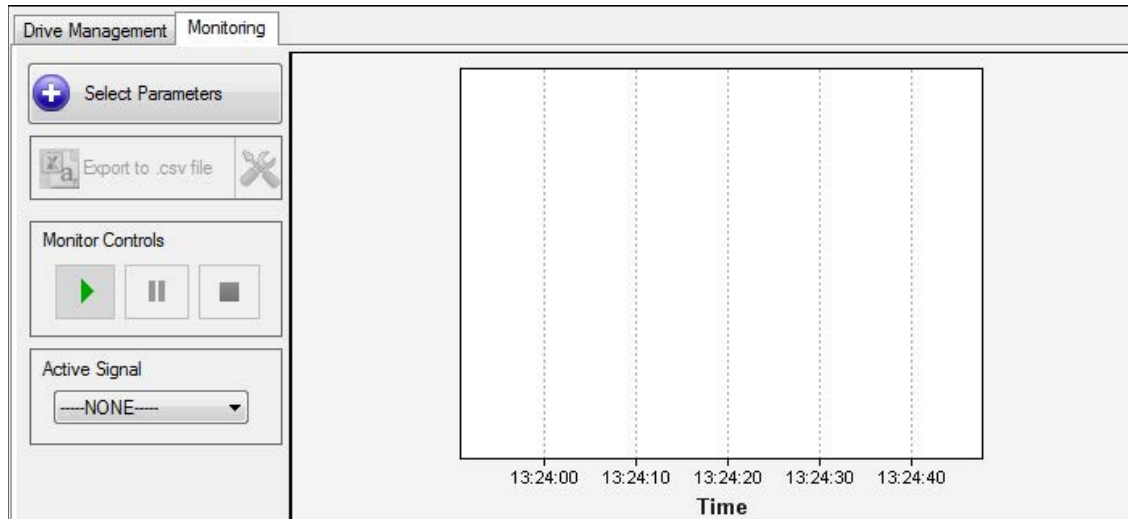
5. Minimum, Maximum, Alarm Low and Alarm High values can be edited based on preferences.

Parameter	Color	Visible	Autoscale	Minimum	Maximum	Alarm Low	Alarm High
0.1] Maximum ...		☒	☐	0	30000	0	30000
0.2] Minimum ...		☒	☐	-30000	0	-30000	0
0.3] Pos spee...		☒	☐	0	4294967295	0	4294967295
0.4] Neg spee...		☒	☐	0	4294967295	0	4294967295
0.5] Maximum ...		☒	☐	0	30000	0	30000
0.6] Torq lim sel		☒	☐	0	4294967295	0	4294967295

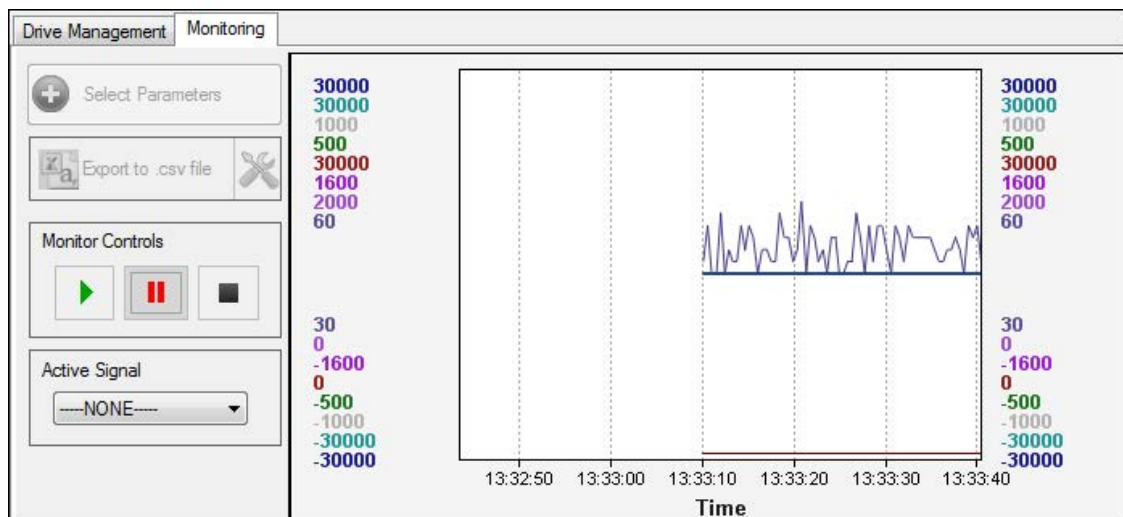
■ Monitoring controls

To understand the monitoring controls, follow the steps:

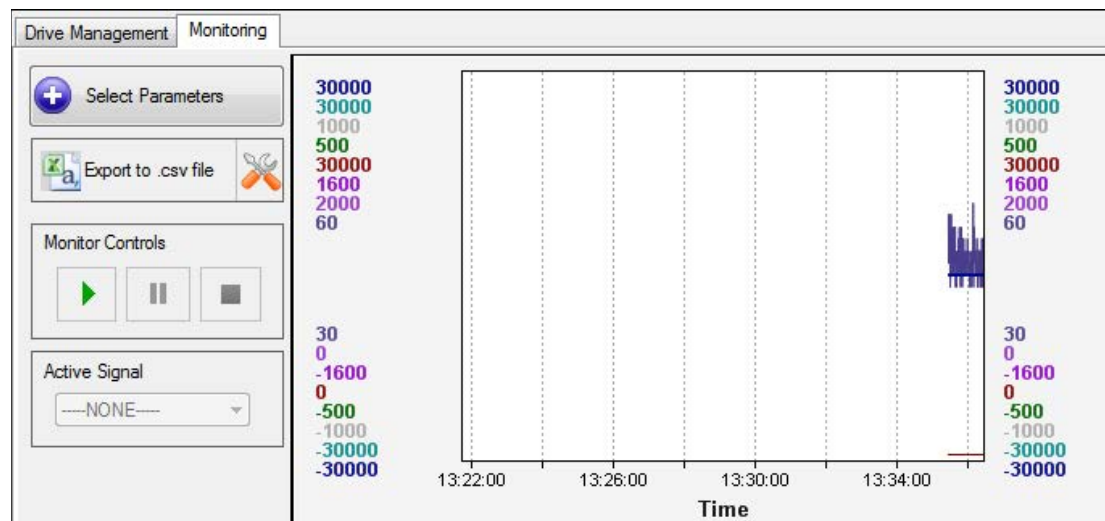
- After selecting required parameters, click  to start monitoring parameters.



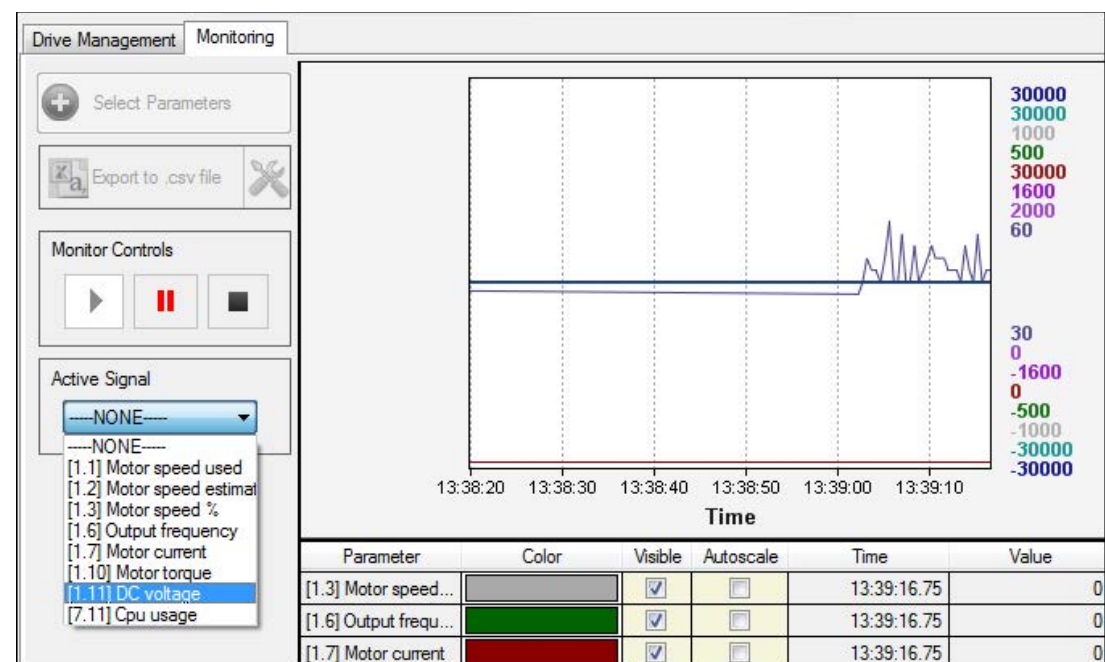
- Click  to pause monitoring parameters.



- Click  to stop monitoring the parameters.

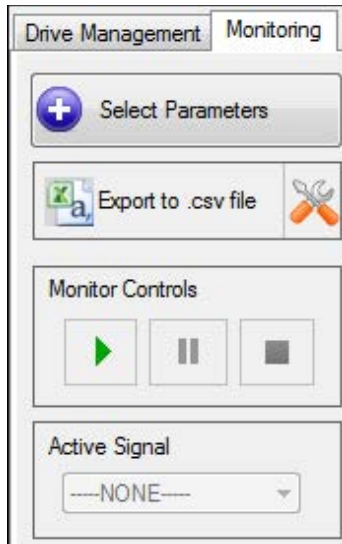


- From the **Active Signal** drop-down list, select a parameter to monitor as active signal.



■ Exporting monitored parameters

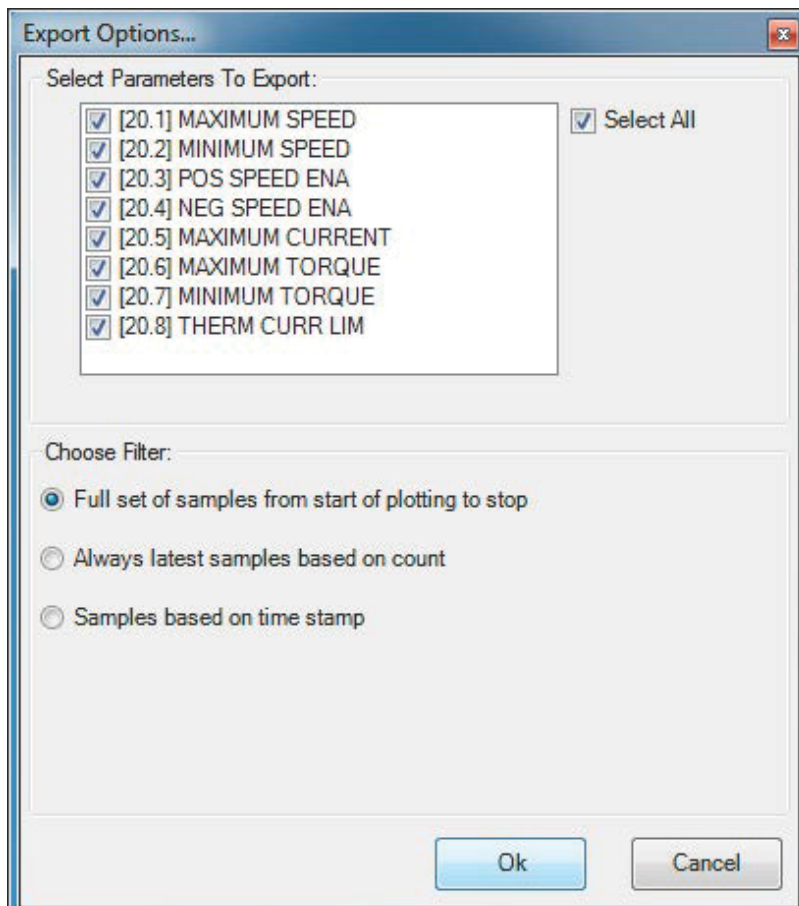
1. Click **Export to.csv file** to export monitored parameter file.



2. Select the desired file location in the file system. The default file name will be Projectname_drivename.csv.

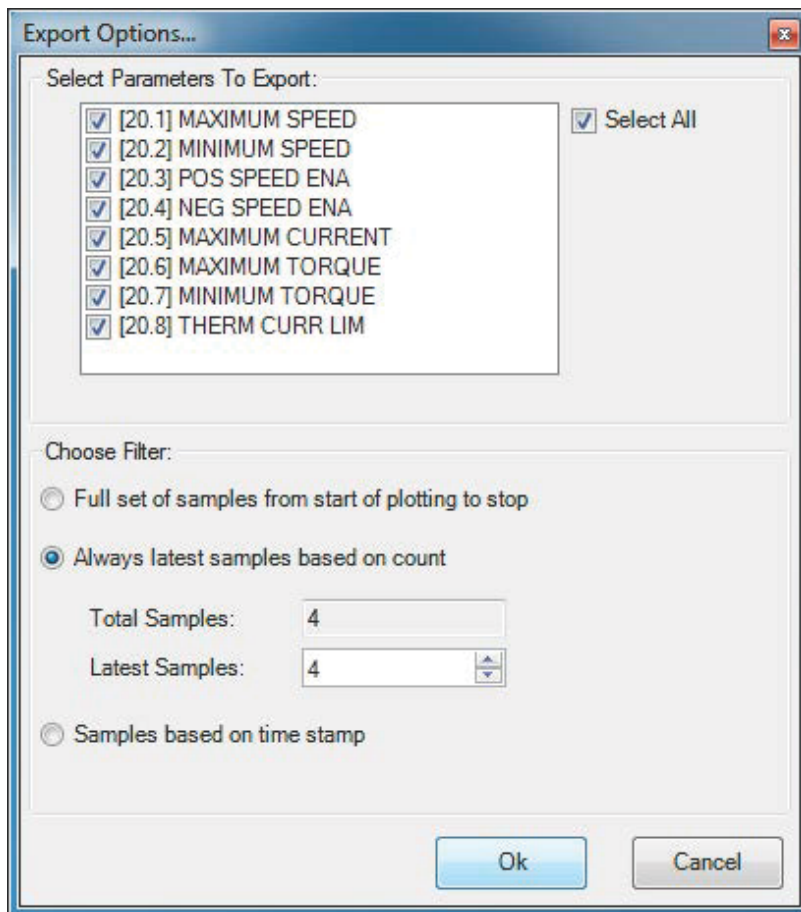
3. Click  to select parameter Export settings.

An Export Options window is displayed.



In the Export Options window, you can do the following settings:

- You can check or uncheck the desired parameters in **Select Parameters To Export** pane.
- Select **Full set of samples from start of plotting to stop** option and click **Ok** to filter the graph.
- If you select **Always latest samples based on count** option, the tool displays number of samples already in the memory and the Latest Samples text box with the same number.



Note: You are not allowed to select more than 65500 samples and the value automatically changes to 65500 in the Latest Samples text box.

- If you select **Samples based on time stamp** option, the tool displays Start and Stop Plotting Duration of samples present in the memory. You can edit Sample Range with Start and Stop duration of samples present in the memory and click **Ok**.

Export Options...

Select Parameters To Export:

- ☒ [20.1] MAXIMUM SPEED
- ☒ [20.2] MINIMUM SPEED
- ☒ [20.3] POS SPEED ENA
- ☒ [20.4] NEG SPEED ENA
- ☒ [20.5] MAXIMUM CURRENT
- ☒ [20.6] MAXIMUM TORQUE
- ☒ [20.7] MINIMUM TORQUE
- ☒ [20.8] THERM CURR LIM

☒ Select All

Choose Filter:

☐ Full set of samples from start of plotting to stop

☐ Always latest samples based on count

☒ Samples based on time stamp

Start Time Stop Time

Plotting Duration: 16:24:02 16:24:03

Samples Range: 16:24:02 16:24:03

Ok Cancel

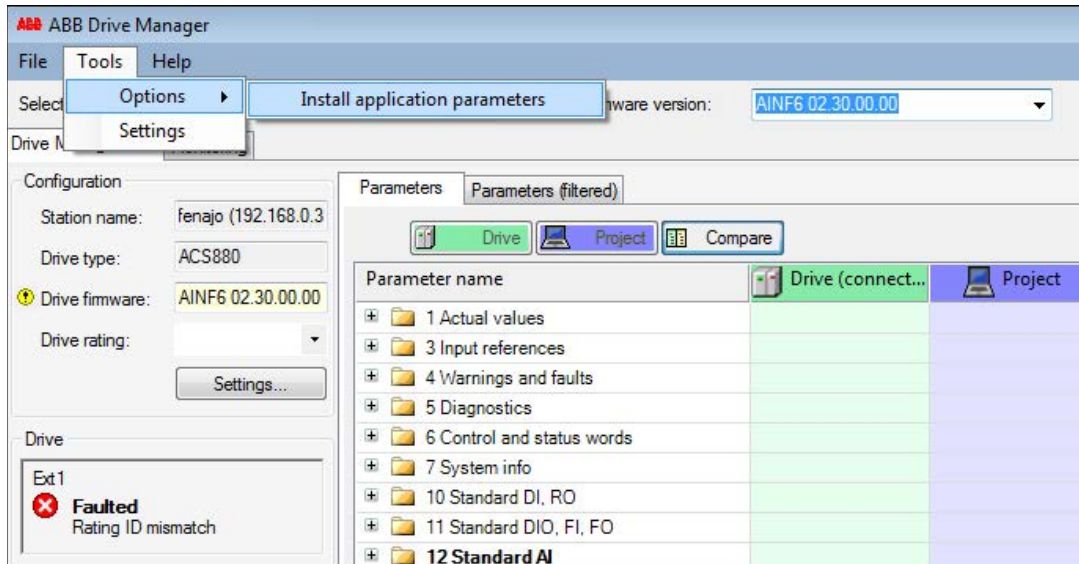
Note: If you change the duration time more than the available time, system prompts a message Value not in the range.

After plotting is stopped, click **Select Parameters** to change the parameter selection. System prompts to save the monitored data.

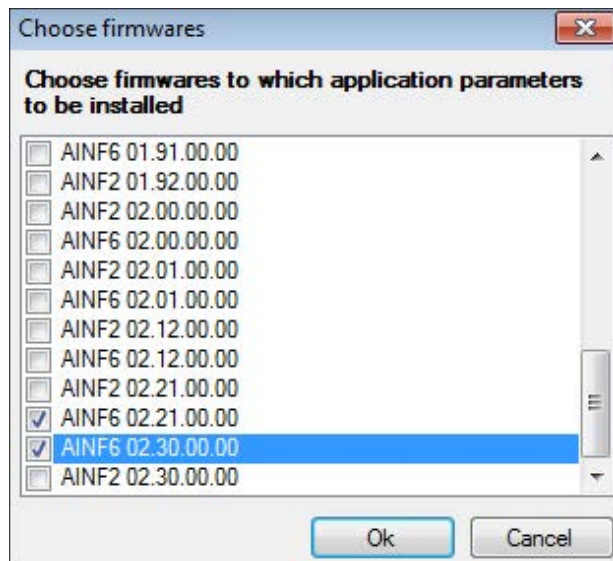
Installing application parameters

The ABB Drive Manager allows to install application specific parameters to the Drive Manager.

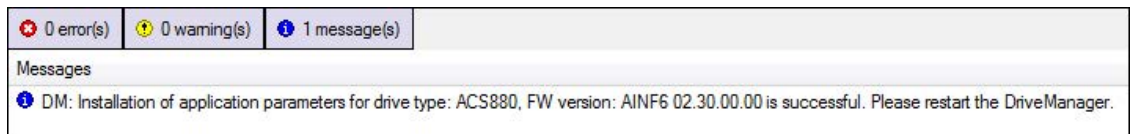
1. In the Automation Builder main menu, click **Tools -> Options -> Install application parameters**.



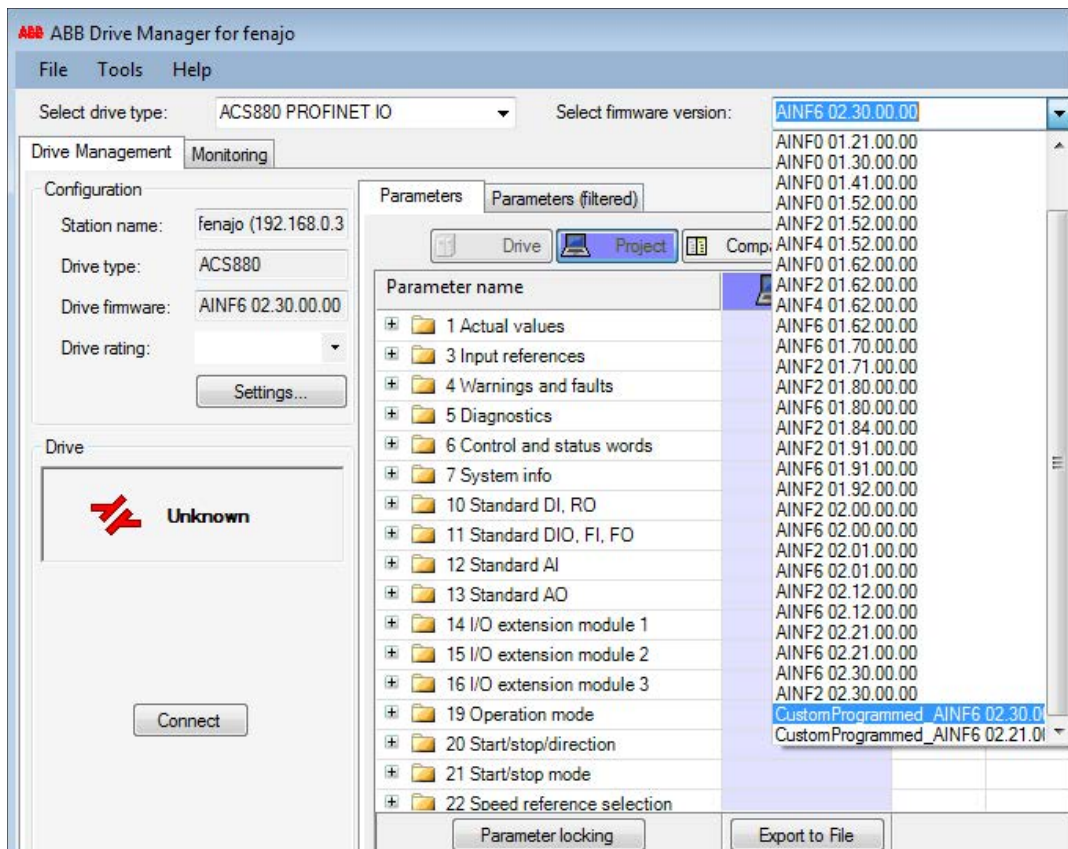
2. Select the application parameters file (.dsp or .dcpparamsbak) in the file system.
3. Select the required firmwares to which these parameters are installed and click **Ok**.



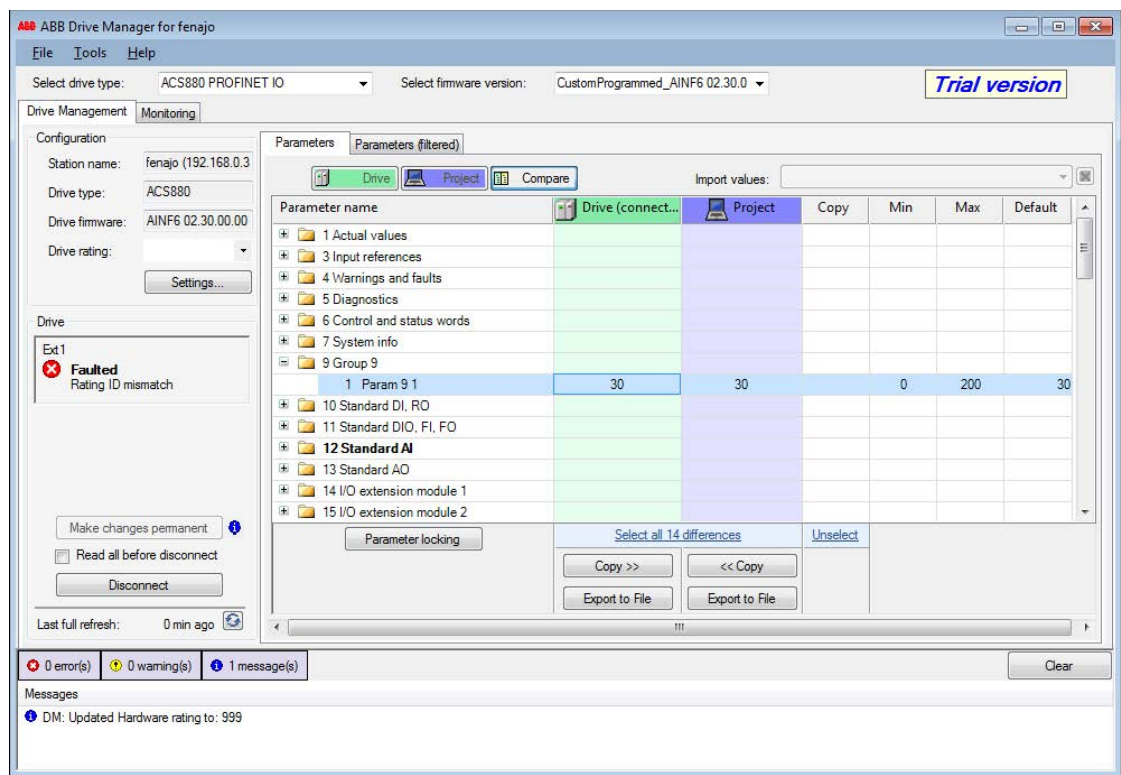
After installing application parameters to ABB Drive Manager, a success message is displayed in the Messages.



- Restart ABB Drive Manager to get the updated list of firmware to which applications parameters are installed.



After selecting CustomProgrammed firmware, you can see the application parameters. For example, group 9.



File Permissions

Ensure all actual users have the appropriate access permissions to use the PC or application.

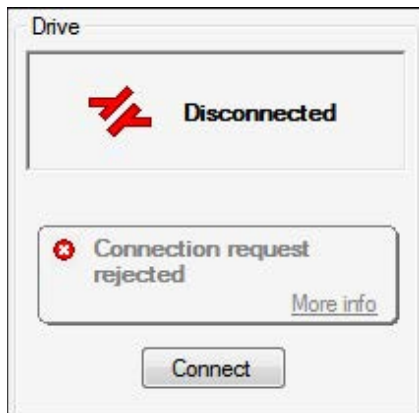
For example:

C:\ProgramFiles\DriveWare\DriveManagement\data\devdesc\Profibus_Drives\ACS_880\ACS880_PB.devdesc.xml. Check the actual fieldbus and drive type.

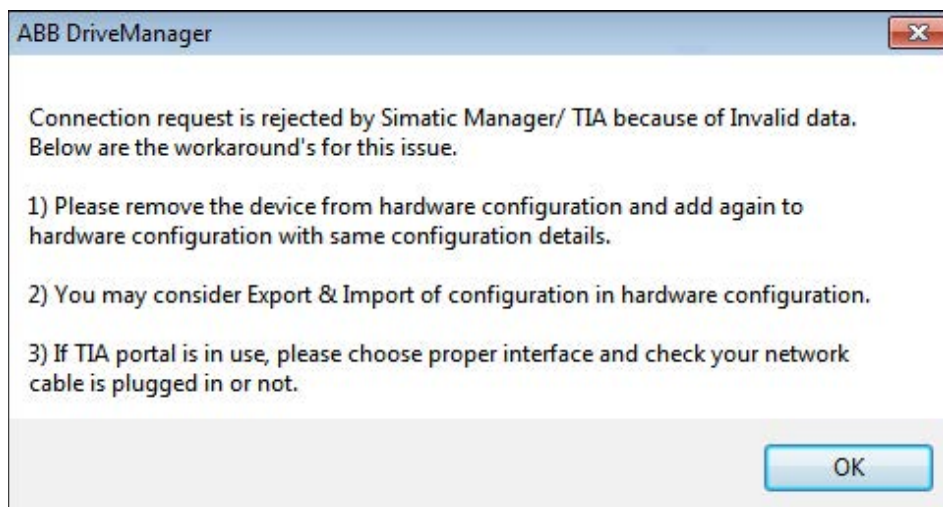
Troubleshooting

■ Connection not established

The ABB Drive Manager displays an error message **Connection request rejected** when SIMATIC and TIA portal does not run as administrator or if the project has an invalid data.

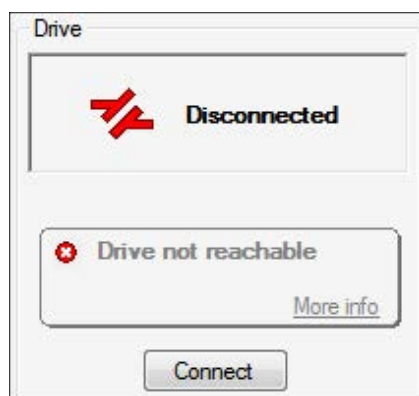


By clicking on **More info** displays the workarounds to resolve this issue.

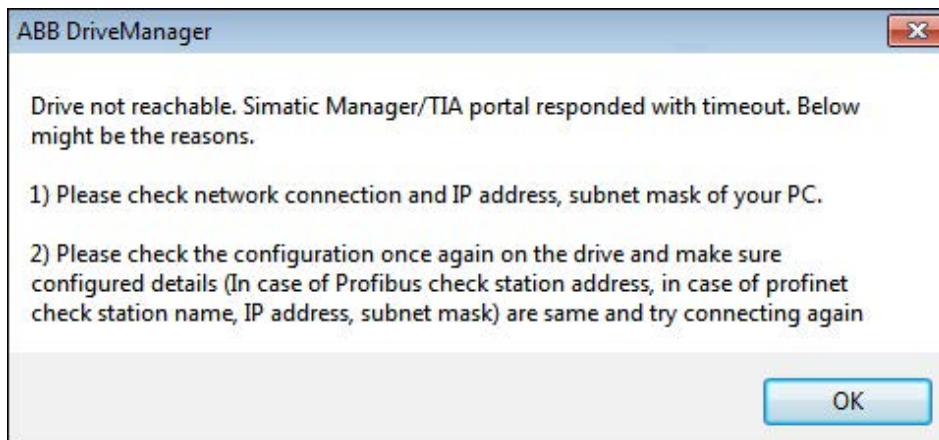


■ Drive not reachable

The ABB Drive Manager displays an error message **Drive not reachable** when a connection request receives timeout response.

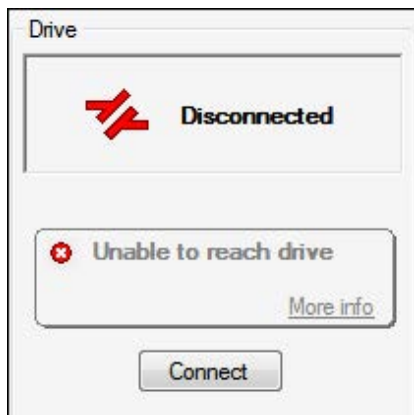


By clicking on **More info** displays the workarounds to resolve this issue.

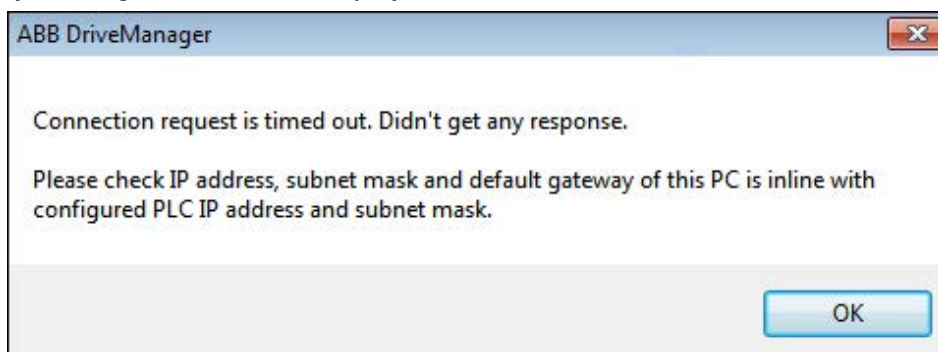


■ No response from drive

The ABB Drive Manager displays an error message **Unable to reach drive** when there is no response from the drive after connection request.



By clicking on **More info** displays the workarounds to resolve this issue.

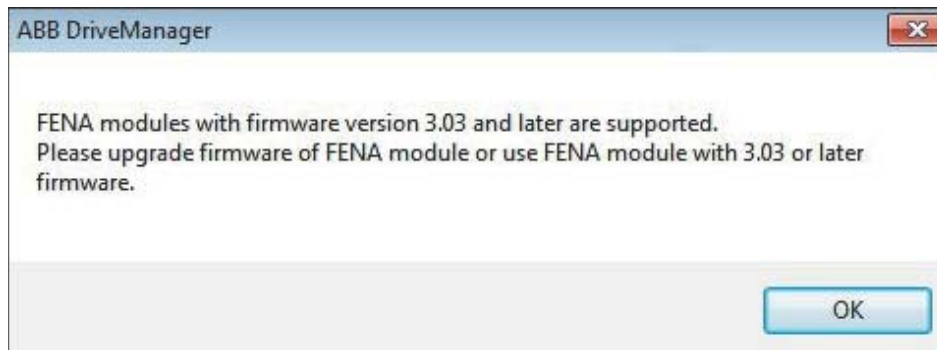


■ Unsupported FENA firmware

The ABB Drive Manager displays an error message **Unsupported FENA firmware** when a FENA device which is configured on the drive has a firmware version lower than version 3.03.



By clicking on **More info** displays the workarounds to resolve this issue.



■ Drive (FENA device) not reachable

The ABB Drive Manager displays an error message **Drive (FENA device) not reachable** when I&M (identification and maintenance) request which is used to identify the firmware of FENA device does not get any response.



By clicking on **More info** displays the workarounds to resolve this issue.



Excluding FENA firmware version check

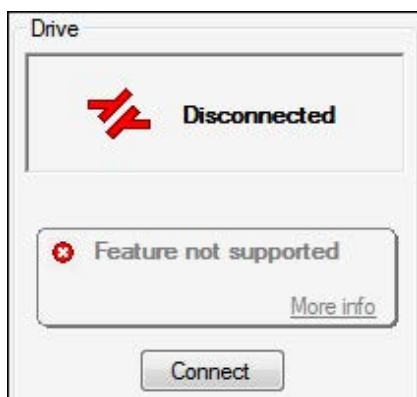
The ABB Drive Manager allows you to activate Exclude FENA firmware version check when you are using FENA device firmware in VPN connection.

- In the ABB Drive Manager menu bar, click **Tools-> Settings**.



■ Feature not supported

The ABB Drive Manager displays an error message **Feature not supported** when this feature is not supported by online interface which is set in SIMATIC or TIA portal.



By clicking on **More info** displays the workarounds to resolve this issue.



4

Appendix - SIMATIC Manager (STEP 7)

About this chapter

This chapter describes the procedure to install SIMATIC Manager (STEP 7) and to configure SIMATIC Manager with ABB Drive Manager.

Summary of SIMATIC Manager setup

The SIMATIC manger setup includes the following steps:

1. [Installing SIMATIC Manager](#)
2. [Software configuration](#)
3. [Hardware configuration](#)
4. [Starting device tool](#)
5. [Starting device tool](#)

For detailed steps, refer the individual sections.

Installing SIMATIC Manager

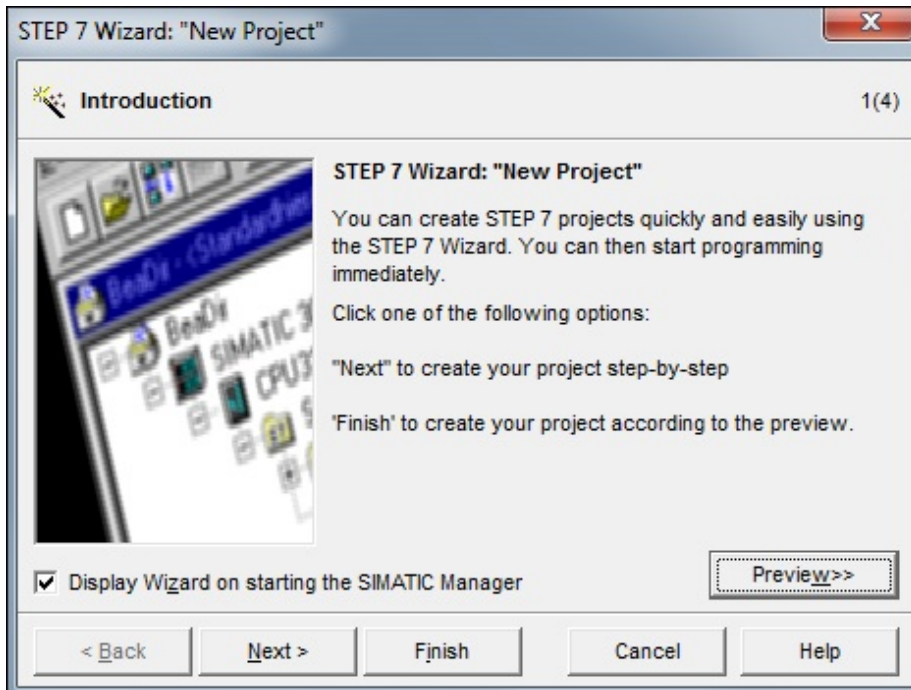
To install SIMATIC Manager (STEP 7) V5.4 or V5.5, refer [Installation procedure](#) in the SIMATIC installation manual (referring Siemens website).

Software configuration

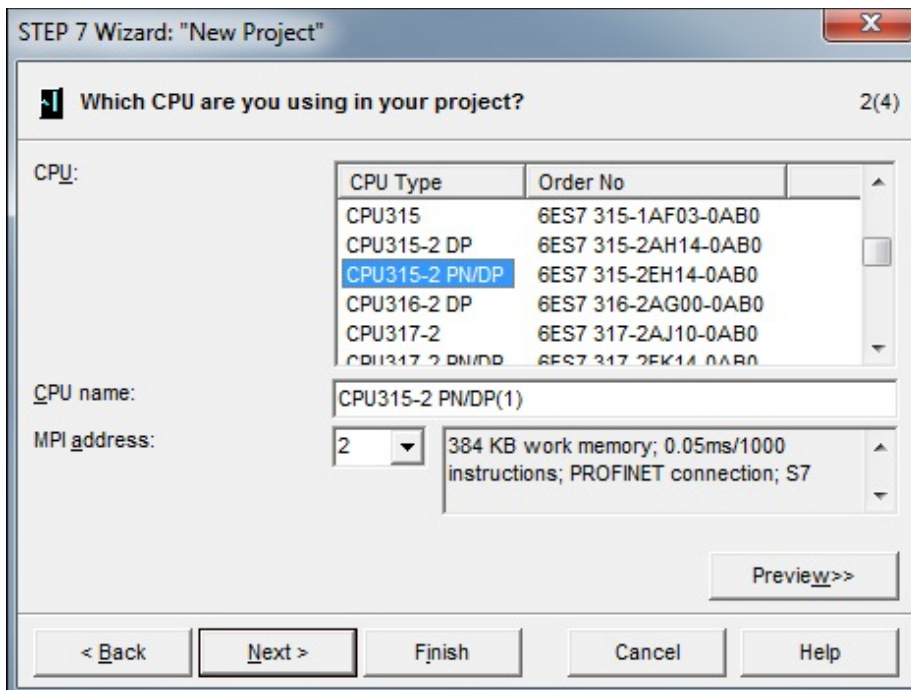
■ Configuring SIMATIC for ABB Drive Manager

To configure SIMATIC Manager for the ABB Drive Manager, follow these steps:

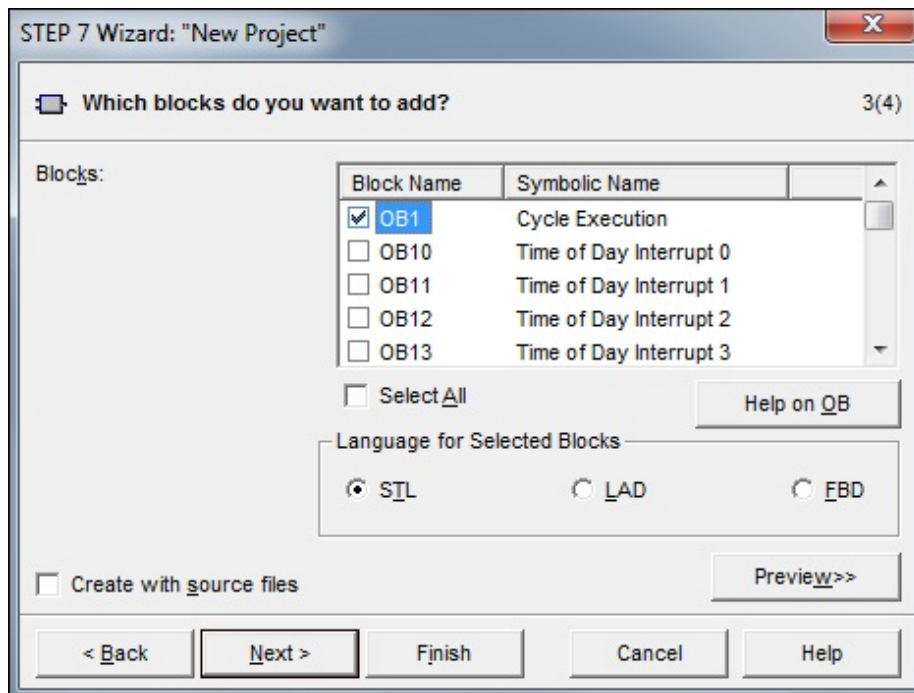
1. Launch **SIMATIC Manager**. In the **STEP 7 Wizard: "New Project"** window click **Next**.



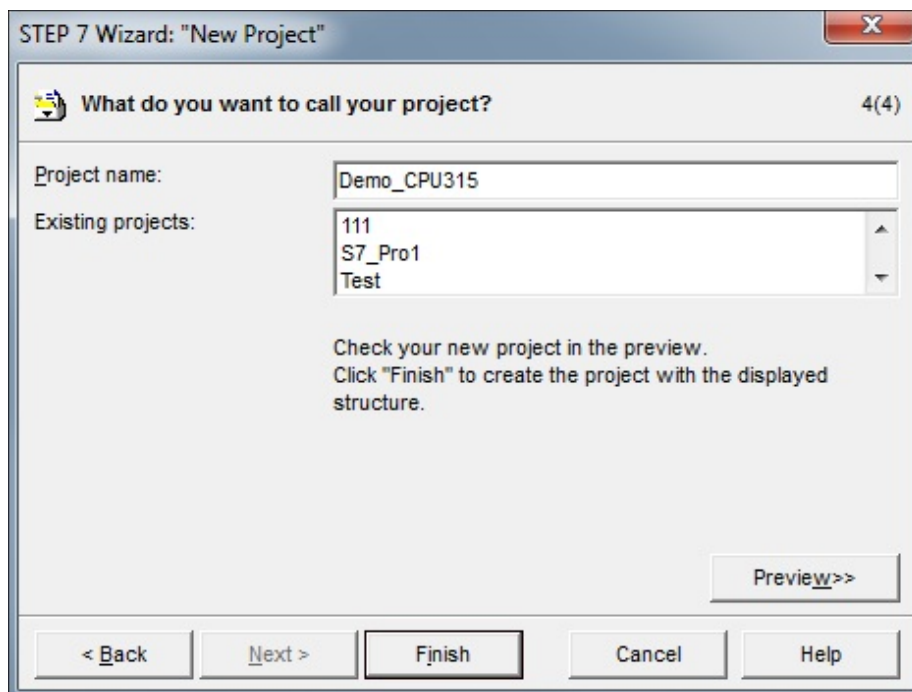
2. Select appropriate CPU (for example CPU315-2 PN/DP) and click **Next**.



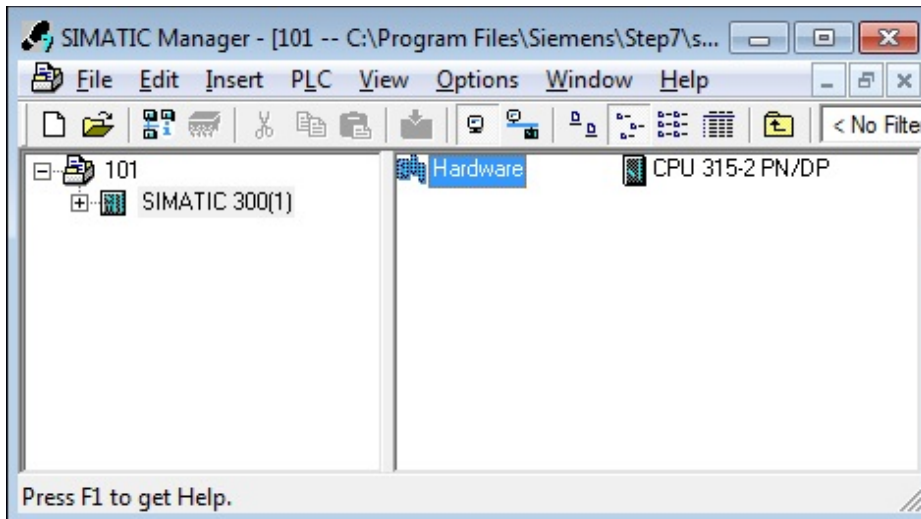
3. Block name **OB1** is selected by default. Click **Next**.



4. Enter the project name and click **Finish**.



After completing the basic configuration, a SIMATIC Manager main screen appears with the project structure.

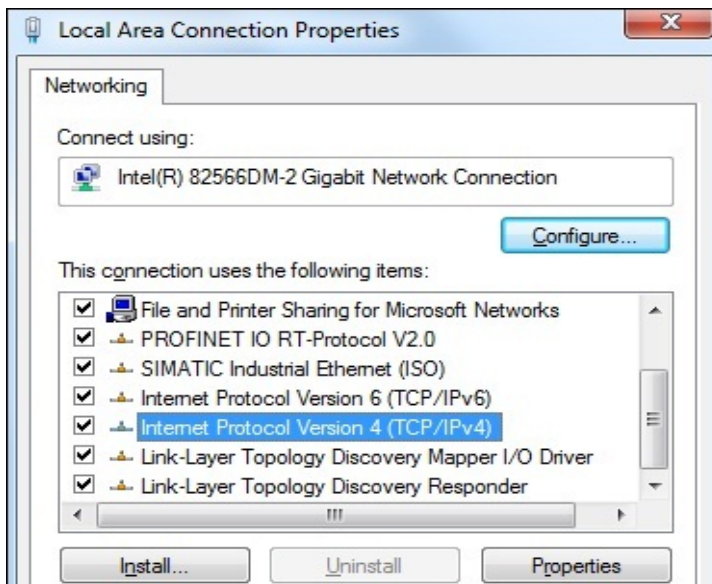


■ Setting PG/PC interface

PG/PC interface is a programming cable to connect PC to PLC.

To set PG/PC interface for online connection between PC and PLC using ethernet connection, follow these steps.

1. Select the Local Area Connection to which PLC is connected.
2. Double-click **Internet protocol Version 4 (TCP/IPv4)** option.



- Enter the default IP address of a Siemens PLC **192.168.0.100**. The default values of other fields are updated. Click **OK**.

General

You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.

☐ Obtain an IP address automatically

☒ Use the following IP address:

IP address: 192 . 168 . 0 . 100

Subnet mask: 255 . 255 . 255 . 0

Default gateway: . . .

☐ Obtain DNS server address automatically

☒ Use the following DNS server addresses:

Preferred DNS server: . . .

Alternate DNS server: . . .

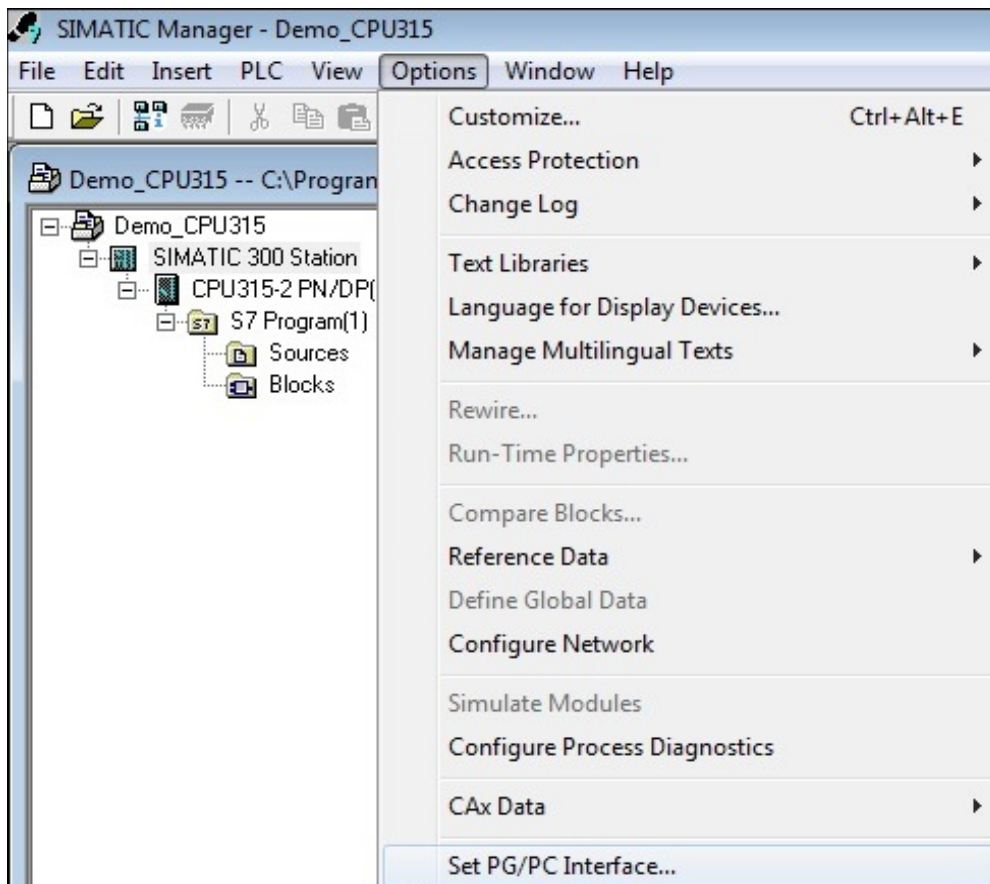
☐ Validate settings upon exit

Advanced...

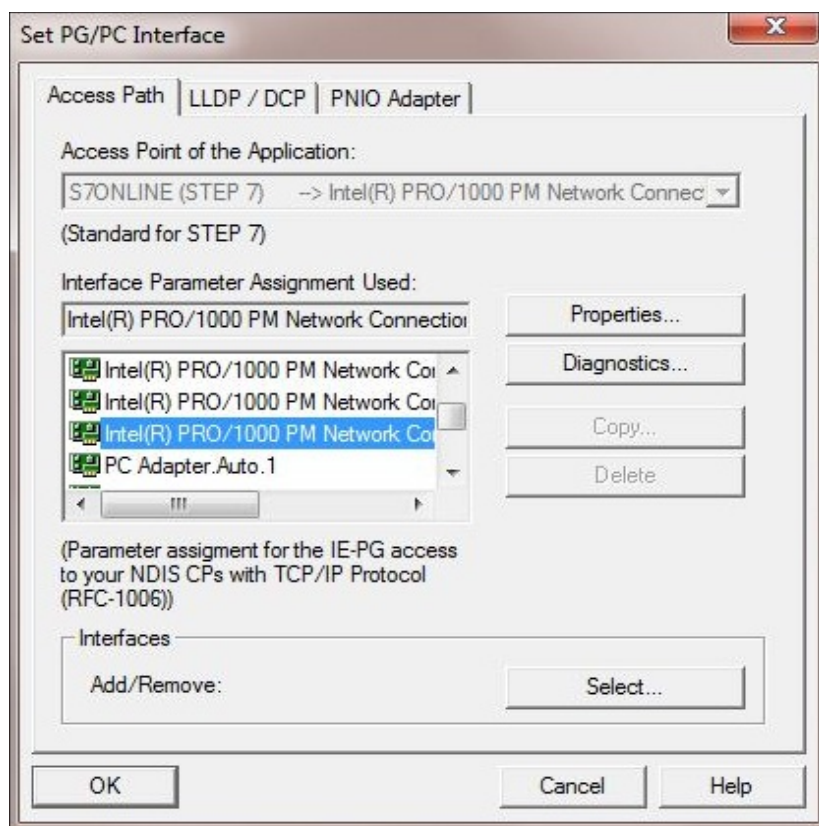
OK Cancel

Note: To change the IP address, refer to [Changing IP address](#).

- From the menu bar, click **Options** and select **Set PG/PC Interface**.



5. Select the connected interface and click **OK**.

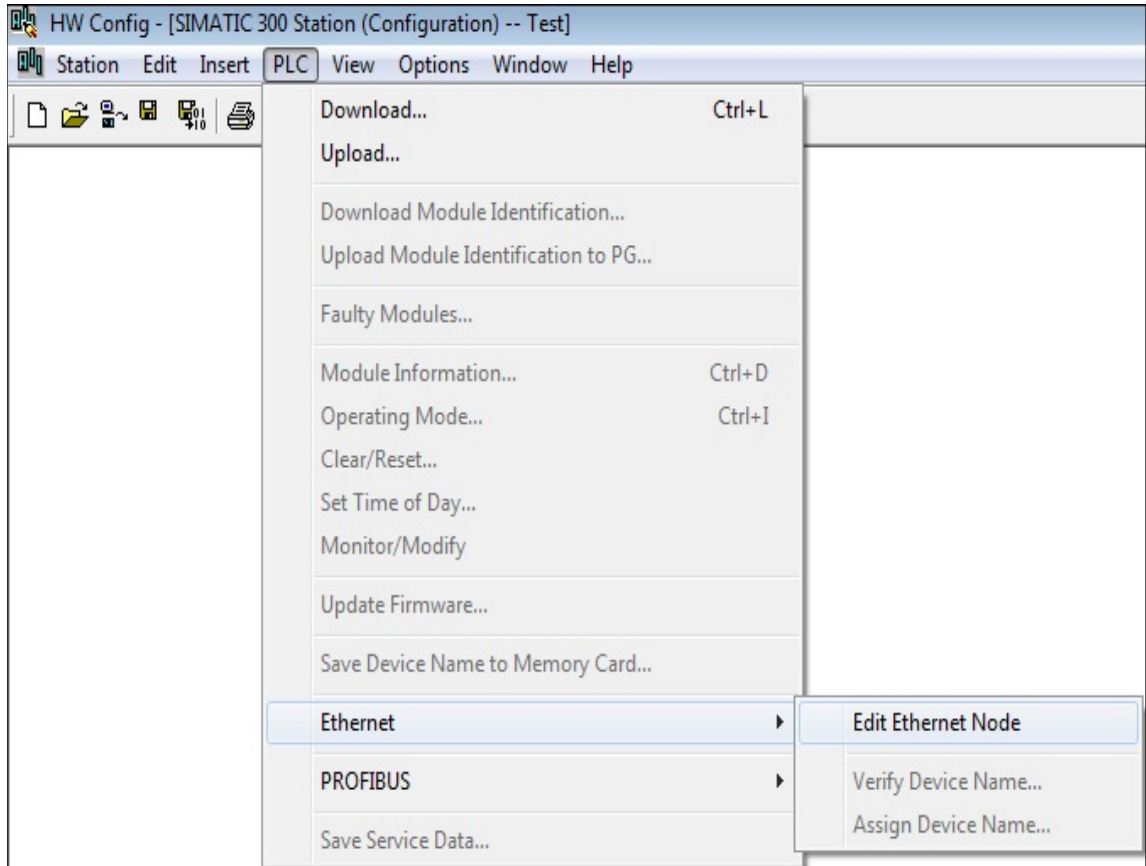


The PG/PC interface between PC and PLC using ethernet connection is configured.

■ Changing IP address

To change IP address of a Siemens PLC, follow these steps:

1. From the hardware configuration window, click **PLC** and select **Ethernet > Edit Ethernet Node option**.



2. Browse to select **MAC address**. Click **Assign Configuration** and close the window.

Edit Ethernet Node

Ethernet node

MAC address: 00-1B-1B-55-A8-4D **Browse...**

Nodes accessible online

Set IP configuration

☒ Use IP parameters

IP address: 192.168.0.1 Subnet mask: 255.255.255.0

Gateway

☒ Do not use router ☐ Use router

Address: 192.168.0.1

☐ Obtain IP address from a DHCP server

Identified by

☒ Client ID ☐ MAC address ☐ Device name

Client ID:

Assign IP Configuration

Assign device name

Device name: pn-io **Assign Name**

Reset to factory settings

Reset

Close **Help**

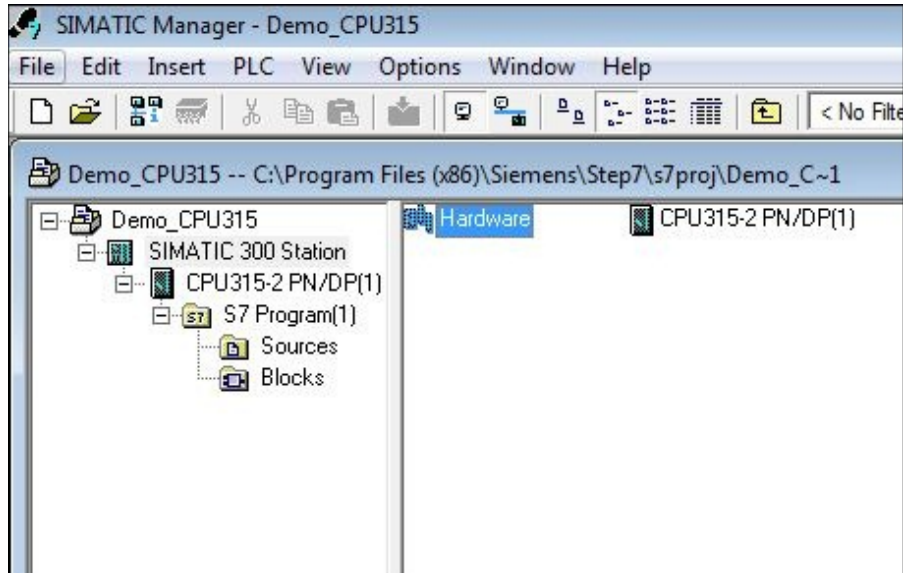
IP address of the selected Siemens PLC is changed.

Hardware configuration

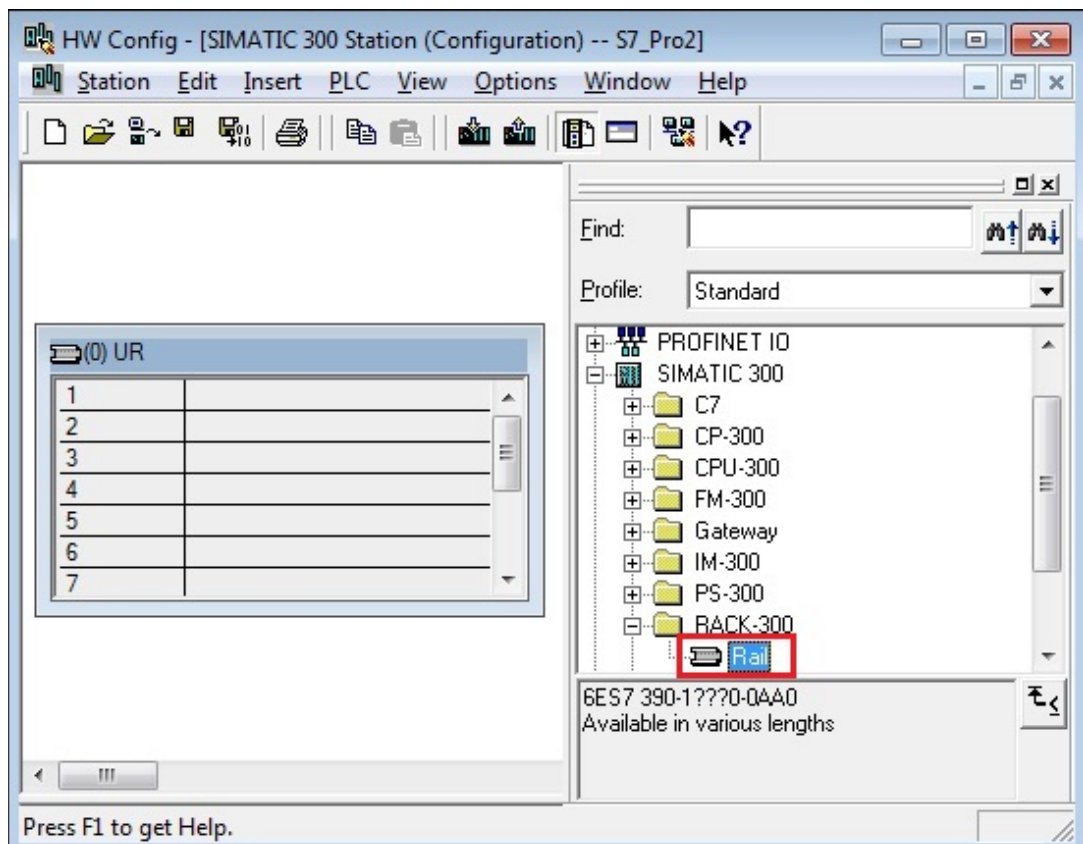
■ Adding rack and CPU to hardware

To add rack and CPU to hardware, follow these steps:

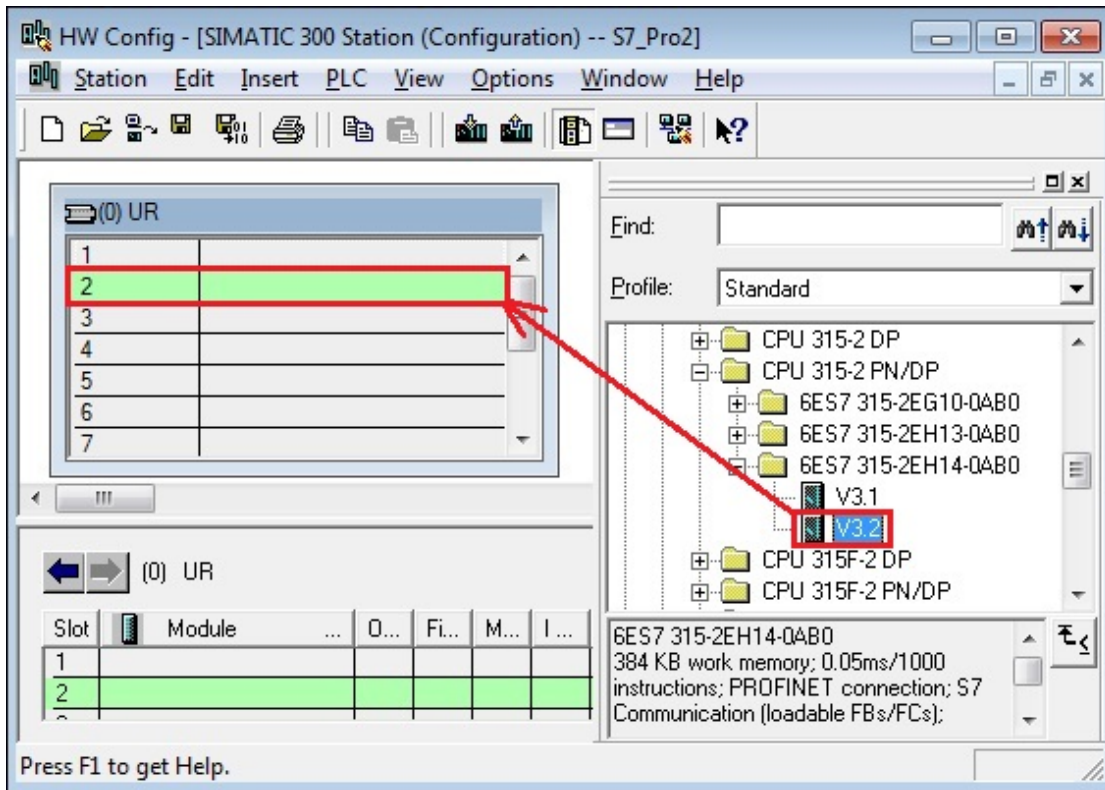
1. In the **SIMATIC Manager** window, select **SIMATIC 300 Station** and double-click **Hardware**.



2. In the hardware configuration window, expand **SIMATIC 300** project structure and open **Rack-300** folder. Drag and drop **Rail** to the SIMATIC configuration screen.

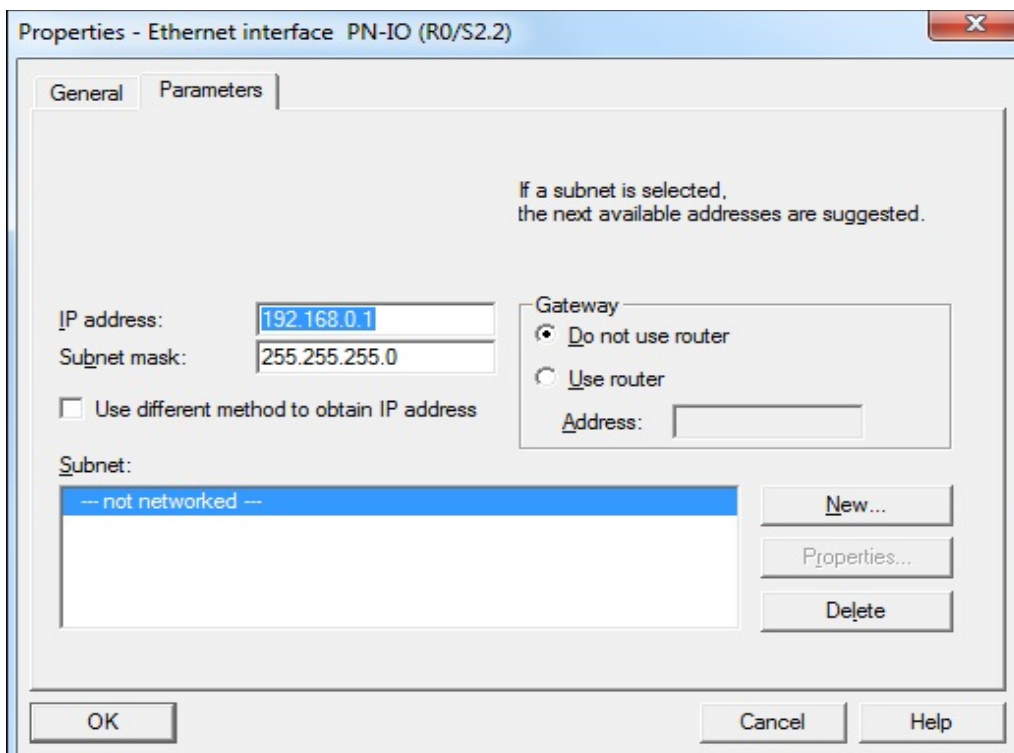


3. In the hardware configuration section, expand **CPU315F-2 PN/DP** folder and select the specific version. Drag and drop required version to the slot 2 of the rack.

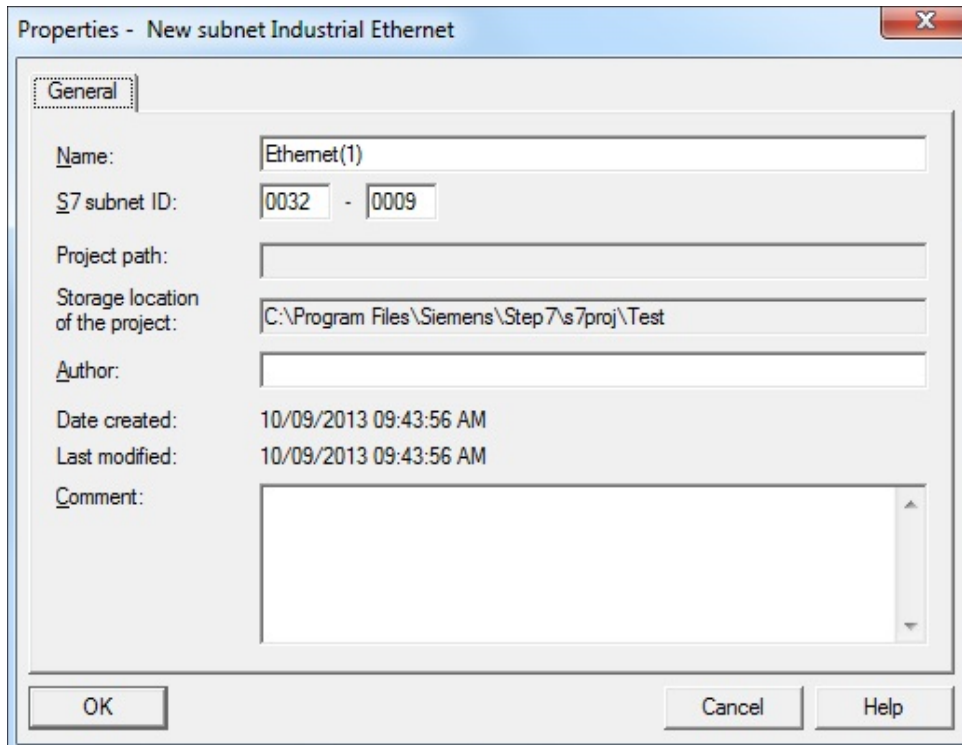


Note: Slot 1 is not supported for CPU configuration.

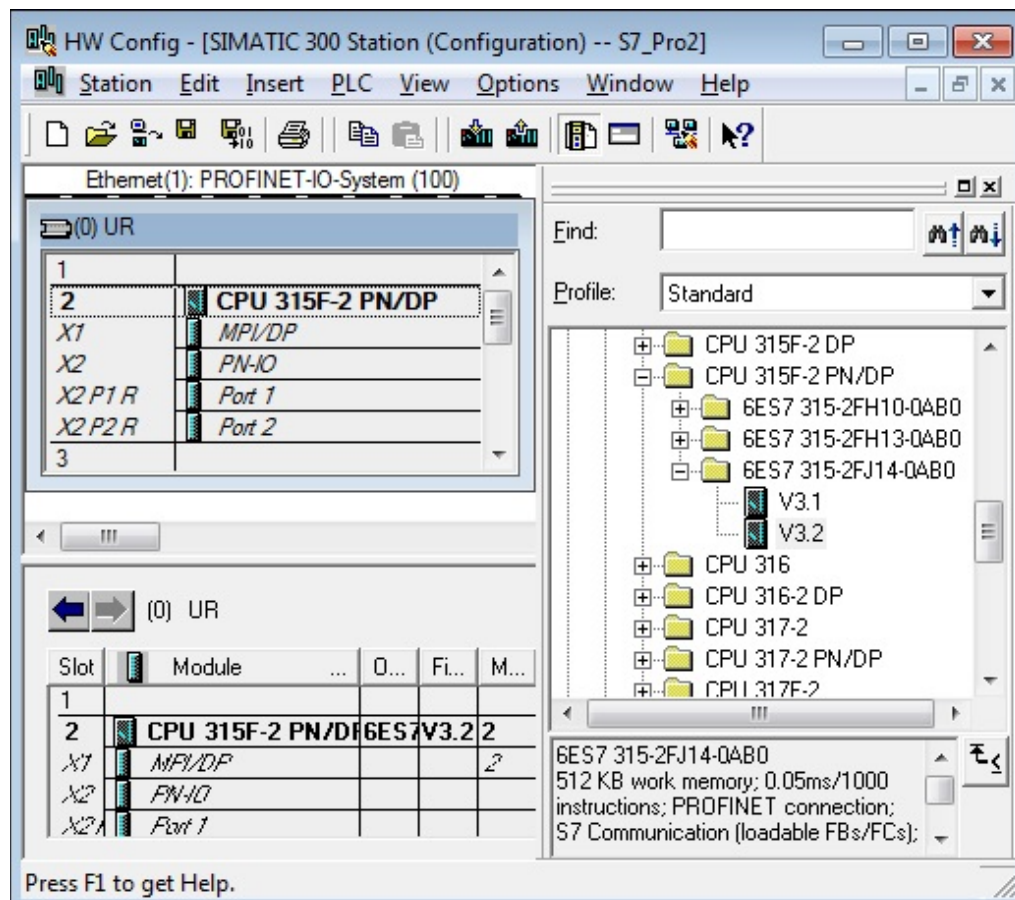
4. In the Ethernet interface window, enter the **IP address** of the CPU and click **New**.



5. In the **New subnet Industrial Ethernet** window, click **OK** to activate the new subnet.



The rack, CPU and the Ethernet connections are configured.



■ Installing GSD file (SIMATIC)

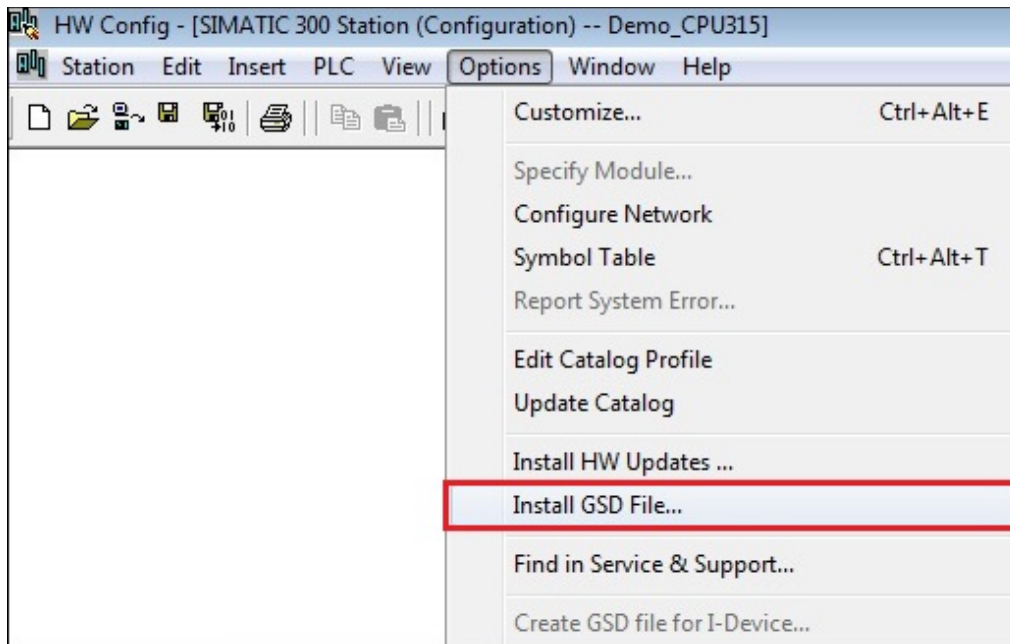
The following GSD files for ABB drives are available in ABB library or from the package.

- [ABB 10959.gsd](#) for FPBA-01 PROFIBUS DP-V1
- [ABB 10812.gsd](#) for RPBA-01 PROFIBUS DP-V1
- [ABB-FENA-20130603](#) for PROFINET

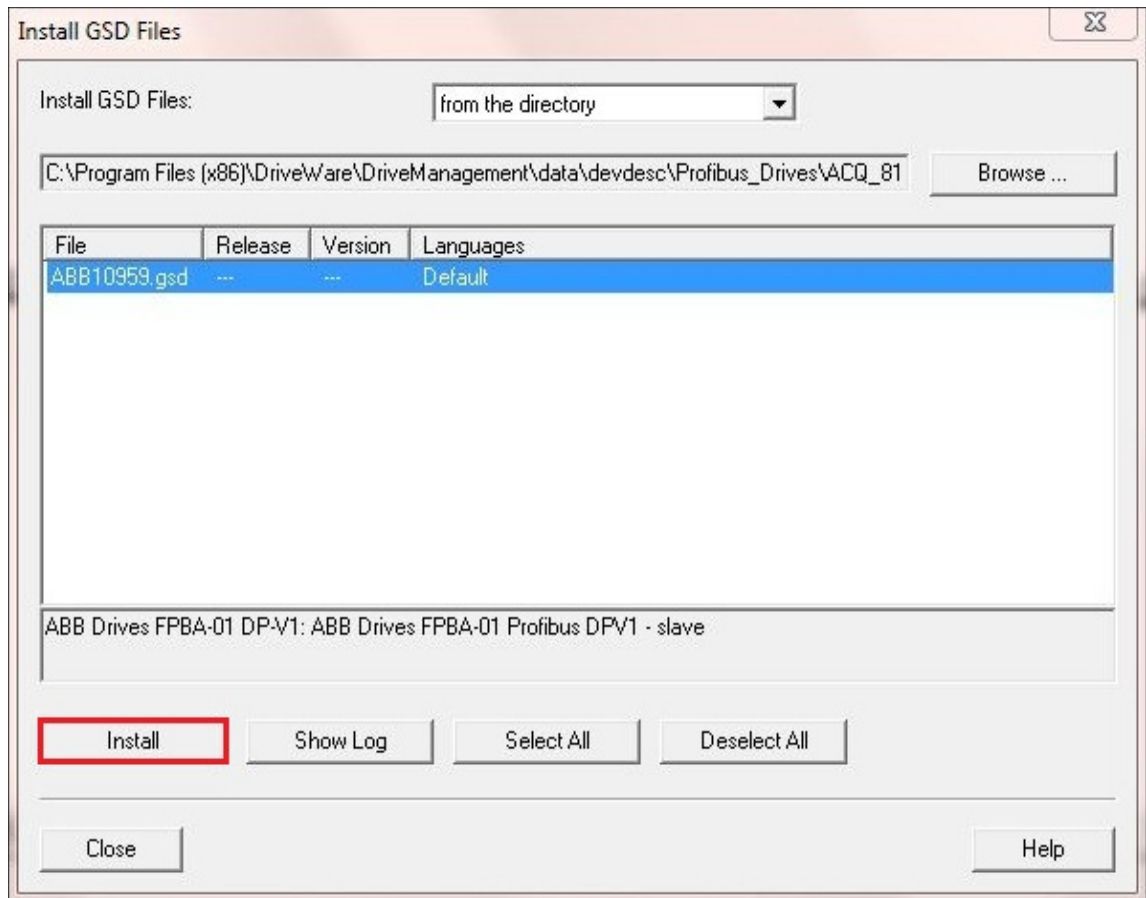
After adding rack and CPU to hardware, install the GSD file.

To install the GSD file for ABB drives PROFIBUS and GSDML file for ABB drives PROFINET, follow these steps:

1. In the hardware configuration window, click **Options** and select **Install GSD File**.



2. Browse and select the appropriate folder. Select the GSD file for **PROFIBUS** or GSDML file for **PROFINET** and click **Install**. After the installation is complete close the window.



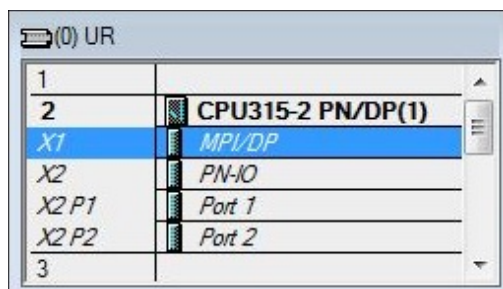
The GSD or GSDML file for ABB drives PROFIBUS or for PROFINET are installed respectively.

■ Adding drives to PROFIBUS DP line

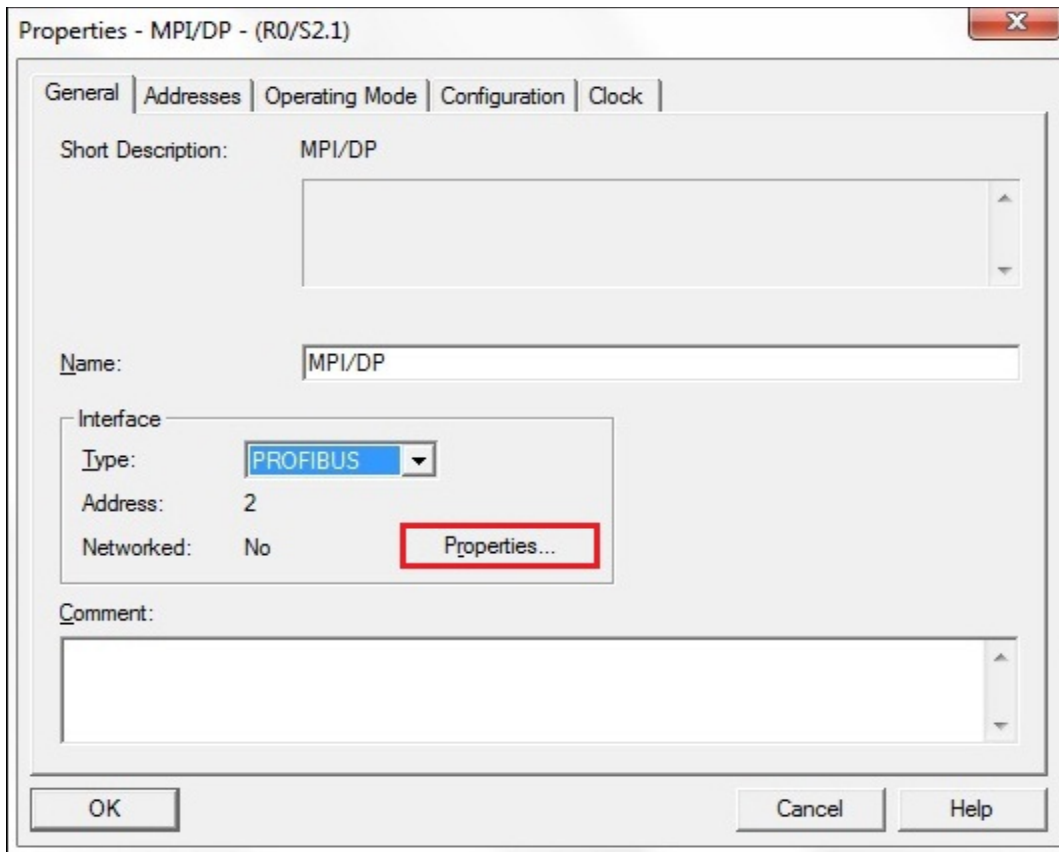
After the GSD file installation, a new PROFIBUS DP module displays in the hardware library.

To add drives to PROFIBUS DP line, follow these steps:

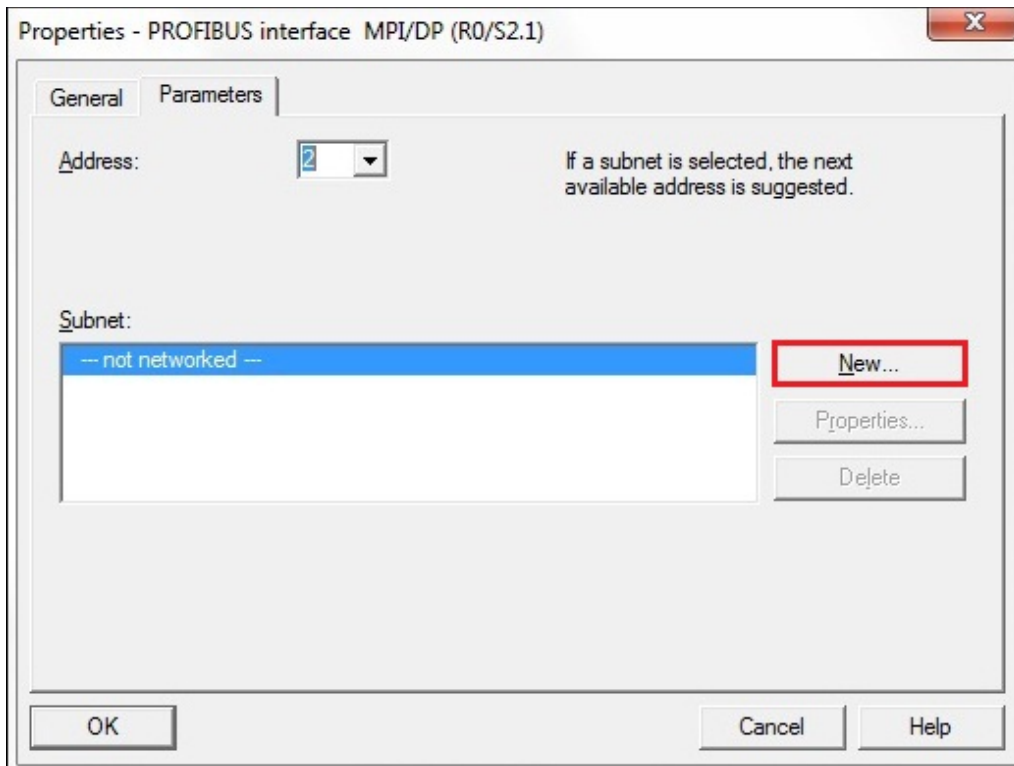
1. Double-click **MPI/DP** in the hardware configuration window.



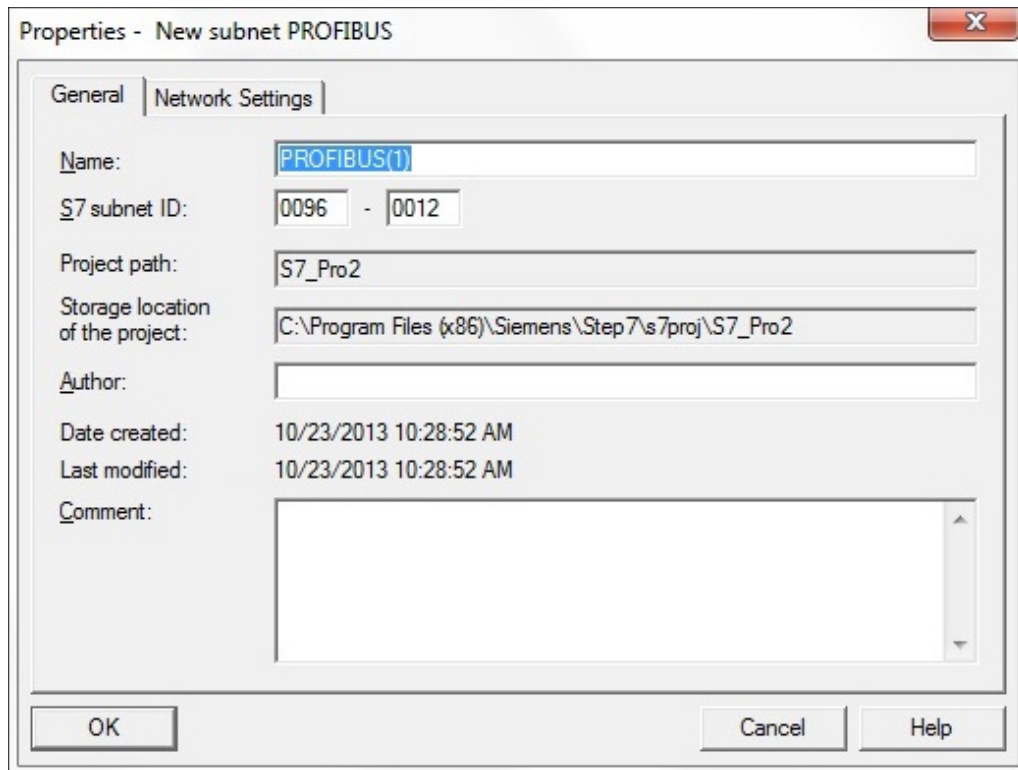
2. Select **PROFIBUS** from the **Interface** drop-down list and click **Properties**.



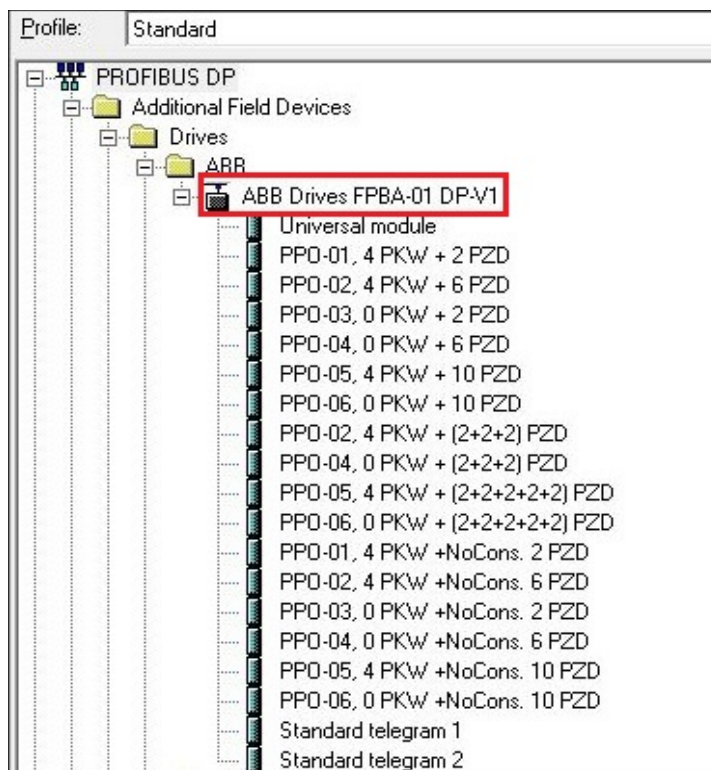
3. In the **Properties** window, click **New**.



4. In the **New subnet PROFIBUS** window, enter new subnet **Name** and click **OK**.

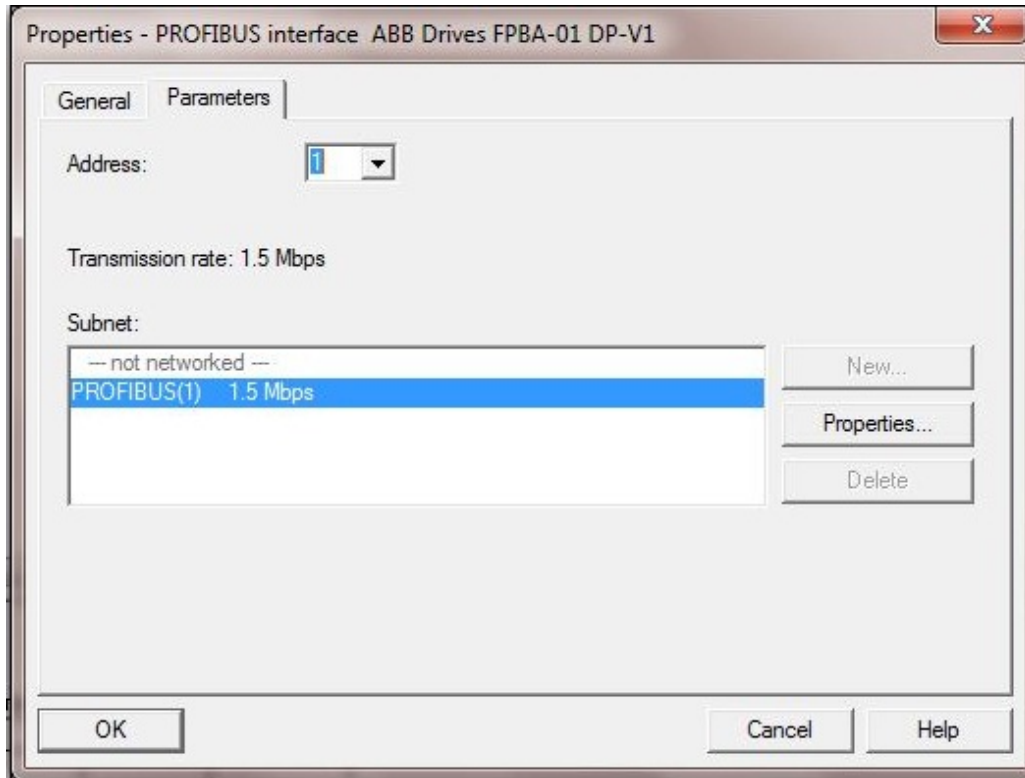


5. In the hardware library, expand **PROFIBUS DP** and select the required **ABB Drive**. Drag and drop the selected drive (example ABB Drives FPBA-01 DP-V1) module with DP-V1 mode to your actual fieldbus module type.

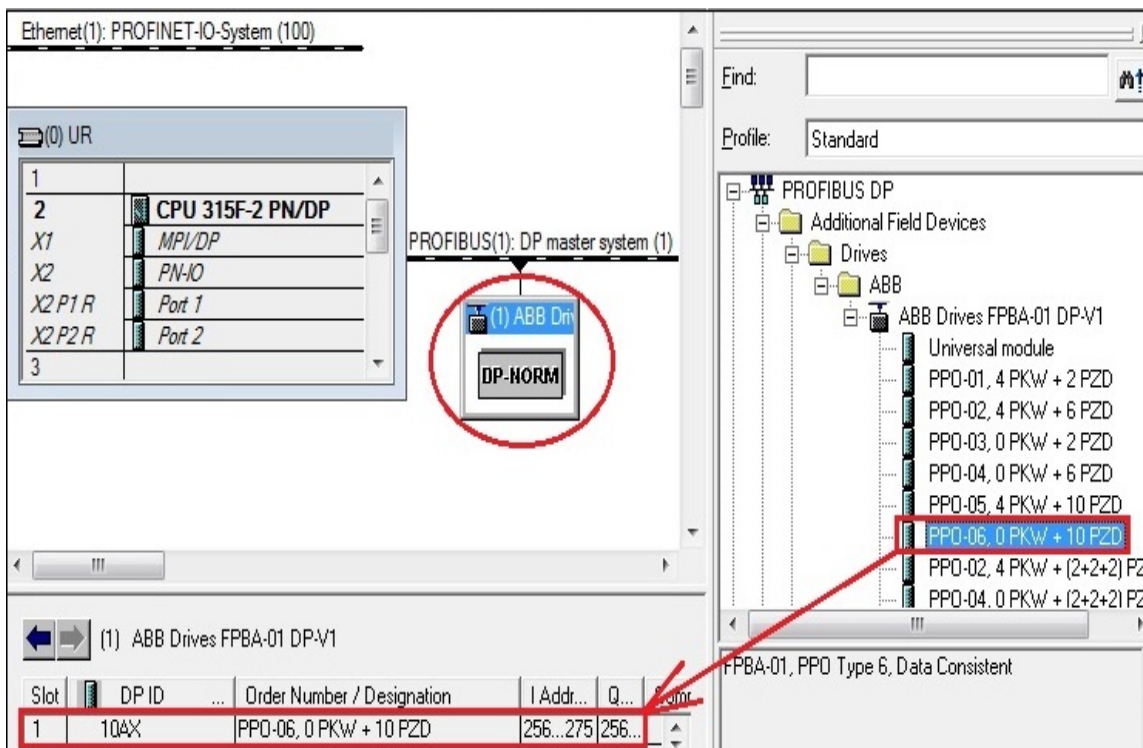


Note: Other DP modes are not supported by drive manager.

6. Set the PROFIBUS node address for the fieldbus module and click **OK**.

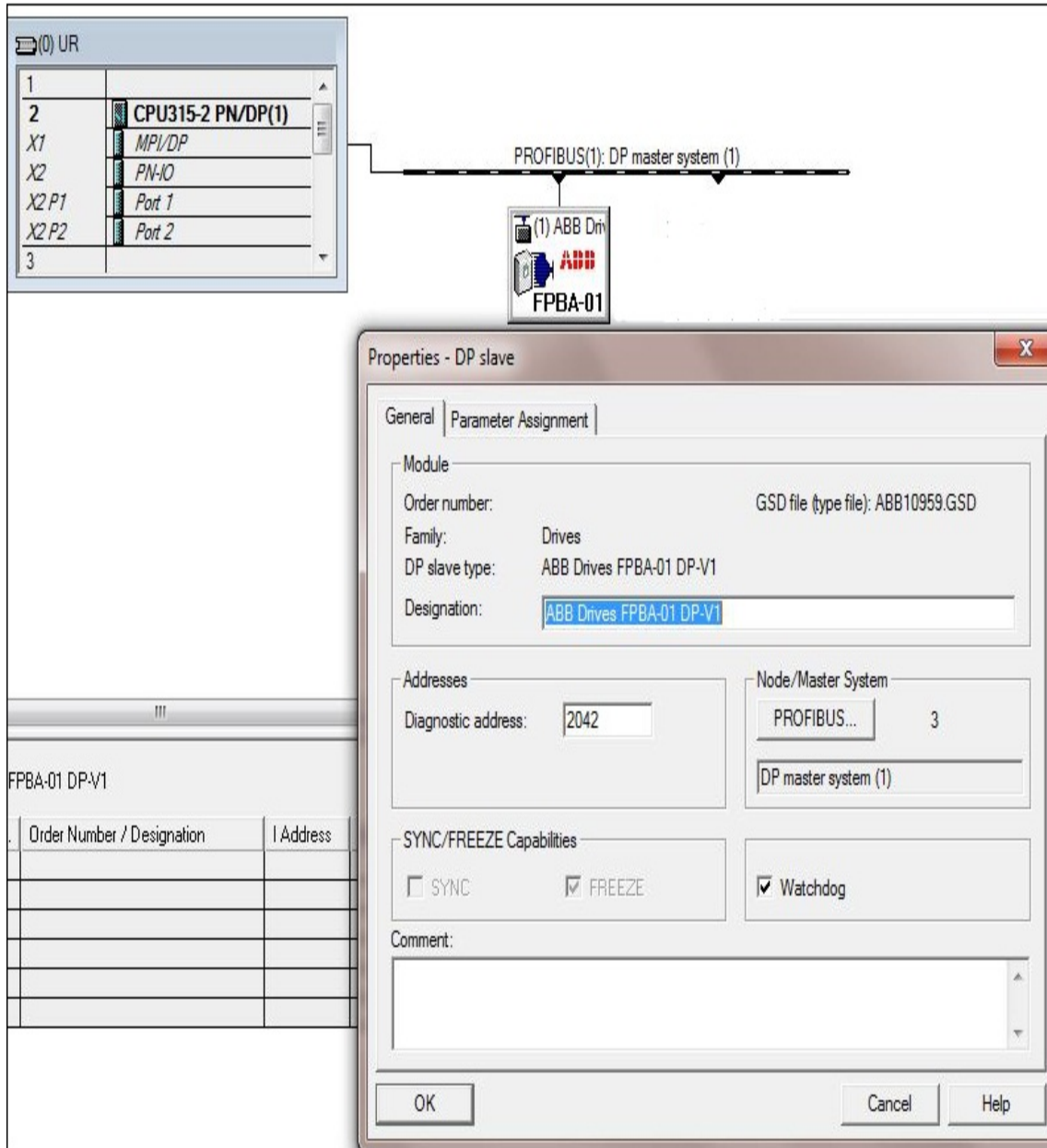


7. With the **Drive** node selected, drag and drop desired **PPO** type to slot 1 of the module.



Note: PPO types with consistent data, example, PPO-06, 0 PKW + 10 PZD are only supported by ABB_DRIVE_LIB.

8. If you want to change the name of the node, right-click **Drive**, select **Object Properties**.



9. Repeat the procedure to add more drives if needed.
10. Click **Save and Compile**.

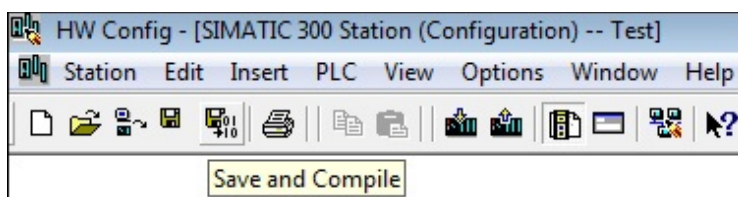
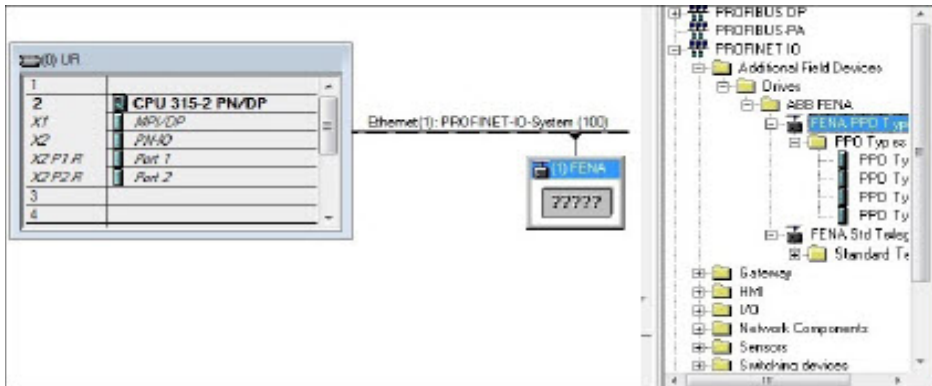


ABB Drive is configured and added to PROFIBUS.

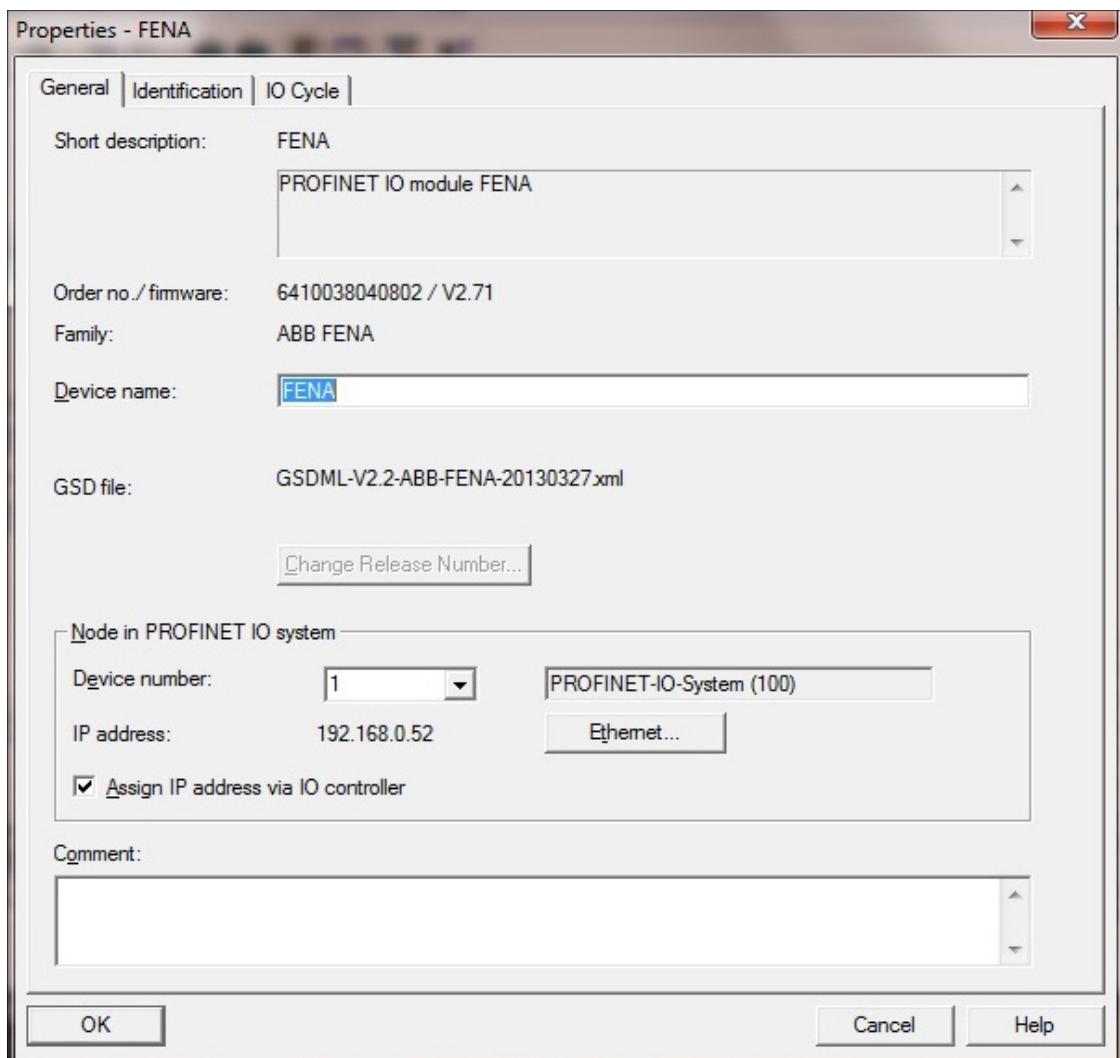
■ Adding drives to PROFINET

To add drives to PROFINET, follow these steps:

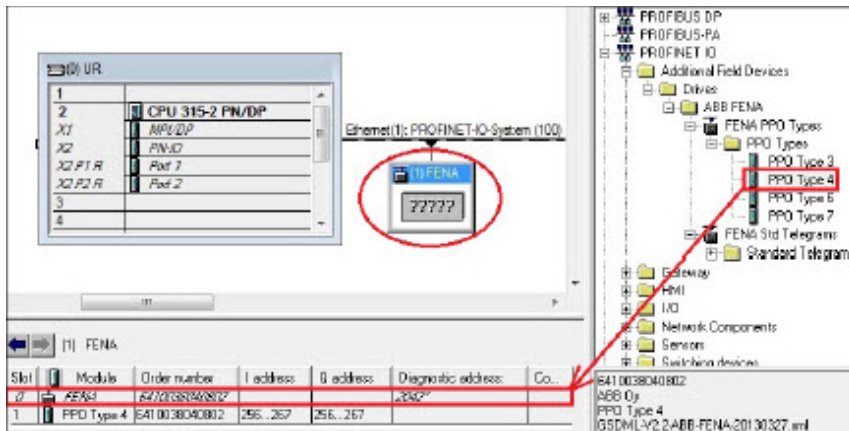
1. In the hardware library, expand **PROFINET** and select the required **ABB Drive**. Drag and drop the selected drive (example FENA PPO types) module to your actual fieldbus module type.



2. Double-click on **ABB drive (FENA)**. In the **Properties - FENA** window, rename the Device name if needed. Select the check box **Assign IP Address via IO controller**. Select the required Node Device number and click **OK**.



- With the **ABB drive** (FENA) node selected, drag and drop desired **PPO** type to slot 1 of the module.



- Repeat the procedure to add more drives if needed.
- Click **Save and Compile**.

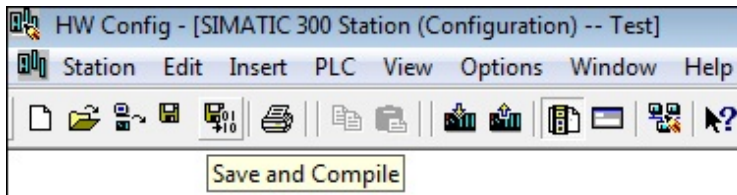
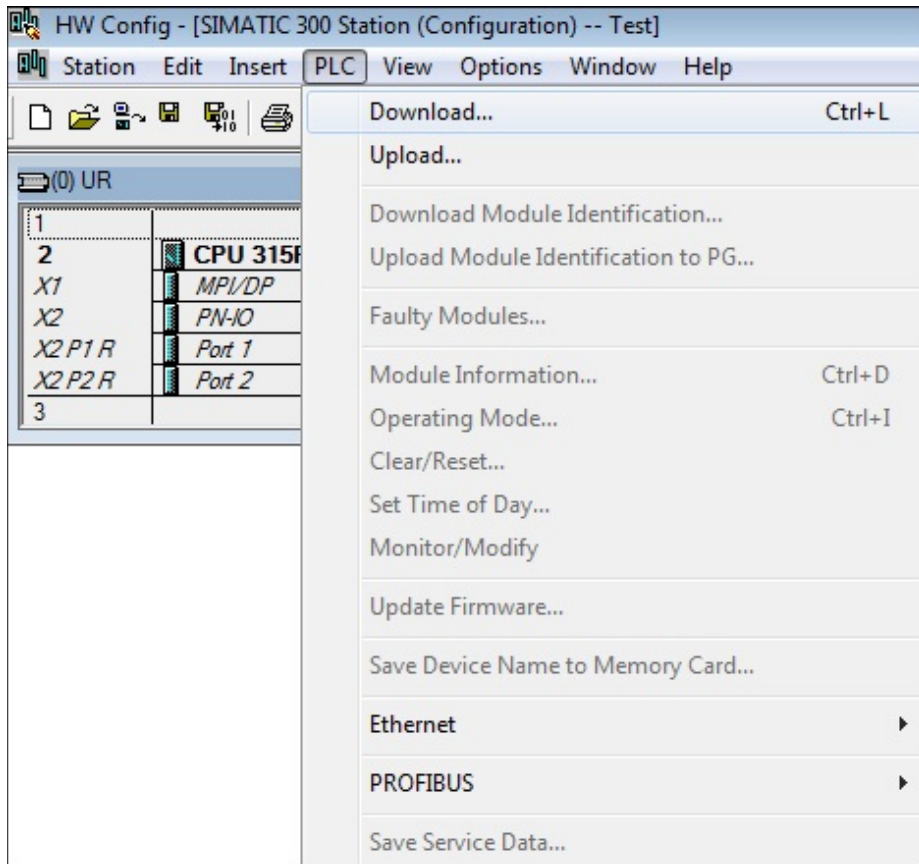


ABB Drive is configured and added to PROFINET.

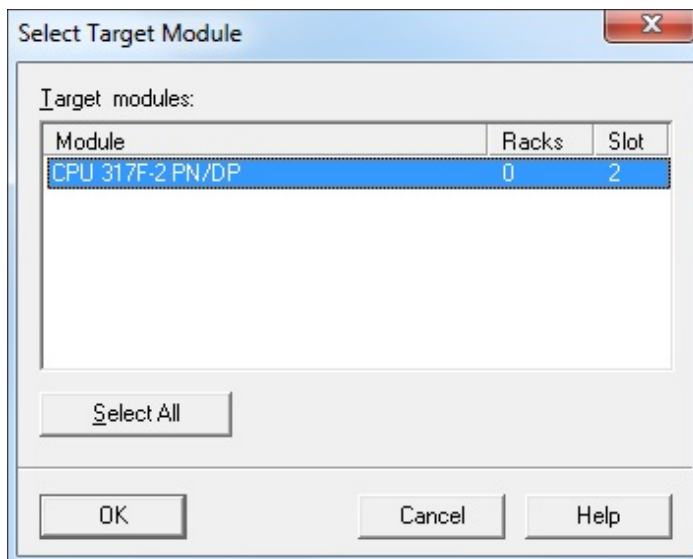
■ Downloading hardware configuration

To download hardware configuration, follow these steps:

1. From the hardware library, click **PLC** and select **Download**.



2. In the **Select Target Module** window, select the required **PLC** and click **OK**.



3. In the **Select Node Address** window, click **View** to select the IP address. Click **OK**.

Over which station address is the programming device connected to the module CPU315-2 PN/DP(1)?

Rack: 0
Slot: 2

Target Station: ☒ Local
☐ Can be reached by means of gateway

Enter connection to target station:				
IP address	MAC address	Module type	Station name	Module name
192.168.0.1		CPU 315-2...	SIMATIC 30...	CPU 315-2 P...

Accessible Nodes

View

OK Cancel Help

4. PLC is to set to RUN mode and **Stop Target Modules** message displays, click **OK**.

The following modules will be stopped for loading of the system data.

Module	Racks	Slot
CPU315-2 PN/DP(1)	0	2

OK Cancel Help

5. Click **OK** in the Download pop-up window to set the PLC in RUN mode.

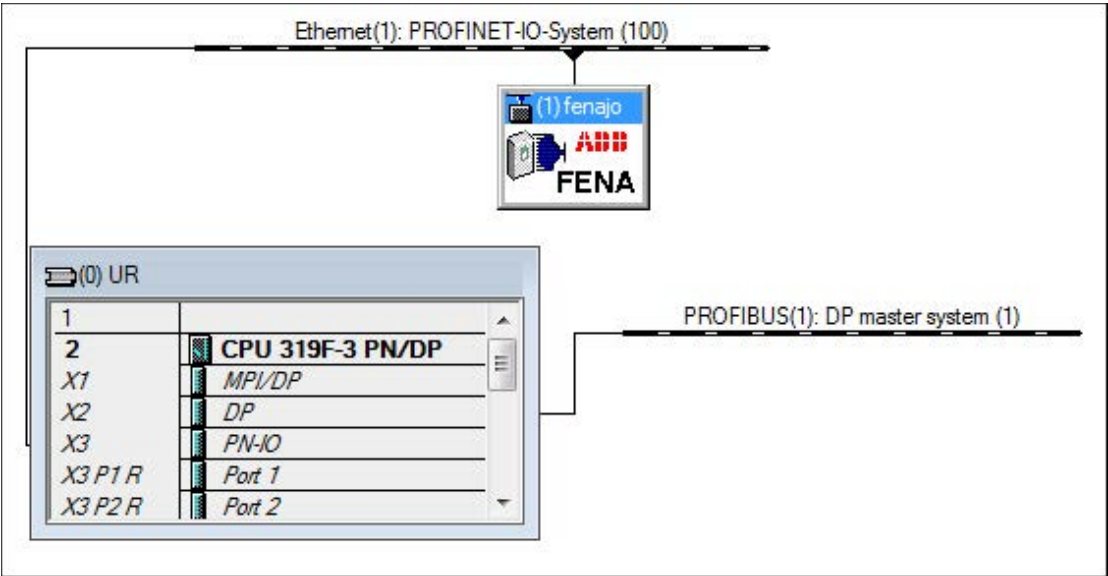


Hardware configuration for SIMATIC Manager is downloaded.

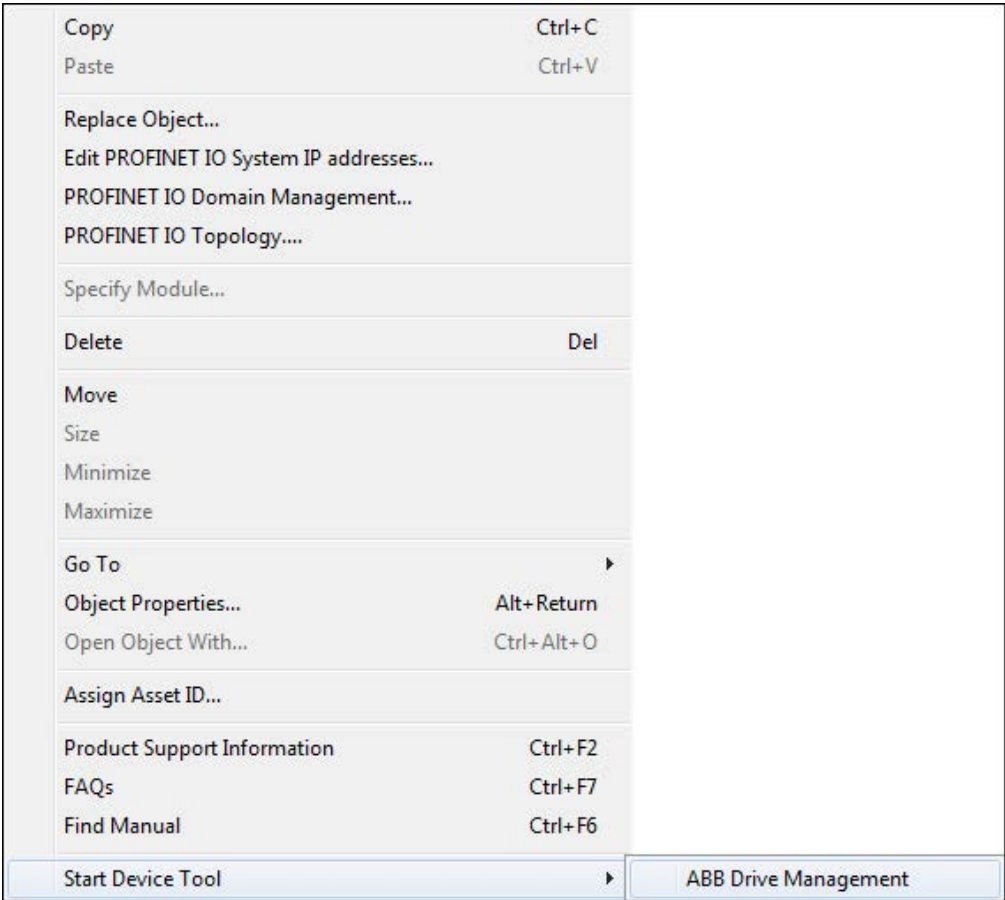
Starting device tool

Start device tool option is used to launch the ABB Drive Manager.

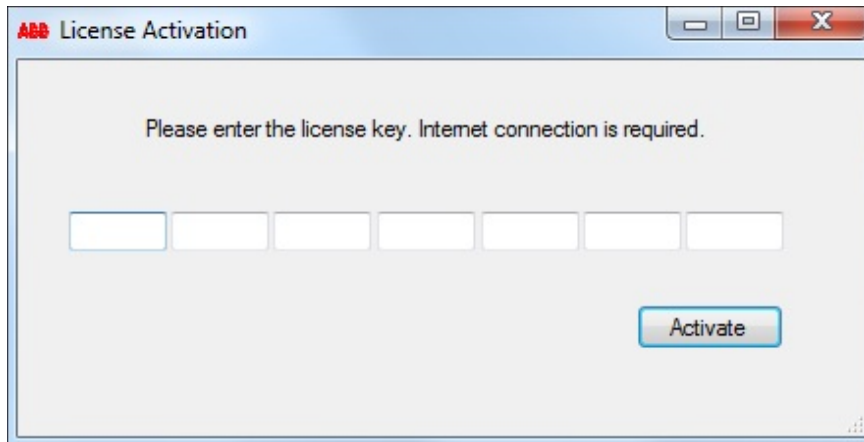
1. To start device tool, right-click on **Drive** node.



2. Click **Start Device Tool** and click **ABB Drive Management**.



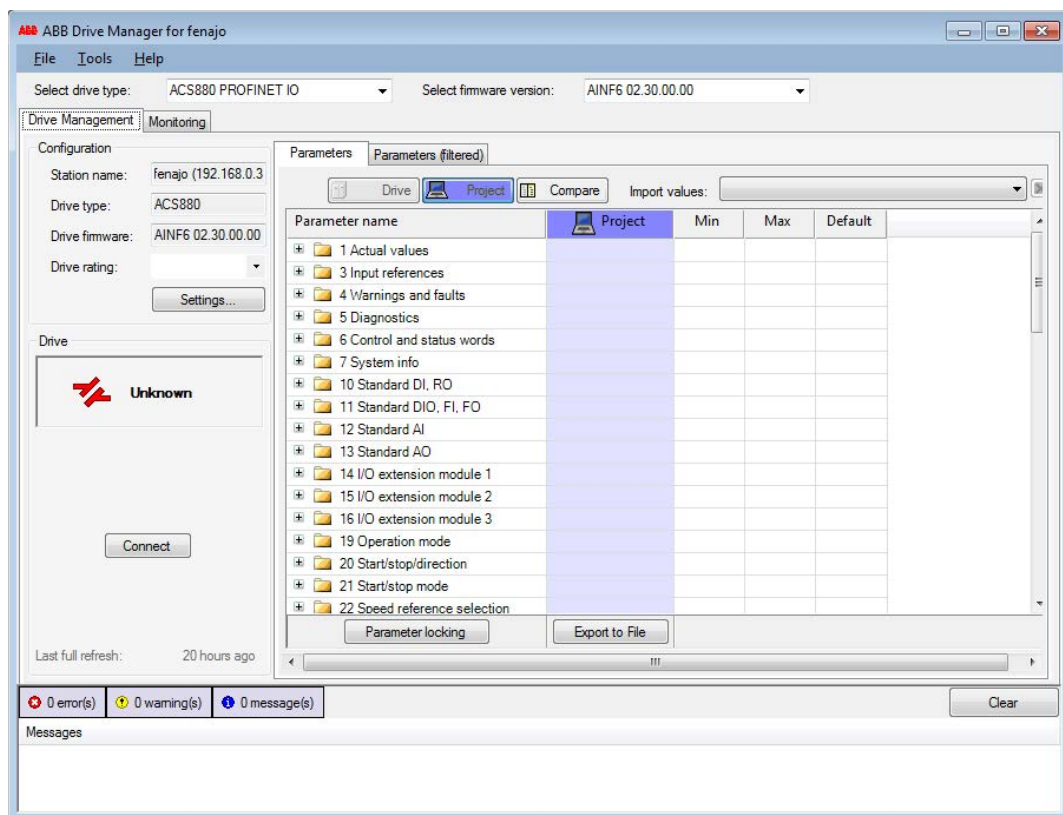
3. If you are activating the application for the first time, the **License Activation** pop-up window appears. Enter the license activation key and click **Activate**.



Note: If you do not have a license activation key, close the **License Activation** pop-up window and click **OK** in the **Drive Manager for Simatic** pop-up window to run the application in trial version for a specific period of 30 days. Only one ABB Drive Manager can be opened in trial period. To open ABB Drive Manager for a different drive, close the existing ABB Drive Manager.

or

If you already activated the application, ABB Drive Manager window displays.



5

Appendix - TIA Portal configuration

About this chapter

This chapter provides the procedure to configure Siemens PLC with ABB Drive Manager using TIA Portal V13.0.

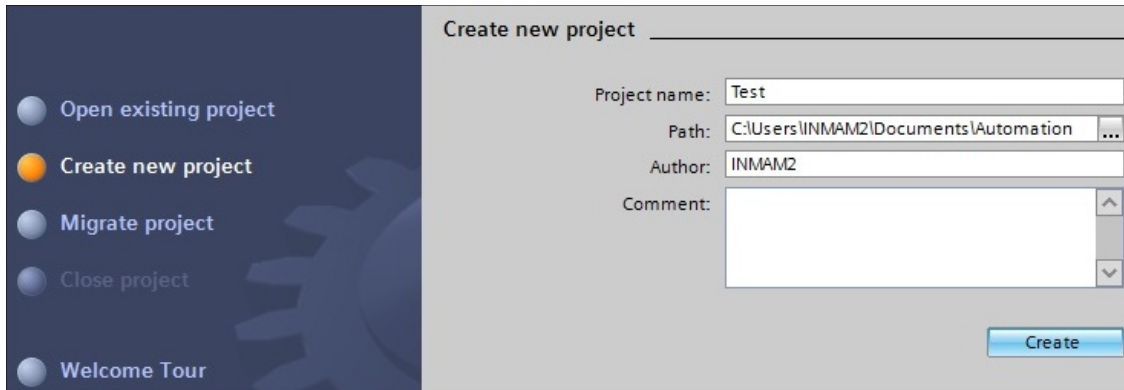
Installing TIA Portal

To install TIA Portal V13.0, refer [Installation procedure](#) in the TIA Portal V13.0 installation manual (referring Siemens website).

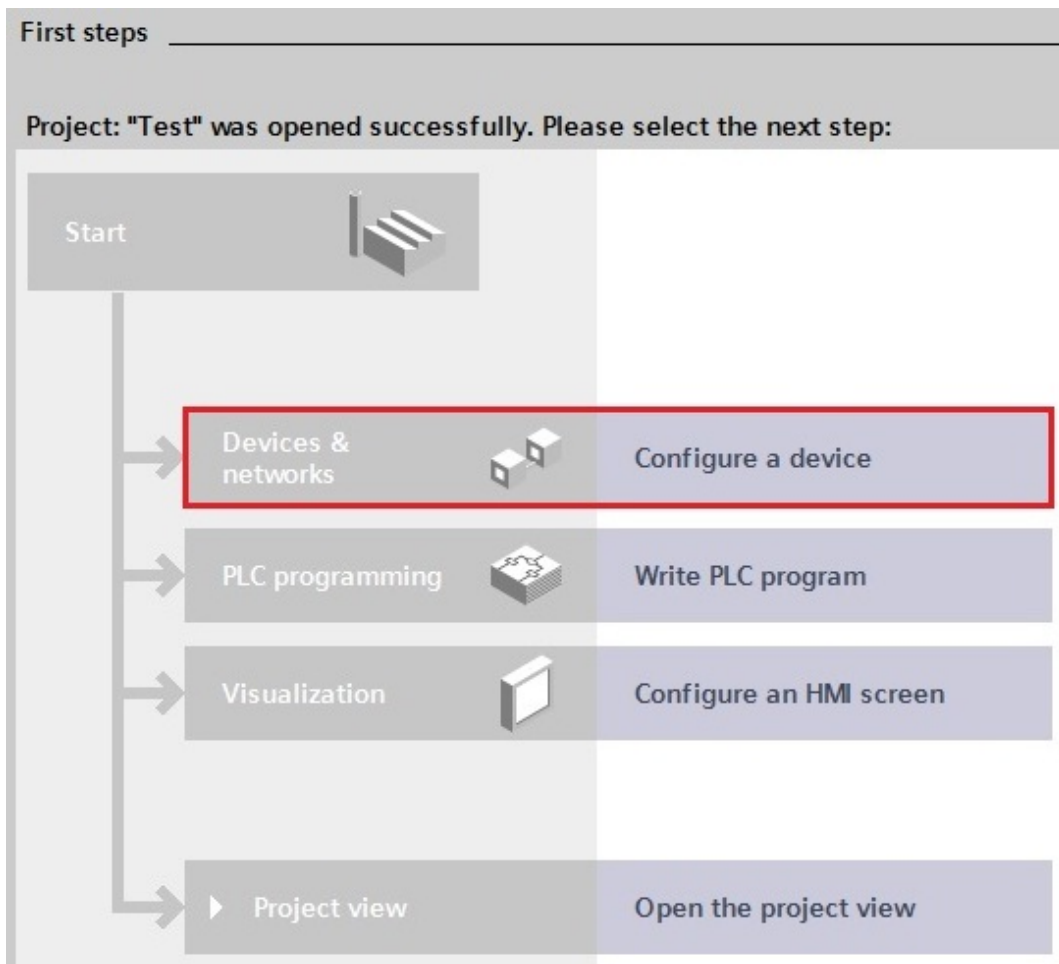
Basic configuration of TIA portal

To configure TIA Portal with the PLC and ABB Drive Manager, follow these steps:

1. Launch **TIA Portal V13**.
2. Click **Create new project** and enter the project name and path. Click **Create**.



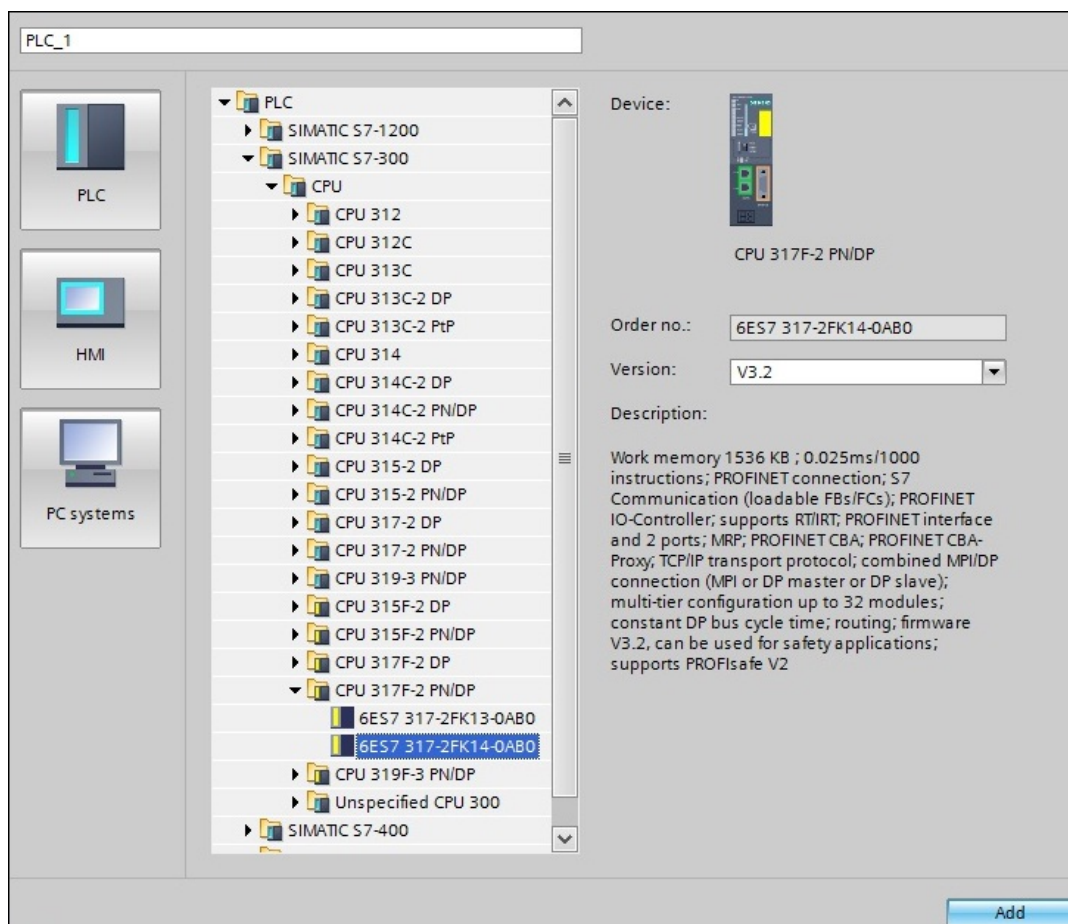
3. Select **Configure a device** from the **Start** options.



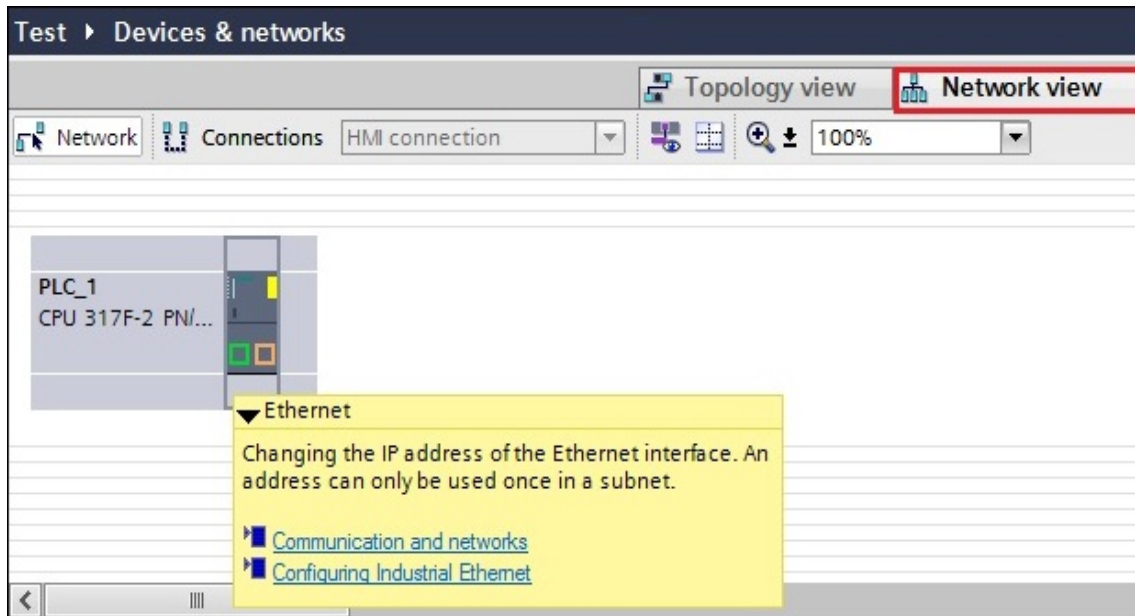
4. In the **TIA Portal V13** window, select **Add new device**.



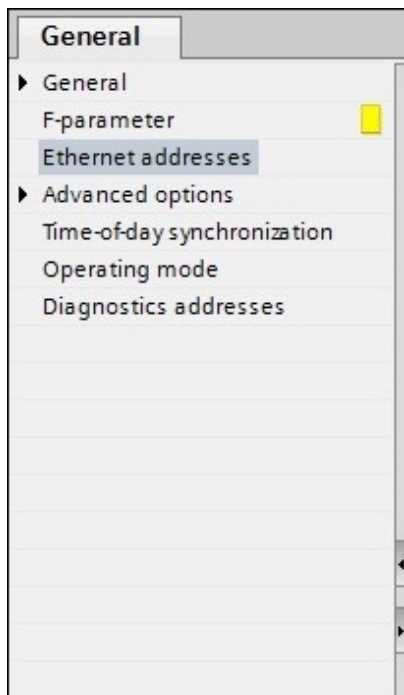
5. From the **Add new device** screen, select required **PLC** and click **Add**.



- Go to **Project view** and double-click **Devices & networks**. In the **Network view**, select **PLC_1** and double-click **Ethernet** .



- From the **Network view** screen, click **General** tab and select **Ethernet addresses**.



8. In the **Ethernet address** screen, click **Add new subnet** to add the subnet. Set **IP Address** in the IP protocol.

Ethernet addresses

Interface networked with

Subnet: Not networked

Add new subnet

IP protocol

☒ Set IP address in the project

IP address: 192 . 168 . 0 . 1

Subnet mask: 255 . 255 . 255 . 0

☐ Use IP router

Router address: 0 . 0 . 0 . 0

☐ Set IP address using a different method

A new **Subnet** is added.

Ethernet addresses

Interface networked with

Subnet: PN/IE_1

Add new subnet

IP protocol

☒ Set IP address in the project

IP address: 192 . 168 . 0 . 1

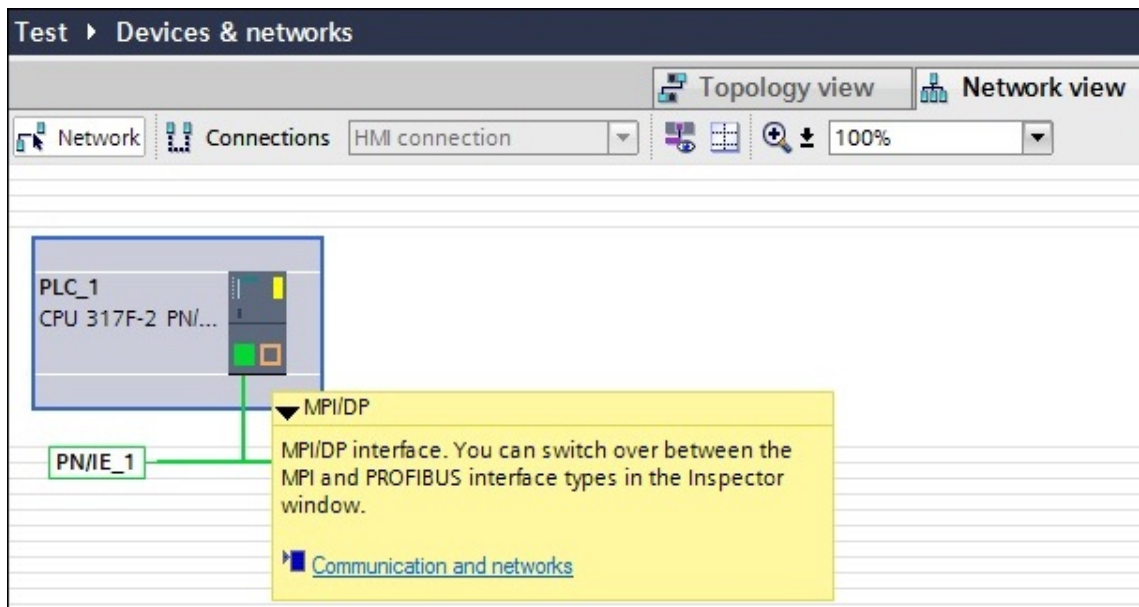
Subnet mask: 255 . 255 . 255 . 0

☐ Use IP router

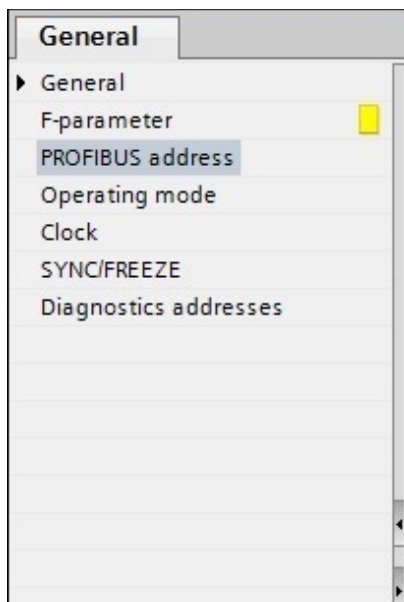
Router address: 0 . 0 . 0 . 0

☐ Set IP address using a different method

9. In the **Network view**, select **PLC_1** and double-click **MPI/DP** .



10. From the **Network view**, click **General** tab and select **PROFIBUS address**.



11. In the **PROFIBUS address** screen, select required **Interface type** and **Address** parameters from the drop-down list. Click **Add new subnet**.

The screenshot shows the 'PROFIBUS address' configuration window. It has two main sections: 'Interface networked with' and 'Parameters'. In the 'Interface networked with' section, the 'Subnet' dropdown is set to 'Not networked' and there is an 'Add new subnet' button. In the 'Parameters' section, the 'Interface type' is set to 'PROFIBUS' and the 'Address' is set to '2'. These two fields are highlighted with a red rectangle. The 'Highest address' and 'Transmission speed' fields are currently empty.

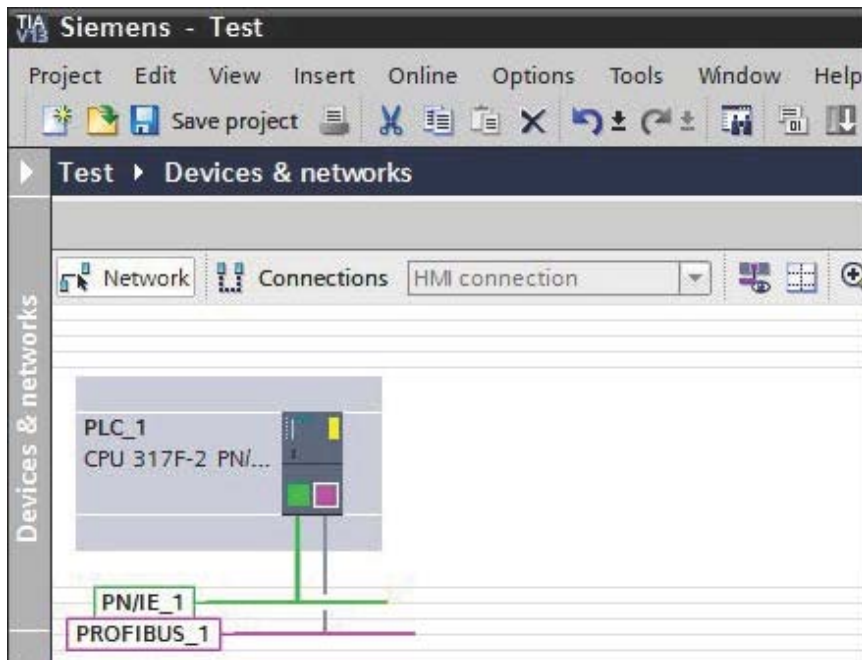
PROFIBUS address	
Interface networked with	
Subnet:	Not networked
<button>Add new subnet</button>	
Parameters	
Interface type:	PROFIBUS
Address:	2
Highest address:	
Transmission speed:	

12. Interface networked with subnet is added and configured.

The screenshot shows the 'PROFIBUS address' configuration window after configuration. In the 'Interface networked with' section, the 'Subnet' dropdown is now set to 'PROFIBUS_1'. In the 'Parameters' section, the 'Interface type' is 'PROFIBUS', 'Address' is '2', 'Highest address' is '126', and 'Transmission speed' is '1.5 Mbps'. All dropdown menus are now populated with values.

PROFIBUS address	
Interface networked with	
Subnet:	PROFIBUS_1
<button>Add new subnet</button>	
Parameters	
Interface type:	PROFIBUS
Address:	2
Highest address:	126
Transmission speed:	1.5 Mbps

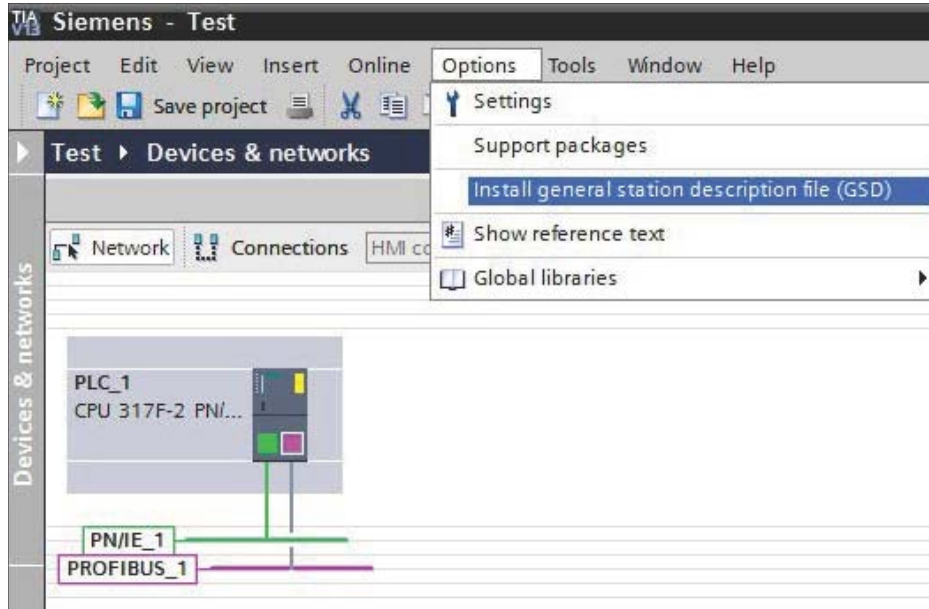
After completing the basic configuration, a TIA Portal window displays with PLC connections.



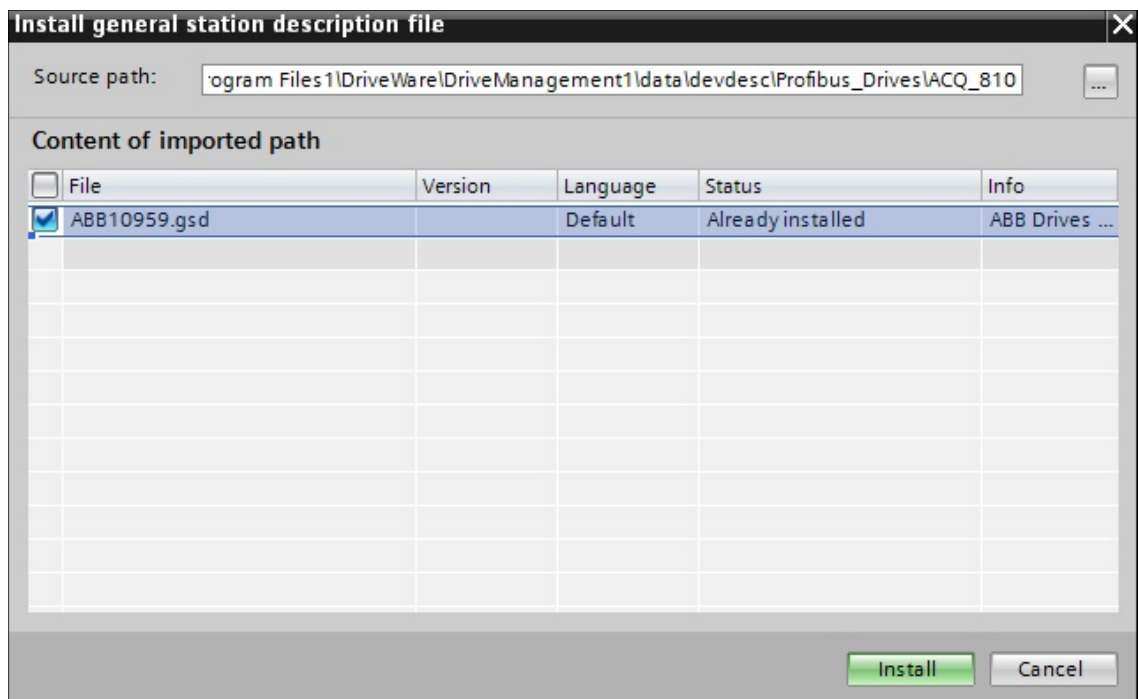
Installing GSD file (TIA Portal)

This topic provides step by step procedure to install the GSD file.

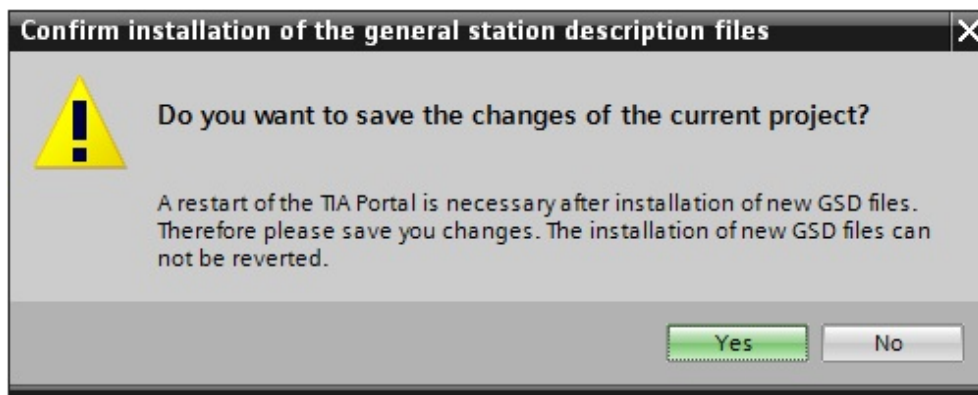
1. In the **Devices & Networks** screen, click **Options**. Select **Install general station description file (GSD)**.



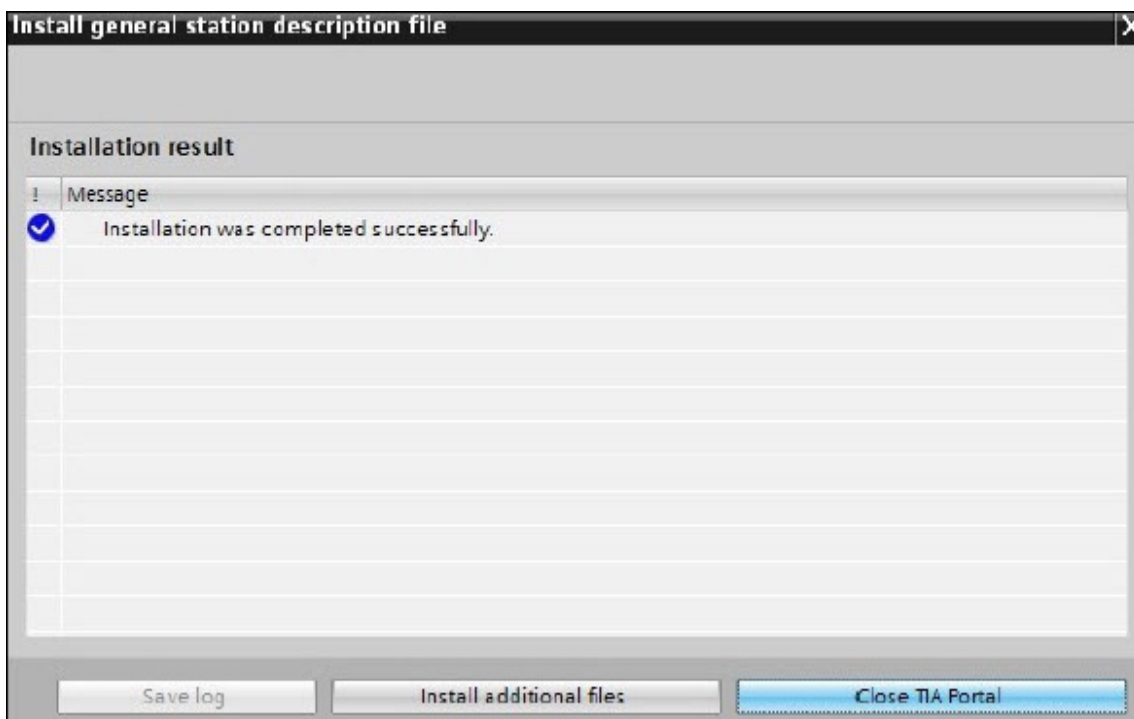
2. Browse and select the appropriate folder. Select the GSD files for **PROFIBUS** or GSDML files for **PROFINET** and click **Install**. After the installation is complete close the window.



3. Click **YES** in the popup window.

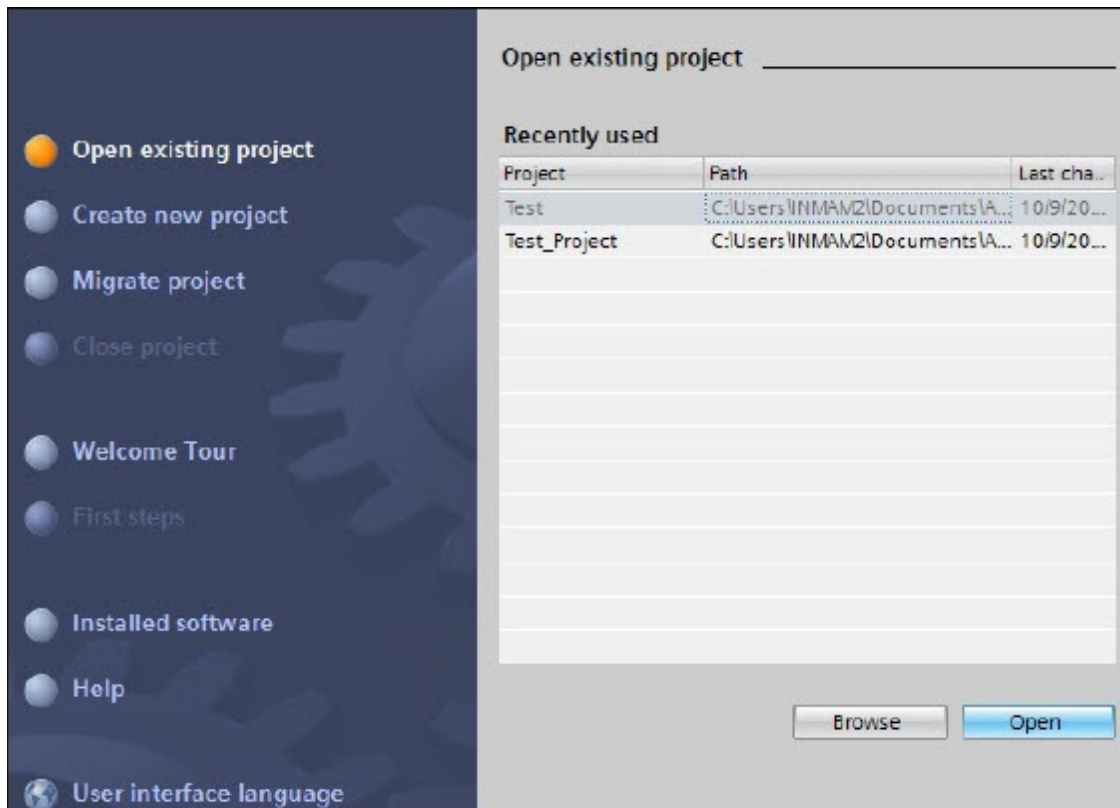


4. After GSD file installation, system prompts to close the TIA Portal application, click **Close TIA Portal**.

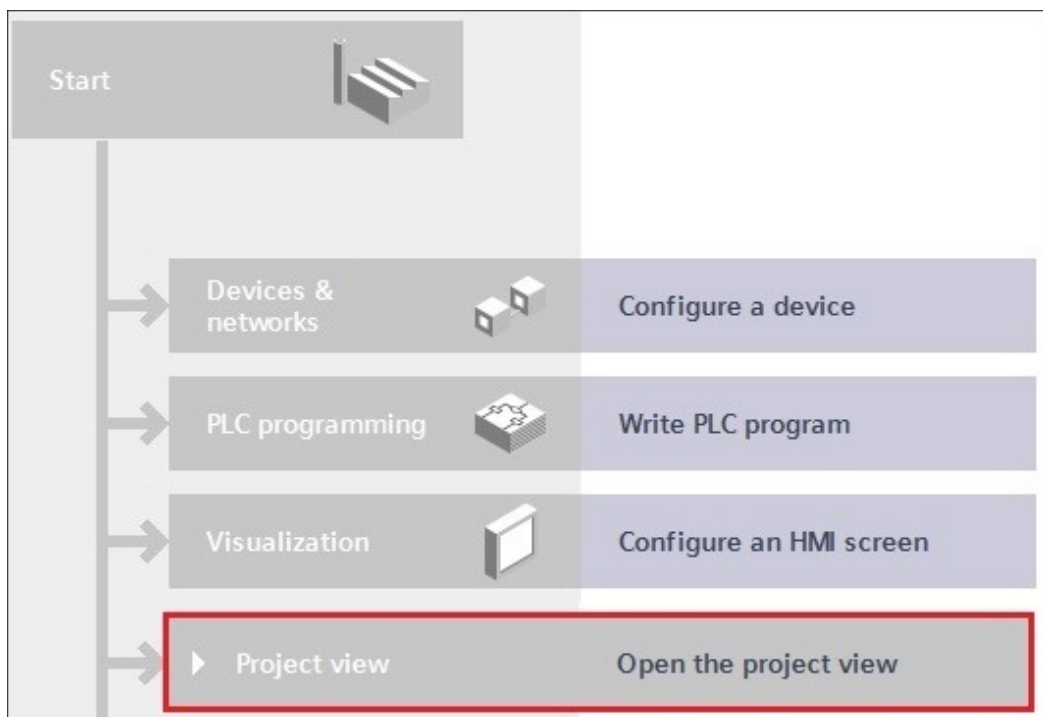


Adding Drives to PROFIBUS

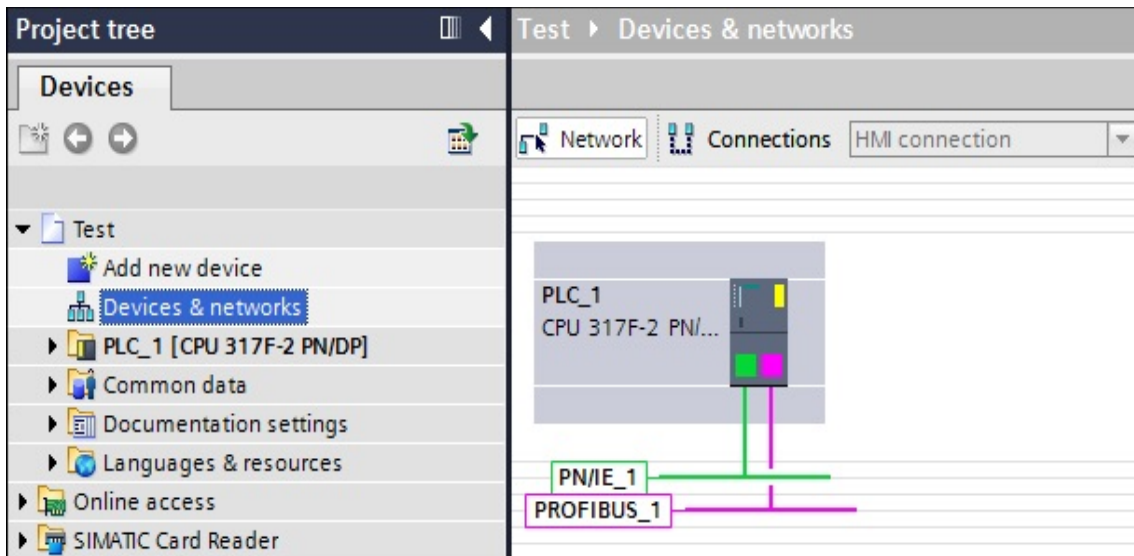
1. Launch **TIA Portal**. In the main screen, click **Open existing project**. Select the existing project and click **Open**.



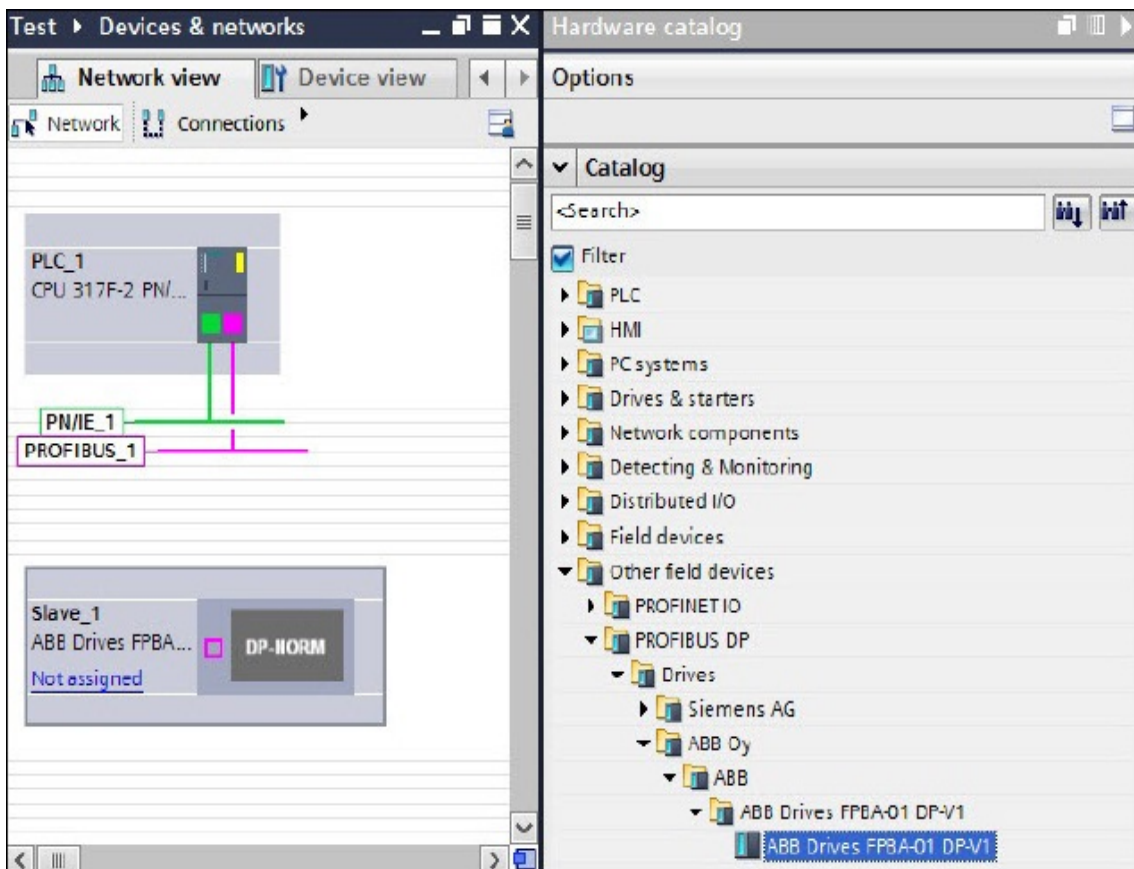
2. Click **Open the project view** from the **Start** options.



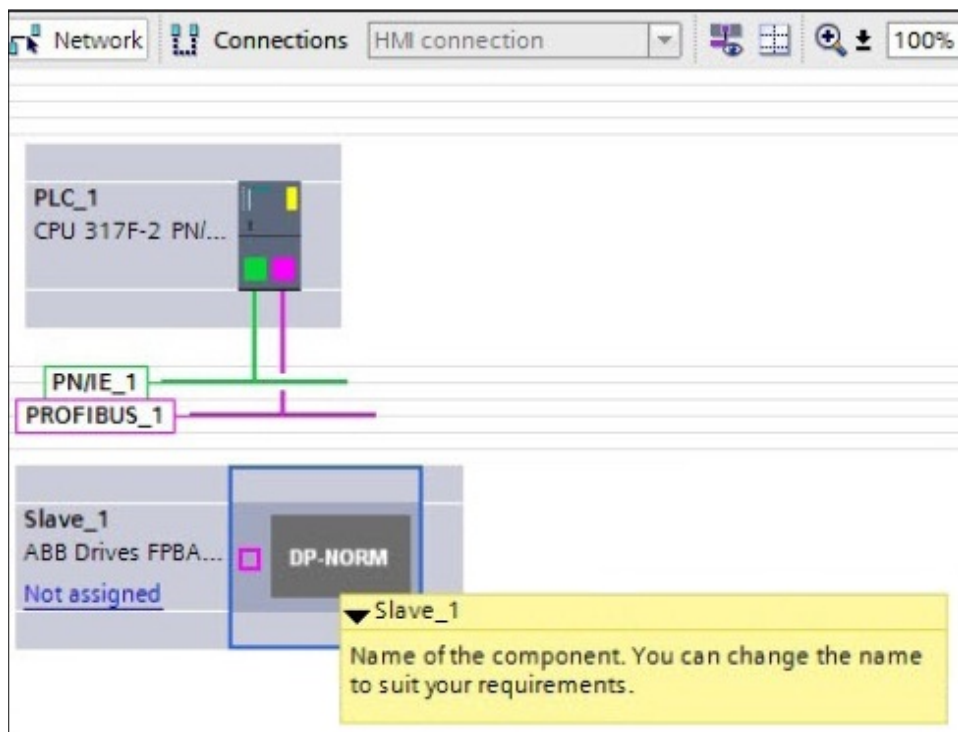
3. Double-click **Device & networks** in **Project tree** screen.



4. From the **Hardware catalog** screen, select the required **ABB Drive**. Drag and drop to the PLC screen.



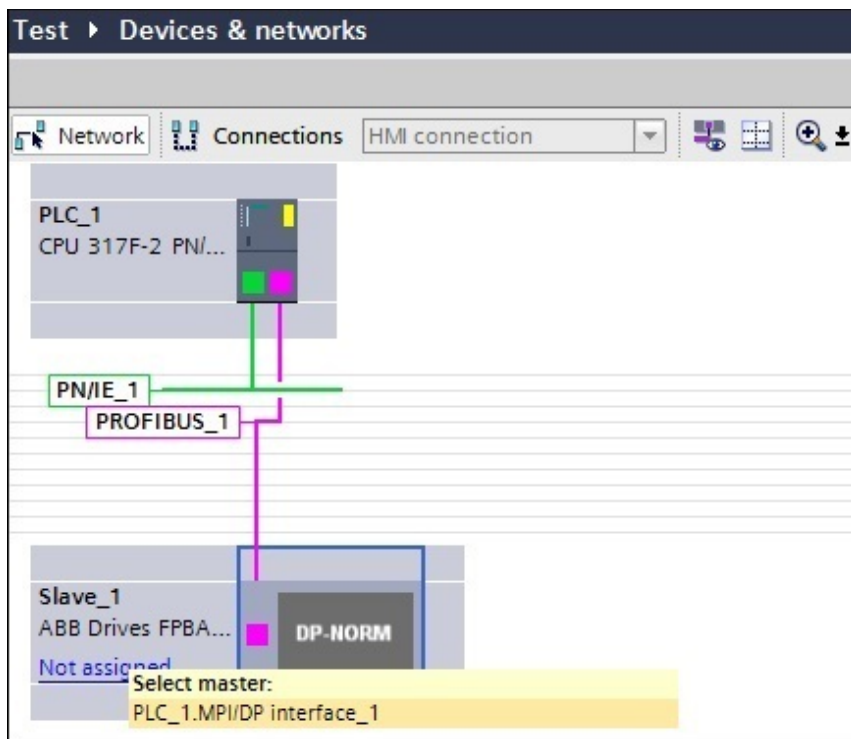
5. In the **Slave_1** screen, select **Drive**.



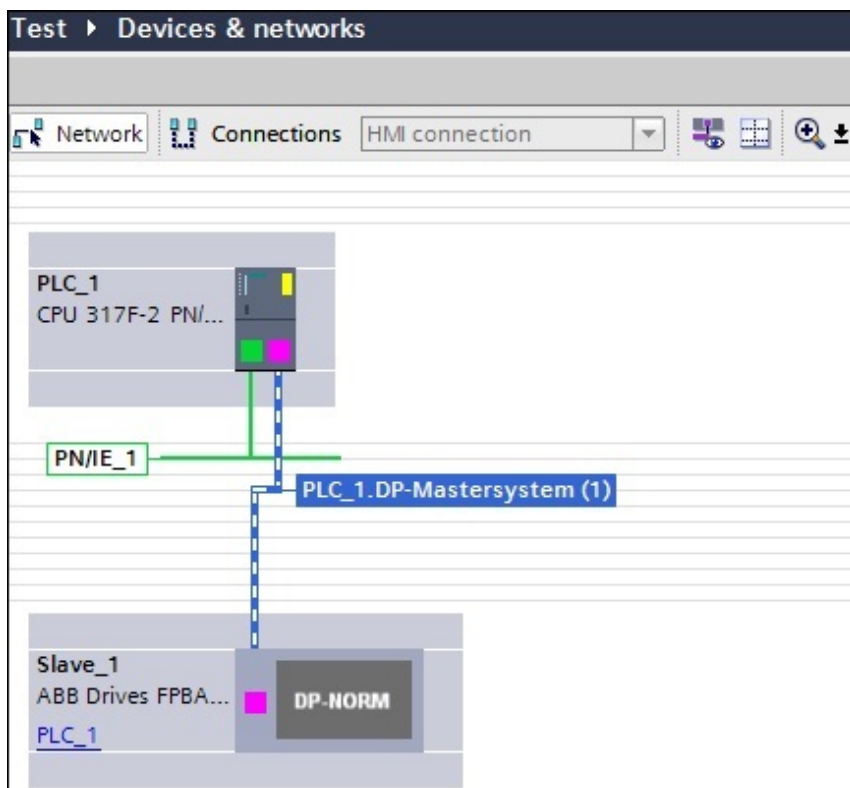
6. From the **General** tab, click **PROFIBUS address**. Select **PROFIBUS_1** in Subnet drop-down menu and select the required value in **Address** drop-down field.

The screenshot shows the 'General' tab of the 'HW Config' window for 'Slave_1'. The 'PROFIBUS address' section is expanded. Under 'Interface networked with', the 'Subnet' is set to 'PROFIBUS_1'. Under 'Parameters', the 'Address' is set to '3', 'Highest address' is '126', and 'Transmission speed' is '1.5 Mbps'.

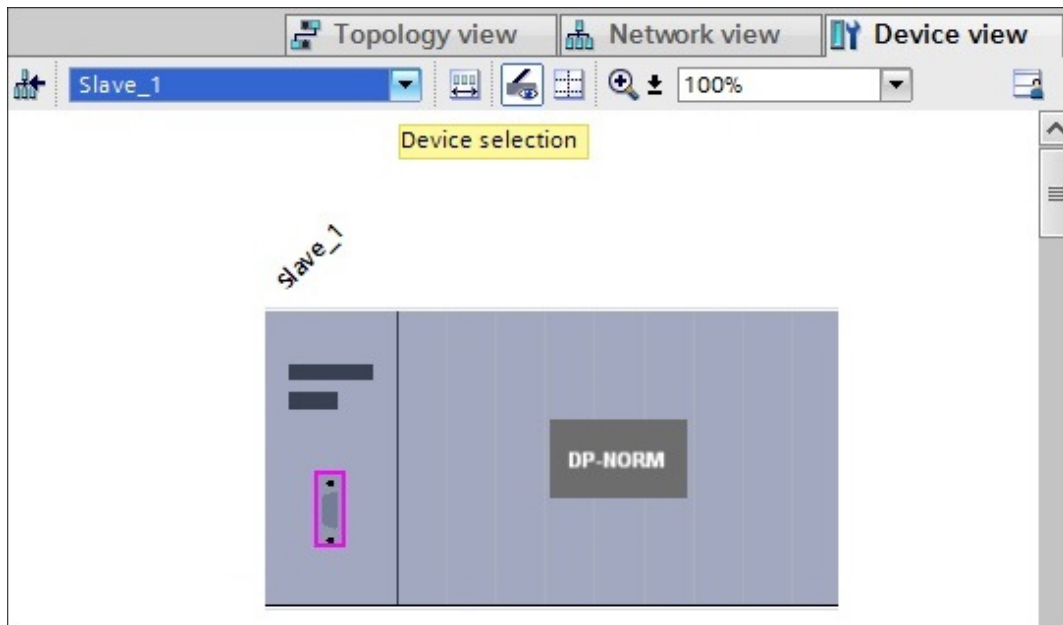
7. In the ABB Drive, click **Not assigned** and select **PLC_1.MP/DP interface_1**.



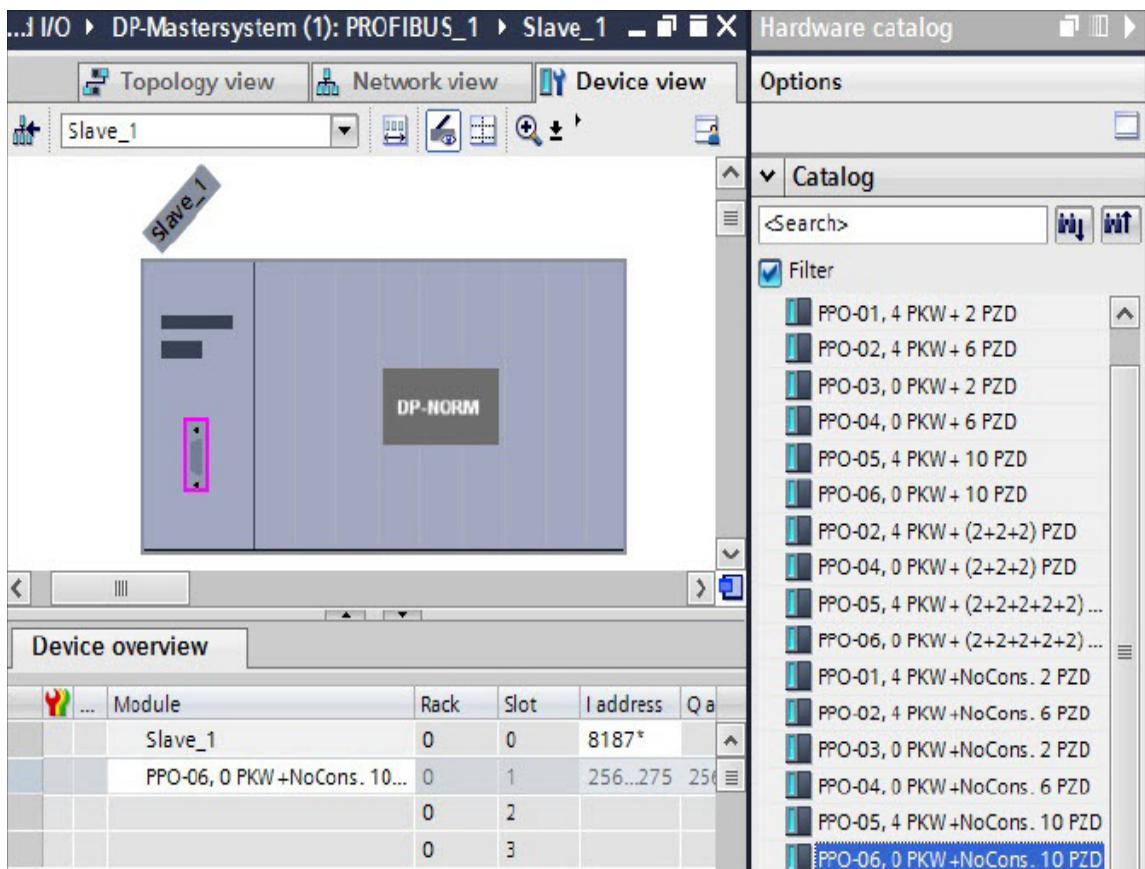
The selected PLC is assigned to the ABB Drive.



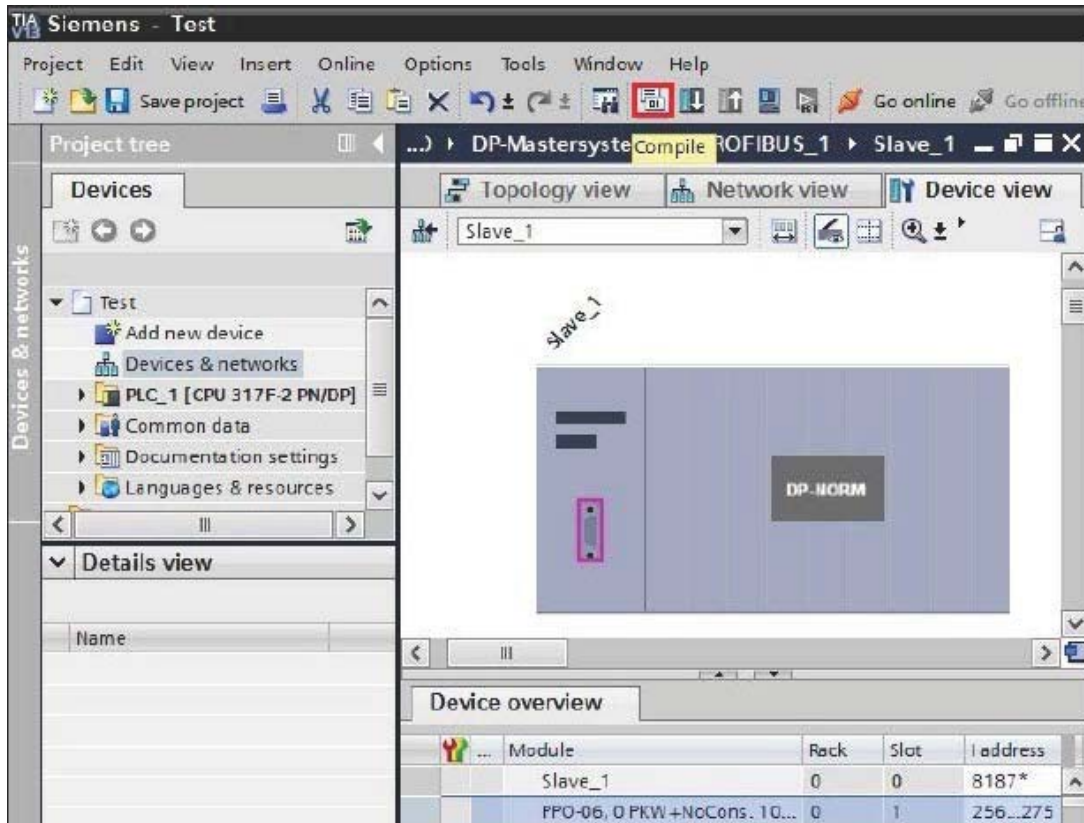
8. From the **Device view**, select **Slave_1** in the **Device selection** drop-down menu.



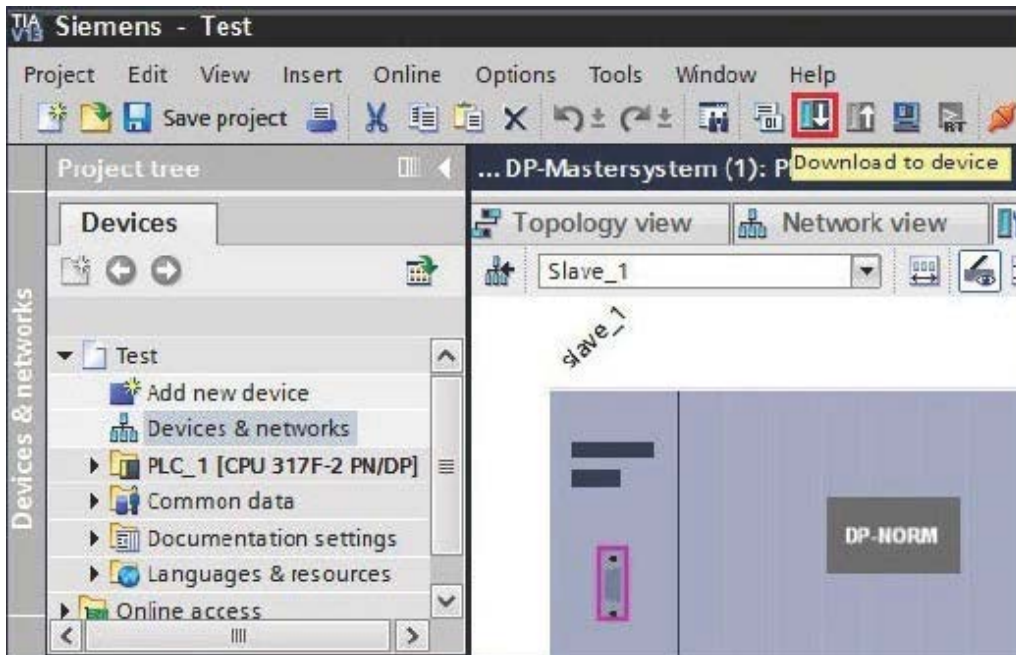
9. In the **Hardware catalog**, double-click the required **PPO** type. The selected PPO type appears in the Device overview pane.



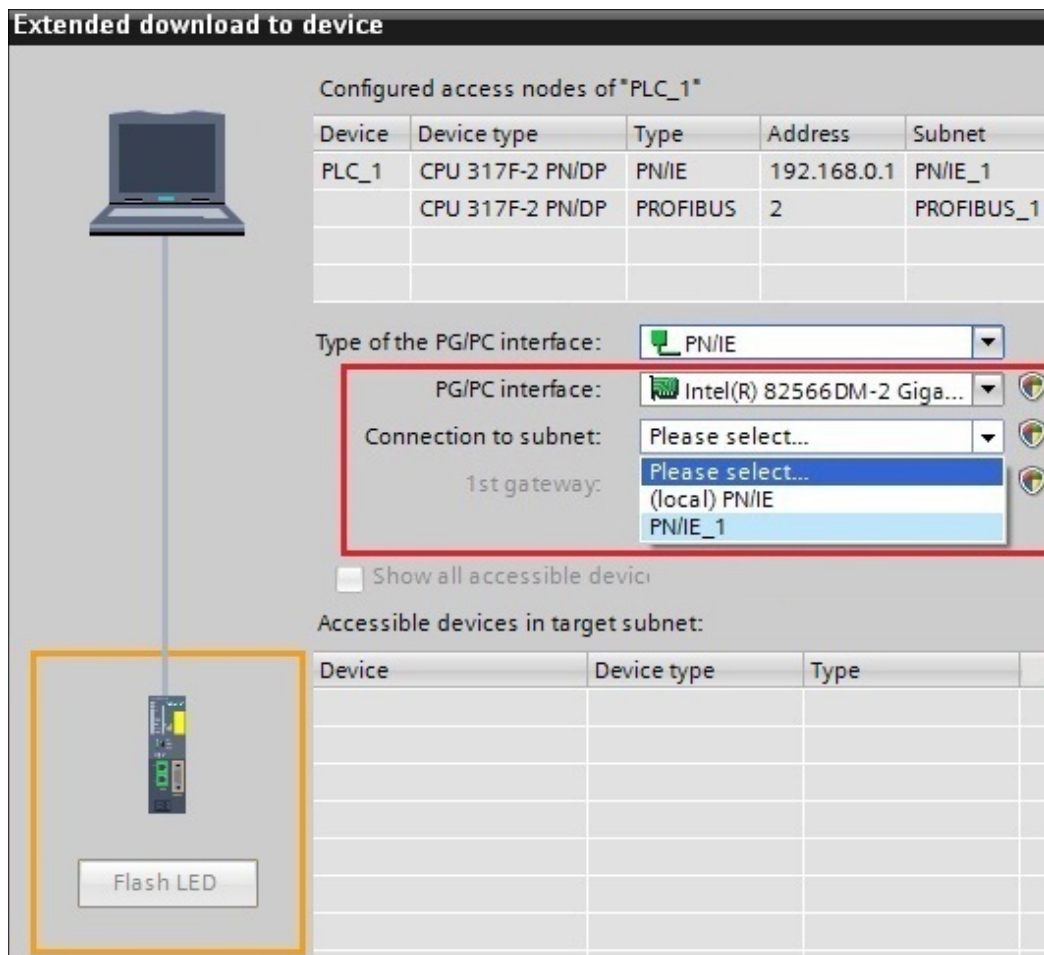
10. In the **Device overview**, select PPO type and in the menu bar click **Compile** .



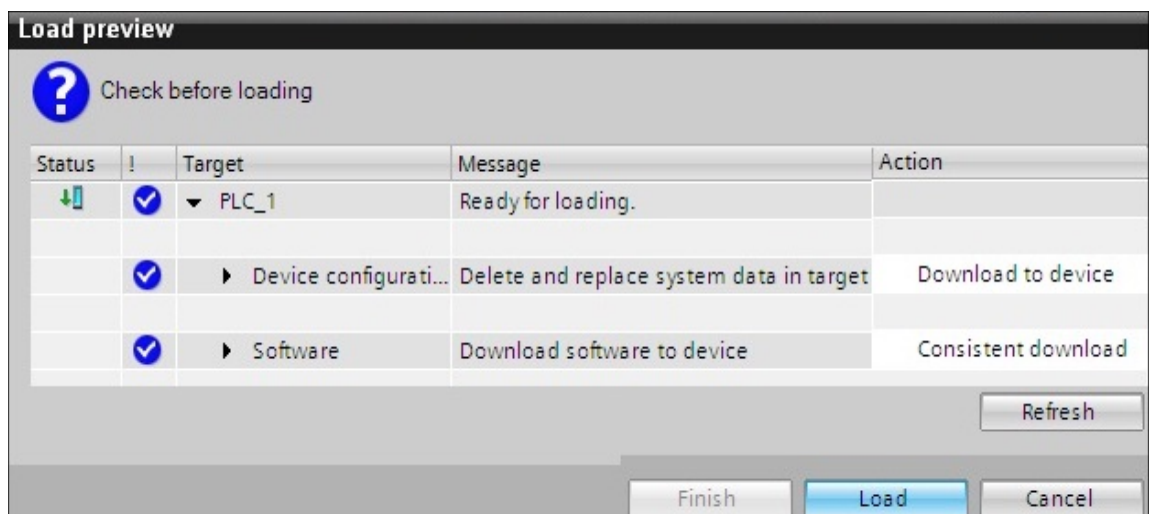
11. Click **Download to device** .



12. From the **Extended download to device** window, select **PG/PC interface** and **Connection to subnet** from the drop-down list. The **Load preview** window displays the PLC ready for loading.

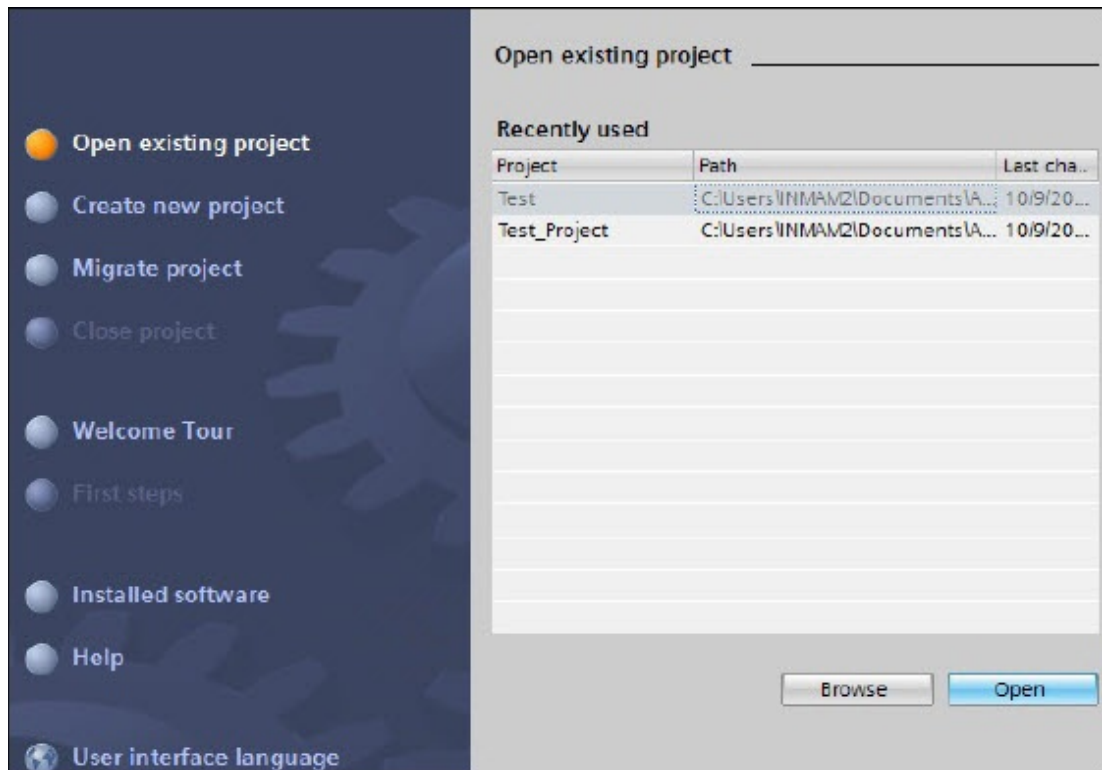


13. Select the required PLC device and click **Load**.

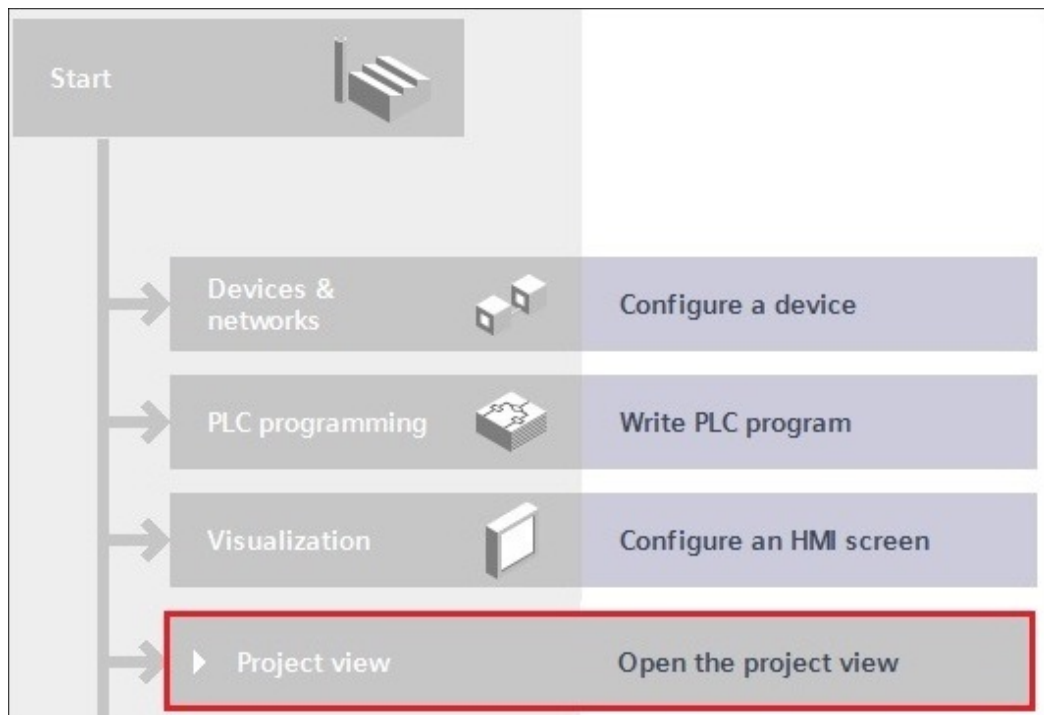


Adding drives to PROFINET

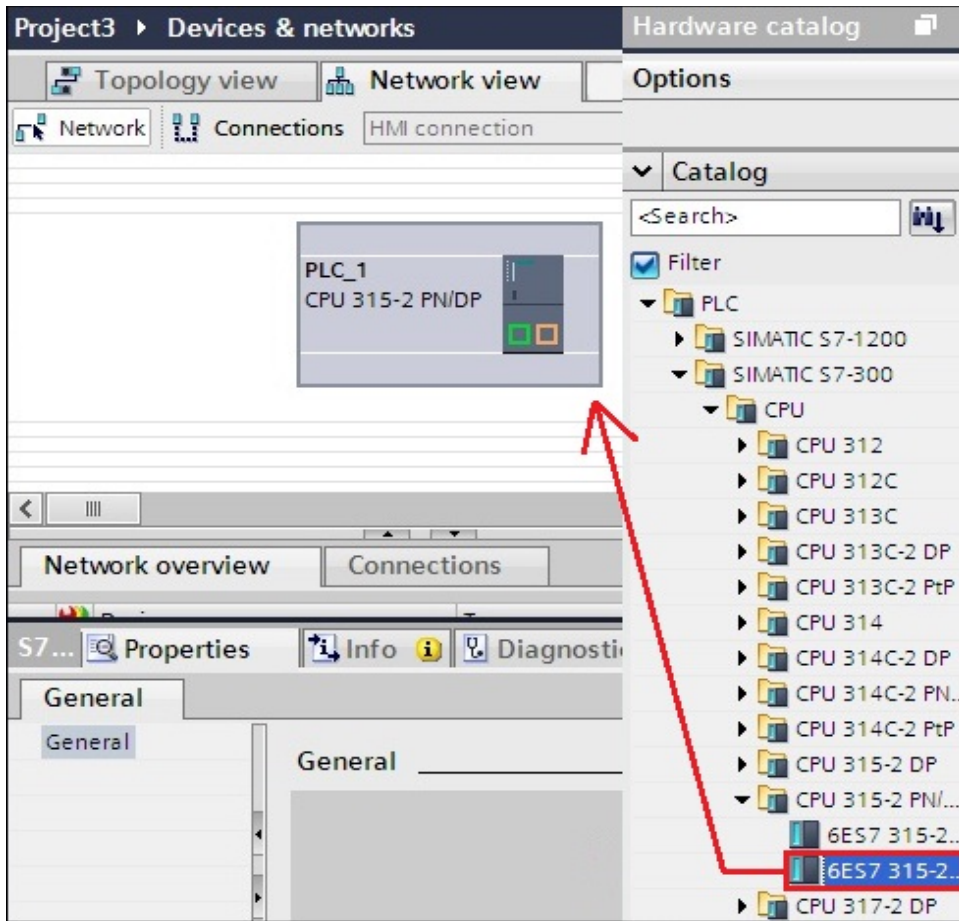
1. Launch **TIA Portal**. In the main screen, click **Open existing project**. Select the existing project and click **Open**.



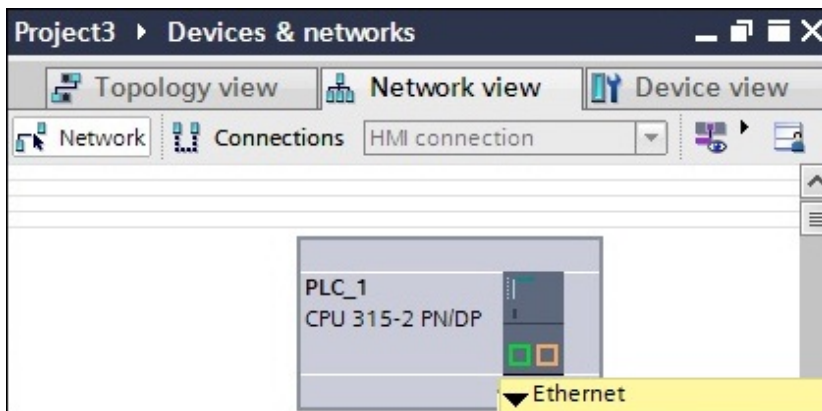
2. Click **Open the project view** from the **Start** options.



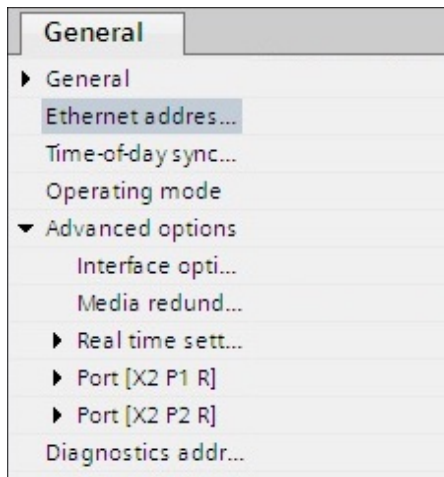
3. In the **Hardware catalog** section, select the required PLC. Drag and drop to the **Network view**.



4. In the **Network view**, select **PLC_1** and double-click **Ethernet** .



5. From the **Network view**, click **General** tab and select **Ethernet addresses**.



6. In the **Ethernet address** screen, click **Add new subnet** to add the subnet. Set **IP Address** in the IP protocol.

Ethernet addresses

Interface networked with

Subnet: PN/IE_1

Add new subnet

IP protocol

☒ Set IP address in the project

IP address: 192 . 168 . 0 . 1

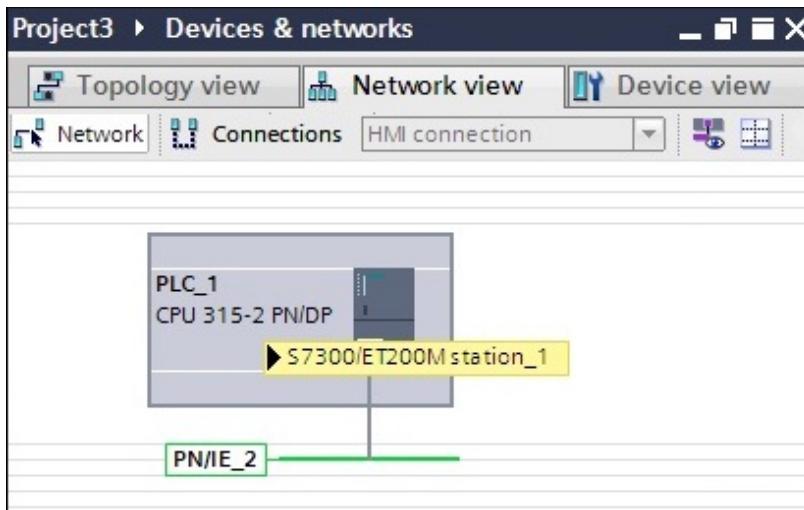
Subnet mask: 255 . 255 . 255 . 0

☐ Use IP router

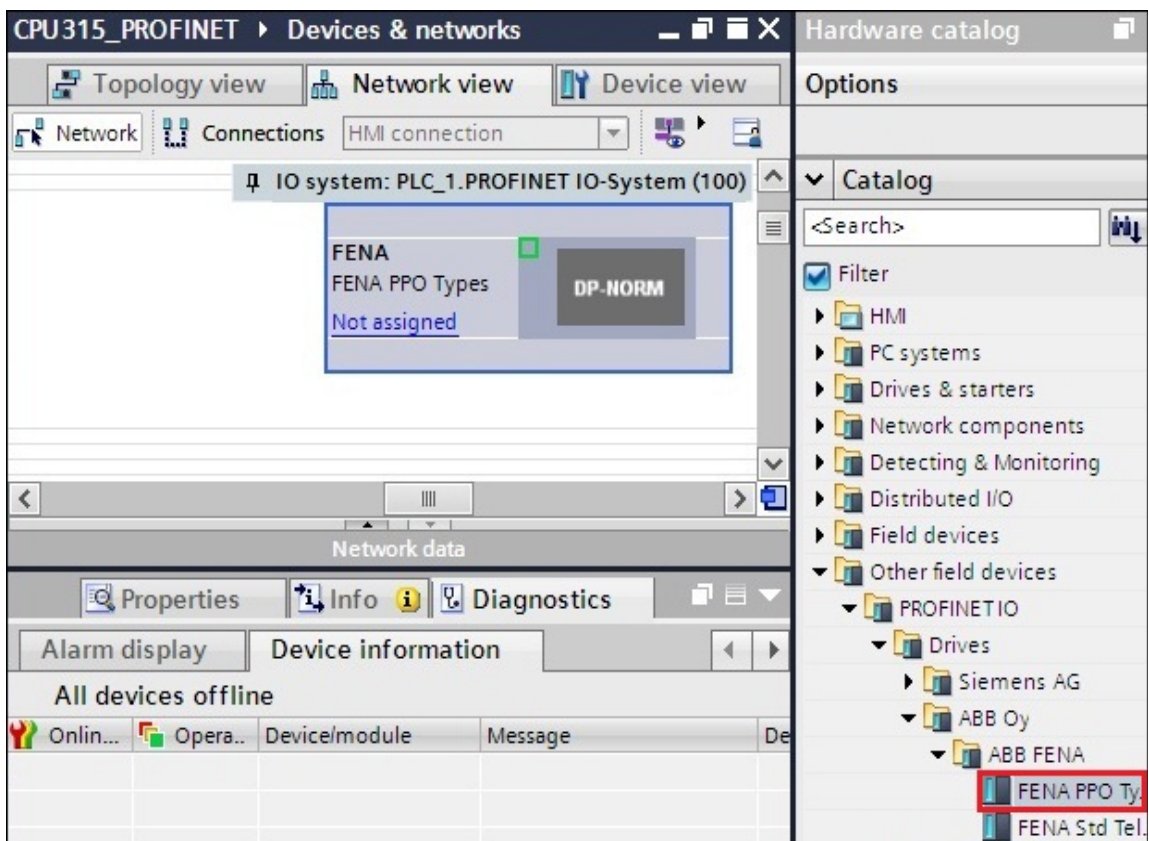
Router address: 0 . 0 . 0 . 0

☐ Set IP address using a different method

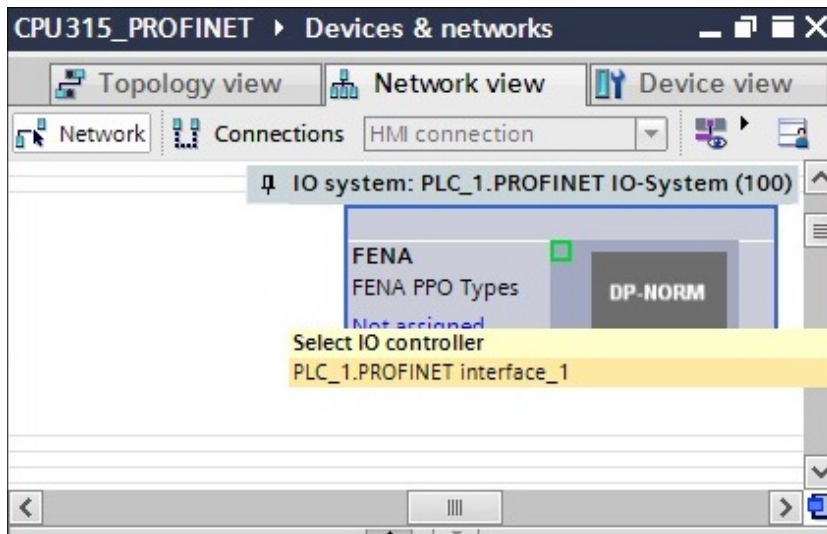
After adding PLC and the Ethernet address, TIA Portal window displays PLC connections.



- From the **Hardware catalog** section, select the required ABB Drive. Drag and drop to the **PLC** screen.

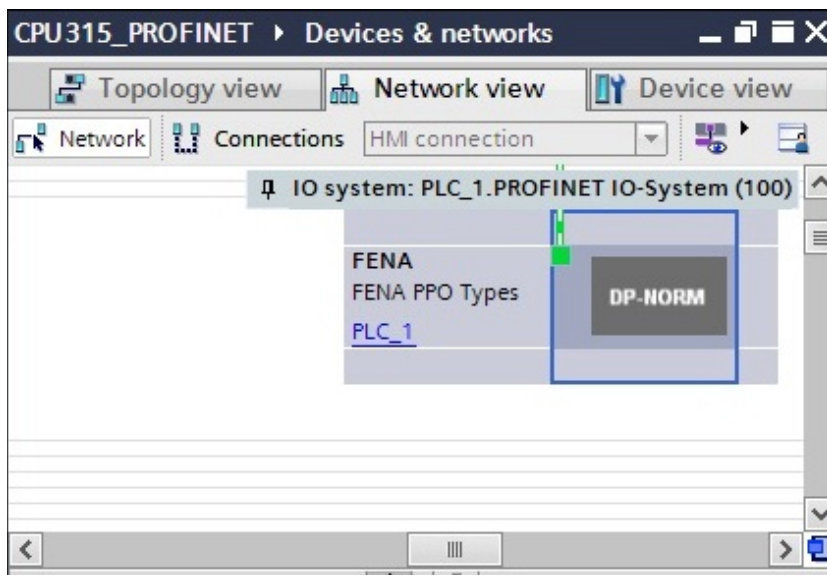


8. In the ABB Drive, click **Not assigned** and select **PLC_1.PROFINET interface_1**.

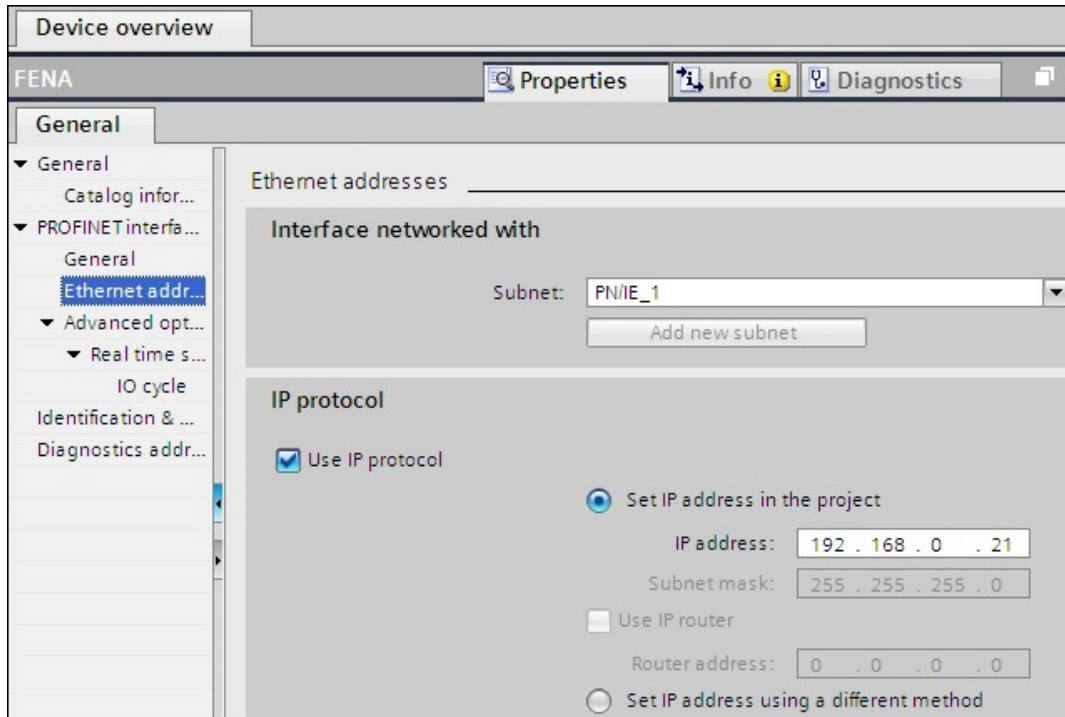


The selected PLC is assigned to the ABB Drive.

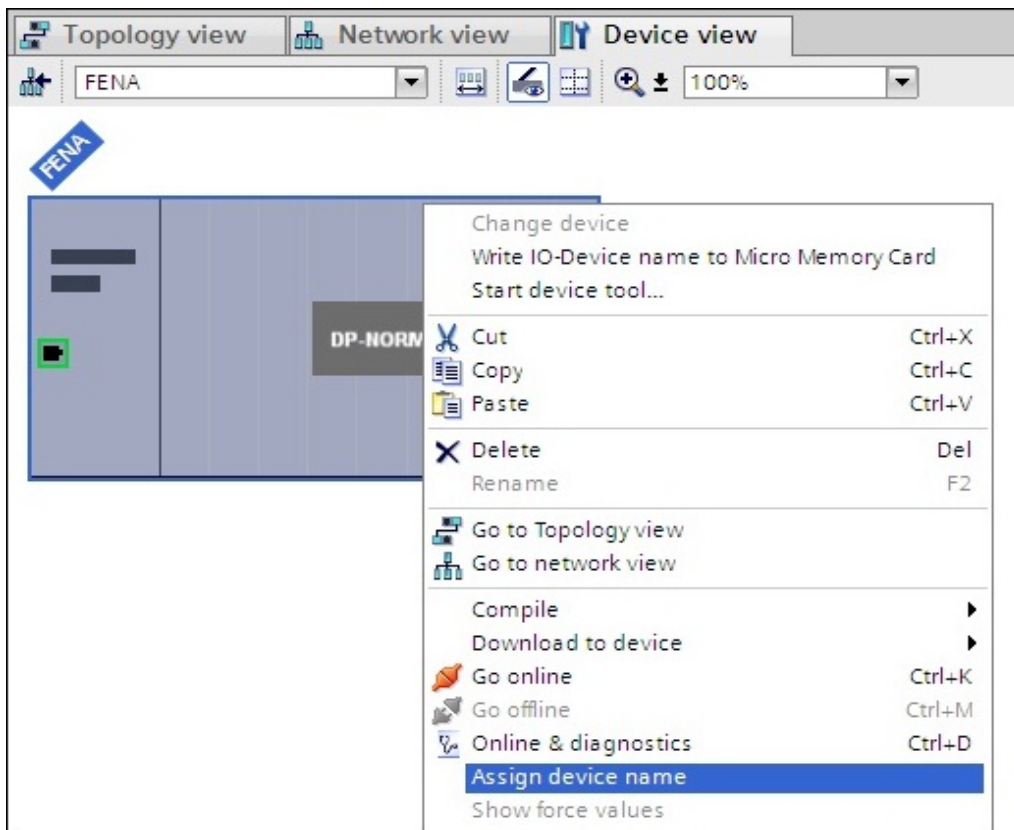
9. Select FENA drive (PROFINET).



10. From the **General** tab, click **Ethernet address**. Select **PN/IE_1** in **Subnet** drop-down menu and set **IP address** in the **IP protocol**.



11. In the **Device view**, right-click **DP_NORM** and select **Assign device name**. Assign **PROFINET** device name window displays.



12. In the **Assign PROFINET device name** window, select the appropriate accessible devices in the network list and click **Assign Name**.

Assign PROFINET device name.

PROFINET device name:

Type:

Type of the PG/PC interface:

PG/PC interface:

☐ Only show devices of the same type

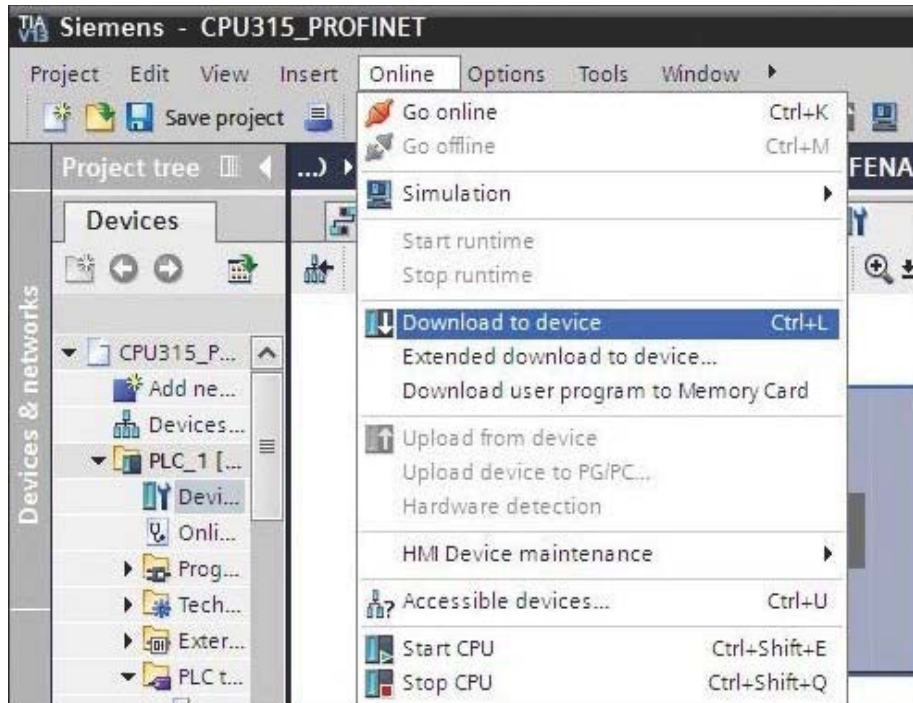
☐ Only show devices with bad parameter settings

☐ Only show devices without names

Accessible devices in the network:

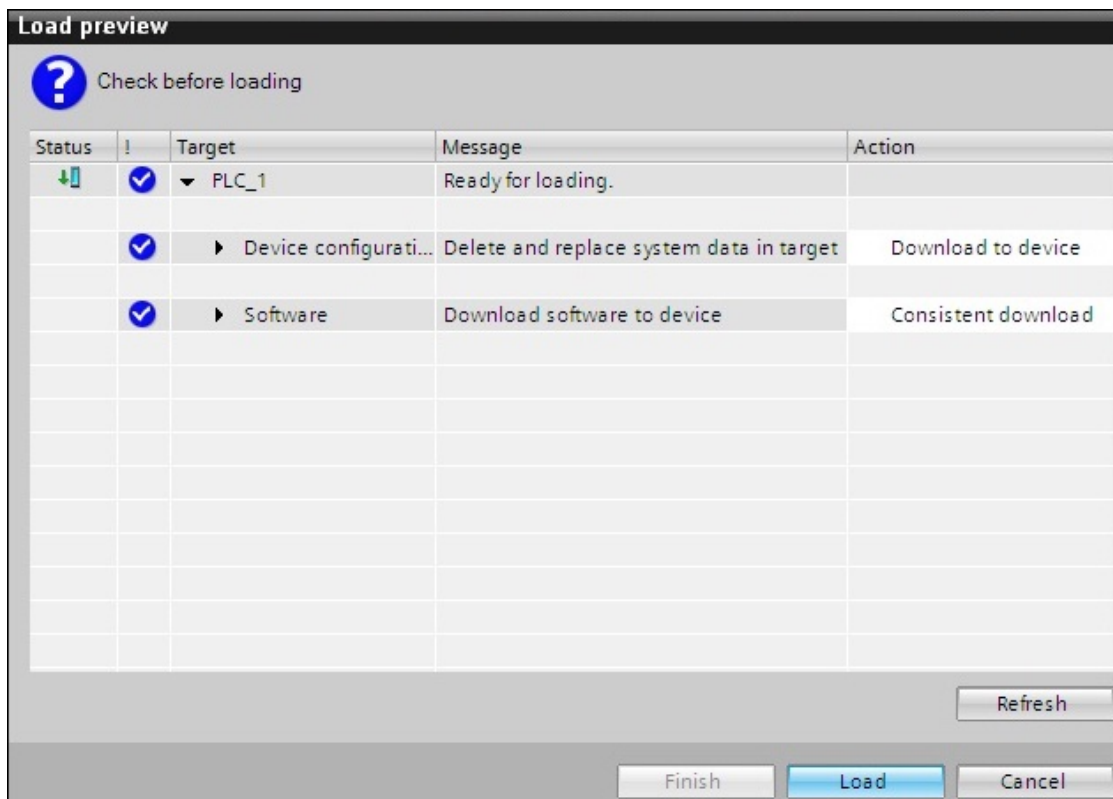
IP address	MAC address	Type	Name	Status
192.168.0.1	00-1C-01-FF-F9-25	FENA-11	acs850_13	✓ OK
10.140.159.3	00-07-E9-5C-9B-56	SIMATIC-PC	abb-pc	✓ OK
192.168.0.12	00-1C-01-00-2A-BE	FENA	acq810_12	✓ OK
192.168.0.14	00-1C-01-00-0E-AF	FENA-11	acsm1 m 11	✓ OK
192.168.0.16	00-1C-01-00-27-15	FENA	acq810_16	✓ OK
192.168.0.17	00-1B-1B-30-37-9F	S7-300	plc_1	✓ OK
192.168.0.18	00-1C-01-00-0E-CC	FENA	acs880_14	✓ OK

13. From the main menu, click **Online** and select **Download to device**. A **Load preview** window displays.

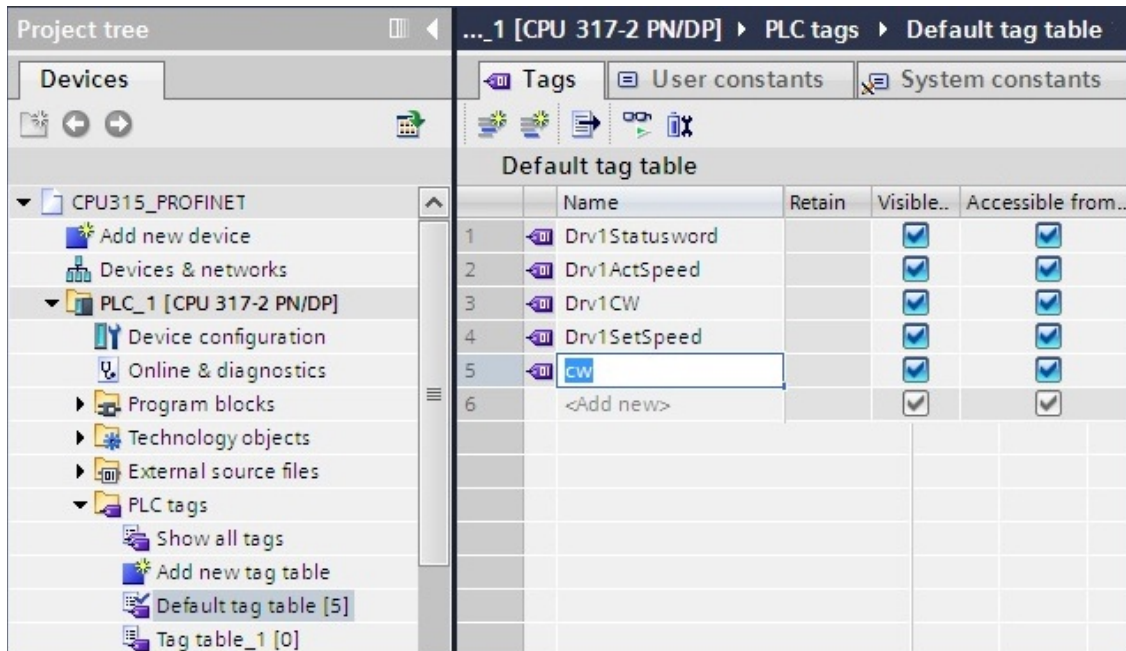


Note: A load preview window starts compiling before downloading a device.

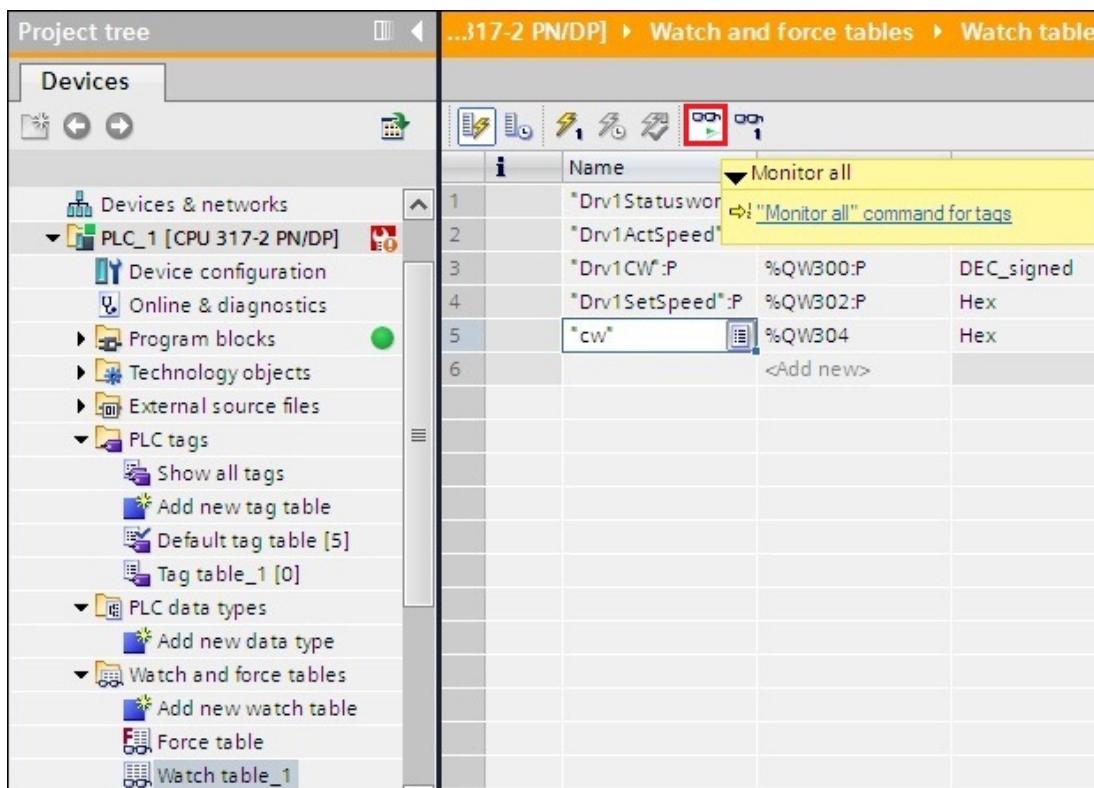
14. In the **Load preview** window, select the required PLC device and click **Load**.



16. In the Project tree, expand **PLC_1 (CPU xxx) > PLC tags** folder and double-click **Default tag table**. Add a new default tag to the table. For example, “cw”.



17. In the Project tree, expand **PLC_1 (CPU xxx) > Watch and force tables** folder and double-click **Watch table_1**. Select the default tag value “cw” in the right pane and click **Monitor all**.



18. To modify watch table value, double-click the value in **Modify value** field and add the new values.

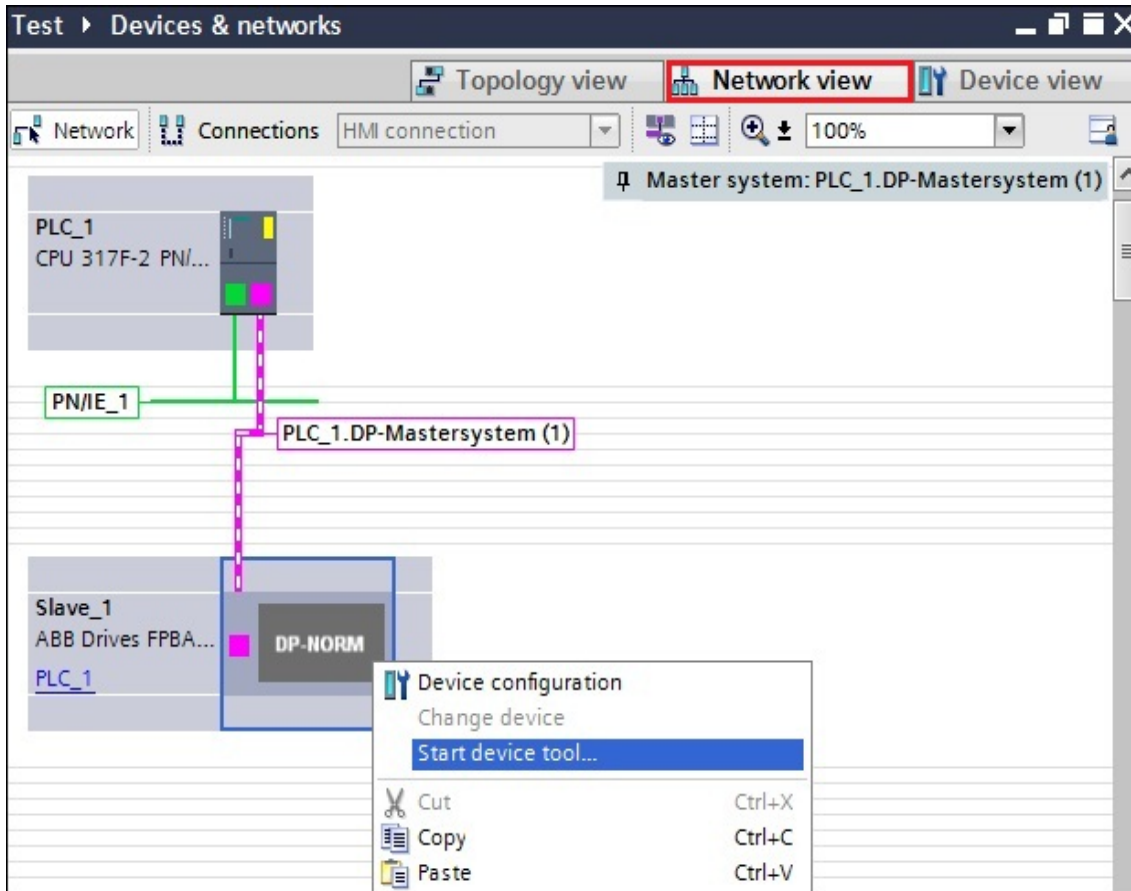
...IET ▶ PLC_1 [CPU 317-2 PN/DP] ▶ Watch and force tables ▶ Watch table

	i	Name	Address	Display fo...	Monit...	Modify val...	
1		*Drv1Statusword*:F	%IW300:P	Hex			☐
2		*Drv1ActSpeed*:P	%IW302:P	Hex			☐
3		*Drv1CW*:P	%QW30...	DEC_signed		1151	☒
4		*Drv1SetSpeed.*	%QW30...	Hex		16#3000	☒
5		*cw*	%QW304	Hex	16#0...		☐
6			<Add new>				☐

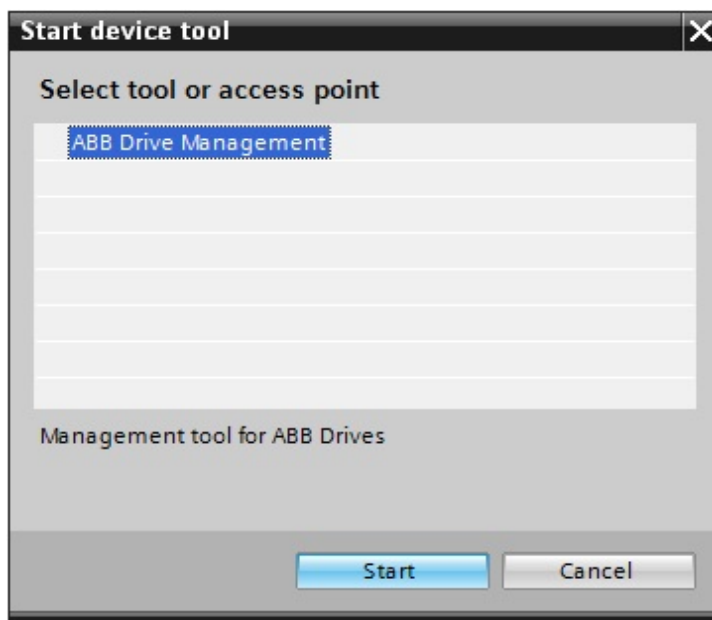
Starting device tool

Start device tool option is used to launch the ABB Drive Manager.

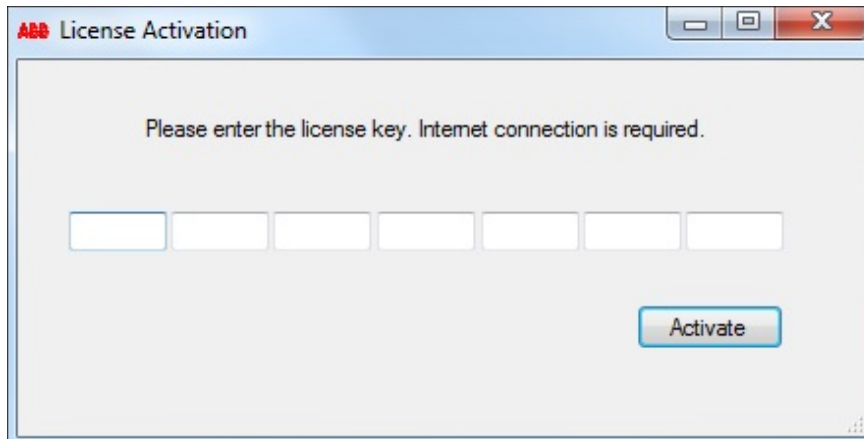
1. In the **Network view**, right-click on Drive and select **Start device tool**.



2. In the **Start device tool** window, select **ABB Drive Management** and click **Start**.



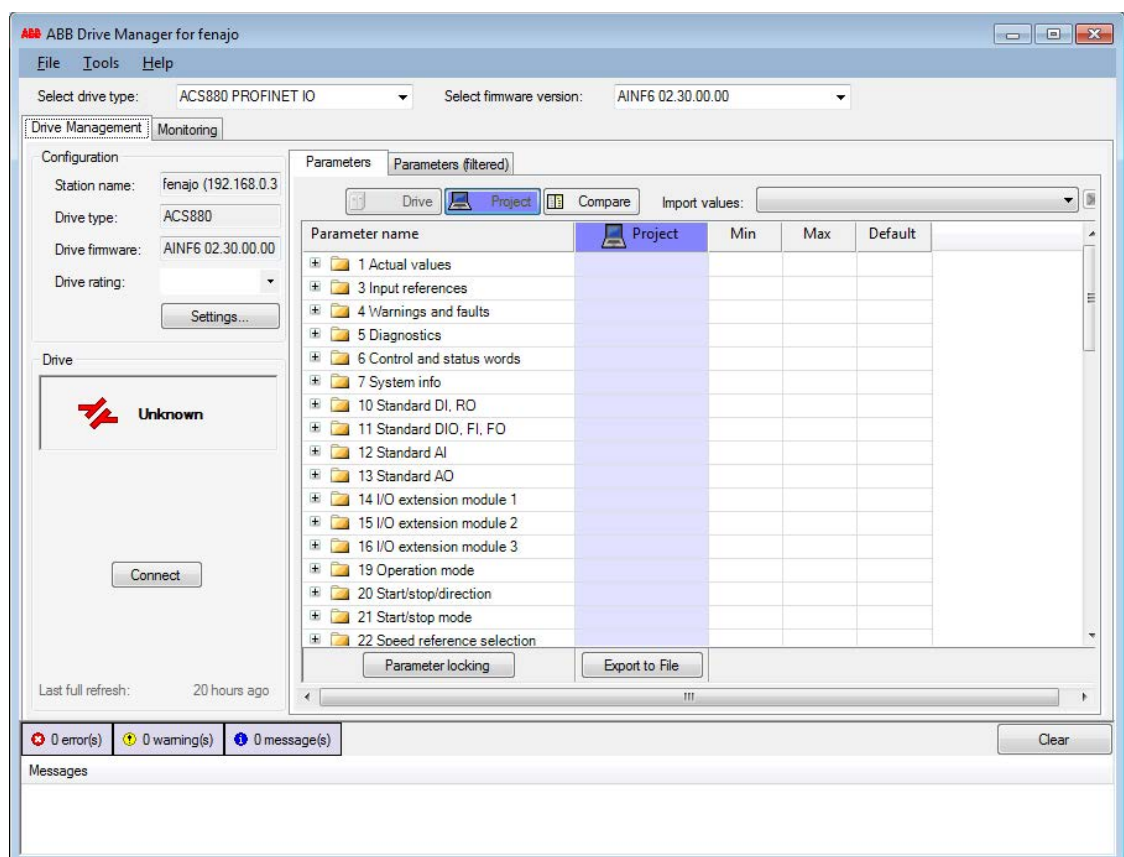
3. If you are activating the application for the first time, the **License Activation** pop-up window appears. Enter the license activation key and click **Activate**.



Note: If you do not have a license activation key, close the **License Activation** pop-up window and click **OK** in the **Drive Manager for Simatic** pop-up window to run the application in trial version for a specific period of 30 days. Only one ABB Drive Manager can be opened in trial period. To open ABB Drive Manager for a different drive, close the existing ABB Drive Manager.

or

If you already activated the application, ABB Drive Manager window displays.



Further information

Product and service inquiries

Address any inquiries about the product to your local ABB representative, quoting the type designation and serial number of the unit in question. A listing of ABB sales, support and service contacts can be found by navigating to www.abb.com/searchchannels.

Product training

For information on ABB product training, navigate to new.abb.com/service/training.

Providing feedback on ABB manuals

Your comments on our manuals are welcome. Navigate to new.abb.com/drives/manuals-feedback-form.

Document library on the Internet

You can find manuals and other product documents in PDF format on the Internet at www.abb.com/drives/documents.

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3AXD50000012364 Rev B (EN) 2016-05-23