

SIEMENS

Ingenuity for life

Industry Online Support

Home

Integration of a SIMATIC ET 200SP HA in TIA Portal

TIA Portal, SIMATIC ET 200SP HA

<https://support.industry.siemens.com/cs/ww/en/view/109801209>

Siemens
Industry
Online
Support



Legal information

Use of application examples

Application examples illustrate the solution of automation tasks through an interaction of several components in the form of text, graphics and/or software modules. The application examples are a free service by Siemens AG and/or a subsidiary of Siemens AG ("Siemens"). They are non-binding and make no claim to completeness or functionality regarding configuration and equipment. The application examples merely offer help with typical tasks; they do not constitute customer-specific solutions. You yourself are responsible for the proper and safe operation of the products in accordance with applicable regulations and must also check the function of the respective application example and customize it for your system.

Siemens grants you the non-exclusive, non-sublicensable and non-transferable right to have the application examples used by technically trained personnel. Any change to the application examples is your responsibility. Sharing the application examples with third parties or copying the application examples or excerpts thereof is permitted only in combination with your own products. The application examples are not required to undergo the customary tests and quality inspections of a chargeable product; they may have functional and performance defects as well as errors. It is your responsibility to use them in such a manner that any malfunctions that may occur do not result in property damage or injury to persons.

Disclaimer of liability

Siemens shall not assume any liability, for any legal reason whatsoever, including, without limitation, liability for the usability, availability, completeness and freedom from defects of the application examples as well as for related information, configuration and performance data and any damage caused thereby. This shall not apply in cases of mandatory liability, for example under the German Product Liability Act, or in cases of intent, gross negligence, or culpable loss of life, bodily injury or damage to health, non-compliance with a guarantee, fraudulent non-disclosure of a defect, or culpable breach of material contractual obligations. Claims for damages arising from a breach of material contractual obligations shall however be limited to the foreseeable damage typical of the type of agreement, unless liability arises from intent or gross negligence or is based on loss of life, bodily injury or damage to health. The foregoing provisions do not imply any change in the burden of proof to your detriment. You shall indemnify Siemens against existing or future claims of third parties in this connection except where Siemens is mandatorily liable.

By using the application examples you acknowledge that Siemens cannot be held liable for any damage beyond the liability provisions described.

Other information

Siemens reserves the right to make changes to the application examples at any time without notice. In case of discrepancies between the suggestions in the application examples and other Siemens publications such as catalogs, the content of the other documentation shall have precedence.

The Siemens terms of use (<https://support.industry.siemens.com>) shall also apply.

Security information

Siemens provides products and solutions with Industrial Security functions that support the secure operation of plants, systems, machines and networks.

In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial security concept. Siemens' products and solutions constitute one element of such a concept.

Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the Internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial security measures that may be implemented, please visit <https://www.siemens.com/industrialsecurity>.

Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats.

To stay informed about product updates, subscribe to the Siemens Industrial Security RSS Feed at: <https://www.siemens.com/industrialsecurity>.

Table of contents

Legal information	2
1 Introduction	4
1.1 Content of the application example	6
1.2 Components used	6
2 Configuration in TIA Portal	8
2.1 Configuration of the SIMATIC ET 200SP HA	8
2.1.1 Connecting the SIMATIC ET 200SP HA	9
2.1.2 Signal configuration of the I/O modules	12
2.1.3 Configuring HART channels	13
2.1.4 Monitoring process values	15
2.2 Diagnostic options in TIA Portal	15
2.3 Hot-swapping: replacing I/O modules with applied voltage during operation	16
2.4 Preparing a station expansion with explosion-protected I/O modules while in operation	18
2.5 Configuring the explosion-protected I/O modules	18
2.6 Configuring media redundancy	20
2.6.1 Configuring the SCALANCE XC206	20
2.6.2 Configuring the ring topology	22
3 Device parameterization with SIMATIC PDM	24
3.1 Creating a SIMATIC PDM stand alone project	25
3.2 Configuring the SIMATIC ET 200SP HA and the SITRANS TH300	26
3.2.1 Integrating device descriptions	26
3.2.2 Adding the SIMATIC ET 200SP HA	28
3.2.3 Adding SIMATIC ET 200SP HA I/O modules	29
3.2.4 Adding the SITRANS TH300	30
3.2.5 Parameter assignment for the field devices	31
4 Appendix	32
4.1 Service and support	32
4.2 Industry Mall	33
4.3 Links and literature	33
4.4 Change documentation	33

1 Introduction

The SIMATIC ET 200SP HA offers a scalable, fault-tolerant distributed I/O system. The distributed I/O system combines high flexibility with scalability.

The PROFINET communication standard is used for linking process signals to a superordinate controller, e.g. an S7-1500R/H.

The ET 200SP HA is fully integrated by means of MDD (Meta Device Description) from TIA Portal version V16 onward. A GSDML file (Generic Station Description Markup Language) is available for integration into other tools.

This application example describes the fault-tolerant hardware configuration of the SIMATIC ET 200SP HA and its components.

The linking of the PROFINET interface module IM 155-6 PN HA in conjunction with various I/O modules is also described.

In addition, the application example includes the cross-channel and channel-specific signal configuration in TIA Portal using the example of the digital module.

Finally, the hot-swap function (i.e. replacement of electrified modules during operation) and station expansion during operation in TIA Portal are also described.

Figure 1-1 SIMATIC ET 200SP HA



The SIMATIC ET 200SP HA supports the following PROFINET functionality when in conjunction with TIA Portal:

- simple S1 system connection
- simple S2 system redundancy and
- Media Redundancy Protocol (MRP)

This means that the SIMATIC ET 200SP HA can be linked both to standard as well as to fault-tolerant automation systems. Changes to the configuration during operation are supported if the corresponding prerequisites are met.

Mechanical design

The SIMATIC ET 200SP HA is constructed in a modular manner. Thanks to the modular construction, it is possible to implement various hardware configurations with up to 56 I/O modules. The section below explains the components of the SIMATIC ET 200SP HA.

Figure 1-2 SIMATIC ET 200SP HA

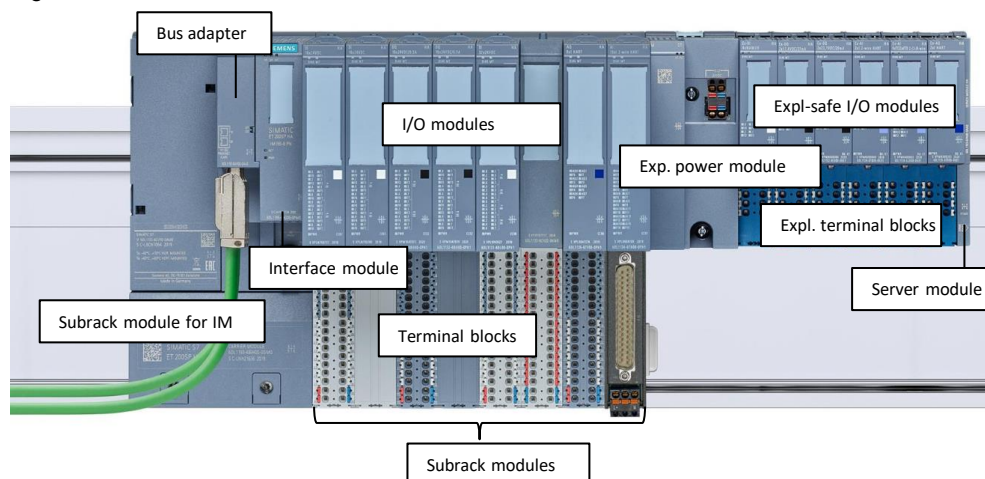


Table 1-1

Component	Function
Subrack module for interface module (IM)	Attached to the left side of the mounting rail for mounting an interface module
Interface module (IM)	Attaches to the subrack module, processes I/O data and the PROFINET communication with the automation server
Bus adapter	Attaches to the interface module and provides ports for copper and fiber-optic cable with PROFINET
Subrack module	Affixed to the mounting rail for mounting a terminal block and I/O modules
Terminal block	Attaches to the subrack module and provides terminals for connecting field cables
I/O module	Attaches to the terminal block, collects sensor information from the field (inputs) and drives actuators (outputs)
Exp. power module	Power module for intrinsically safe power supply
Exp. subrack module	Affixed to the mounting rail for mounting an explosion-protected terminal block and explosion-protected I/O modules
Exp. terminal block	Attaches to the exp. subrack module and provides terminals for connecting field cables
Exp. I/O module	Attaches to the exp. terminal block, collects sensor information from explosion-hazard areas (inputs) and drives actuators in explosion-hazard areas (outputs)
Server module	Attaches to the final, far-right subrack module and serves to protect against dust and electromagnetic interference.

Note

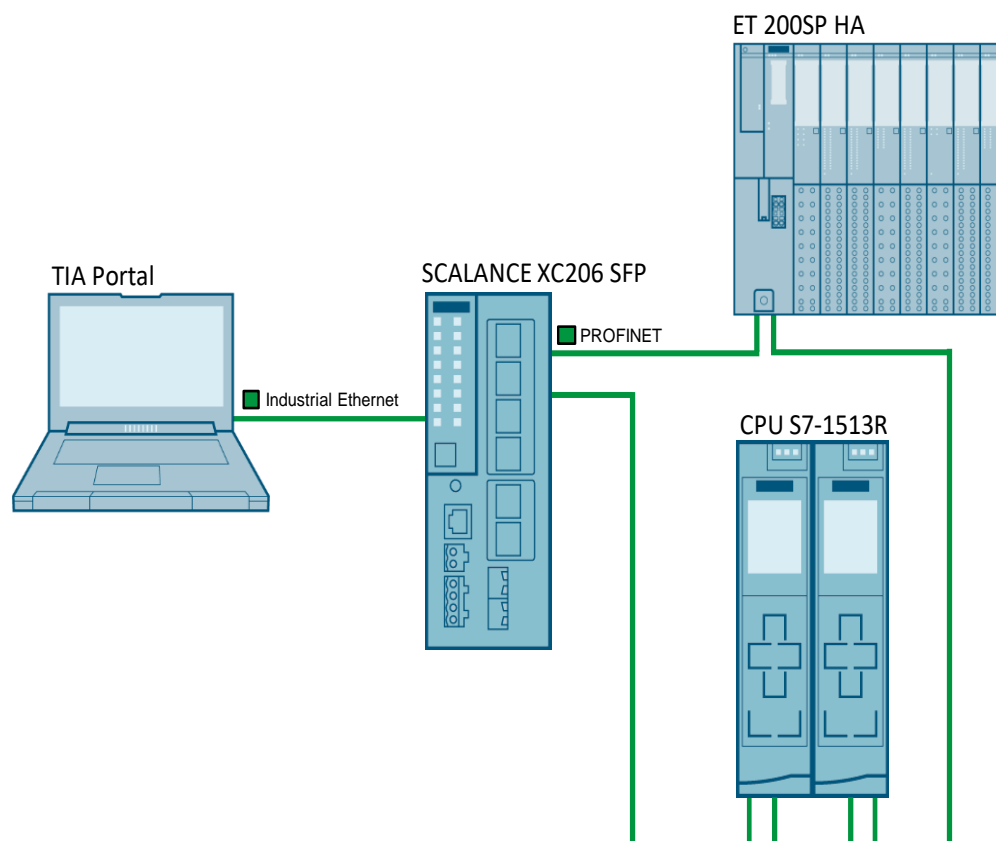
You can find detailed information on components, installation and commissioning of the ET 200SP HA in the system manual "Distributed I/O System ET 200SP HA": <https://support.industry.siemens.com/cs/ww/en/view/109798410>

1.1 Content of the application example

Using TIA Portal as an example, here you will learn how to integrate the SIMATIC ET 200SP HA into automation systems.

The use of some functions of the SIMATIC ET 200SP HA will also be described, using TIA Portal as a basis.

Figure 1-3 Hardware setup of the application example



1.2 Components used

The following hardware and software components were used to create this application example:

Table 1-2

Hardware component	Quantity	Item number	Note
SIMATIC Field PG	1		Or PC with TIA Portal
ET 200SP HA, IM155-6 PN	1	6DL1155-6AU00-0PM0	Interface module
ET 200SP HA, BUS ADAPTER BA 2XRJ45	1	6DL1193-6AR00-0AA0	Bus adapter
Subrack module	1	6DL1193-6BH00-0SM0	Subrack module IM single, incl. server

Hardware component	Quantity	Item number	Note
interface module			module
Subrack module 8x	1	6DL1193-6GC00-0NN0	Subrack module with space for up to 8 modules
Terminal block, TYPE P0	1	6DL1193-6TP00-0DP0	Terminal block for new potential group
Terminal block, TYPE H1	4	6DL1193-6TP00-0BH1	Terminal block, use of an existing potential group
DI 32X24VDC	1	6DL1131-6BL00-0PH1	I/O module digital inputs
DI 16X24VDC	1	6DL1131-6BH00-0PH1	I/O module digital input module
DQ 16X24VDC/0.5A	1	6DL1132-6BH00-0PH1	I/O module digital output module
AI 16XI 2-WIRE HART	1	6DL1134-6TH00-0PH1	I/O module analog inputs
AQ 8XI HART	1	6DL1135-6TF00-0PH1	I/O module analog outputs
5 TB COVER, 22.5MM	1	6DL1133-6CV22-0AM0	Cover for 32X24VDC group on P0 terminal block
BaseUnit W0	1	6DL1193-6BP00-0DW0	Terminal block for accepting the power module
Power module Ex-PM E	1	6DL1133-6PX00-0HW0	Power module for intrinsically safe power supply
BaseUnit X1 for I/O modules	6	6DL1193-6BP00-0BX1	Terminal block for exp. I/O modules
Digital ex-i input module	1	6DL1131-6TD00-0HX1	Ex-DI 4xNAMUR
Digital Ex-i output module	1	6DL1132-6EB00-0HX1	Ex-DQ 2x23.1VDC/20 mA
Digital Ex-i output module	1	6DL1132-6CB00-0HX1	Ex-DQ 2x17.4VDC/27 mA
Analog Ex-i HART input module	1	6DL1134-6TB00-0HX1	Ex-AI 2xI 2-wire HART
Analog Ex-i input module	1	6DL1134-6JD00-0HX1	Ex-AI 4xTC/2xRTD 2-/3-/4-wire
Analog Ex-i HART output module	1	6DL1135-6TB00-0HX1	Ex-AQ 2xI HART HF
SITRANS TH300	1	7NG3212-0...	Temperature transmitter

Table 1-3

Software component	Item number	Note
SIMATIC STEP 7 Professional V17	6AV2102-0AA07-0AA7	Download or DVD
SIMATIC PDM stand alone V9.2	6ES7658-3HA78-0YH5	Download or DVD

2 Configuration in TIA Portal

This chapter describes all configuration steps that must be performed to integrate the SIMATIC ET 200SP HA via PROFINET.

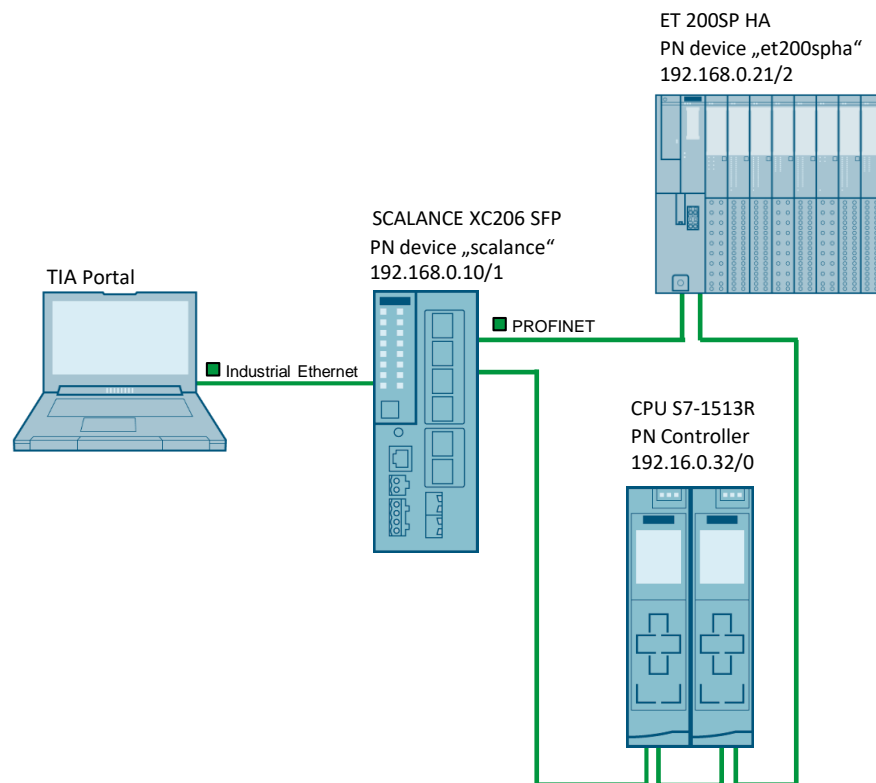
In addition, the configuration of the I/O link and the signal configuration will be described using the example of the DI 16x24VDC/0.5A input module, as well as the steps that need to be performed when replacing a module or expanding a station.

The following project engineering status is required for configuring the hardware:

- a TIA Portal project has been created
- the S7-1513R CPU is configured
- a connection between AS and the programming device (PG) via the plant bus is pre-configured

The application example uses the following network parameters.

Figure 2-1 Network parameters in the application example



2.1 Configuration of the SIMATIC ET 200SP HA

The status signals and process values are received and actuators controlled via the SIMATIC ET 200SP HA I/O modules on the process level. The interface module forms the interface between the process level and the automation system and ensures smooth data transfer in either the single or redundant version.

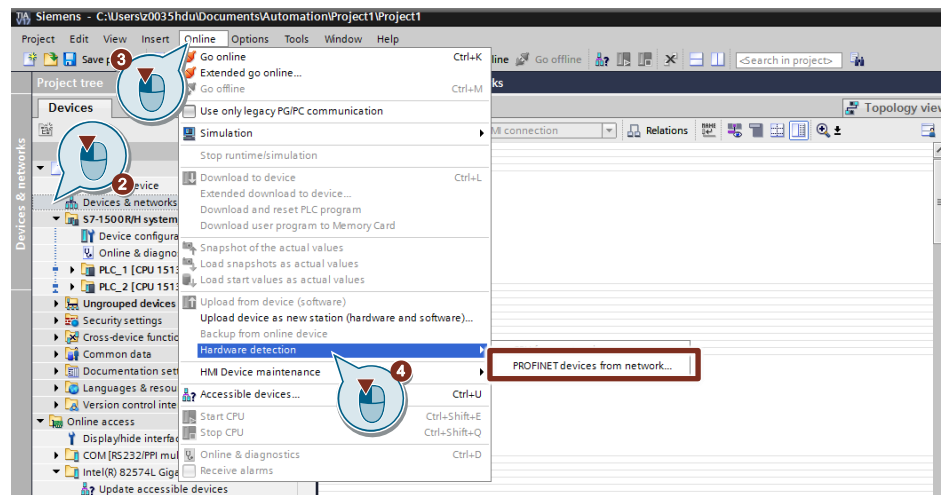
An S2 system redundancy is configured in the application example. The interface module of the SIMATIC ET 200SP HA is therefore connected with both S7-1513R controllers.

2.1.1 Connecting the SIMATIC ET 200SP HA

PROFINET device detection can be used for initial commissioning of the SIMATIC ET 200SP HA. To do this, proceed as follows:

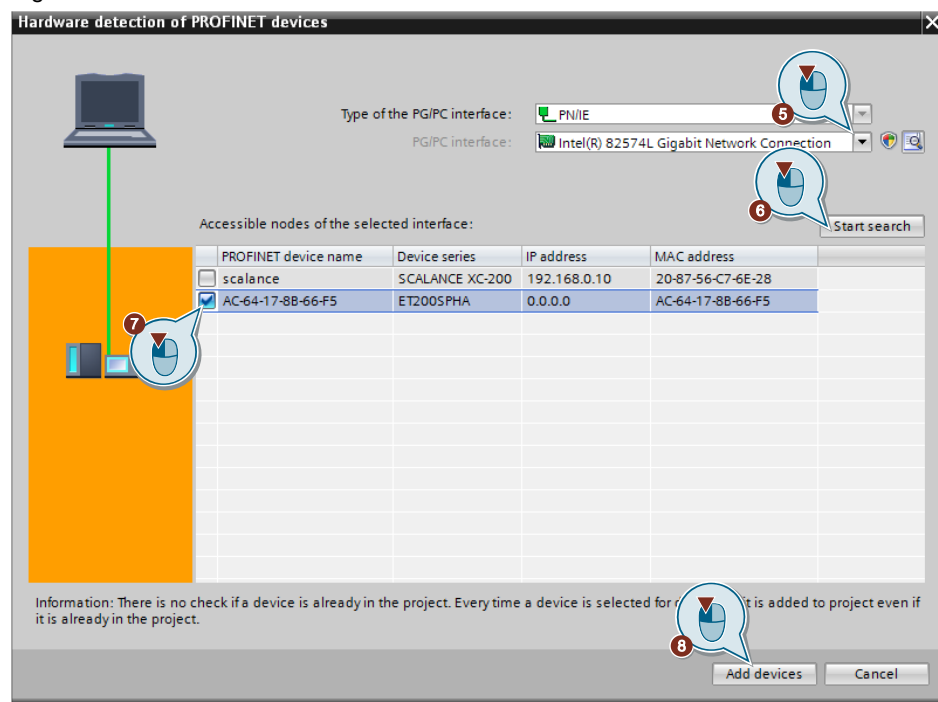
1. Connect the SIMATIC ET 200SP HA with PROFINET.
2. In TIA Portal, open the "Devices & network" view.
3. Open the "Online" menu in TIA Portal.
4. Under "Hardware detection", select "PROFINET devices from network".

Figure 2-2



5. Select your network interface.
6. Start the search for PROFINET devices.
7. Select the SIMATIC ET 200SP HA.
8. Add the SIMATIC ET 200SP HA to your project.

Figure 2-3

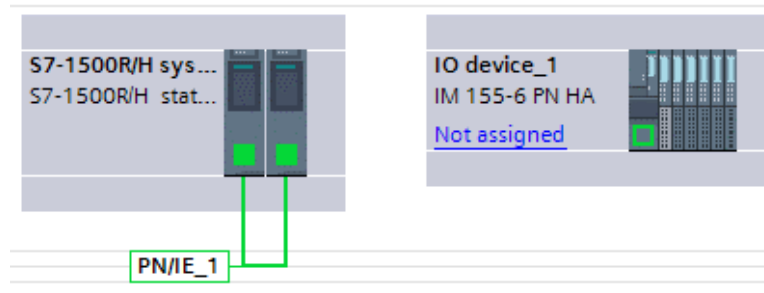


The SIMATIC ET 200SP HA is now detected and has been added to the "Devices & network" view as a new distributed I/O device along with all plugged-in I/O modules.

Note

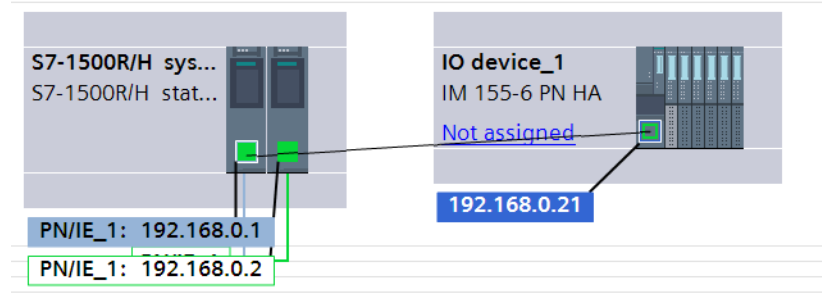
A warning will appear here to the effect that the last inserted module was not correctly detected. This refers to the server module that is not configured with the SIMATIC ET 200SP HA. Thus, you can ignore this message.

Figure 2-4



- Assign the SIMATIC ET 200SP HA to the PROFINET controller "PLC_1" (CPU S7-1513R). To do this, click on the interface of the SIMATIC ET 200SP HA, then click and drag a connection to the interface of the left-hand R controller "PLC_1".

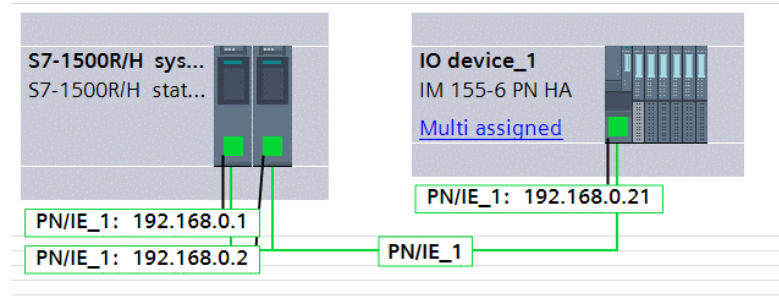
Figure 2-5



- Repeat the assignment of the SIMATIC ET200SP HA to the redundant controller "PLC_2".

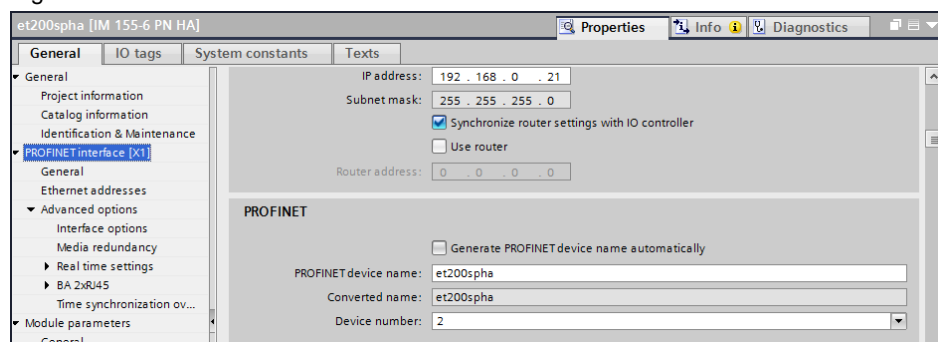
The result is a configured S2 system redundancy between the S7-1513R PROFINET controllers and the SIMATIC ET 200SP HA PROFINET device.

Figure 2-6



- Double-click on the SIMATIC ET 200SP HA to open the properties of the SIMATIC ET200SP HA in the Inspector window.
- Configure the PROFINET interface of the SIMATIC ET 200SP HA. Assign the IP address and the PROFINET device name. You can also configure media redundancy, update time, and response monitoring time here.

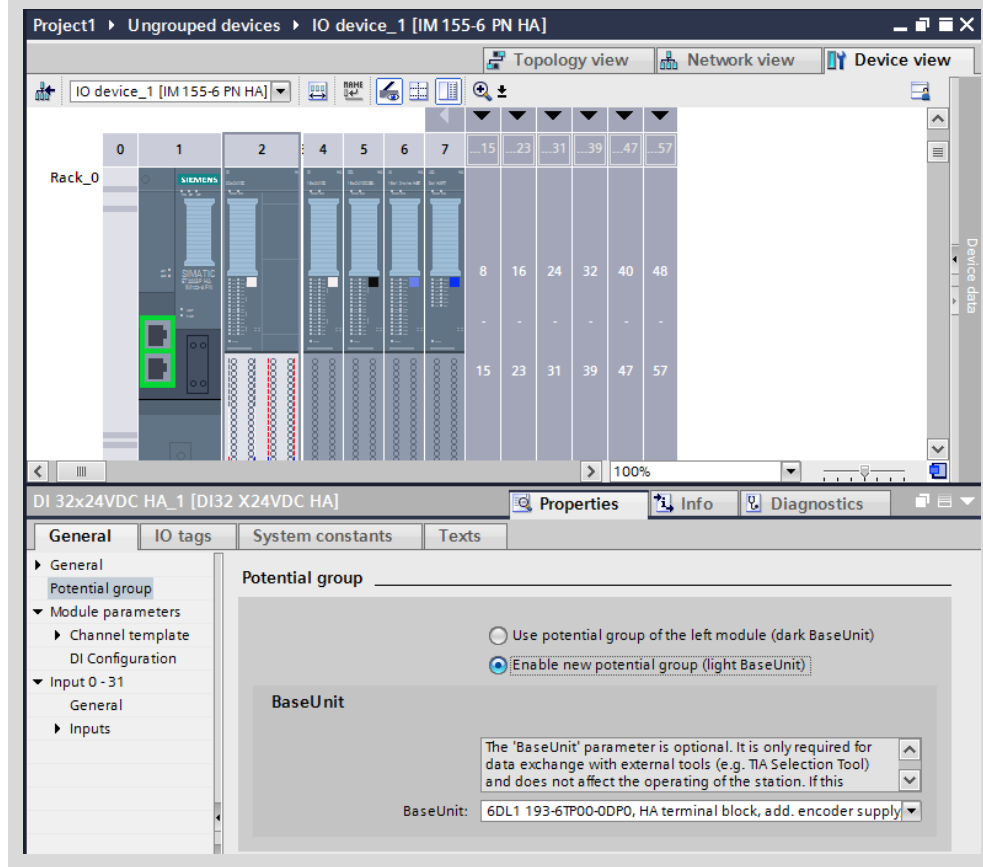
Figure 2-7



Note

If you are using type N0 or P0 terminal blocks with a width of 45 mm, you must modify this terminal block "BaseUnit" in the Device view.

Figure 2-8

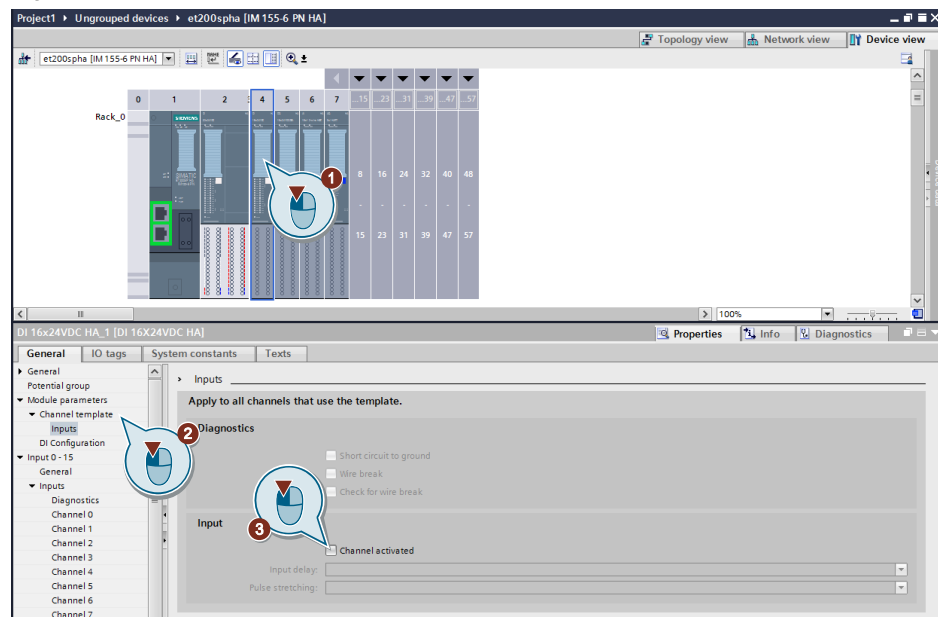


2.1.2 Signal configuration of the I/O modules

The I/O modules of the ET 200SP HA support cross-channel configuration. Settings and configurations for all channels are performed in one step. Individual channels of a module can be excluded from the cross-channel configuration and assigned new parameters on their own.

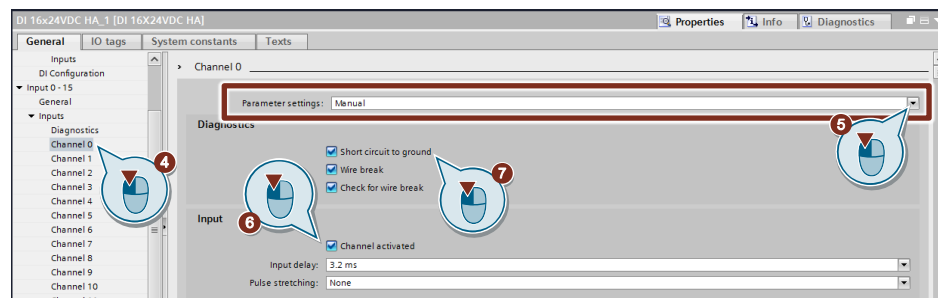
1. In the Device view of the SIMATIC ET 200SP HA, select the I/O module whose signals you wish to configure. The module parameter assignment will open in the Inspector window.
2. Open the "Module parameters > Channel template" tab.
3. Define your channel template. Deactivate, for example, all channels so that only the channels you wish to use are active.

Figure 2-9



4. Select "Channel 0".
5. Unlink the channel from the channel template by selecting "Manual" from the Parameter settings dropdown menu.
6. Enable the channel.
7. Enable diagnostics.

Figure 2-10



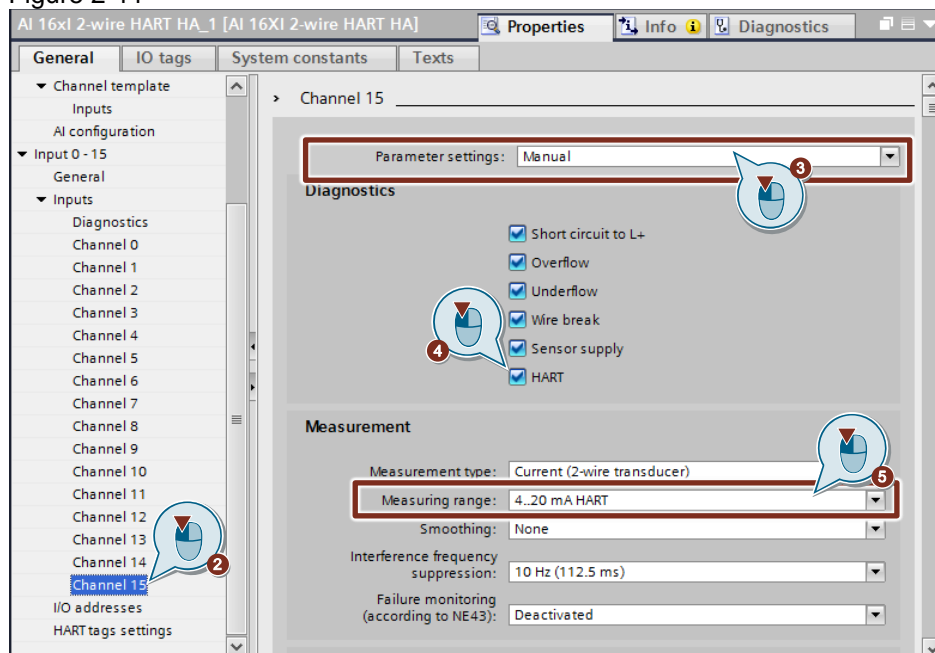
2.1.3 Configuring HART channels

The SIMATIC ET 200SP HA supports the connection of HART devices. The I/O modules must be specially parameterized in order to use HART devices. This section describes how to parameterize channel 15 of the AI 16xI 2-wire HART module.

1. In the Device view of the SIMATIC ET 200SP HA, select the analog input module.
2. In the Inspector window, navigate via "Inputs 0 – 15 > Inputs" to Channel 15, which the SITRANS TH 300 HART device is connected to.
3. Enable the channel by selecting "Manual" in the Parameter settings dropdown menu.

4. Enable diagnostics.
5. Enable the HART function by selecting the corresponding Measuring range.

Figure 2-11

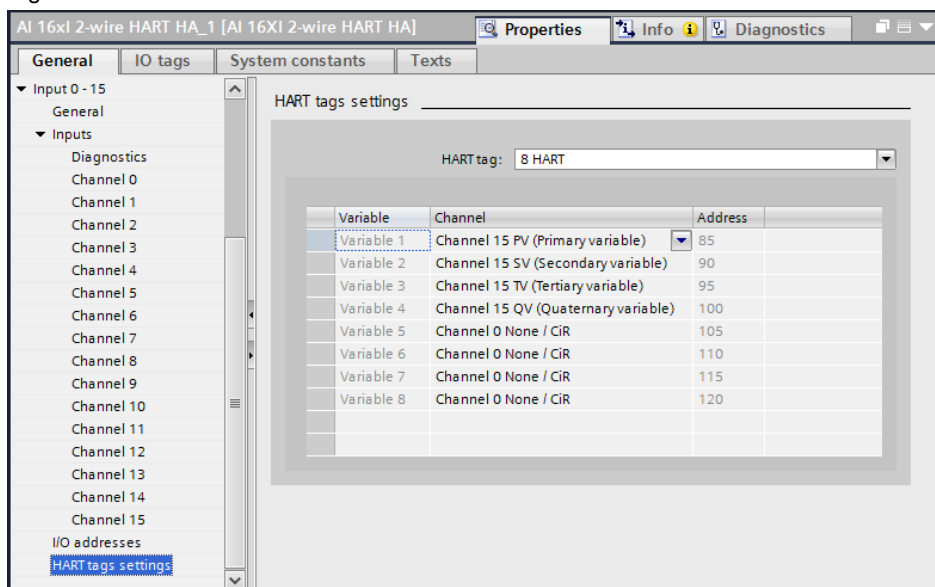


Note

The failure monitoring according to NE43 can be enabled from firmware V1.1 onward, thereby replacing the parameterized wire break limit.

6. Select the "HART tag settings" and select the corresponding primary, secondary, tertiary and quaternary tags ("variables") of the HART device.

Figure 2-12



Note

It is possible to map up to 8 HART tags to the process image. Detailed information on the HART tags can be found in the module manual in the chapter entitled "HART variables".

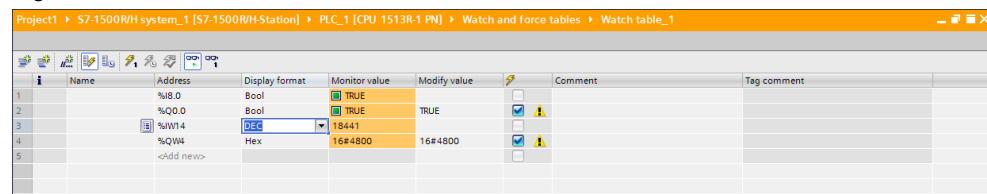
<https://support.industry.siemens.com/cs/de/en/view/109770922/118926478475>

2.1.4 Monitoring process values

After the SIMATIC ET 200SP HA has been configured and the project has been downloaded, you can monitor the process values in TIA Portal with a watch table or record them with a trace.

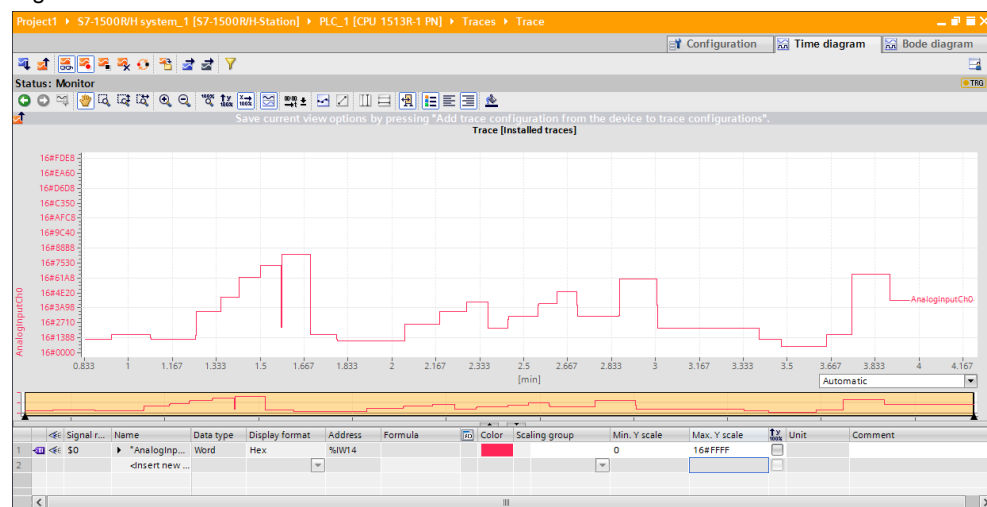
In the example shown, in each case a channel of the DI 16X24VDC digital input module is connected with a channel of the DQ 16X24VDC/0.5A digital output module. Additionally, a connection between two channels of the AI 16xI 2-wire HART and AQ 8xI HART analog modules has been made.

Figure 2-13



Name	Address	Display format	Monitor value	Modify value	Comment	Tag comment
1	%I8.0	Bool	TRUE			
2	%Q0.0	Bool	TRUE	TRUE		
3	%W14	Dec	18441			
4	%QW4	Hex	16#4800	16#4800		
5	<Add new>					

Figure 2-14

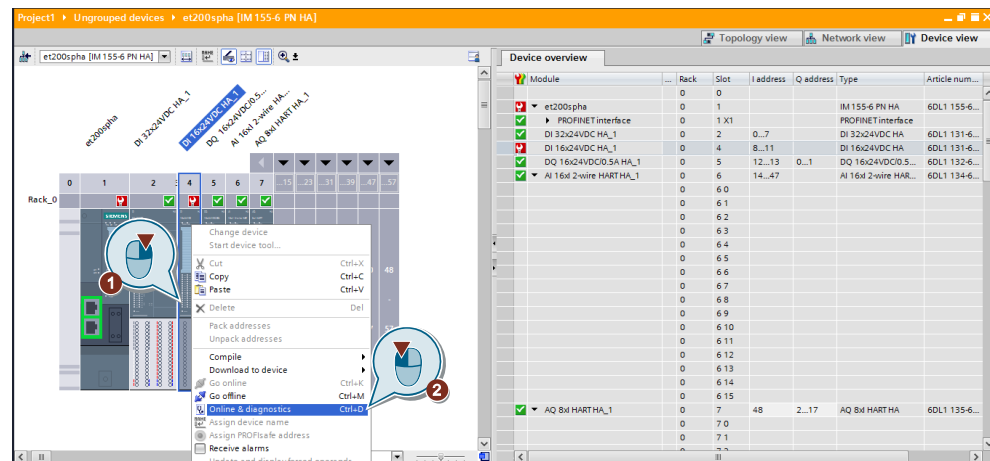


2.2 Diagnostic options in TIA Portal

Diagnostics in the Device view

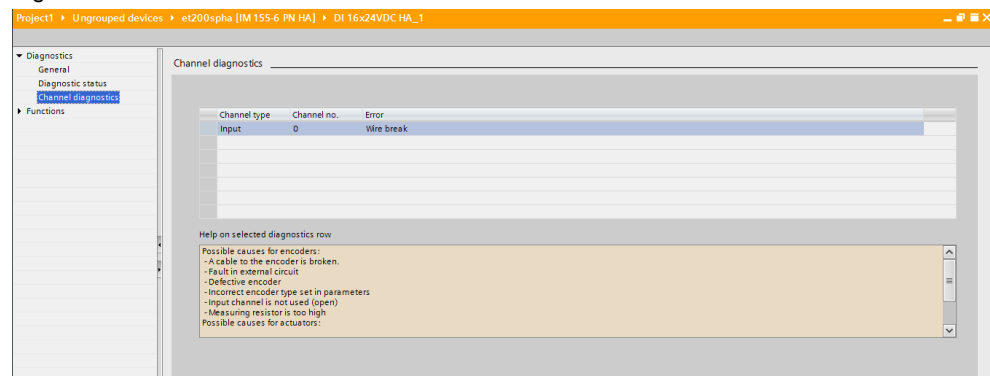
Pending errors are reported to the PROFINET controller via the integrated system diagnostics. The context menu of the module (1) is used to switch to the "Online & diagnostics" view (2). The precise cause of the error can be examined here in more detail.

Figure 2-15



Channel-level diagnostics make it possible to diagnose channels individually. In the case shown, a wire break in channel 0 was detected. Channel diagnostics are configured for each channel manually or with the channel template.

Figure 2-16



2.3 Hot-swapping: replacing I/O modules with applied voltage during operation

The SIMATIC ET 200SP HA supports the replacement of I/O modules with applied voltage during operation.

I/O modules with switched-on load and switched-on power supply may not be pulled during operation without first electrically disconnecting them. For this case, the following I/O modules of the ET 200SP HA can be electrically disconnected via a release button:

- Input/Output module AI-DI 16/DQ16x24VDC HART HA
- Digital output module DI 16x24VDC HA
- Digital output module DQ 16x24VDC/0.5A
- Digital output module RQ 4x120VDC-230VAC/5A CO HA

- Electrical disconnection via the release button prevents arcs that can damage the SIMATIC ET 200SP HA and the connected sensors and actuators.

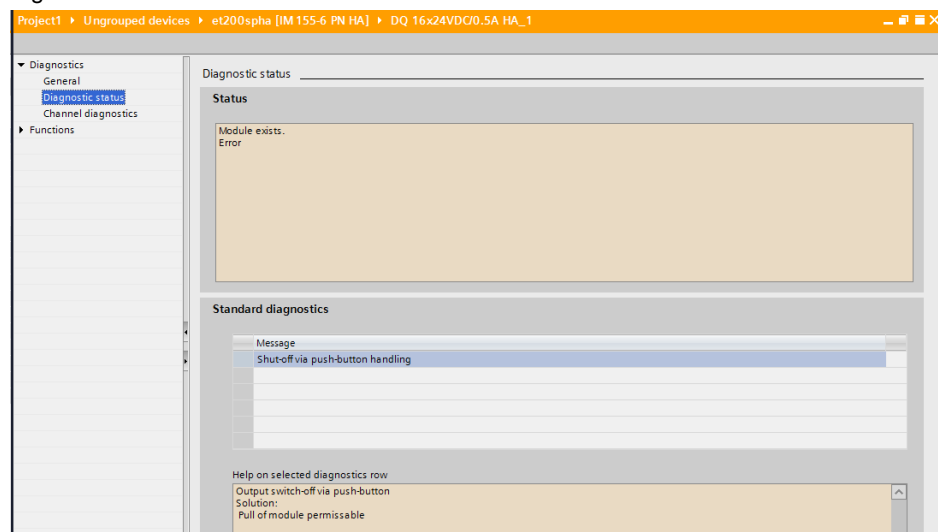
CAUTION Danger of arcs

Use the release button to ensure electrical isolation. Pull out and plug in I/O modules with the release button only when the load is switched off.

1. If you are using one of the above I/O modules, press the release button for 3 seconds.
2. After 3 seconds, the red diagnostic LED flashes and the yellow maintenance LED lights up solid.

In the "Online & diagnostics" menu of the I/O module, you can view the Diagnostic status and the Standard diagnostics for yourself in the Diagnostic status tab. The message "Shut-off via pushbutton handling" appears in the Standard diagnostics window. You are notified that the module can be pulled out.

Figure 2-17



3. The I/O module is disconnected from the terminal block and you can replace the module.
4. The new I/O module starts automatically after installation.

Note

I/O modules without a release button can be replaced during operation without any effect on the remaining I/Os.

A change of I/O module only becomes effective when the new hardware configuration has been downloaded to the controller with "Download in stop mode".

2.4 Preparing a station expansion with explosion-protected I/O modules while in operation

The SIMATIC ET 200SP HA can be expanded to a maximum of 56 modules during operation. In addition to normal I/O modules, these can also be explosion-protected modules.

1. Remove the server module and pull off the power bus cover on the end of the station.
2. Click the "BaseUnit" of the explosion-protected power module onto the profile rail and slide it to the last component of the station on the rear wall bus. Insert the explosion-protected power module into the "BaseUnit".

Note

The explosion-protected power module ensures the intrinsically safe power supply to the explosion-protected I/O modules. Further information on intrinsically safe I/O modules for areas with explosion hazards can be found at: <https://support.industry.siemens.com/cs/de/en/view/109796307>

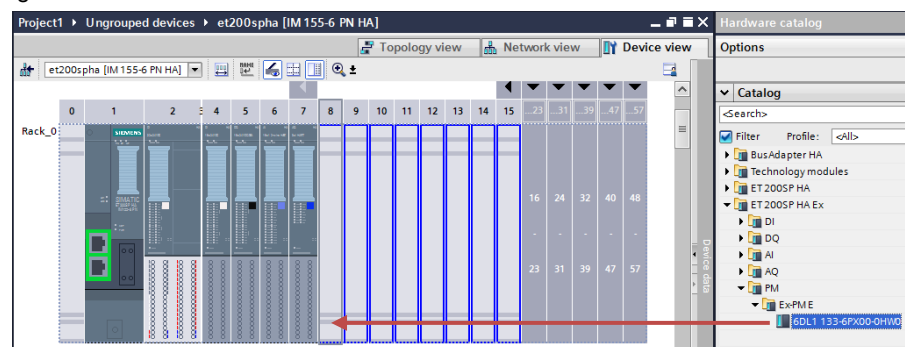
3. Insert the "BaseUnits" for the I/O modules onto the profile rail and connect them to the rear wall bus of the explosion-protected power module.
4. Insert the explosion-protected I/O modules into the "BaseUnits".
5. Cap the station again with the server module and the power bus cover on the end of the station.

2.5 Configuring the explosion-protected I/O modules

After expanding the station with explosion-protected I/O modules, the modules must be configured in TIA Portal and the new hardware configuration must be downloaded to the controller with "Stop" mode. To do this, proceed as follows:

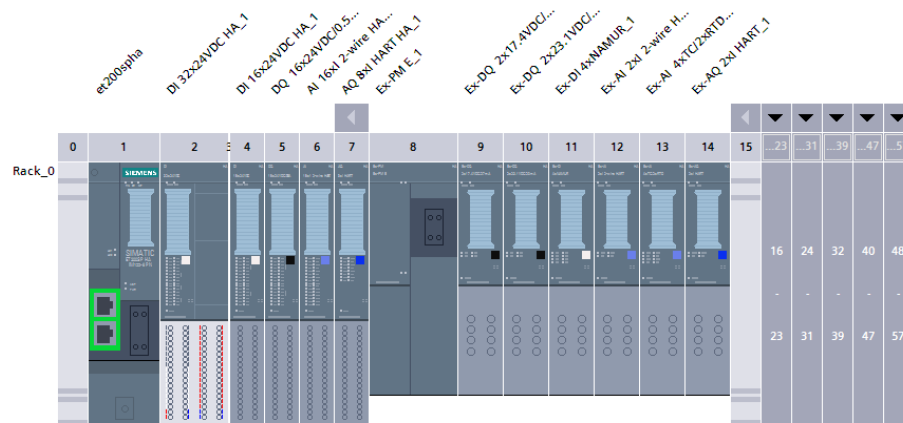
1. Open the Device view of the SIMATIC ET 200SP HA.
2. Add the explosion-protected power module to the next free slot with drag & drop.

Figure 2-18



3. Drag and drop to add the explosion-protected I/O modules to the SIMATIC ET 200SP HA station.

Figure 2-19



4. Configure the channels of the explosion-protected I/O modules.
5. Load the new hardware configuration.

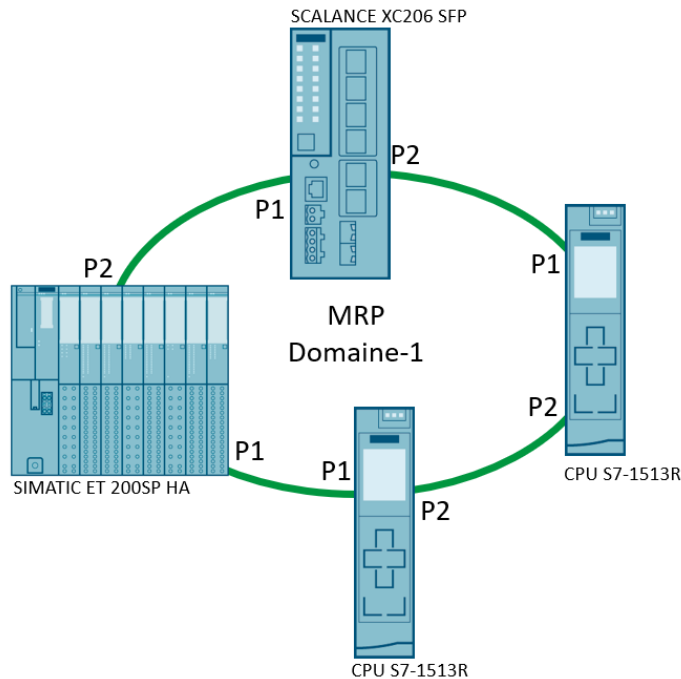
Proceed as described in [chapter 2.1.2, Signal configuration of the I/O modules](#) for the configuration.

When using HART field devices, the procedure is identical to [chapter 2.1.3, Configuring HART channels](#).

2.6 Configuring media redundancy

Media redundancy is a function that ensures network and system availability. Special media redundancy protocols ensure a loop-free network topology and the detection of communication interruptions. In the TIA Portal environment, the standardized protocol known as "Media Redundancy Protocol" (MRP) is used. MRP is a redundancy protocol for increasing network availability in ring topologies and ensures loop-free communication in PROFINET networks.

Figure 2-20

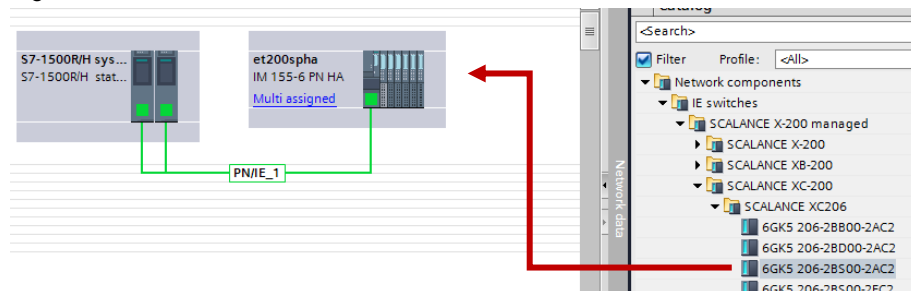


2.6.1 Configuring the SCALANCE XC206

You can find the SCALANCE XC206 SFP in the hardware catalog under "Network components > IE switches > SCALANCE X-200 managed > SCALANCE XC206".

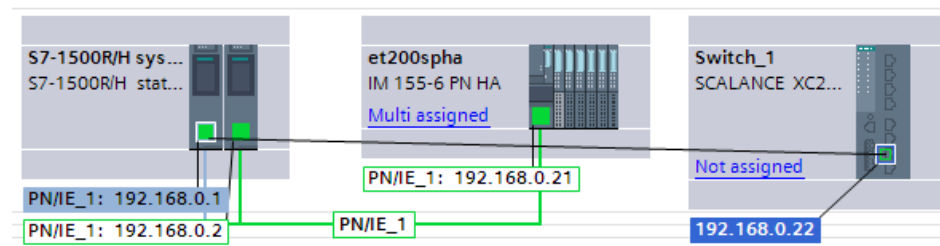
1. Drag and drop the device "SCALANCE XC206" into the Network view and place it next to the S7-1513R CPU and the SIMATIC ET 200SP HA.

Figure 2-21



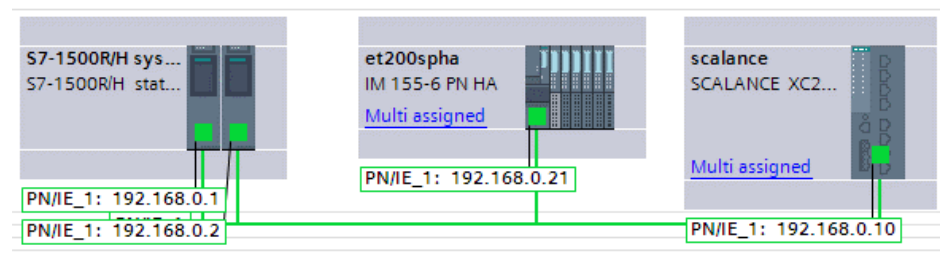
- Assign the SCALANCE XC206 to the PROFINET controller "PLC_1" (S7-1513R CPU).

Figure 2-22



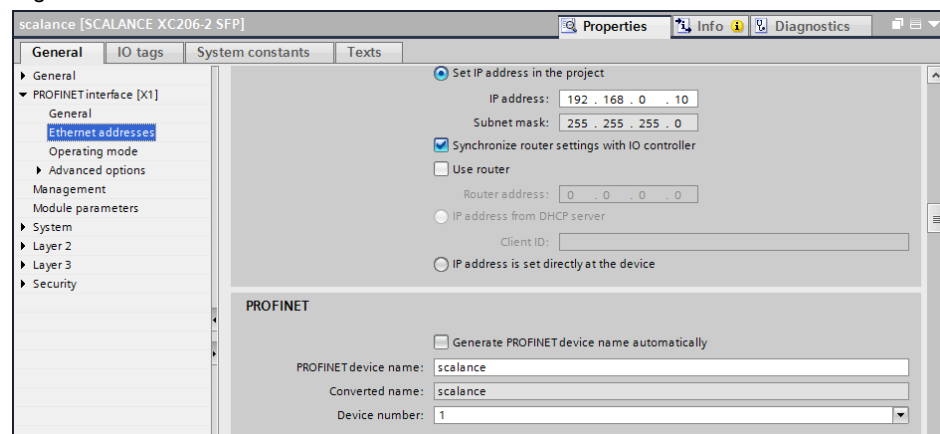
- Repeat the assignment of the SCALANCE XC206 to the redundant controller "PLC_2".

Figure 2-23



- Double-click the SCALANCE XC206 to open the Properties of the SCALANCE XC206 in the Inspector window.
- Configure the PROFINET interface of the SCALANCE XC206. Assign the IP address and the PROFINET device name. You can also configure media redundancy, update time, and response monitoring time here.

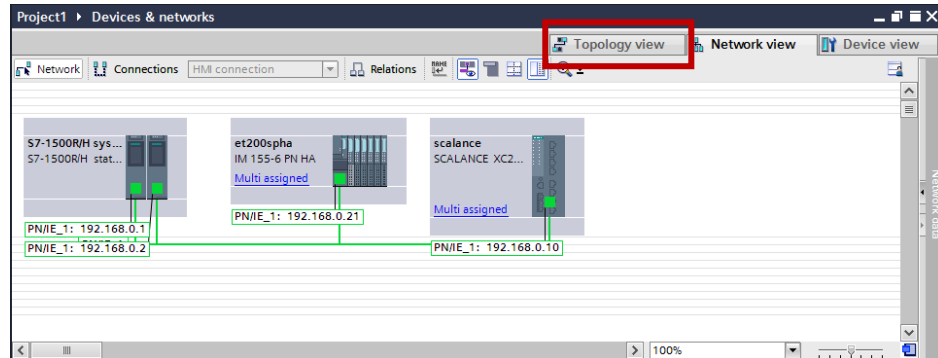
Figure 2-24



2.6.2 Configuring the ring topology

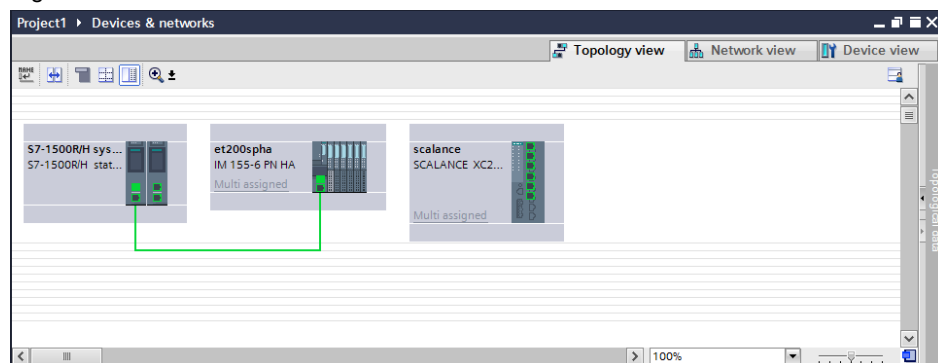
1. Open the Topology view under Devices & networks.

Figure 2-25



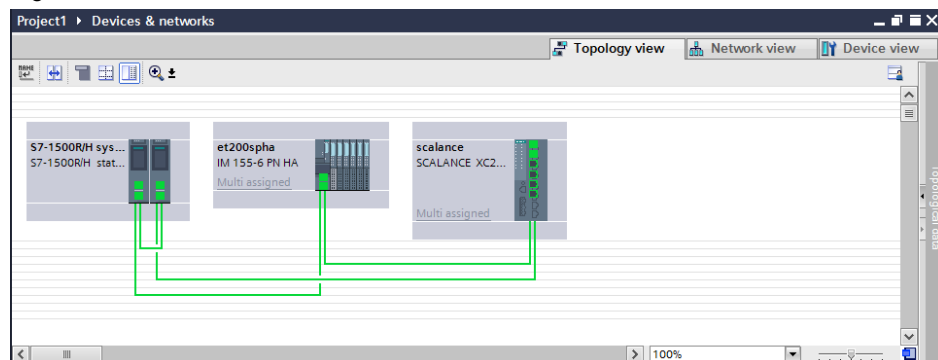
2. Connect Port 1 of PLC_1 with Port 1 of the SIMATIC ET 200SP HA.

Figure 2-26



3. Make the rest of the connections in accordance with the ring topology.

Figure 2-27

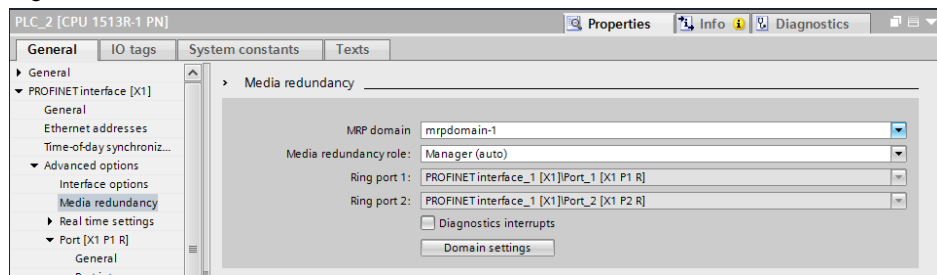


4. Assign the individual devices in the Inspector window a defined role as per the table below.

Table 2-1

Module	PROFINET mode	MRP role	Ring ports
S7-1513R PLC_1	Controller	MRP Manager	Port 1 Port 2
S7-1513R PLC_2	Controller	MRP Manager	Port 1 Port 2
ET 200SP HA	Device	MRP Client	Port 1 Port 2
SCALANCE XC206	Device	MRP Client	Port 1 Port 2

Figure 2-28



The result is a configured MRP ring topology.

Note

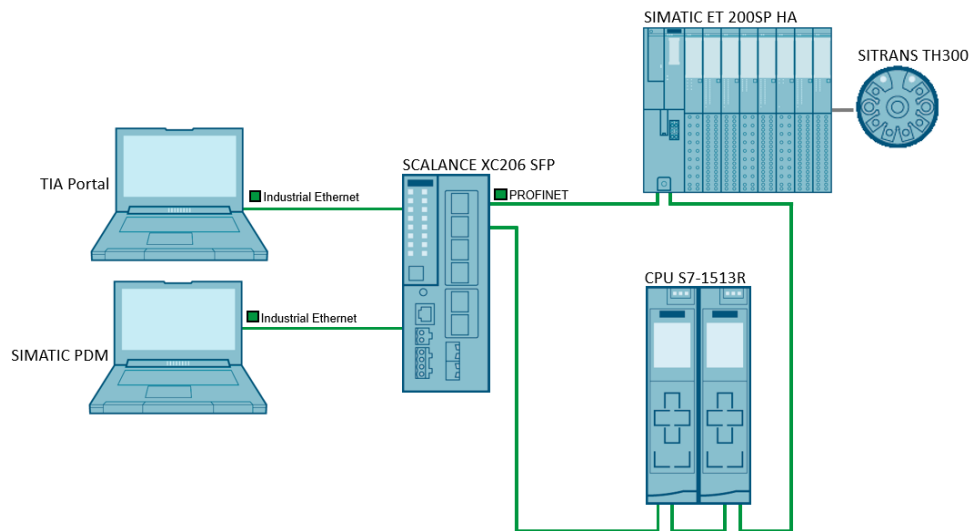
Only close the ring after configuration. Otherwise, telegram loops may form and cause communication failures in the network.

3 Device parameterization with SIMATIC PDM

SIMATIC PDM is an established universal, multi-vendor tool for configuration, parameter assignment, commissioning, diagnostics and maintenance of intelligent field devices (sensors and actuators) and field components (remote I/Os, multiplexers, maintenance devices, compact regulators). The library supplied with SIMATIC PDM, with more than 3500 device descriptions for devices from more than 200 manufacturers worldwide, is perhaps the most comprehensive library on the market.

If you work with TIA Portal, parameterize the PROFIBUS PA field devices with SIMATIC PDM stand alone.

Figure 3-1 Device parameterization with SIMATIC PDM



Note

The parameterization of the field devices is only possible with SIMATIC PDM.

Further information about SIMATIC PDM can be found in the manual "SIMATIC Process Control System PCS 7 Help for SIMATIC PDM" at the following link:

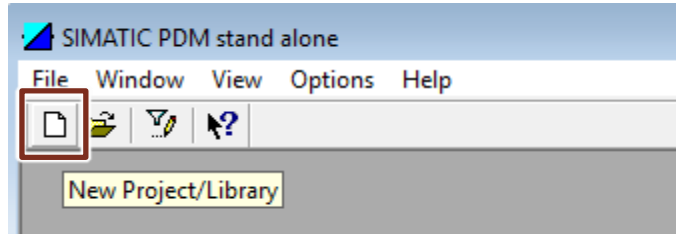
<https://support.industry.siemens.com/cs/ww/en/view/109755005>

3.1 Creating a SIMATIC PDM stand alone project

To create a new SIMATIC PDM stand alone project, proceed as follows:

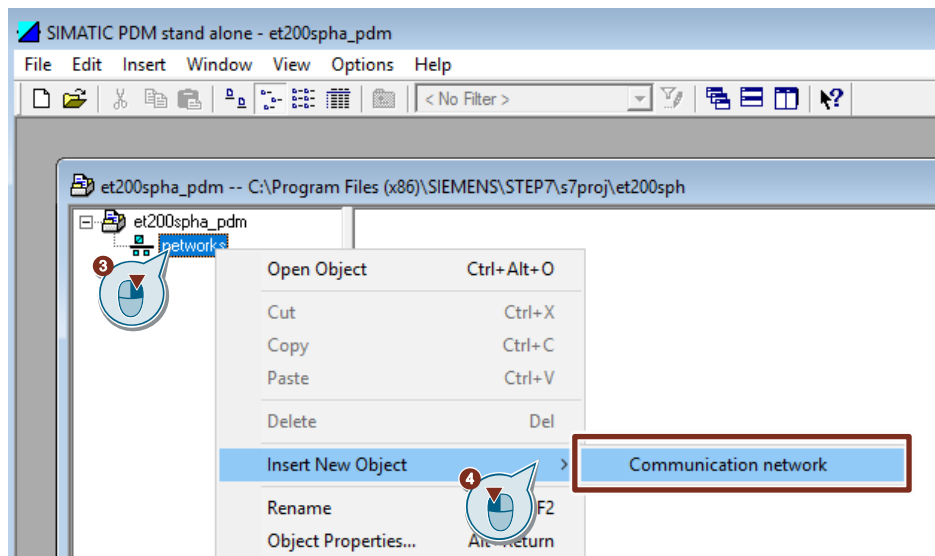
1. Open the application "SIMATIC PDM stand alone".
2. Create a new project with the highlighted icon or with "File > New..."

Figure 3-2



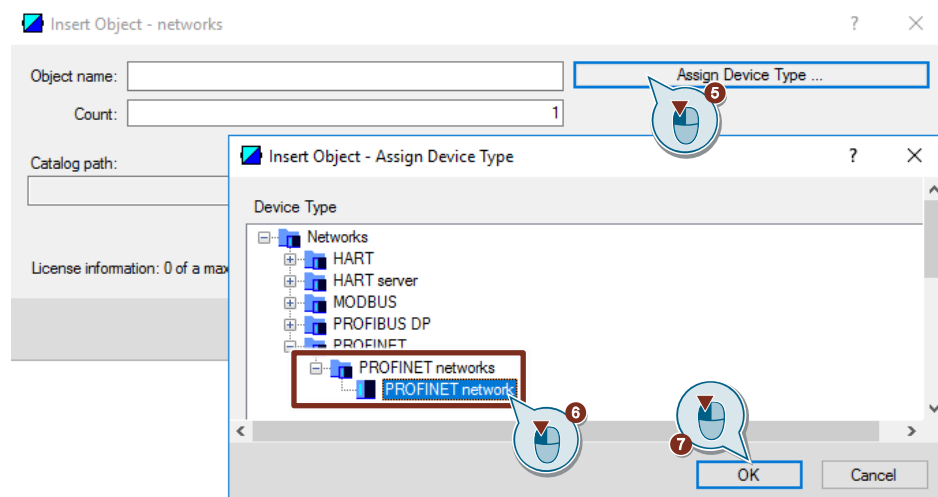
3. Right-click on "networks" to open the context menu.
4. Click on "Insert New Object > Communication network".

Figure 3-3



5. Click on the button "Assign Device Type..."
6. Choose "PROFINET network".
7. Confirm with "OK".

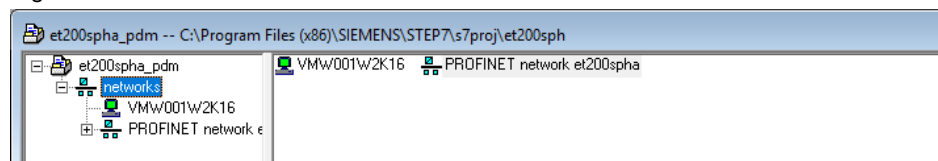
Figure 3-4



8. Give the network a name, e.g. "PROFINET network et200spha" and confirm with "OK".

Result: The PROFINET network has been added to the project.

Figure 3-5



3.2 Configuring the SIMATIC ET 200SP HA and the SITRANS TH300

3.2.1 Integrating device descriptions

The latest device descriptions (EDD) for the SIMATIC ET 200SP HA and the SITRANS TH300 can be found in library supplied with SIMATIC PDM.

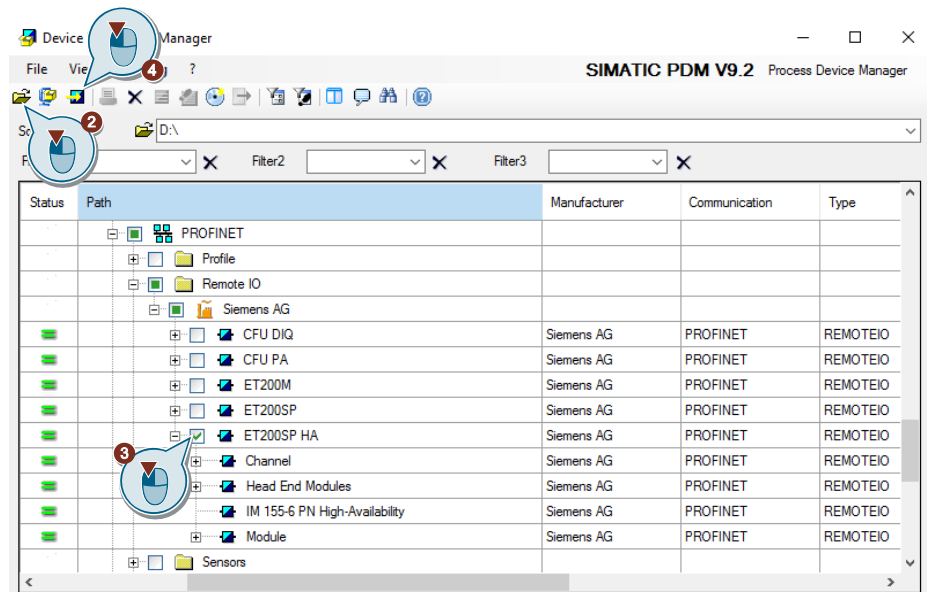
Note

The library from SIMATIC PDM V9.2 and device library "SIMATIC PDM Device Library 1#2020" is also available for download at the following link:
<https://support.industry.siemens.com/cs/ww/en/view/109794361>

1. Start the SIMATIC PDM Device Integration Manager.
2. Click the icon "Read device descriptions from source folder..." in the function bar and then select the folder with the device description in the selection window.
 The device descriptions in the library will be read. All selected device descriptions will be integrated.
3. Select the SIMATIC ET 200SP HA and the SITRANS TH300.

4. Click the "Integration" icon in the function bar.

Figure 3-6



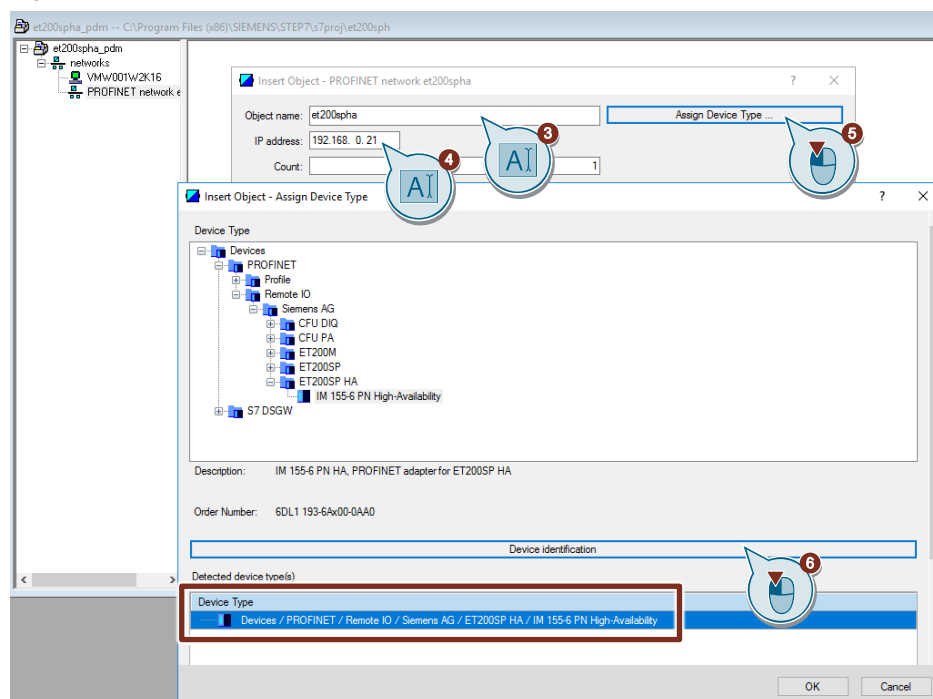
3.2.2 Adding the SIMATIC ET 200SP HA

To add the SIMATIC ET200SP HA with SIMATIC PDM stand alone, proceed as follows:

1. Right-click on the "PROFINET network CFU" network to open the context menu.
2. Click "Insert New Object > Object".
3. Enter the PROFINET device name ("Object name").
4. Enter the configured IP address.
5. Click on the button "Assign Device Type..."
6. Click on the button "Device Identification".

When the SIMATIC ET 200SP HA can be reached from your PDM station, the device has been found with the device identification feature and can be added to the project. Alternatively, you can also search for the SIMATIC ET 200SP HA manually in the device tree and add it to the project.

Figure 3-7

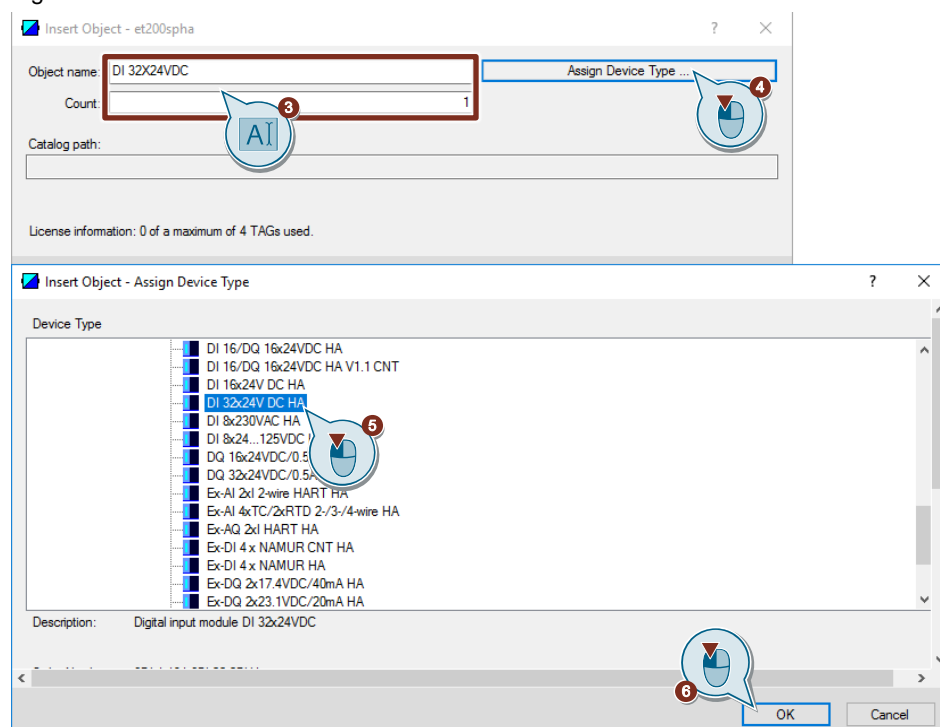


3.2.3 Adding SIMATIC ET 200SP HA I/O modules

To add the SIMATIC ET200SP HA with SIMATIC PDM stand alone, proceed as follows:

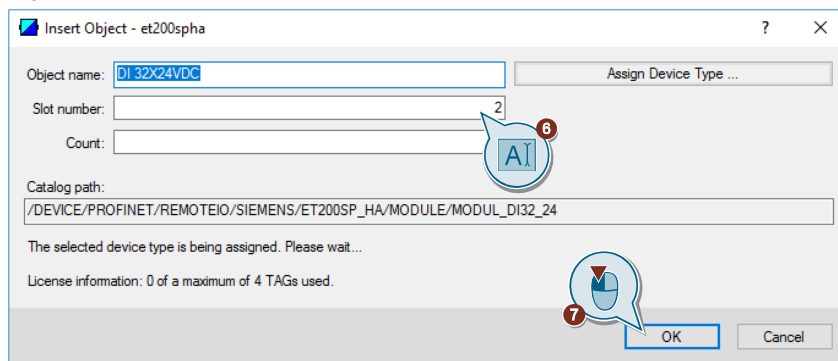
1. Right-click on the SIMATIC ET 200SP HA network "et200spha" to open the context menu.
2. Click "Insert New Object > Object".
3. Enter the "Object name" and the number of I/O modules ("Count") of this type.
4. Click on the button "Assign Device Type..."
5. In the tree structure, select the I/O module according to the hardware configuration (DI 32X24VDC) and confirm with "OK".

Figure 3-8



6. Enter the slot number of the I/O module.
7. Confirm with "OK".

Figure 3-9



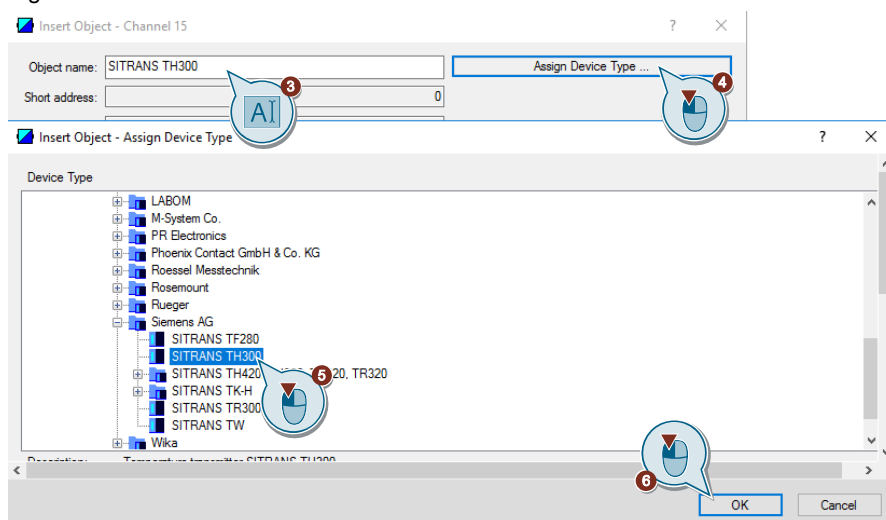
8. Repeat steps 1-7 for the remaining I/O modules.

3.2.4 Adding the SITRANS TH300

To add a field device, connected to the SIMATIC ET 200SP HA, in SIMATIC PDM stand alone, proceed as follows:

1. Right-click on the SIMATIC ET 200SP HA "et200spha" to open the context menu.
2. Click "Insert New Object > Object".
3. Assign an object name for the SITRANS TH300.
4. Click the "Assign device type..." button.
5. Select the SITRANS TH300 sensor under "Devices > HART > Sensors > Temperature > Siemens AG > SITRANS TH300".
6. Confirm with "OK".

Figure 3-10



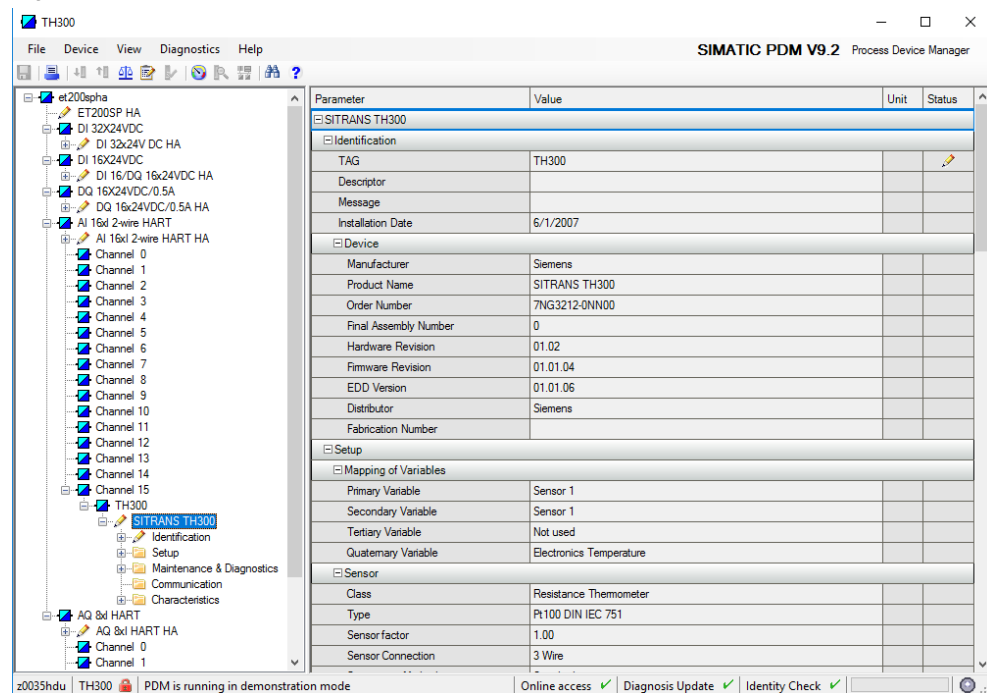
3.2.5 Parameter assignment for the field devices

Open the PDM parameter view of the field devices via the context menu. You can open this view either with the SIMATIC ET 200SP HA "et200spha" in the so-called Multiview (with all configured field devices) or via an individual field device in the so-called PDM Singleview.

To open the PDM parameter view for the field devices, click on "Open Object" in the context menu of a component.

You can now parameterize the field devices in the PDM parameter view.

Figure 3-11



4 Appendix

4.1 Service and support

Industry Online Support

Do you have any questions or need assistance?

Siemens Industry Online Support offers round the clock access to our entire service and support know-how and portfolio.

The Industry Online Support is the central address for information about our products, solutions and services.

Product information, manuals, downloads, FAQs, application examples and videos – all information is accessible with just a few mouse clicks:

support.industry.siemens.com

Technical Support

The Technical Support of Siemens Industry provides you fast and competent support regarding all technical queries with numerous tailor-made offers – ranging from basic support to individual support contracts.

Please send queries to Technical Support via Web form:

support.industry.siemens.com/cs/my/src

SITRAIN – Digital Industry Academy

We support you with our globally available training courses for industry with practical experience, innovative learning methods and a concept that's tailored to the customer's specific needs.

For more information on our offered trainings and courses, as well as their locations and dates, refer to our web page:

siemens.com/sitrain

Service offer

Our range of services includes the following:

- Plant data services
- Spare parts services
- Repair services
- On-site and maintenance services
- Retrofitting and modernization services
- Service programs and contracts

You can find detailed information on our range of services in the service catalog web page:

support.industry.siemens.com/cs/sc

Industry Online Support app

You will receive optimum support wherever you are with the "Siemens Industry Online Support" app. The app is available for iOS and Android:

support.industry.siemens.com/cs/ww/en/sc/2067

4.2 Industry Mall



The Siemens Industry Mall is the platform on which the entire Siemens Industry product portfolio is accessible. From the selection of products to the order and the delivery tracking, the Industry Mall enables the complete purchasing processing – directly and independently of time and location:

mall.industry.siemens.com

4.3 Links and literature

Table 4-1

No.	Subject
\1\	Siemens Industry Online Support https://support.industry.siemens.com
\2\	Link to the article page of the application example https://support.industry.siemens.com/cs/ww/en/view/109801209
\3\	Download link for SIMATIC STEP 7 Professional V17 https://support.industry.siemens.com/cs/ww/en/view/109784440
\4\	SIMATIC ET 200SP HA distributed I/O system https://support.industry.siemens.com/cs/ww/en/view/109747953
\5\	Intrinsically safe Periphery modules for hazardous area - ET 200SP HA Ex https://support.industry.siemens.com/cs/de/en/view/109796307

4.4 Change documentation

Table 4-2

Version	Date	Change
V1.0	09/2021	First edition