

Application Description • 08/2016

Integrated Configuration with WinCC (TIA Portal) and SIMATIC Manager

Using a Device Proxy PLC
STEP 7 V5 (as of V5.4 SP3), WinCC V13 (TIA Portal), SIMOTION Scout
V4.4



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1 Task

Introduction

The TIA Portal offers the option to create the PLC program and the HMI configuration via software interface including all the resulting advantages.

It is necessary in some cases, for technical or plant-specific reasons, to continue creating the PLC program with the STEP 7 software as of version V5.4 SP3 and the HMI configuration with the WinCC (TIA Portal) software.

If HMI projects are created without integrated controller connection¹ this leads to the following disadvantages:

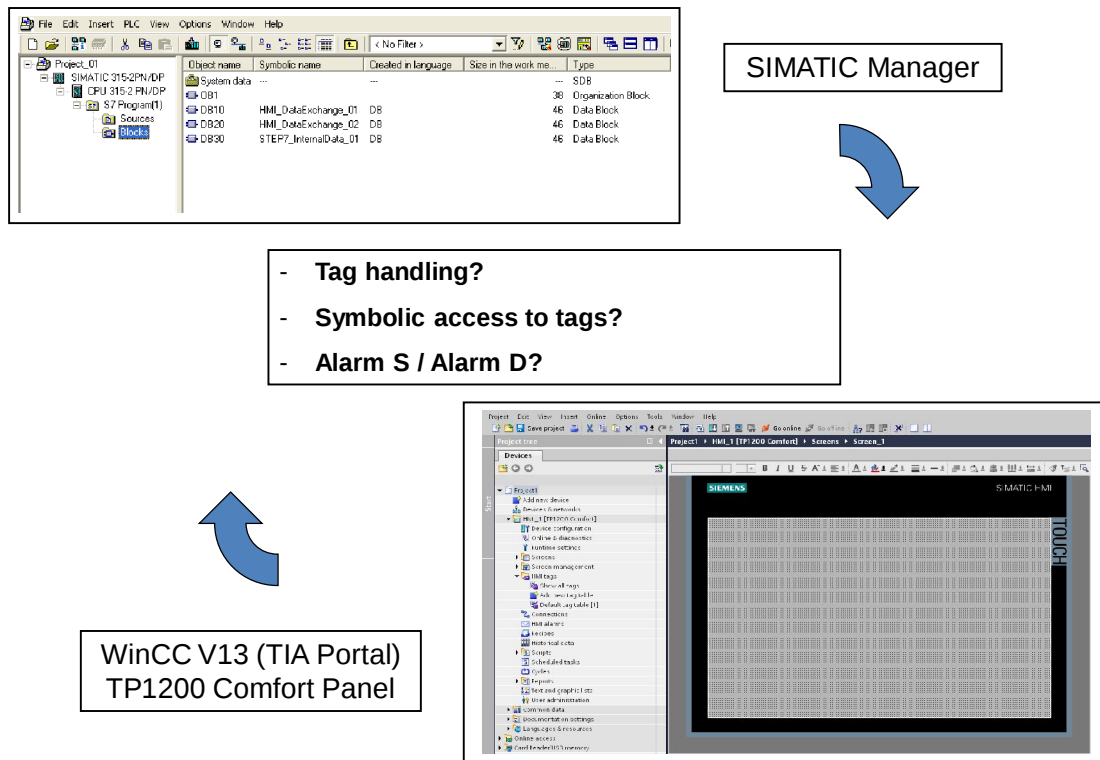
- Tags for the HMI project have to be created manually.
- No symbolic tag connection.
- Changes/expansions of tags in the SIMATIC Manager, which affect the HMI configuration have to be manually updated in the HMI configuration.
- Controller-specific alarm procedures, such as "Alarm D" are not available.

¹ Integrated controller connection. The HMI project is integrated in the SIMATIC Manager or the WinCC (TIA Portal).

Overview of the automation task

The figure below provides an overview of the automation task.

Figure 1-1



Description of the automation task

The PLC program was created with SIMATIC software STEP 7 V5.4 SP3 (or higher) and includes an MP 277 10" touch operator panel, created with WinCC flexible.

The MP 277 10" touch operator panel shall be replaced with a TP1200 Comfort operator panel.

Tag handling, alarm procedures "Alarm_S" and "Alarm_D", as well as reporting system error (SFM) shall be possible between WinCC V13 and the SIMATIC Manager, in the same way as for a WinCC flexible project integrated in the SIMATIC Manager.

2 Solution

2.1 Overview

WinCC V13 (TIA Portal) offers the option to configure a “Device Proxy PLC”.

The “device proxy PLC” enables direct access to the SIMATIC controllers configured in the SIMATIC Manager and their current data such as symbols, data blocks and the alarm procedures “Alarm_S”, “Alarm_D” and “SFM” and to integrate them into WinCC (TIA Portal).

The handling can be compared with a WinCC flexible project integrated in the SIMATIC Manager.

Note

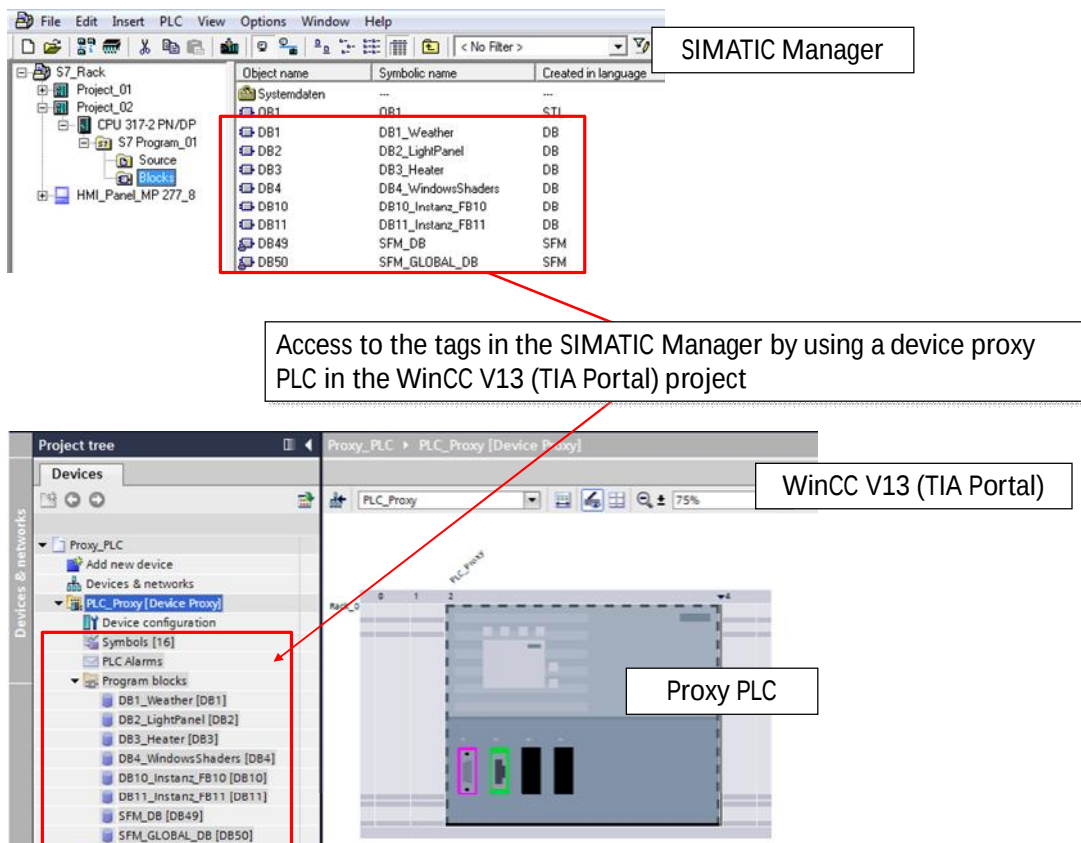
When mentioning the “SIMATIC Manager” in this document, then this always refers to the versions “as of STEP 7 V5.4 SP3”.

When mentioning WinCC V13 in this document, this always refers to the version “as of WinCC V13 (TIA Portal)”.

Schematic layout

The figure below shows a schematic overview of the most important components of the solution:

Figure 2-1



Advantages

As described in chapter 1, in some cases it is necessary for technical or plant-specific reasons to create the HMI configuration separately. However, in order to be able to still use the advantages of an integrated controller connection, the **Device Proxy PLC** was developed.

You can still program the PLC program with the SIMATIC Manager and the HMI configuration with WinCC V13 (TIA Portal) in order to be able to use the Comfort panels, for example.

With the device proxy PLC you can use functionalities which are similar to those you are familiar with from the HMI operator panel integrated in the SIMATIC Manager. Details on handling are described in chapter 3.

Topics not covered by this application

This application does not include a description...

- of the configuration interface of SIMATIC Manager,
- of the configuration interface of TIA Portal,
- of the HMI operator panels used.

Basic knowledge of these topics is assumed. If required, please refer to the appropriate manuals (see chapter 5).

Required knowledge

For the implementation of the presented solutions, no particular knowledge is necessary. Basic knowledge on the configuration interface of the SIMATIC Manager and the WinCC (TIA Portal) is assumed.

2.2 Description of the core functionality

The core functionality is the description of how to integrate and use a device proxy PLC in a WinCC V13 project.

2.2.1 General notes on the configuration

- In the SIMATIC Manager, all necessary software option packages used in the STEP 7 project need to be installed. If, for example, a T CPU is used in the STEP 7 project, then the "S7 Technology" option has to be installed as well.
- The project in the SIMATIC Manager needs to be consistent.
 - Select the program block folder of the CPU with the right mouse button.
 - Select the "Check block consistency..." item from the context menu.
 - Execute the "Program > Compile all" menu command from the dialog window.

2.3 Hardware and software components

- In the application, you do not necessarily need to migrate a WinCC flexible project to WinCC V13.
Parallel to the SIMATIC Manager and WinCC flexible, you can use the WinCC V13 software in order to expand an existing STEP 7 plant configuration with Comfort panels.
- With the device proxy PLC, changes in the SIMATIC Manager can be easily accepted and updated in the WinCC V13 configuration.

2.2.2 Supported controllers

- S7-300 controller
- S7-300F controller
- S7-400 controller
- S7-400F controller
- S7-400H controller
- S7-300 T controller
- ET200 controller (IM 151-7 CPU)
- ET200 controller (IM 151-8 CPU)
- SIMOTION CPUs with kernel/firmware versions V4.4 and V4.3

2.2.3 Supported alarm procedures

- Discrete alarm procedure
- Analog alarm procedure
- Reporting system error (SFM)
- Alarm_S
- Alarm_D

2.3 Hardware and software components

2.3.1 Validity

This application is valid for...

- MS Windows 7 Ultimate, Professional and Enterprise (standard installation)
- all operator panels that are configurable with WinCC V13 SP1 Basic and higher,
- as of STEP 7 V5.4 SP3,
- as of WinCC V13 Basic,
- as of SIMOTION Scout 4.4

Note

STEP 7 V13 is not required.

2.3.2 Components used

The application has been created using the following components:

Hardware components

Table 2-1

Component	Qty.	Order number	Note
CPU 317-2 PN/DP	1	6ES7 317-2EK14-0AB0	For other supported controllers, see chapter 2.2
MP 277 10" Touch	1	6AV6643-7CD00-0CJ1	For other operator panels, see chapter 2.3.1
TP1200 Comfort Panel	1	6AV2124-0MC01-0AX0	The use of Basic Panels is also possible.

Software components

Table 2-2

Component	Qty.	Order number	Note
STEP 7 V5.5	1	6ES7810-4CC10-0YA5	Possible as of STEP 7 V5.4 SP3
WinCC flexible 2008 SP3	1	6AV6613-0AA51-3CA5	For SPs, see Online Support
WinCC V13 SP1 Advanced	1	6AV2100-0AA03-0AA5	As of WinCC V13 Basic

Example file

The following list includes the file used in this example.

Table 2-3

Component	Note
73502293_WinCC_TIA_STEP7_V5_Proxy_DOKU_v20.pdf	This document

3 Configuration and Settings

3.1 Creating a device proxy PLC

Preparatory measures

A STEP 7 program with an MP 277 10" touch integrated in the SIMATIC Manager is used for initial configuration.

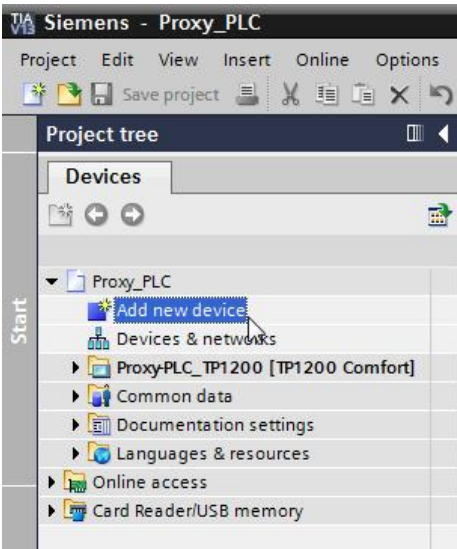
For further usage, the MP 277 Touch was migrated to WinCC V13 and replaced with a TP1200 Comfort Panel.

How to migrate a WinCC flexible project integrated in the SIMATIC Manager to WinCC (TIA Portal) is described in FAQ entry [54695062](#).

Note

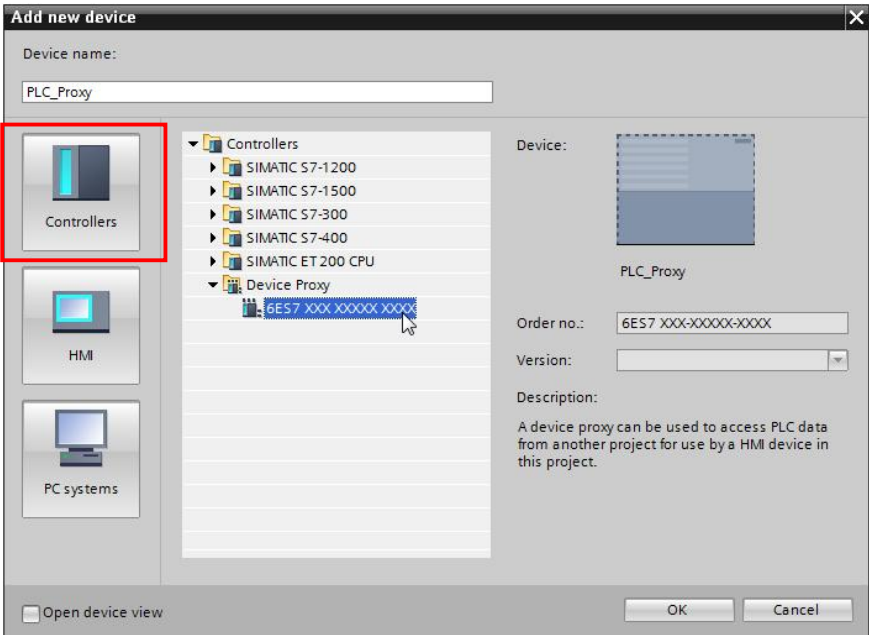
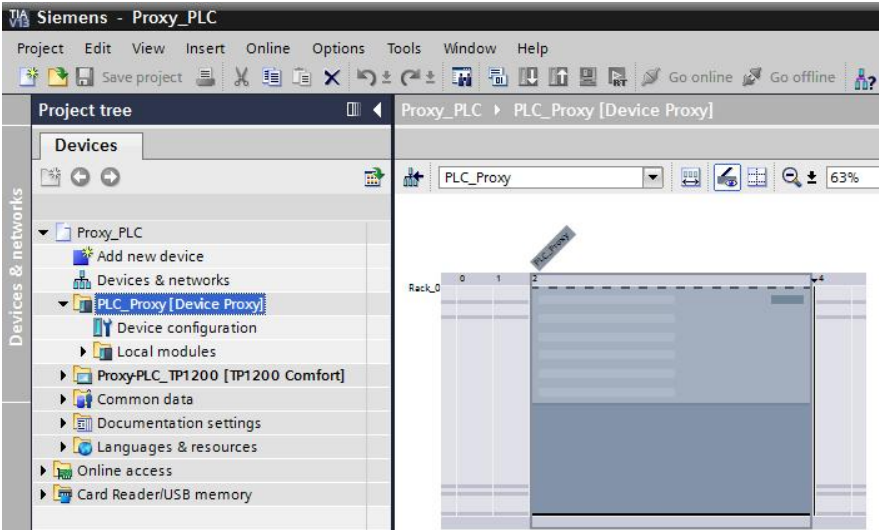
You do not necessarily need to migrate an existing WinCC flexible configuration to WinCC V13. For this purpose, please refer to chapter [2.2.1](#) "General notes on the configuration".

Table 3-1

No.	Action
1.	Adding a new device - Open the WinCC V13 (TIA Portal) project with the TP1200 Comfort Panel. - Click "Add new device" on the menu item in the project tree.  The screenshot shows the TIA Portal interface with the 'Project tree' on the left. The 'Proxy_PLC' folder is expanded, and the 'Add new device' option is highlighted. Other options visible include 'Devices & networks', 'Proxy-PLC_TP1200 [TP1200 Comfort]', 'Common data', 'Documentation settings', 'Languages & resources', 'Online access', and 'Card Reader/USB memory'.

3 Configuration and Settings

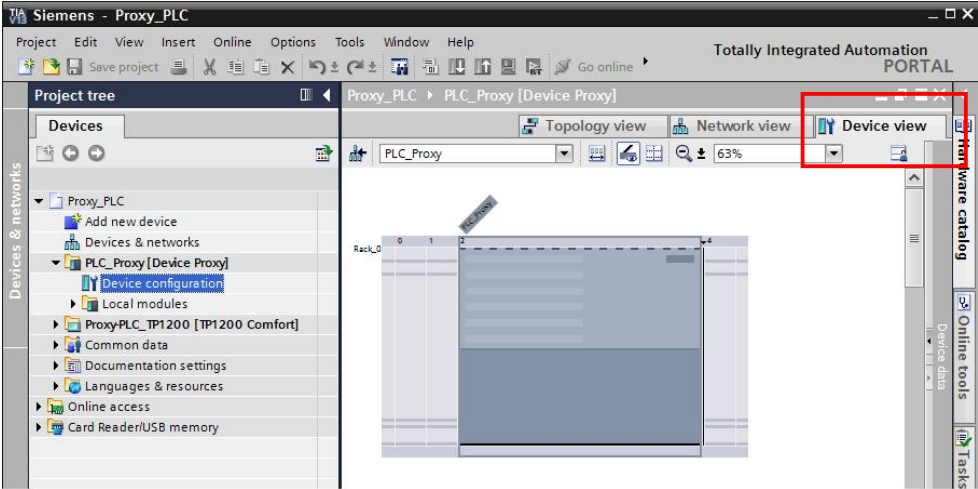
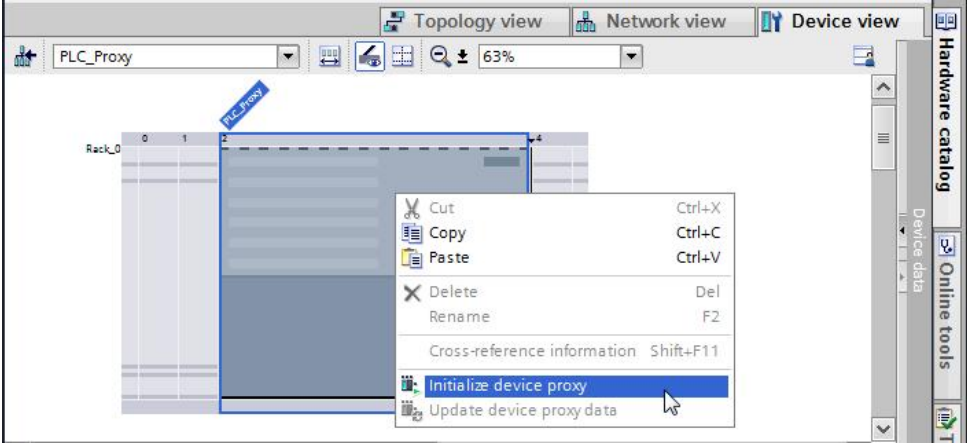
3.1 Creating a device proxy PLC

No.	Action
	- This will open the context window "Add new device".  - Select the "Controller" option in the window. - From the "Controller" list, select "Device Proxy" and the listed device. - Click on "OK" to acknowledge the selection.
2.	View of the device proxy PLC The figure below shows the inserted device proxy PLC in the device view. The device proxy PLC was not yet initiated and does not include any data. The further procedure is described in the following chapters. 

3.2 Initializing the project

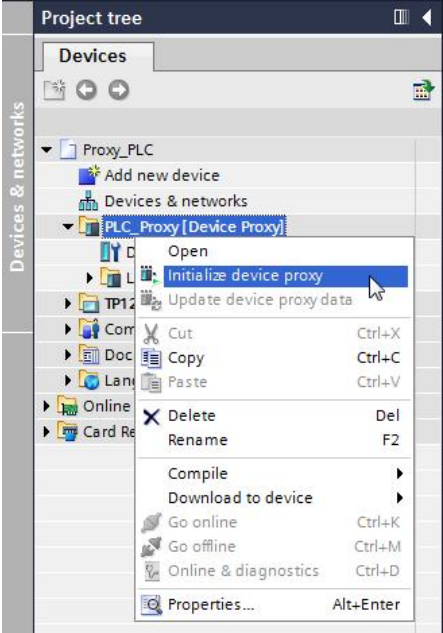
Initializing establishes a connection to a CPU within the SIMATIC Manager. After completing the initialization, the tags and alarms contained in the SIMATIC Manager are displayed in the WinCC V13 project and can be used as usual.

Table 3-2

No.	Action
1.	Opening the device configuration Open the device configuration of the device proxy PLC and go to the “Device view”. 
2.	Initializing the device proxy PLC - Right-click the device proxy PLC (“PLC_Proxy”). A context window opens. Then select the “Initialize device proxy” option. - A file selection dialog opens. 

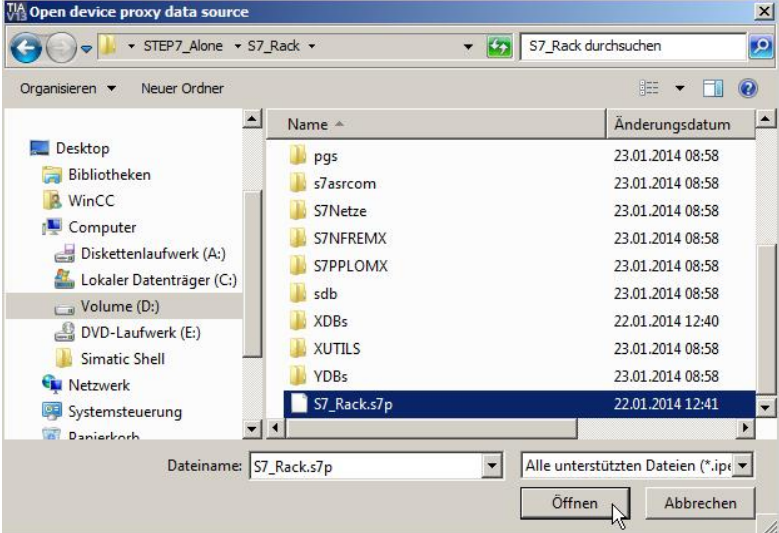
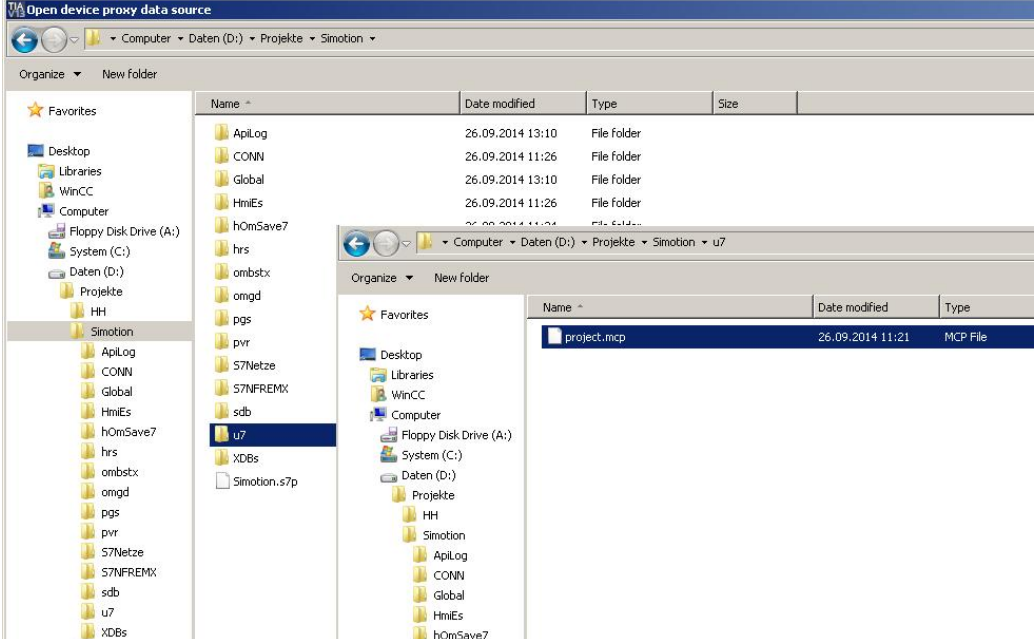
3 Configuration and Settings

3.2 Initializing the project

No.	Action	
	Initializing the device proxy PLC – alternative call option - Right-click the device proxy PLC directly in the project tree. A context window opens. Then select the “Initialize device proxy” option. - A file selection dialog opens.  The screenshot shows the 'Project tree' window with the 'Devices' tab selected. Under 'Proxy_PLC', the 'PLC_Proxy [Device Proxy]' item is right-clicked, opening a context menu. The 'Initialize device proxy' option is highlighted by the mouse cursor. Other options in the menu include 'Open', 'Update device proxy data', 'Cut', 'Copy', 'Paste', 'Delete', 'Rename', 'Compile', 'Download to device', 'Go online', 'Go offline', 'Online & diagnostics', and 'Properties...'.	
3.	Selecting the STEP 7 V5.x configuration A description is available in the following section 4 (link).	Selecting the SIMOTION V4.4 configuration A description is available in the following section 5 (link).

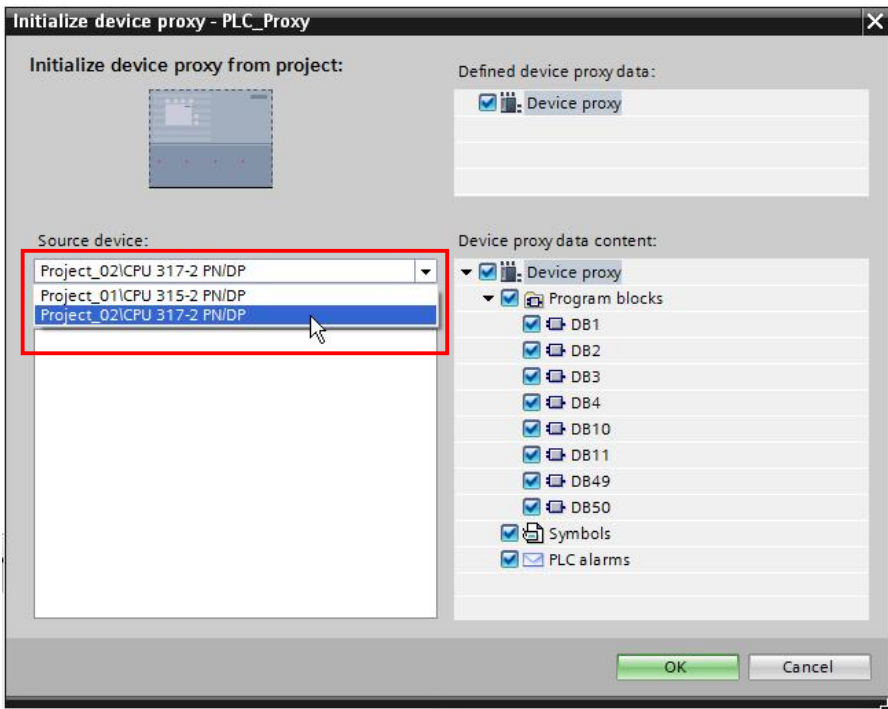
3 Configuration and Settings

3.2 Initializing the project

No.	Action
4.	Selecting the STEP 7 V5.x configuration (for SIMOTION see section 5) - Navigate to the folder which contains the STEP 7 project via the file selection dialog. - Select the “*.s7p” file and click the “Open” button. - This starts the initialization and the “Initialize device proxy” window is displayed. 
5.	Selecting the SIMOTION V4.4 configuration - Navigate to the folder which contains the STEP 7 project via the file selection dialog. - Open the “U7” folder. - Select the “*.mcp” file and click the “Open” button. - This starts the initialization and the “Initialize device proxy” window is displayed. 

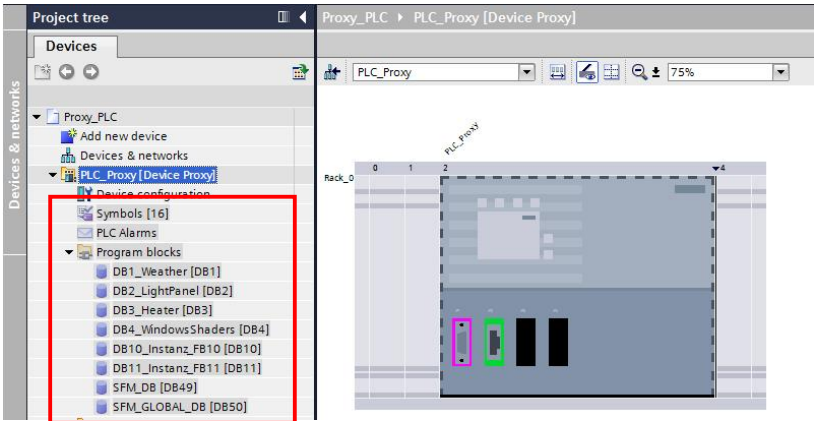
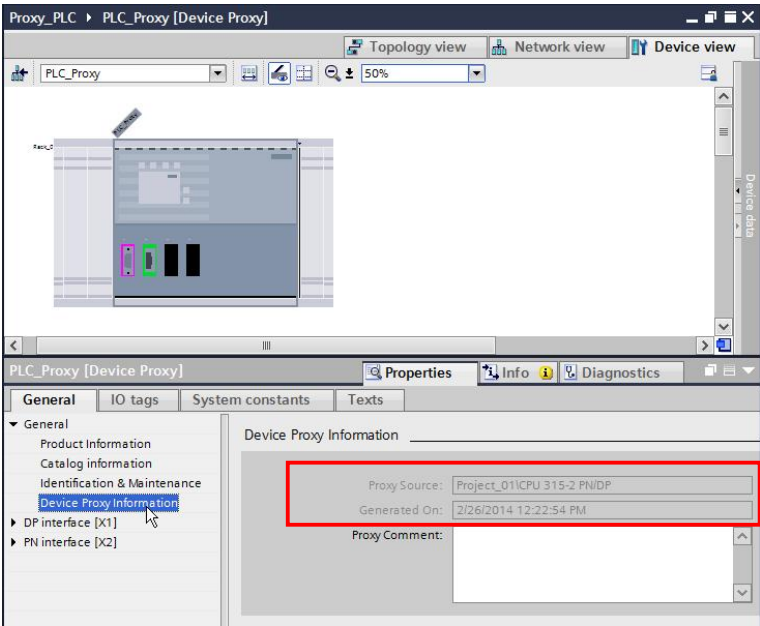
3 Configuration and Settings

3.2 Initializing the project

No.	Action
6.	“Initialize device proxy” window • If the SIMATIC Manager contains several controllers, you can select the CPU to be assigned to the device proxy PLC via the drop-down menu. In this example, the PLC program “Project_02/CPU317-2PN/DP” was selected. • Individual program blocks, the symbolism and the PLC alarms can be selected in the “Device proxy data content” window. Due to the selection, only the data necessary for the HMI configuration is included in the WinCC V13 configuration. • Confirm the selection via the “OK” button. • The initialization is started. 

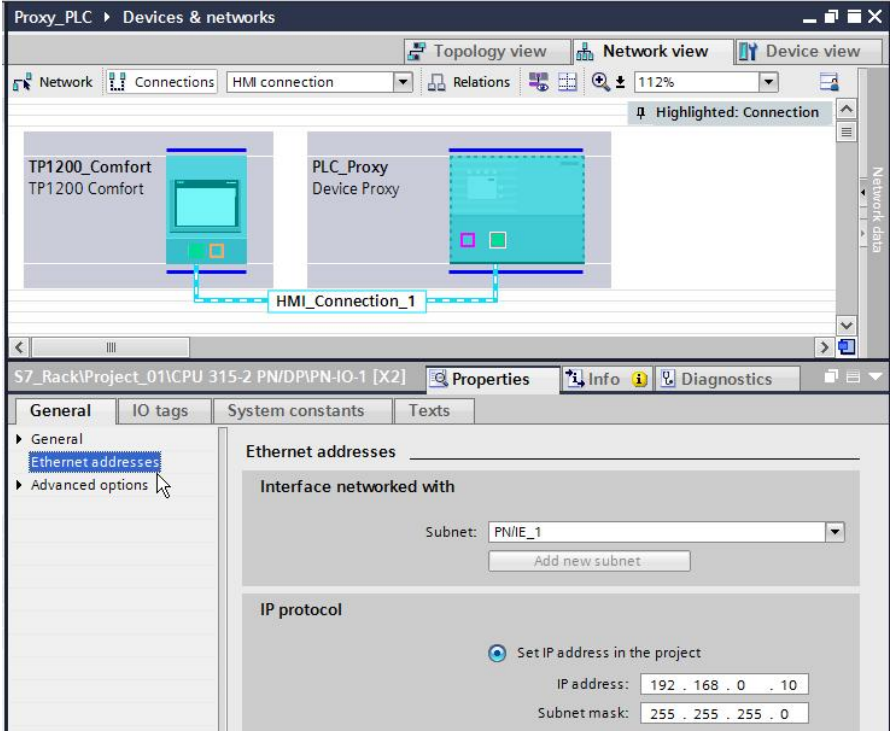
3 Configuration and Settings

3.2 Initializing the project

No.	Action
7.	View of the created program structure in WinCC V13 After successful initialization, the previously selected data are displayed in the program folders as usual. Note The data cannot be processed in WinCC V13. There is only read access to the tags (greyed representation). Changes in the STEP 7 program are always made in the SIMATIC Manager. 
8.	Display of the original program name The original station name/CPU name of the PLC program is displayed as follows: - Open the device configuration of the device proxy PLC and go to "Device view". - The original program name is displayed in the "Properties > General > General > Device Proxy Information" parameter. 

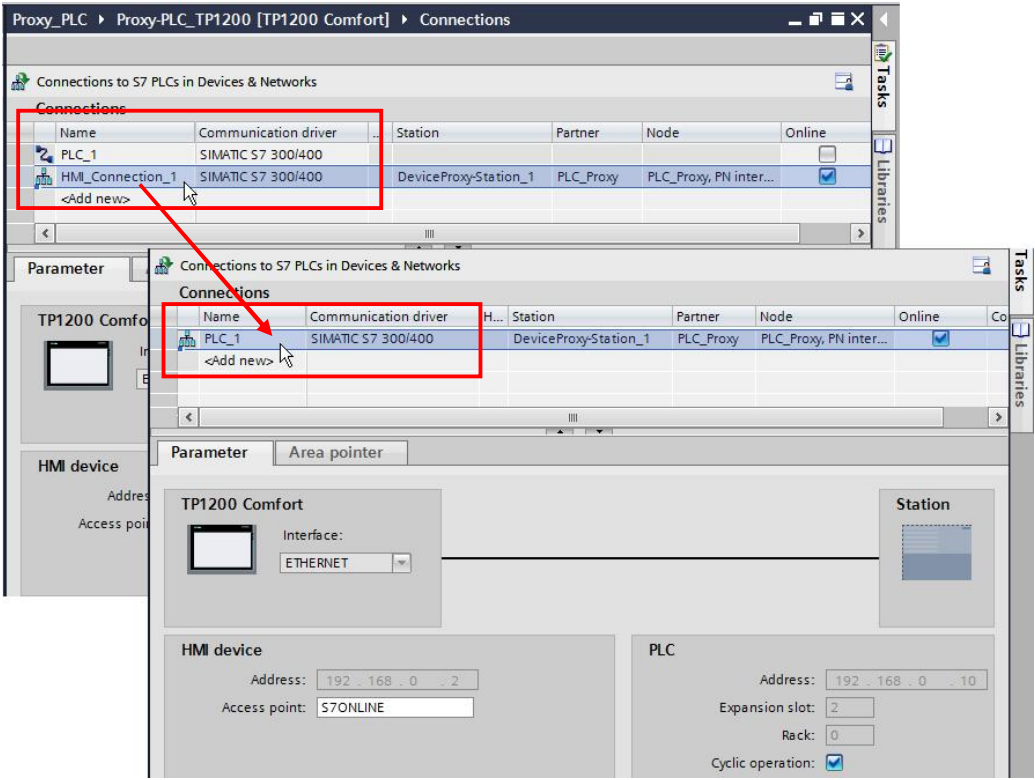
3 Configuration and Settings

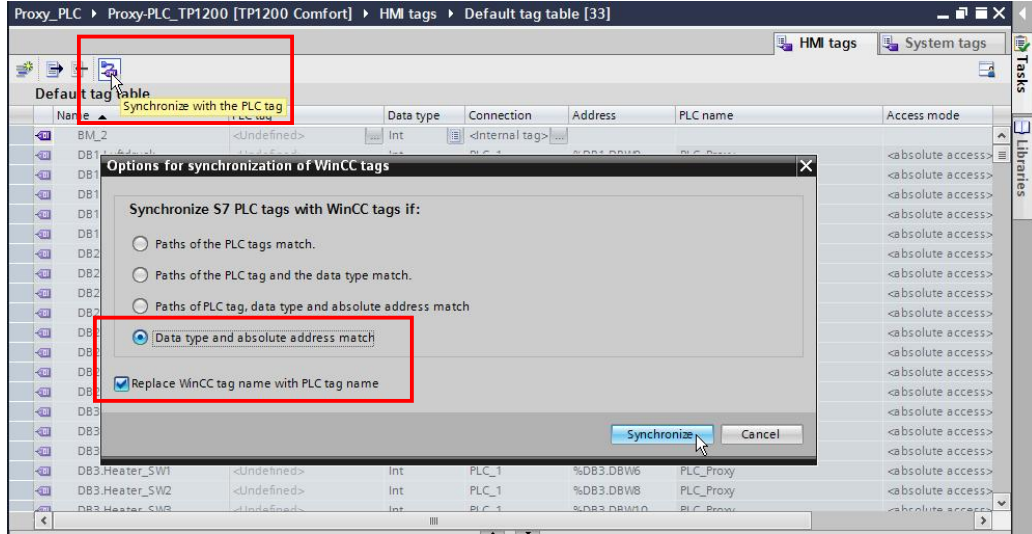
3.2 Initializing the project

No.	Action
9.	Creating a network connection between HMI and PLC - Configure a network connection between the HMI operator panel used and the device proxy PLC in the same way as when using a “standard PLC”. Here you select the “Network view” in the device configuration. - Select the device proxy PLC and enter the same connection properties in “Properties” as those of the PLC program in the SIMATIC Manager. - Network and connect both devices.  Note on network connection and addresses Control the respective addresses and bus parameters of the modules used and adjust them, if necessary, irrespective of whether an Ethernet connection or a PROFIBUS connection was created. If you are using PROFIBUS, please note the additional information at the end of this chapter (link).

3 Configuration and Settings

3.2 Initializing the project

No.	Action
10.	Adapting connection names By networking the HMI operator panel with the device proxy PLC, the system creates a connection and assigns a connection name. If a connection already exists, it may be sensible to adapt the new connection name. This is the case in the following scenarios. 11. An HMI operator panel, integrated in the SIMATIC Manager and created with WinCC flexible, has been migrated to WinCC (TIA Portal). 12. You have an existing WinCC (TIA Portal) configuration without integrated controller connection and you would like to use the advantages by using the device proxy PLC. When adapting the connection name in the two above mentioned examples, you do not need to make any changes or adjustments later in the tag editor in “Connections”.  Adapting connection names - Copy the “old” connection name. - Delete the “old” connection. - Replace the “new” connection name with the connection name of the “old” connection.

No.	Action
9.	Symbolic tag connection • Call the tag editor. • Select all tags. • Click the "Synchronize with the PLC tag" button. The "Options for synchronization of WinCC tags" window opens. • Select the options "Data type and absolute address match" as well as "Replace WinCC tag name with PLC tag name" in the window. • Click the "Synchronize" button. • Synchronization of the tags is executed.
	Thus, the initialization is completed.
	 The screenshot shows the 'Default tag table' window in WinCC. A red box highlights the 'Synchronize with the PLC tag' button. Below it, the 'Options for synchronization of WinCC tags' dialog box is open. In this dialog, the radio button for 'Data type and absolute address match' is selected, and the checkbox for 'Replace WinCC tag name with PLC tag name' is also checked. A red box highlights these two options. The 'Synchronize' button is also visible at the bottom right of the dialog.

PROFIBUS additional information (↔)

If more than one HMI operator panel has been networked with the device proxy PLC via PROFIBUS, the properties of the PROFIBUS parameters need to be adjusted in the STEP 7 5.x project in the following cases.

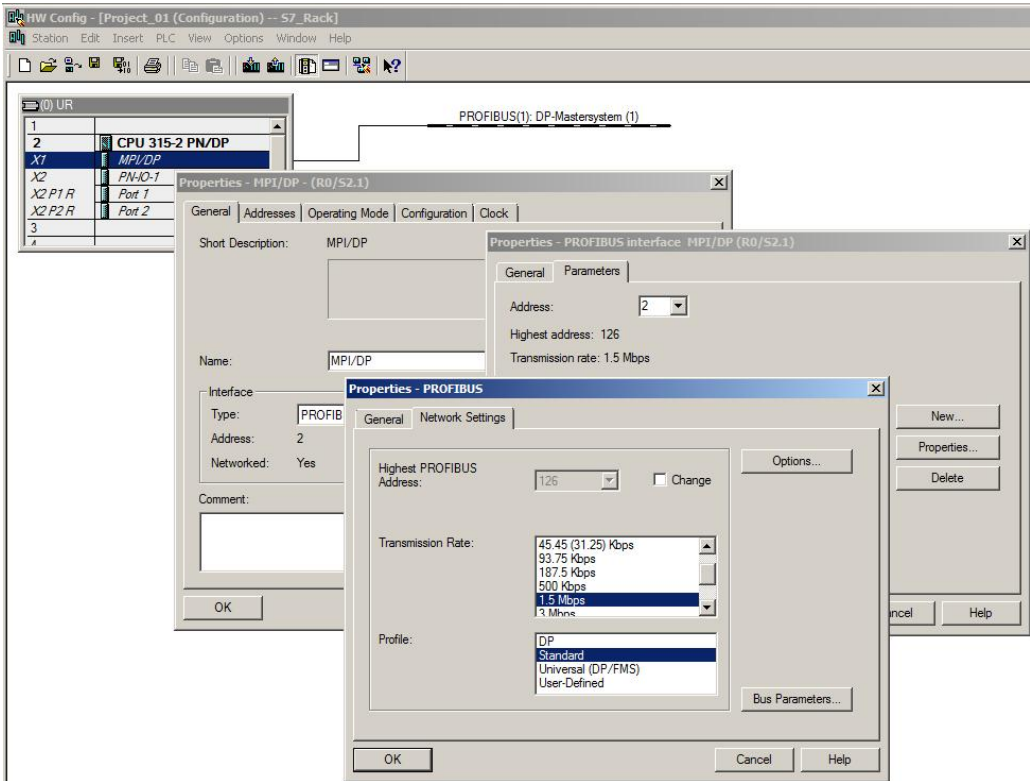
- You have a STEP 7 V5.x project. The HMI operator panels existing in this project and created with WinCC flexible were migrated to WinCC (TIA Portal) and networked with the device proxy PLC.
- You have a STEP 7 V5.x project. The HMI operator panels were only configured with WinCC (TIA Portal) and are networked with the device proxy PLC.

3 Configuration and Settings

3.2 Initializing the project

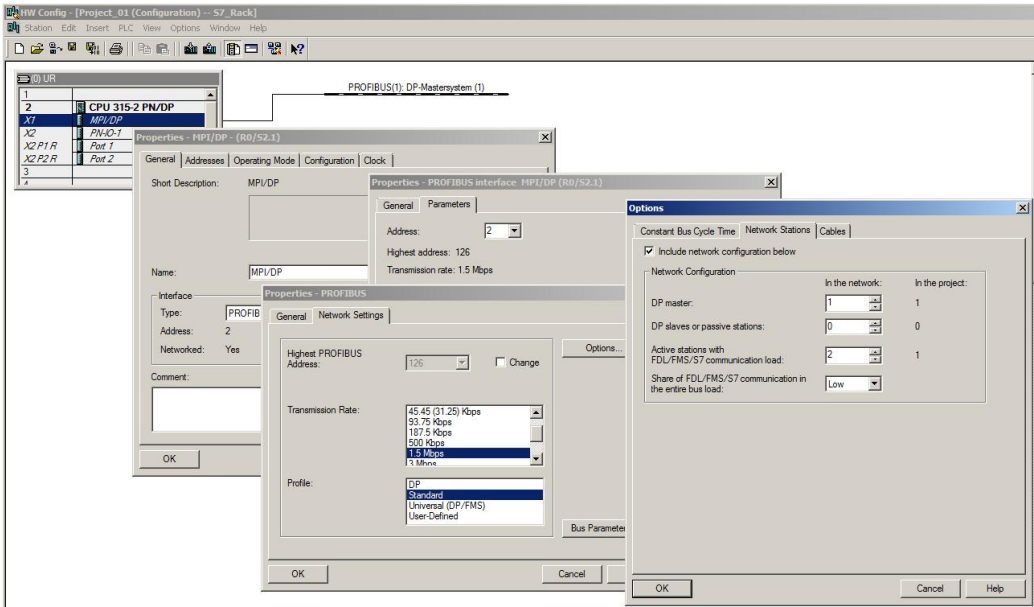
Procedure

Table 3-3

No.	Action
1.	Adapting the PROFIBUS profile • Open the hardware configuration of the CPU in the SIMATIC Manager. • Open the properties of the PROFIBUS interface of the CPU. • In the “Properties - MPI/DP” window, select the “Properties...” button in the “General” tab. • Select the “Properties...” button in the “Parameters” tab in the “Properties – PROFIBUS interface” window. • In the “Properties – PROFIBUS” window, select the “Standard” profile in “Network Settings > Profile”. • Then, in the same window, select the “Options...” button. 

3 Configuration and Settings

3.2 Initializing the project

No.	Action
2.	Window “Options”. Consider the network configuration After more than three HMI operator panels have been networked with the device proxy PLC, specify the number of active stations as follows. Active stations = number of HMI operator panels minus 2 Example Number of HMI operator panels 5 => active stations = 3 • Enable the “Include network configuration below” option box. • Enter the number of stations next to “Active stations with FDL/FMS/S7 communication load”. • Then, click “OK” to confirm all entries. 

3.3 Updating device proxy data

Data in the device proxy PLC always need to be updated when expansions or changes have been made in the SIMATIC Manager which affect the HMI operator panel. This is the case, for example, if address areas in the data blocks have been changed or expanded.

With regard to the example, two tags have been added later in DB1.

Figure 3-1

The figure consists of two screenshots of the SIMATIC Manager database editor for DB1. The top screenshot shows the initial state with addresses 0.0 to 10.0. The bottom screenshot shows the updated state with two new WORD variables, New_Value_01 at address +0.0 and New_Value_02 at address +12.0, added to the structure. Red arrows point to these new entries.

Address	Name	Type	Initial val.	Comment
0.0		STRUCT		
+0.0	AirPressure	INT	0	Luftdruck
+2.0	AirMoisture	INT	0	Luftfeuchte
+4.0	Temperature	INT	0	Temperatur
+6.0	WindSpeed	INT	0	Windgeschwindigkeit
+8.0	WindDirection	INT	0	Windrichtung
=10.0		END STRUCT		

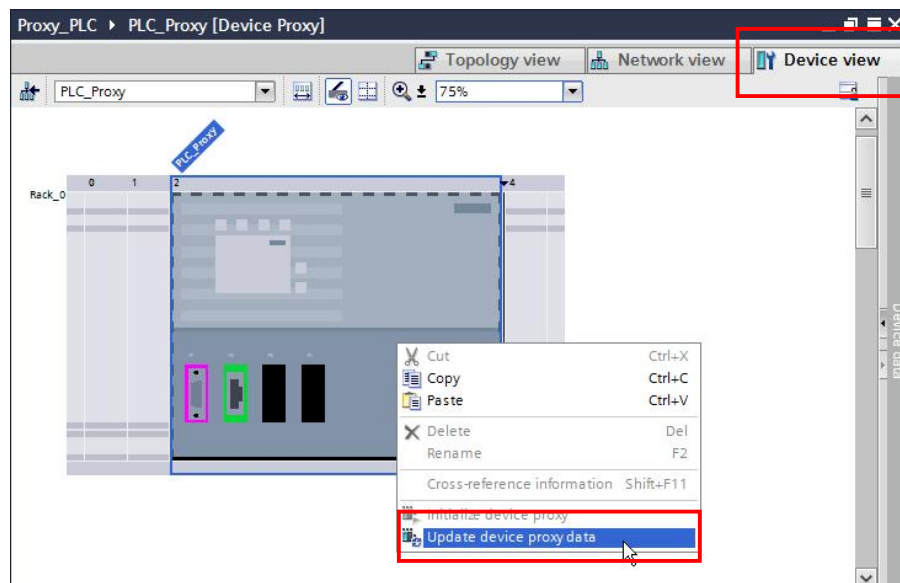
Address	Name	Type	Initial val.	Comment
0.0		STRUCT		
+0.0	New_Value_01	WORD	W#16#0	
+2.0	AirPressure	INT	0	Luftdruck
+4.0	AirMoisture	INT	0	Luftfeuchte
+6.0	Temperature	INT	0	Temperatur
+8.0	WindSpeed	INT	0	Windgeschwindigkeit
+10.0	WindDirection	INT	0	Windrichtung
+12.0	New_Value_02	WORD	W#16#0	
=14.0		END STRUCT		

3 Configuration and Settings

3.3 Updating device proxy data

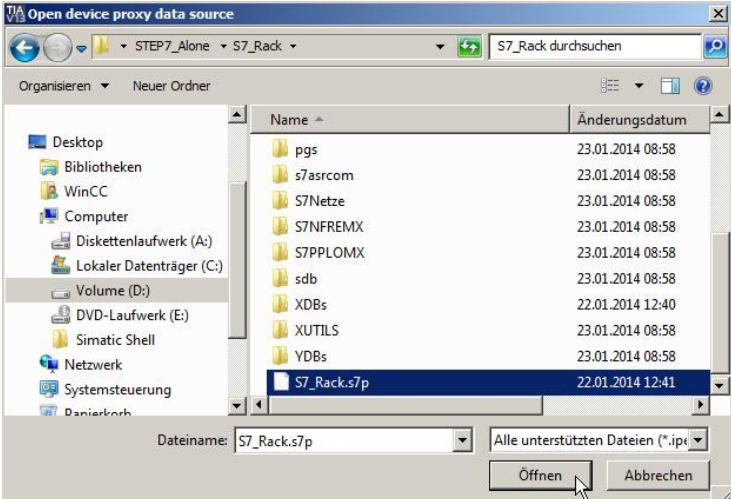
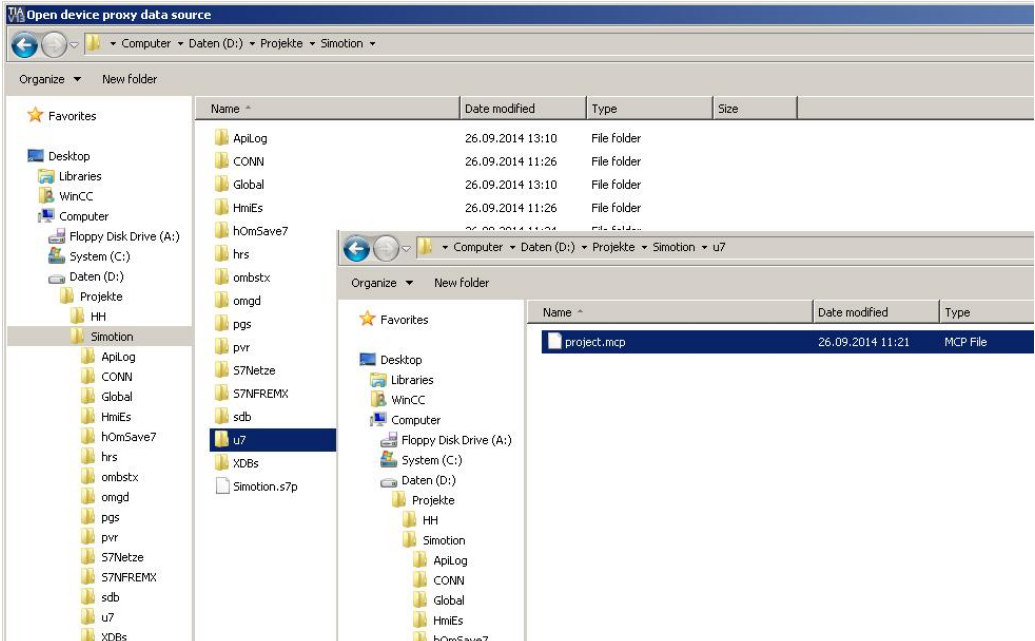
Table 3-4

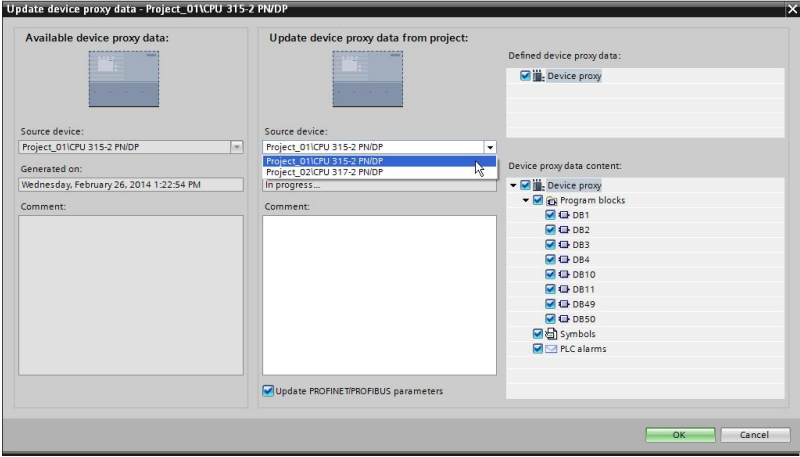
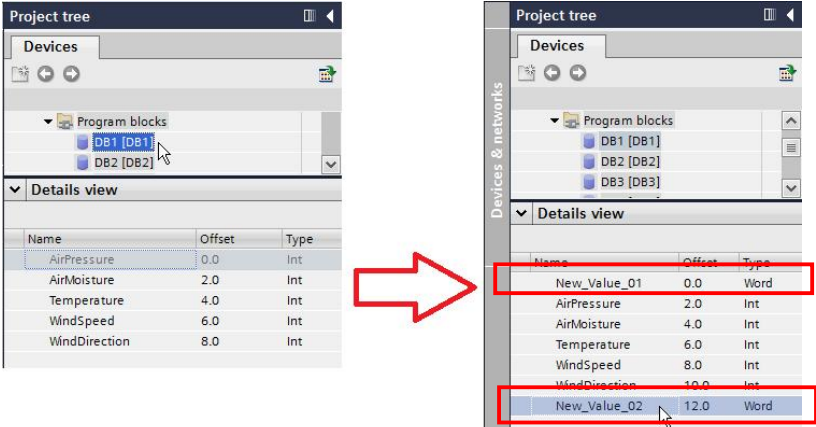
No.	Action	
1.	Updating device proxy data - Right-click to select the device proxy PLC in the project tree. A context menu opens. - Then, select the “Update device proxy data” option. - A file selection dialog opens. Note Alternatively, you can also update via the device configuration. - Open the device configuration of the device proxy PLC and go to the “Device view”. - Right-click the device proxy PLC (“PLC_Proxy”). A context window opens. Then, select the “Update device proxy data” option.	
2.	Selecting the STEP 7 V5.x configuration A description is available in the following section 3 (link).	Selecting the SIMOTION V4.4 configuration A description is available in the following section 4 (link).



3 Configuration and Settings

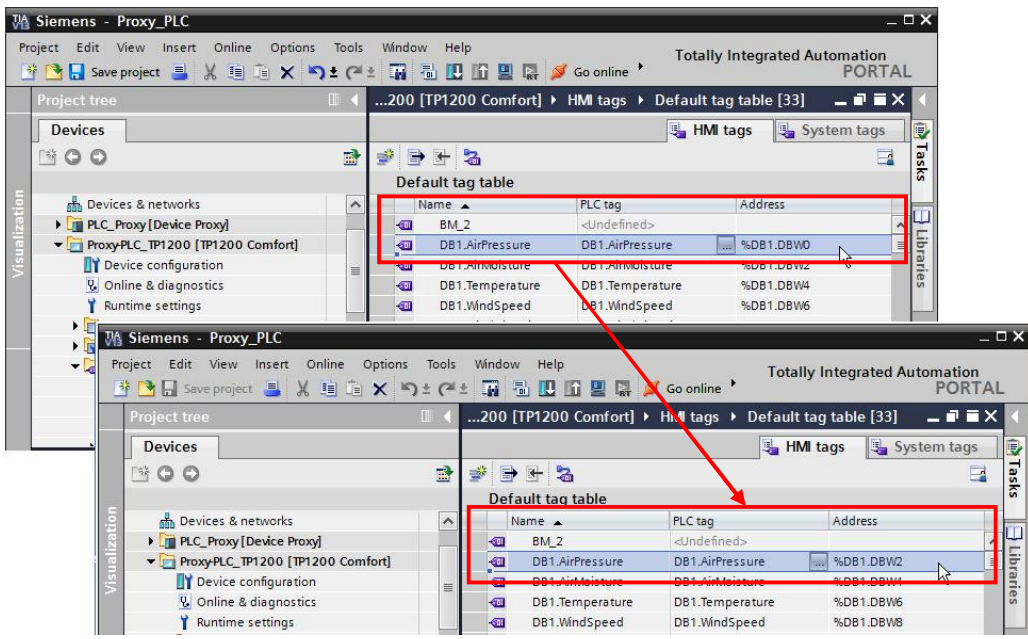
3.3 Updating device proxy data

No.	Action
3.	Selecting the STEP 7 V5.x configuration - Navigate to the folder which contains the STEP 7 project used for initializing the device proxy PLC via the file selection dialog. The repeated selection ensures that the same project is used again. - Select the “*.s7p” file and click the “Open” button. - The “Update device proxy data” window is displayed. 
4.	Selecting the SIMOTION V4.4 configuration - Navigate to the folder which contains the SIMOTION project used for initializing the device proxy PLC via the file selection dialog. The repeated selection ensures that the same project is used again. - Select the “*.mcp” file and click the “Open” button. - The “Update device proxy data” window is displayed. 

No.	Action
5.	Window “Update device proxy data” - In the update dialog, select the same CPU as data source that has been used for the initialization of the device proxy PLC. An update with another HW configuration is not permitted. - In this window, you have the option to additionally select newly created data blocks from the SIMATIC Manager. Only selected objects are adopted in the WinCC V13 project. - Confirm the selection via the “OK” button. - Updating the tags is started. Note All data selected during the previous initialization are automatically selected again. This presetting should only be changed if you consciously wish to remove data from the device proxy PLC. If, for example, the DB1 was integrated into the WinCC V13 project through the initialization, and you now disable the DB1, then the data of DB1 are deleted in the WinCC V13 project during updating. 
6.	View of the newly added tags in the WinCC V13 project Program blocks of the device proxy PLC The left side shows DB1 with the individual tags before the update. The right side shows DB1 with the added tags after the update. 

3 Configuration and Settings

3.3 Updating device proxy data

No.	Action																																				
7.	HMI tag editor in the WinCC V13 project With the symbolic tag connection, the addresses of the tags have been automatically adapted as well. In this example, the address of the “AirPressure” tag has been adjusted from “DB1.DBW0” to “DB1.DBW2”. This completes the update of the tags.  The image contains two screenshots of the Siemens WinCC HMI tag editor. The top screenshot shows the 'Default tag table' with the following data: <table><tr><th>Name</th><th>PLC tag</th><th>Address</th></tr><tr><td>BM_2</td><td><Undefined></td><td></td></tr><tr><td>DB1.AirPressure</td><td>DB1.AirPressure</td><td>%DB1.DBW0</td></tr><tr><td>DB1.AirMoisture</td><td>DB1.AirMoisture</td><td>%DB1.DBW2</td></tr><tr><td>DB1.Temperature</td><td>DB1.Temperature</td><td>%DB1.DBW4</td></tr><tr><td>DB1.WindSpeed</td><td>DB1.WindSpeed</td><td>%DB1.DBW6</td></tr></table> The bottom screenshot shows the same table after the update, with the address for 'DB1.AirPressure' changed to '%DB1.DBW2': <table><tr><th>Name</th><th>PLC tag</th><th>Address</th></tr><tr><td>BM_2</td><td><Undefined></td><td></td></tr><tr><td>DB1.AirPressure</td><td>DB1.AirPressure</td><td>%DB1.DBW2</td></tr><tr><td>DB1.AirMoisture</td><td>DB1.AirMoisture</td><td>%DB1.DBW4</td></tr><tr><td>DB1.Temperature</td><td>DB1.Temperature</td><td>%DB1.DBW6</td></tr><tr><td>DB1.WindSpeed</td><td>DB1.WindSpeed</td><td>%DB1.DBW8</td></tr></table> A red arrow points from the 'AirPressure' row in the top screenshot to the 'AirMoisture' row in the bottom screenshot, indicating the shift in addresses.	Name	PLC tag	Address	BM_2	<Undefined>		DB1.AirPressure	DB1.AirPressure	%DB1.DBW0	DB1.AirMoisture	DB1.AirMoisture	%DB1.DBW2	DB1.Temperature	DB1.Temperature	%DB1.DBW4	DB1.WindSpeed	DB1.WindSpeed	%DB1.DBW6	Name	PLC tag	Address	BM_2	<Undefined>		DB1.AirPressure	DB1.AirPressure	%DB1.DBW2	DB1.AirMoisture	DB1.AirMoisture	%DB1.DBW4	DB1.Temperature	DB1.Temperature	%DB1.DBW6	DB1.WindSpeed	DB1.WindSpeed	%DB1.DBW8
Name	PLC tag	Address																																			
BM_2	<Undefined>																																				
DB1.AirPressure	DB1.AirPressure	%DB1.DBW0																																			
DB1.AirMoisture	DB1.AirMoisture	%DB1.DBW2																																			
DB1.Temperature	DB1.Temperature	%DB1.DBW4																																			
DB1.WindSpeed	DB1.WindSpeed	%DB1.DBW6																																			
Name	PLC tag	Address																																			
BM_2	<Undefined>																																				
DB1.AirPressure	DB1.AirPressure	%DB1.DBW2																																			
DB1.AirMoisture	DB1.AirMoisture	%DB1.DBW4																																			
DB1.Temperature	DB1.Temperature	%DB1.DBW6																																			
DB1.WindSpeed	DB1.WindSpeed	%DB1.DBW8																																			

3.4 Tag handling

With the initialization of the device proxy PLC, you have integrated the tags from the SIMATIC Manager into the WinCC V13 project.

The tags are inserted into the HMI configuration in the same way as when using a “standard PLC”.

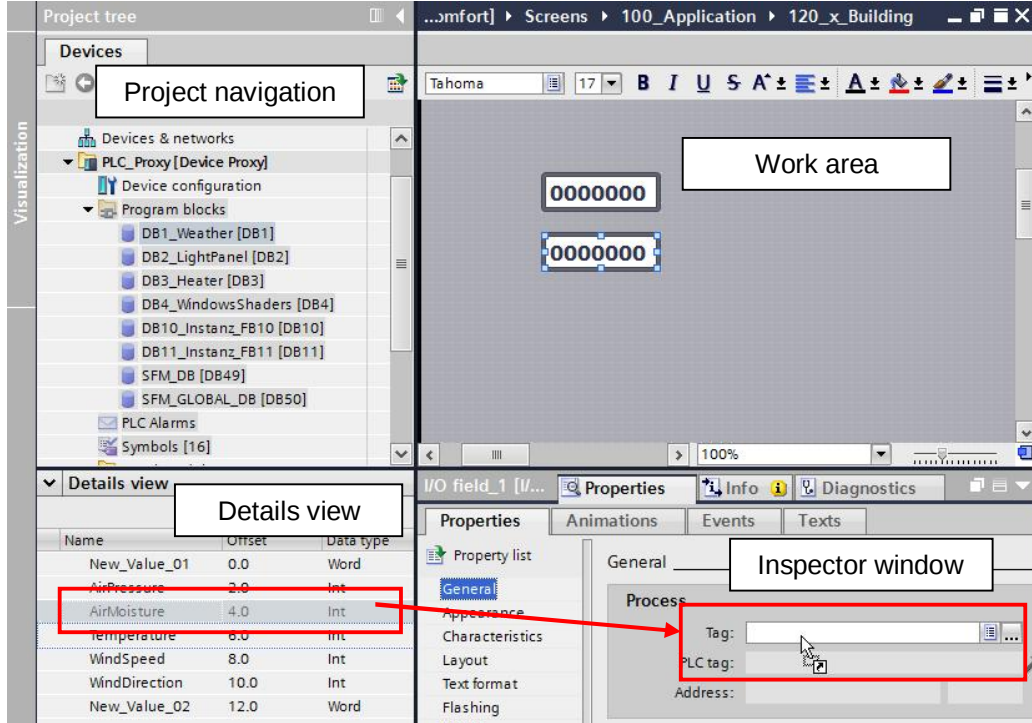
The two examples show how you can effectively insert the tags of the device proxy PLC into an HMI screen.

Table 3-5

No.	Action
1.	Example 1: Inserting tags directly into the HMI screen • Open the program block folder of the device proxy PLC in the project navigation. • Select the block which contains the tags. In this example, the “DB1_Weather” block has been selected. • In the “Details view”, all tags of the previously selected block are displayed. • Select a tag in the “Details view” with the left mouse button and drag it to the “Work area” via “drag & drop”. An I/O field with the selected tag is automatically created. You can make further settings in the “inspector window”. The screenshot displays the Siemens WinCC V13 software interface. On the left, the 'Project navigation' pane shows the 'PLC_Proxy [Device Proxy]' structure, with 'DB1_Weather [DB1]' selected. Below this, the 'Details view' pane lists various tags, including 'AirPressure' with a value of 2.0 and data type 'Int'. A red box highlights the 'AirPressure' tag. A red arrow points from this tag to the 'Work area' on the right, where a new I/O field is being created. The 'Inspector window' at the bottom right shows the 'General' tab with fields for 'Tag', 'PLC tag', and 'Address'.

3 Configuration and Settings

3.4 Tag handling

No.	Action
2.	Example 2: Inserting the tag into an existing I/O field Specification: An I/O field is available in the HMI screen and the "Properties" have been selected. - Open the program block folder of the device proxy PLC in the project navigation. - Select the block which contains the tags. In this example, the "DB1_Weather" block has been selected. - In the "Details view", all tags of the previously selected block folder are displayed. - Select a tag in the "Details view" with the left mouse button and drag it to the "Inspector window" via "drag & drop". The I/O field is connected with the selected tag. You can make further settings in the "Inspector window". 

For further usage, the MP 277 Touch is migrated to WinCC V13 and replaced with a TP1200 Comfort Panel.

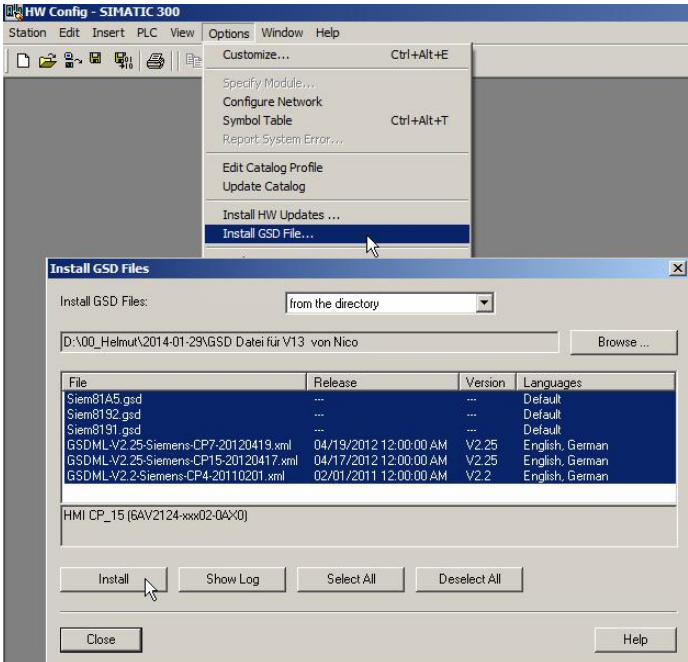
3.5 GSD/GSDML files

3.5.1 Installing GSD/GSDML files

If you wish to integrate HMI operator panels into the hardware configuration of the SIMATIC Manager which can only be configured with WinCC (TIA Portal), e. g. SIMATIC HMI Comfort Panels, then you need the appropriate GSD/GSDML files.

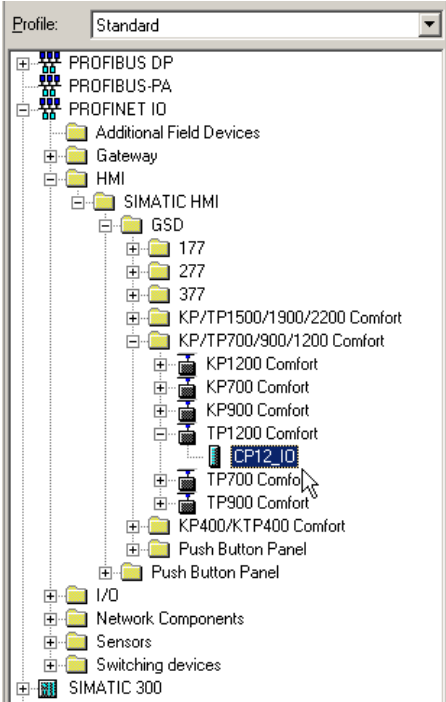
The GSD/GSDML files required for WinCC V13, as well as this documentation, are available at the following entry ID [73502293](#).

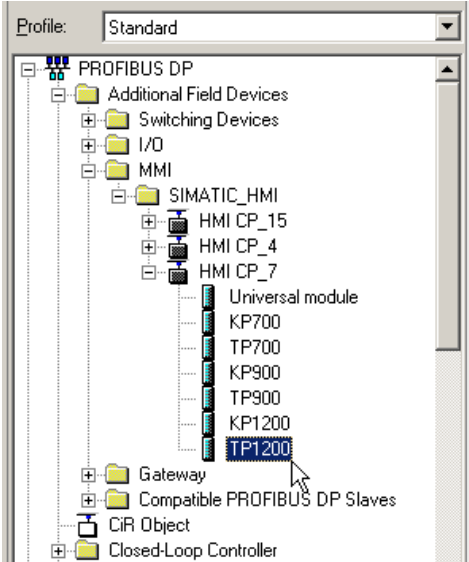
Table 3-6

No.	Action
1.	Installing GSD files • Open the hardware configuration in the SIMATIC Manager. • Select the “Options > Install GSD File...” menu command. The “Install GSD Files” dialog box opens. • Use “Browse” to select the file folder which includes the GSD files. • Select all files and click the “Install” button. • Follow the further instructions. 

3 Configuration and Settings

3.5 GSD/GSDML files

No.	Action
2.	PROFINET IO storage path of the WinCC V13 GSDML files in the SIMATIC Manager • Open the hardware configuration in the SIMATIC Manager. • The GSDML files for the HMI operator panels are available in the hardware catalog at “PROFINET IO > HMI > SIMATIC HMI > GSD > KP/x”.  The screenshot shows the SIMATIC Manager hardware catalog. The 'Profile' dropdown is set to 'Standard'. The tree structure is expanded to show the path: PROFINET IO > HMI > SIMATIC HMI > GSD > KP1200 Comfort. The 'KP1200 Comfort' folder is highlighted, and a mouse cursor is pointing at it.

No.	Action
3.	PROFIBUS storage path of the WinCC V13 GSD files in the SIMATIC Manager • Open the hardware configuration in the SIMATIC Manager. • The GSD files for the HMI operator panels are available in the hardware catalog at “PROFIBUS DP > Additional Field Devices > MMI > SIMATIC_HMI > HMI CP_x”. 

3.5.2 KTP Mobile Panel

Connection box – GSDML file

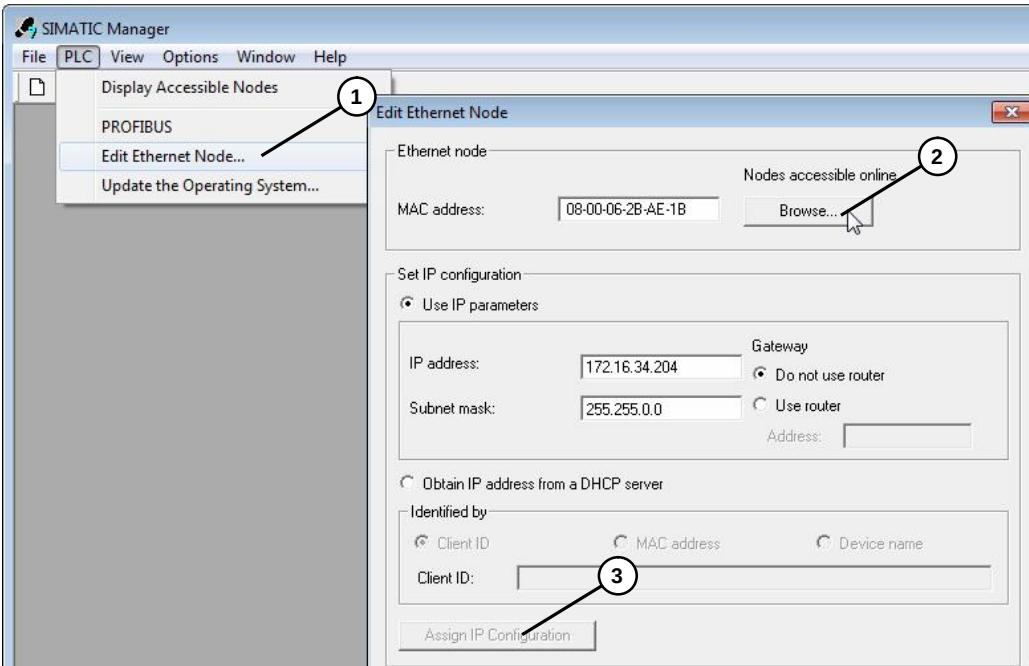
A KTP Mobile Panel always includes a connection box.

- Connection box “Compact, 6AV2125-2AE03-0AX0”
- Connection box “Standard, 6AV2125-2AE13-0AX0”
- Connection box “Advanced, 6AV2125-2AE23-0AX0”

The “Standard” and “Advanced” connection boxes require a “GSDML file”. There is no “GSDML file” for the “Compact” connection box, as it does not include any active PROFINET components.

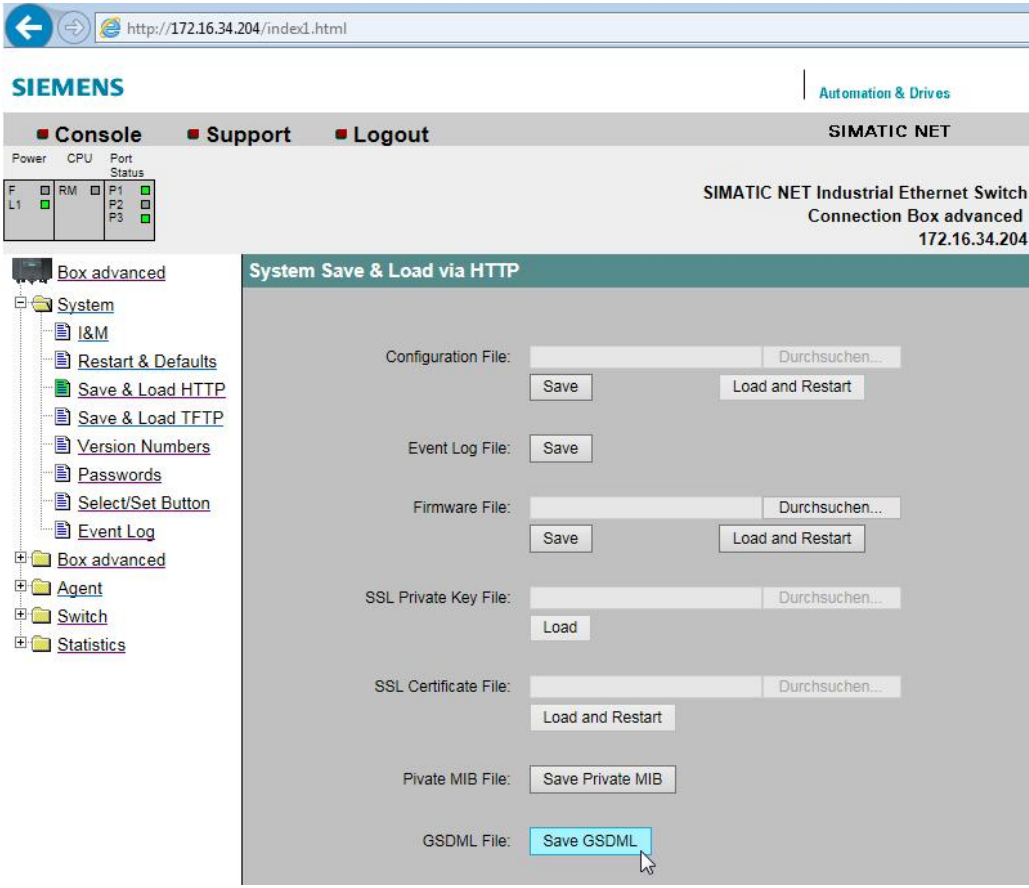
The following sections describe how to save the GSDML file of the IE switch from the connection box to a file and how to integrate it in the SIMATIC Manager subsequently.

Table 3-7

No.	Action
1.	Assigning the IP address to the connection box Establish an Ethernet connection between the connection box and the configuration PC and assign an IP address to the connection box. This can be done e. g. via the SIMATIC Manager. - In the menu bar of the SIMATIC Manager, click “PLC > Edit Ethernet Node...” (1). - Then, click the “Browse” button in the window that opens. Now, the network is browsed for accessible nodes (2). - Select the connection box and assign the corresponding IP addresses (3). 

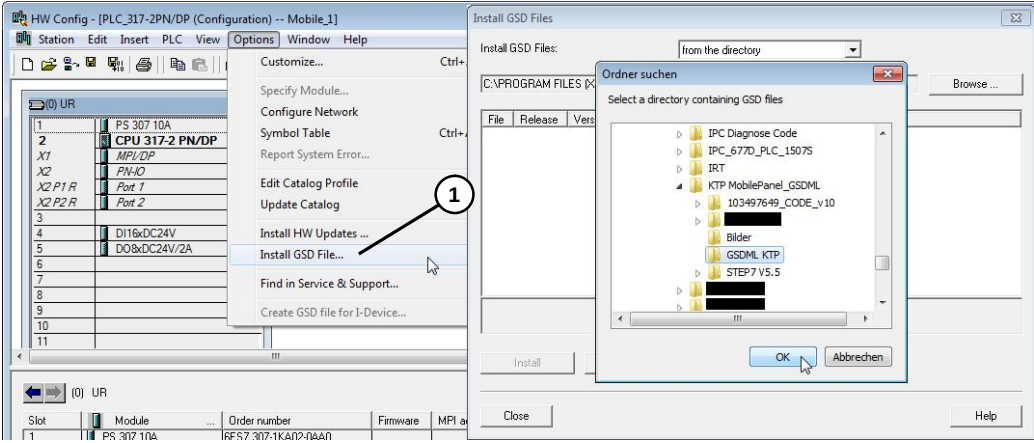
3 Configuration and Settings

3.5 GSD/GSDML files

No.	Action
2.	Calling Web Based Management - Use a web browser to call the configuration of the connection box. For this, an Ethernet connection to the connection box is required. - Access data (default setting): - User name: Admin - Password: admin - The menus of the “WBM” (Web Based Management) are displayed. Note Regularly change the access data for safety reasons.
3.	System Save & Load via HTTP - In the project tree, open the “System” folder of the “WBM”. - Select the “Save & Load HTTP” menu. - Click the “Save GSDML” button. - Save the “snConnectionBoxgsdml.zip” file on your PC. 
4.	Thus, the required settings at the connection box regarding the “GSDML file” are completed.

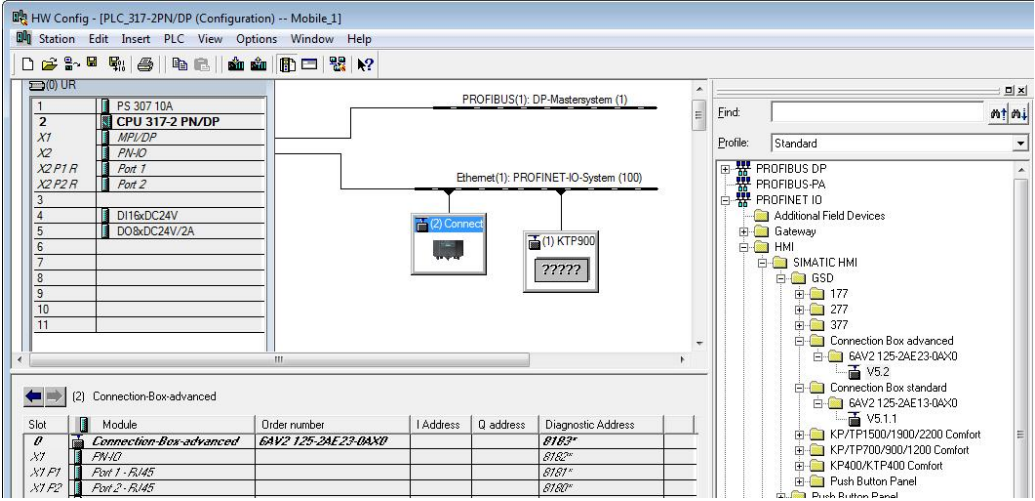
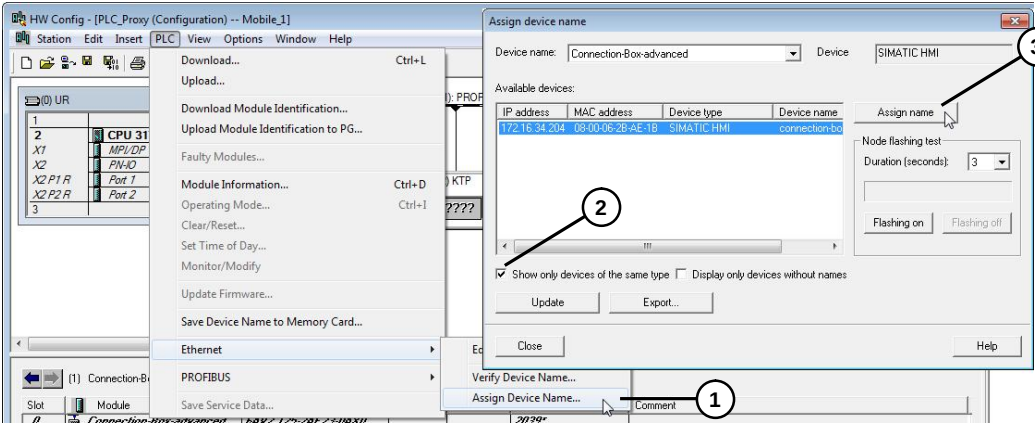
Integrating a GSDML file in the SIMATIC Manager

Table 3-8

No.	Action
1.	Calling a GSDML file in the SIMATIC Manager. • Open the hardware configuration in the SIMATIC Manager. • In the menu bar, click “Options > Install GSD File...” (1). • Browse to the file into which you have saved the “GSDML file of the connection box”. • Select the file and click “Install”. • Close the window after successful installation.  The screenshot shows the SIMATIC Manager interface. The 'Options' menu is open, and the 'Install GSD File...' option is highlighted with a circled '1'. In the background, the 'Install GSD Files' dialog box is visible, showing a file list with 'GSDML KTP' selected. The dialog box has 'OK' and 'Abbrechen' buttons at the bottom.
2.	Updating the hardware catalog After having installed the GSDML file, it is necessary to update the hardware catalog. In the menu bar, click “Options > Update Catalog”.

3 Configuration and Settings

3.5 GSD/GSDML files

No.	Action
3.	Inserting and configuring a GSDML file The GSDML file for the connection box is available in the hardware catalog under “PROFINET IO > HMI > SIMATIC HMI > GSD”. • Select the folder of the connection box you are using and drag it into the hardware configuration via “drag & drop”. • Double-click to open the properties of the “GSDML file” and assign an IP address. 
4.	Assigning a PROFINET name to the connection box Assign a “PROFINET name” to the connection box. • In the menu bar, click “PLC > Ethernet > Assign Device Name...” (1). • Enable the “Show only devices of the same type” checkbox (2). • Select the device and then click the “Assign name” button (3). 

Thus, the required settings regarding the “GSDML file” for the connection box in the SIMATIC Manager are completed.

3 Configuration and Settings

3.5 GSD/GSDML files

No.	Action
5.	WinCC (TIA Portal) In the WinCC (TIA Portal) configuration, the “connection box” is not listed additionally in the device configuration. Only the KTP Mobile is networked with the proxy PLC.

3.6 Direct buttons

Initial situation

As initial configuration, an MP 277 Touch integrated in the SIMATIC Manager is used.
The MP 277 Touch uses the system function “Direct button”.

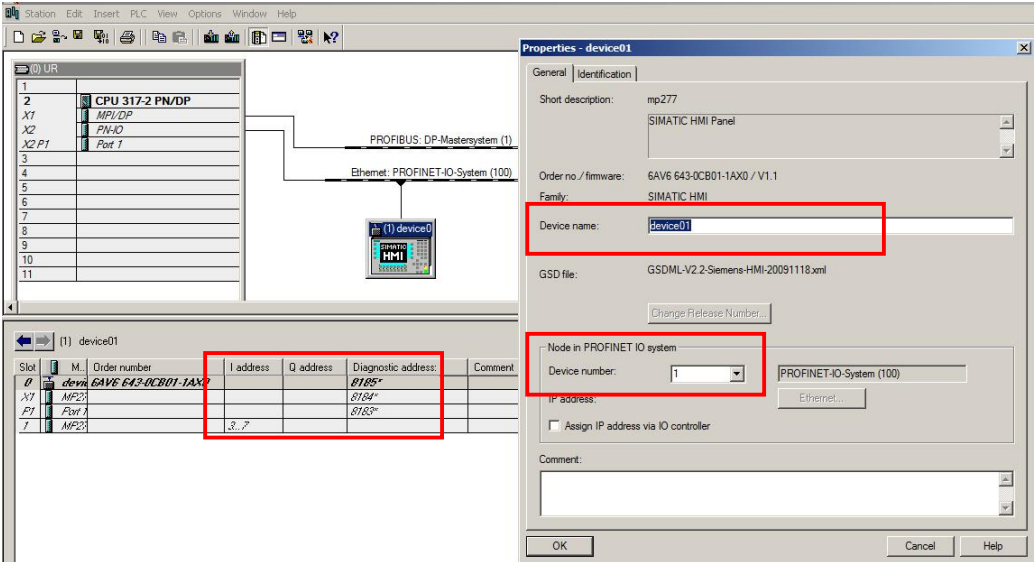
3.6.1 Communication via PROFINET IO

With regard to the initial situation, the existing MP 277 Touch operator panel is replaced with a TP1200 Comfort panel.

Note

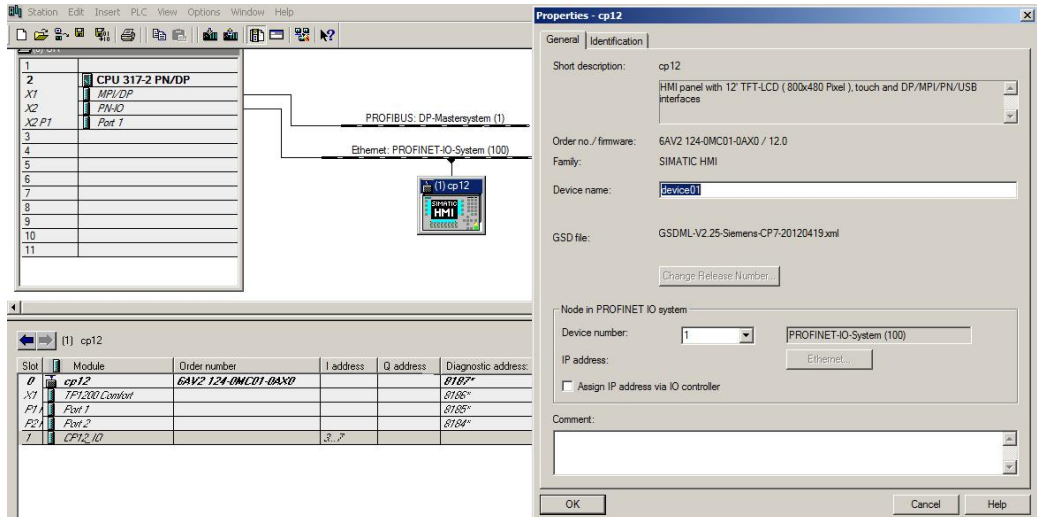
- Please note, that the “direct buttons” are configured in the SIMATIC Manager.
- If direct buttons are configured from one panel to several CPUs, the direct buttons only work at one CPU. The other CPUs indicate a bus/group error.

Table 3-9

No.	Action
1.	Replacing an existing MP 277 GSD file with the TP1200 Comfort GSDML file GSD file MP 277 Touch Before replacing the GSD file of the MP 277 Touch, note down the properties used. Particularly note down the • I/O addresses, • device name, • device number, • diagnostic addresses (if these are evaluated). 

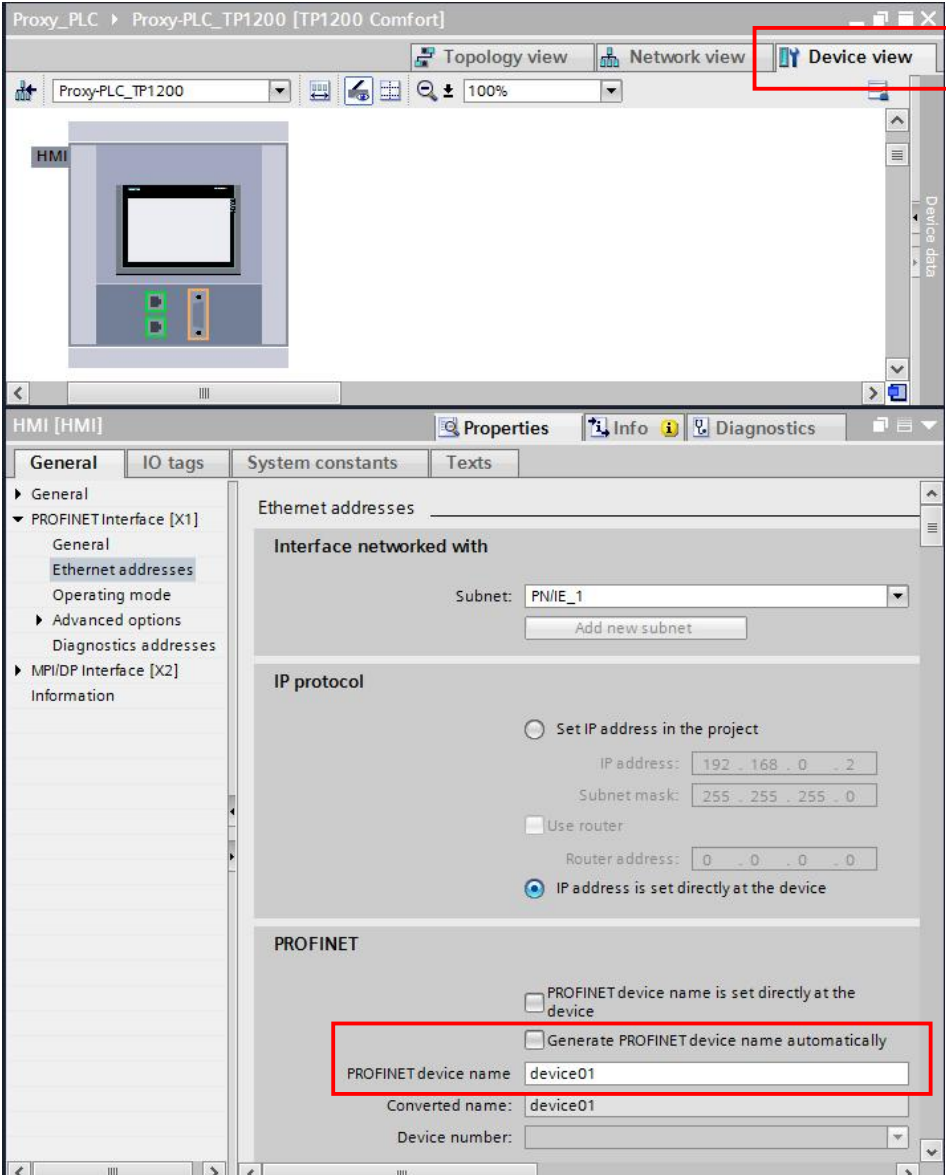
3 Configuration and Settings

3.6 Direct buttons

No.	Action
	Inserting the GSDML file for the TP1200 Comfort panel The GSDML file is available in the hardware catalog of the SIMATIC Manager (see chapter 3.5). • Drag the configured operator panel type (TP1200 Comfort) via drag & drop from the hardware catalog to the displayed PROFINET IO bus. • Adjust the properties: - I/O addresses, - device name, corresponds to the PROFINET name, (For the device name, ensure that it is compliant with "PROFINET IO" → lower-case letters, no spaces etc.) - device number, - diagnostic addresses (if these are evaluated). • Confirm the entries with OK. If no changes have been made regarding the addresses, no changes are required in the PLC program. • Save and compile the configuration and transfer the hardware configuration to the controller.  The screenshot shows the SIMATIC Manager interface. On the left, the hardware rack is visible with slots 1 to 11. Slot 1 contains a CPU 317-2 PN/DP. Slot 2 contains an MPI/DP module. Slot 3 contains a PN-IO module. Slot 4 contains a Port 1 module. Slot 5 contains a Port 2 module. Slot 6 contains a CP 12-1 module. The rack is connected to a PROFINET IO system (100). On the right, the 'Properties - cp12' dialog box is open. The 'General' tab is selected. The 'Short description' is 'cp 12'. The 'Order no./firmware' is '6AV2 124-0MC01-0AX0 / 12.0'. The 'Family' is 'SIMATIC HMI'. The 'Device name' is 'Device01'. The 'GSD file' is 'GSDML-V2.25-Siemens-CP7-20120419.xml'. The 'Node in PROFINET IO system' section shows 'Device number' as '1' and 'IP address' as '192.168.0.1'. The 'Assign IP address via IO controller' checkbox is unchecked. The 'Comment' field is empty.

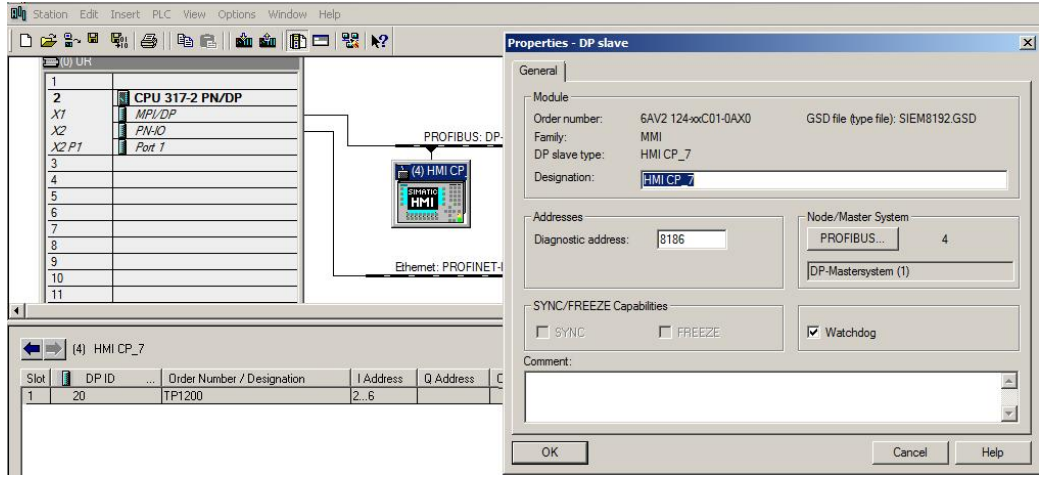
3 Configuration and Settings

3.6 Direct buttons

No.	Action
2.	WinCC V13 settings, entering a PROFINET name • Open the device configuration of TP1200 Comfort and go to the “Device view”. • Open the properties of the TP1200 Comfort. • Enter the PROFINET device name in “Properties > General > PROFINET Interface [X1] > Ethernet addresses”. - Scroll down to “PROFINET”. In order to assign the PROFINET device name, the “Generate PROFINET device name automatically” option must be disabled. Note The PROFINET name in the WinCC V13 configuration must match the PROFINET name stored in the SIMATIC Manager (see properties of the GSDML file, link). Thus, the required settings are completed. 

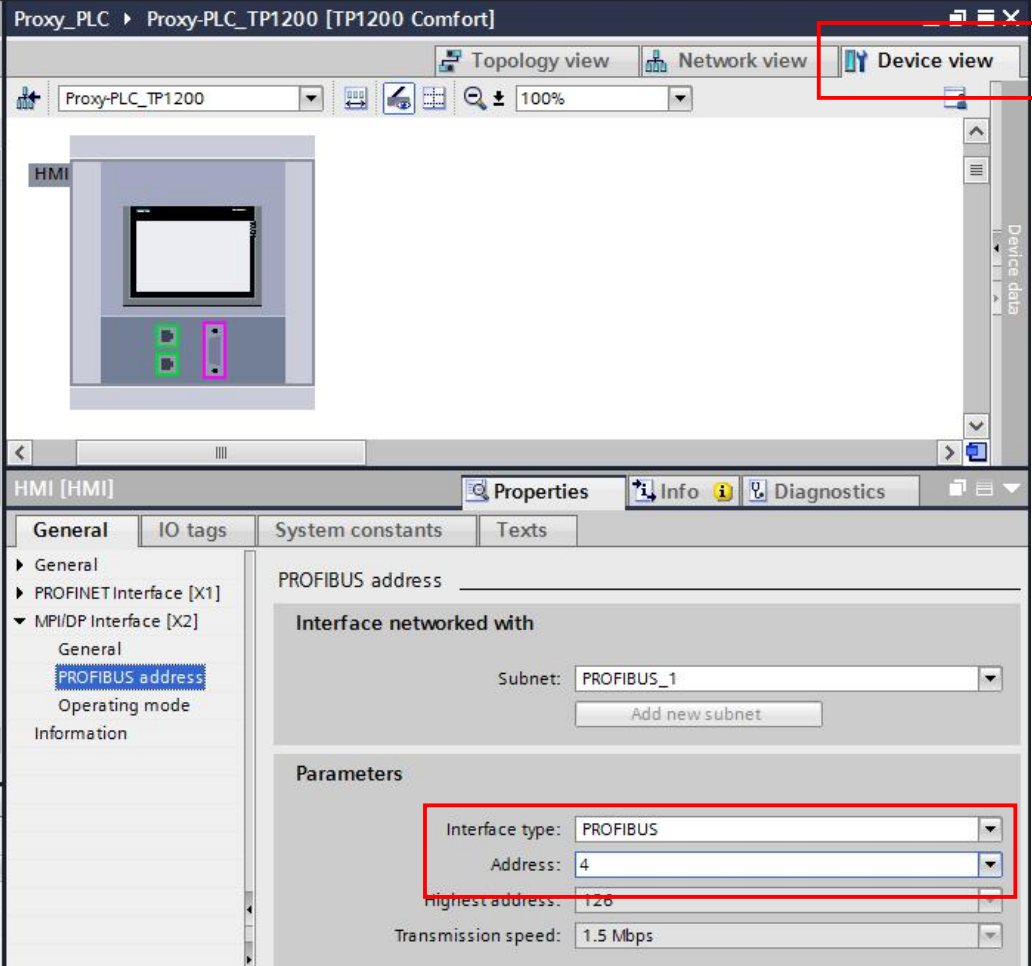
3 Configuration and Settings

3.6 Direct buttons

No.	Action
	Inserting the GSD file for the TP1200 Comfort The GSD file is available in the hardware catalog of the SIMATIC Manager (see chapter 3.5). • Drag the GSD module which contains the configured operator panel (HMI CP_7) from the hardware catalog to the displayed PROFIBUS DP bus via drag & drop. • Select the configured operator panel type (TP1200 Comfort) from the GSD module (HMI CP_7) and drag it into the properties field of the GSD module via "drag & drop". • Adjust the properties: - I/O addresses, - device name, - PROFIBUS.... (Here, enter the PROFIBUS address which has also been set at the panel), - diagnostic addresses (if these are evaluated). • Confirm the entries with OK. If no changes have been made regarding the addresses, no changes are required in the PLC program. • Save and compile the configuration and transfer the hardware configuration to the controller. 

3 Configuration and Settings

3.6 Direct buttons

No.	Action
2.	WinCC V13 settings, entering a PROFIBUS address • Open the device configuration of TP1200 Comfort and go to the "Device view". • Open the properties of the TP1200 Comfort. • Network the PROFIBUS interface via "Properties > General > MPI/DP Interface [X2] > PROFIBUS address". - Section "Interface networked with" Create a new PROFIBUS subnet here (if not yet created). - Section "Parameters" Specify the PROFIBUS address here. Note The PROFIBUS address in the WinCC V13 configuration must match the PROFIBUS address stored in the SIMATIC Manager (see properties of the GSD file, link). Thus, the required settings are completed. 

3.7 Routing

3.7.1 General information

As of WinCC V13 SP1, device proxy PLCs can communicate with operator panels via several subnets.

The communication with the connection partners is possible via the following connections:

- PROFINET
- PROFIBUS
- MPI

Depending on the connection, the following connection parameters have to be noted down from the STEP 7 V5 configuration and assigned to the connections in the WinCC (TIA Portal). A description follows later in the chapter.

Table 3-11

Connection	Parameter
Ethernet	S7 subnet ID
MPI / PROFIBUS	• Highest address • Transmission speed • Bus parameter

Creating a new configuration

If you are creating a new project that is divided in two parts,

- PLC program → SIMATIC Manager
- HMI program → WinCC (TIA Portal)

the HMI operator panel does **not** have to have been integrated in the SIMATIC Manager beforehand in order to be able to use the routing functionality between a device proxy PLC and the HMI operator panel.

Required connections

Initial situation

The PLC program is created using the SIMATIC Manager (CPU 300/400).
The HMI configuration is created using WinCC (TIA Portal) (Comfort Panel).

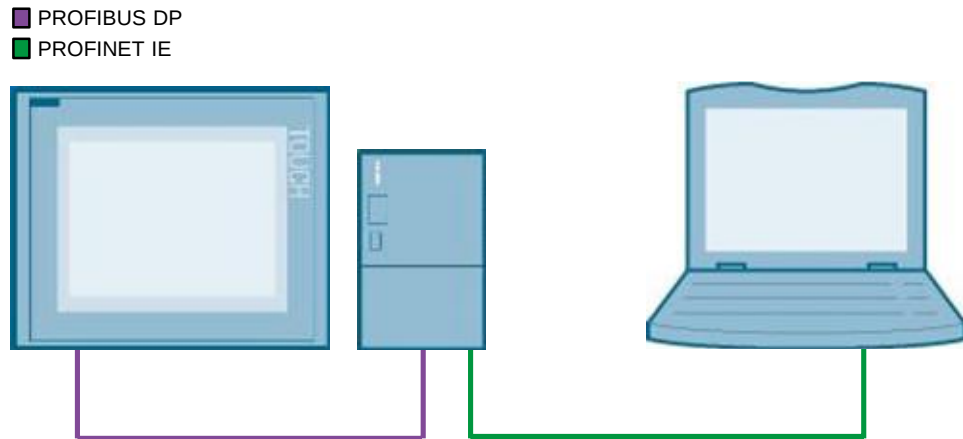
The assigned SIMATIC controller has to be networked with the PROFIBUS network in the SIMATIC Manager in order for the Comfort Panel to be able to communicate with the SIMATIC controller via PROFIBUS.

3.7.2 Example 01

Initial situation

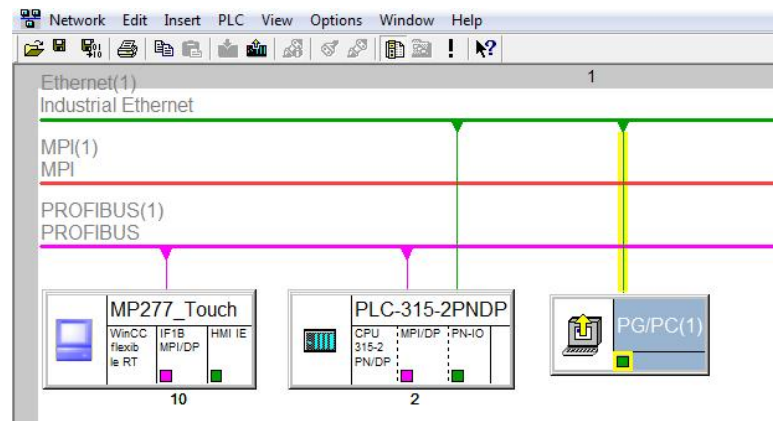
The operator panel is connected with the controller via PROFIBUS.
The controller is connected with the configuration computer via Ethernet.
The HMI configuration is to be transferred to the operator panel with the configuration computer that is connected to the Ethernet.

Figure 3-2



The figure shows the initial situation in the NetPro view in the SIMATIC Manager.

Figure 3-3

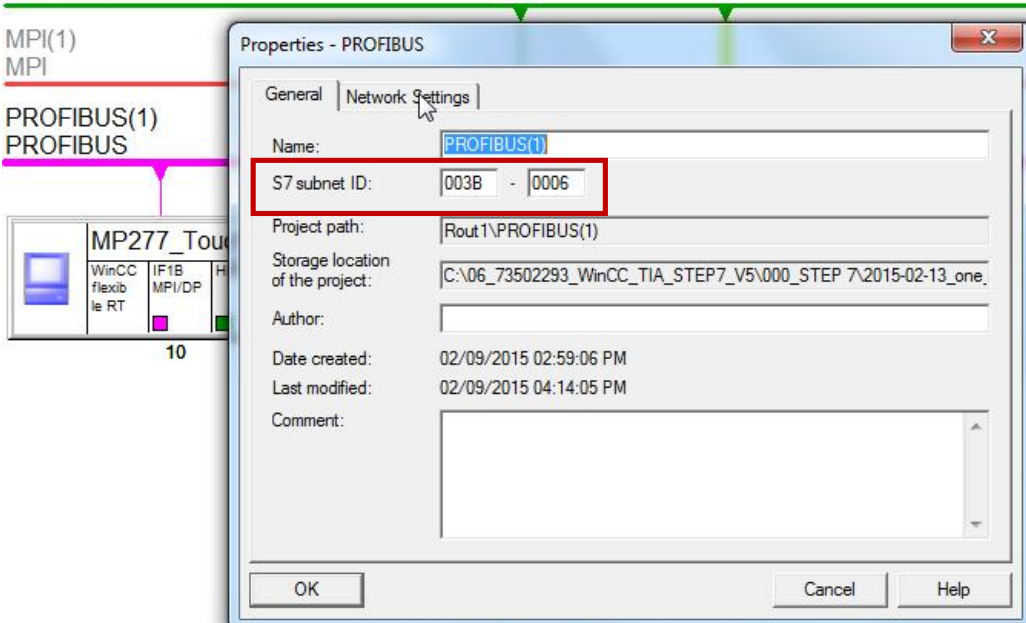


Note

How to create a routing connection with the SIMATIC Manager, is explained in the FAQ in entry ID: [2383206](#).

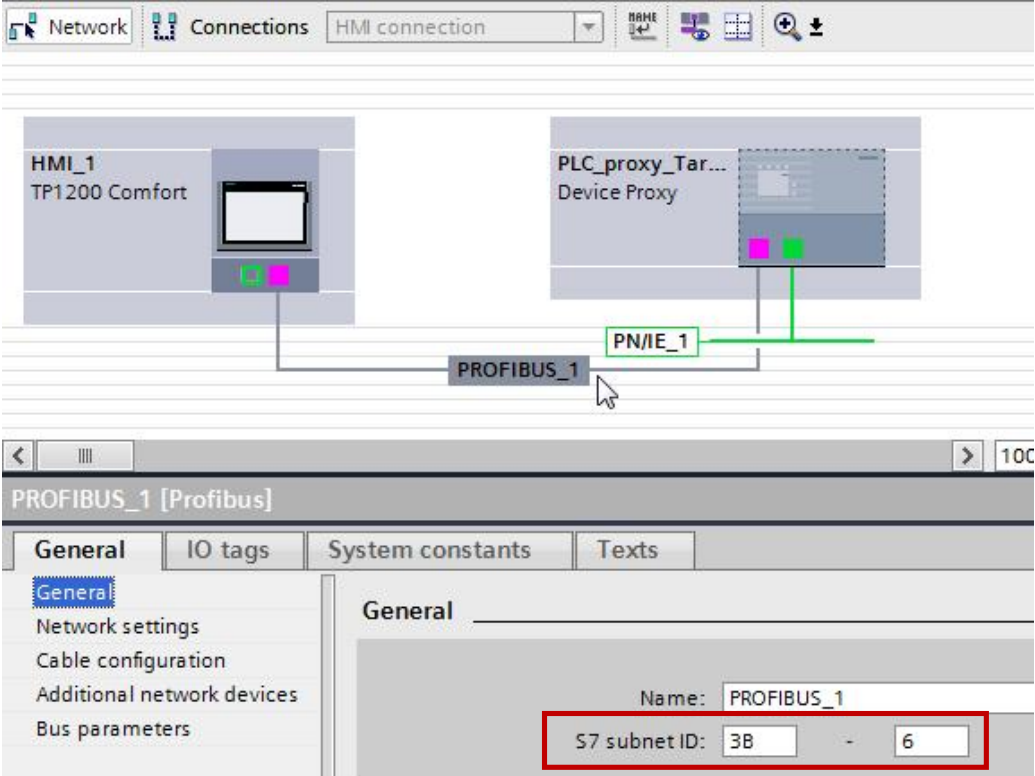
WinCC (TIA Portal) configuration

Table 3-12

No.	Action
1.	Preparatory measures Noting down “S7 subnet ID” • Open “NetPro” in the SIMATIC Manager. • Open the properties of the Ethernet connection and note down the “S7 subnet ID”. In this example: 3B – 4 • Open the properties of the PROFIBUS connection and note down the “S7 subnet ID”. In this example: 3B – 6 Example view: “Properties -PROFIBUS”  Noting down IP and PROFIBUS address/parameters • Note down the IP address or the PROFIBUS parameters of the operator panel used (see Table 3-11)
2.	Creating and initializing a device proxy PLC • Add a device proxy PLC to the WinCC (TIA Portal) configuration. (Description see chapter 3.1). • Perform the initialization of the device proxy PLC. (Description see chapter 3.2).
3.	Adding an operator panel Migrate the operator panel from the SIMATIC Manager or add a new operator panel to the WinCC (TIA Portal) configuration. How to migrate an operator panel is described in FAQ 54695062.

3 Configuration and Settings

3.7 Routing

No.	Action
4.	Assigning/checking addresses and parameters By initializing the device proxy PLC, all relevant data of the CPU have been applied automatically. Depending on whether you have migrated the operator panel or added it new, check or enter the required connection parameters.
5.	Networking devices - Open the “Devices & networks” menu via the project tree. - Network the operator panel and the device proxy PLC via PROFIBUS. - Network the device proxy PLC via Ethernet. - Open the properties of the Ethernet connection. Enter the “S7 subnet ID” which you have previously noted down from the SIMATIC Manager in “Properties > General” for the “S7 subnet ID”. - Open the properties of the PROFIBUS connection. Enter the “S7 subnet ID” which you have previously noted down from the SIMATIC Manager in “Properties > General” for the “S7 subnet ID”. In this example: 3B – 6. 

No.	Action
6.	Creating connections - Go from the “network mode” to the “connection mode”. - Network the operator panel with the controller. NetworkConnectionsHMI connection NAME HMI_1 TP1200 Comfort PLC_proxy_Tar... Device Proxy PN/IE_1 HMI_Connection Notes - In this constellation, you do not have to configure any “routing connection”. The system automatically detects the connection path during the transfer. - The “PG/PC station” required in the SIMATIC Manager is not required in WinCC (TIA Portal).

3 Configuration and Settings

3.7 Routing

No.	Action																																																																											
7.	Transferring an HMI project - Select the HMI project in the project tree. - Execute the “Download to device” function. The window “Extended download to device” opens. - Make the required transfer settings. - Transfer the configuration. Notes - For an Ethernet connection, “PN/IE” has to be selected in “Connection to interface/subnet” (1). - Once you have made the transfer settings, the “routed” connection is displayed via the device proxy PLC in the “1st gateway” field (2). Extended download to device Configured access nodes of "HMI_1" <table><tr><th>Device</th><th>Device type</th><th>Slot</th><th>Type</th><th>Address</th><th>Subnet</th></tr><tr><td>HMI_1</td><td>TP1200 Comfort</td><td></td><td>Ethernet</td><td>192.168.0.2</td><td></td></tr><tr><td>HMI_1.IE_CP_1</td><td>PROFINET Interface</td><td>5 1</td><td>PN/IE</td><td>192.168.0.2</td><td></td></tr><tr><td>HMI_1.MPI/DP_CP_1</td><td>MPI/DP Interface</td><td>7 X2</td><td>PROFIBUS</td><td>10</td><td>PROFIBUS_1</td></tr><tr><td>HMI_RT_1</td><td></td><td></td><td>S7USB</td><td>—</td><td></td></tr></table> Type of the PG/PC interface: PN/IE PG/PC interface: Intel(R) PRO/1000 MT Network Connection Connection to interface/subnet: PN/IE_1 1st gateway: PLC_proxy_Target Compatible devices in target subnet: Show all compatible devices <table><tr><th>Device</th><th>Device type</th><th>Type</th><th>Address</th><th>Target device</th></tr><tr><td>—</td><td>—</td><td>PROFIBUS</td><td>10</td><td>—</td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr></table> Flash LED Start search Online status information: Retrieving device information... Scan and information retrieval completed. Display only error messages Load Cancel	Device	Device type	Slot	Type	Address	Subnet	HMI_1	TP1200 Comfort		Ethernet	192.168.0.2		HMI_1.IE_CP_1	PROFINET Interface	5 1	PN/IE	192.168.0.2		HMI_1.MPI/DP_CP_1	MPI/DP Interface	7 X2	PROFIBUS	10	PROFIBUS_1	HMI_RT_1			S7USB	—		Device	Device type	Type	Address	Target device	—	—	PROFIBUS	10	—																																			
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Device	Device type	Type	Address	Target device																																																																								
—	—	PROFIBUS	10	—																																																																								

3.7.3 Example 02

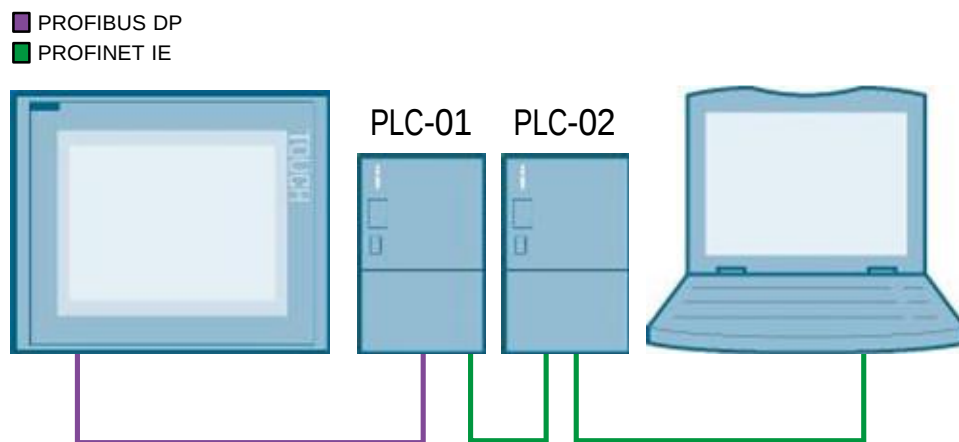
Initial situation

The operator panel is connected with the PLC-01 via PROFIBUS.
 The PLC-01 is connected with the PLC-02 via Ethernet.
 The PLC-02 is connected with the configuration computer via Ethernet.

The HMI configuration shall

- be transferred to the operator panel with the configuration computer that is connected to the Ethernet.
- exchange data with the PLC-02.

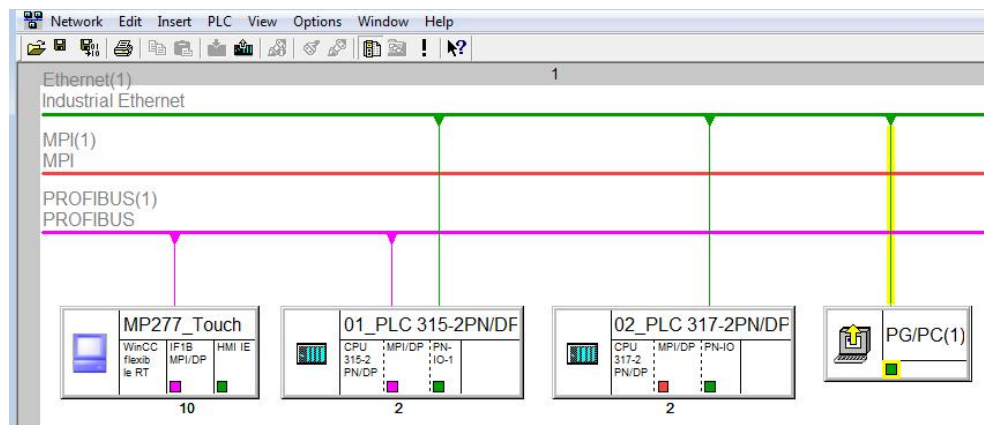
Figure 3-4



The figure shows the initial situation in the NetPro view in the SIMATIC Manager.

- PLC-01 → 01_PL C 315-2PN/DP
- PLC-02 → 02_PL C 317-2PN/DP

Figure 3-5

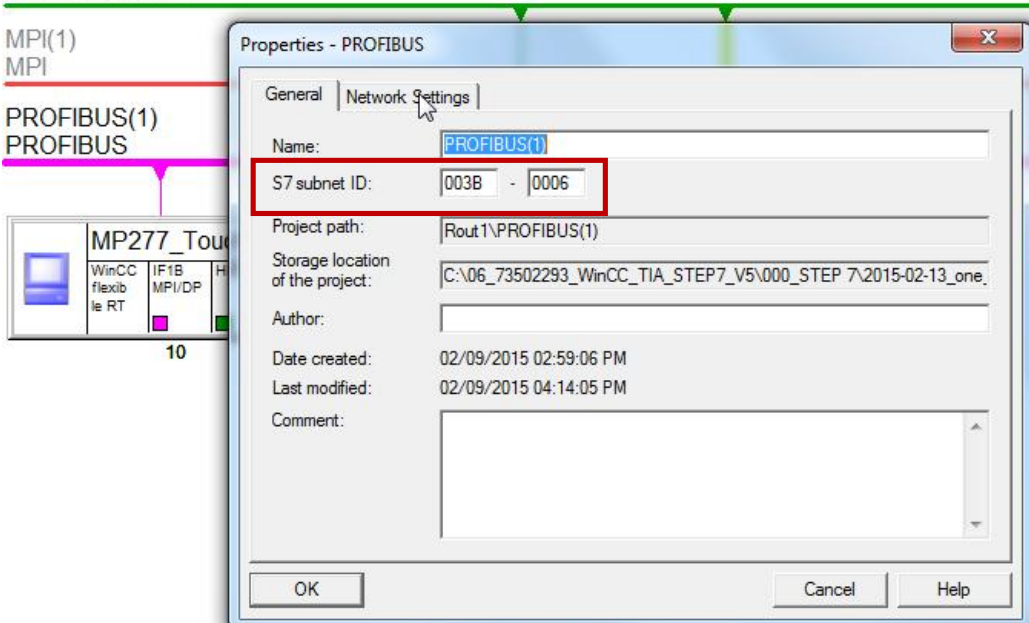


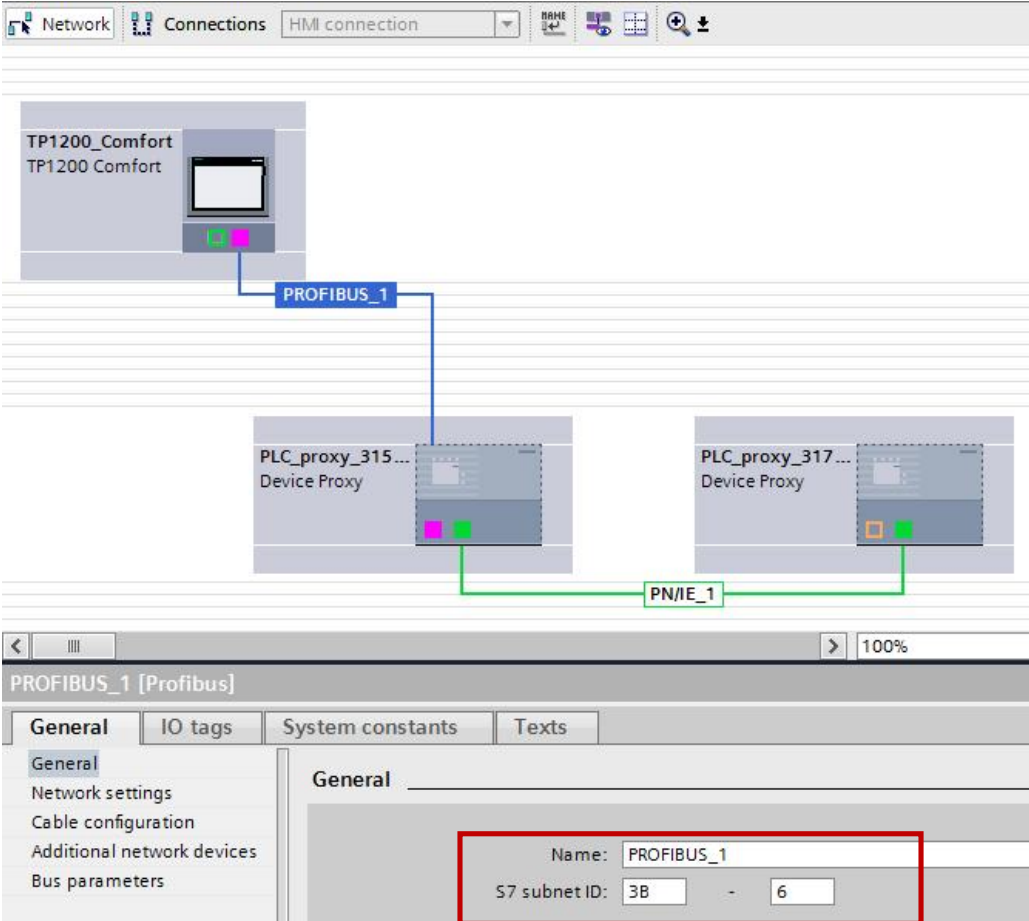
Note

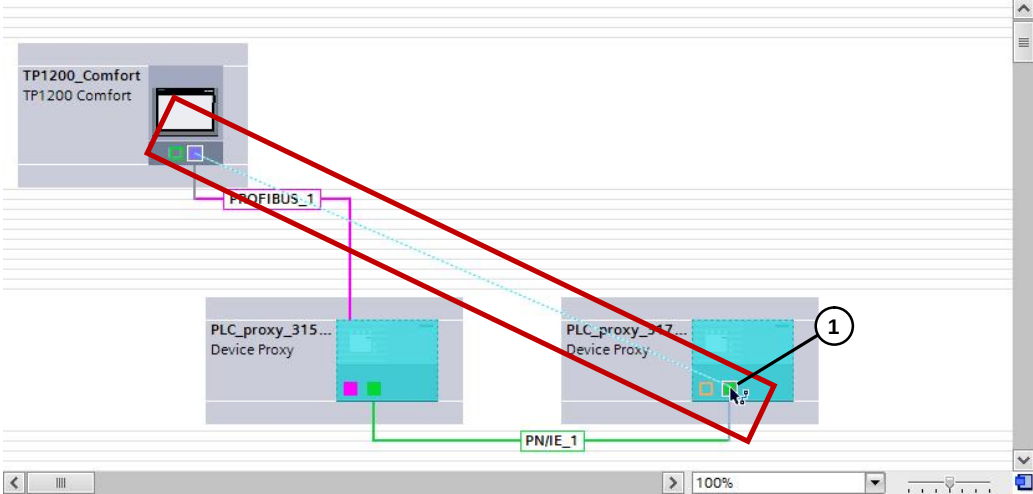
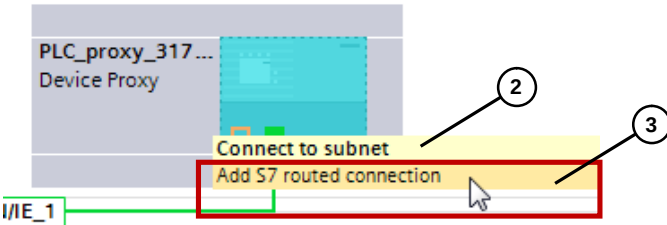
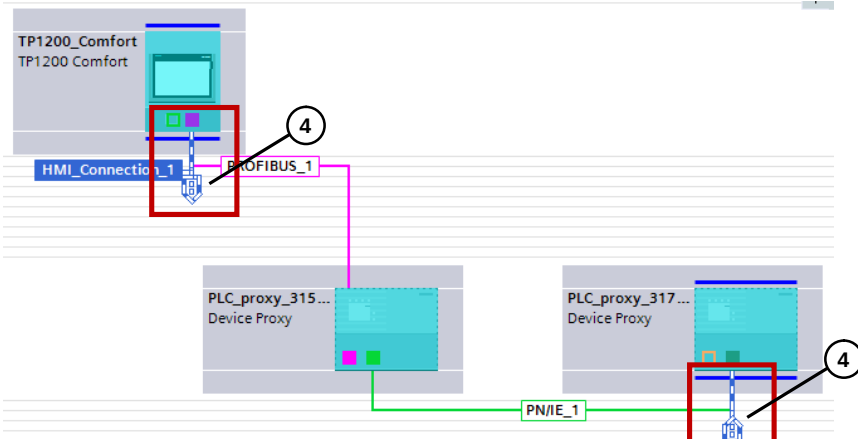
How to create a routing connection with the SIMATIC Manager, is explained in the FAQ in entry ID: [2383206](#).

WinCC (TIA Portal) configuration

Table 3-13

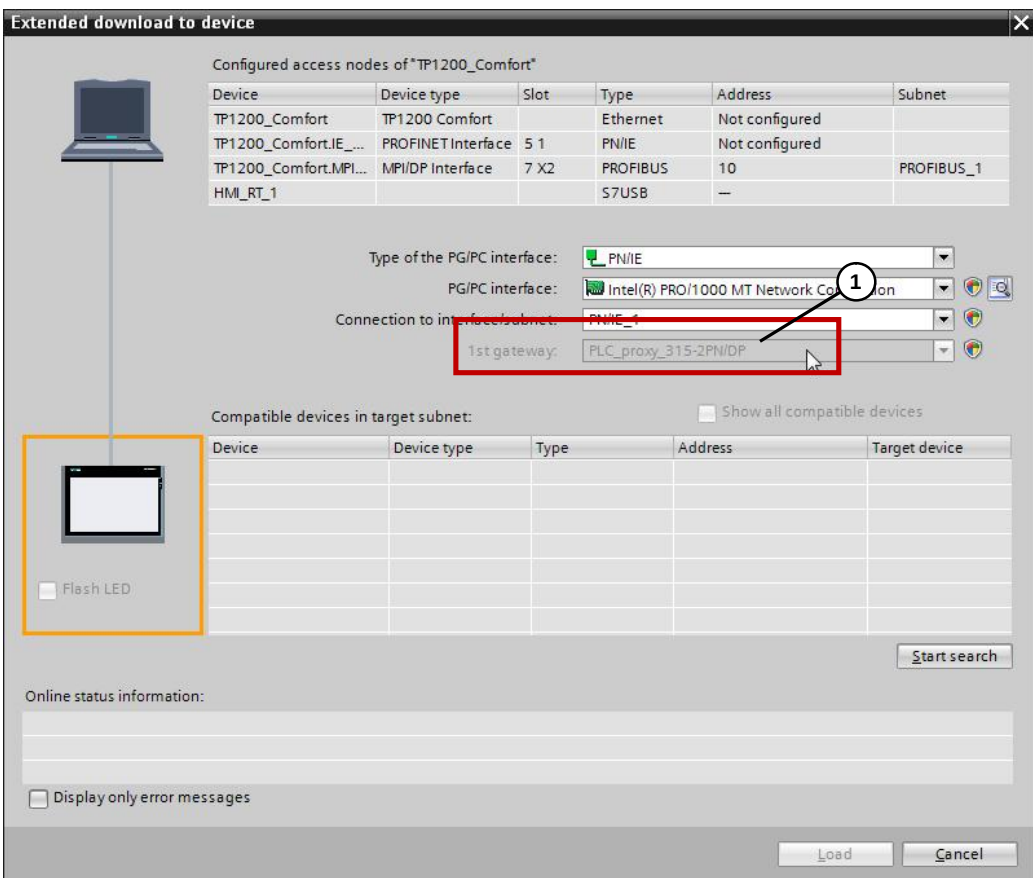
No.	Action
1.	Preparatory measures Noting down “S7 subnet ID” • Open “NetPro” in the SIMATIC Manager. • Open the properties of the Ethernet connection and note down the “S7 subnet ID”. In this example: 3B – 4 • Open the properties of the PROFIBUS connection and note down the “S7 subnet ID”. In this example: 3B – 6 Example view: “Properties -PROFIBUS”  Noting down IP and PROFIBUS address/parameters • Note down the IP address or the PROFIBUS parameters of the operator panel used (see Table 3-11)
2.	Creating and initializing a device proxy PLC • Add two device proxy PLCs to the WinCC (TIA Portal) configuration. (Description see chapter 3.1). • Perform the initialization of the device proxy PLC. (Description see chapter 3.2).
3.	Adding an operator panel Migrate the operator panel from the SIMATIC Manager or add a new operator panel to the WinCC (TIA Portal) configuration. How to migrate an operator panel is described in FAQ 54695062.

No.	Action
4.	Assigning/checking addresses and parameters By initializing the two device proxy PLCs, all relevant data of the CPU have been applied automatically. Depending on whether you have migrated the operator panel or added it new, check or enter the required connection parameters.
5.	Networking devices - Open the “Devices & networks” menu via the project tree. - Network the operator panel and the device proxy PLC_315-2PN/DP via PROFIBUS. - Network the device proxy PLC_315-2PN/DP and the device proxy PLC_375-2PN/DP via Ethernet. - Open the properties of the Ethernet connection. Enter the “S7 subnet ID” which you have previously noted down from the SIMATIC Manager in “Properties > General” for the “S7 subnet ID”. In this example: 3B – 4. - Open the properties of the PROFIBUS connection. Enter the “S7 subnet ID” which you have previously noted down from the SIMATIC Manager in “Properties > General” for the “S7 subnet ID”. In this example: 3B – 6. 

No.	Action
6.	Creating device connections - Go from the “network mode” to the “connection mode”. - Connect the operator panel with the PLC_proxy 317-2PN/DP. If you click the interface with the left mouse button (1), a yellow menu item is shown.  - Menu item for enabling the “routing connection” (2) Select the “Add S7 routed connection” option in the menu item (3). The color changes once selected.  - View of the created routing connection (4). 

3 Configuration and Settings

3.7 Routing

No.	Action																																																																																					
7.	Transferring an HMI project - Select the HMI project in the project tree. - Execute the "Download to device" function. The window "Extended download to device" opens. - Make the required transfer settings. - Transfer the configuration. Note Once you have made the transfer settings, the "routed" connection is displayed via the device proxy PLC in the "1st gateway" field (1).  Configured access nodes of "TP1200_Comfort" <table border="1"> <thead> <tr> <th>Device</th> <th>Device type</th> <th>Slot</th> <th>Type</th> <th>Address</th> <th>Subnet</th> </tr> </thead> <tbody> <tr> <td>TP1200_Comfort</td> <td>TP1200 Comfort</td> <td></td> <td>Ethernet</td> <td>Not configured</td> <td></td> </tr> <tr> <td>TP1200_Comfort.IE_...</td> <td>PROFINET Interface</td> <td>5 1</td> <td>PN/IE</td> <td>Not configured</td> <td></td> </tr> <tr> <td>TP1200_Comfort.MPI...</td> <td>MPI/DP Interface</td> <td>7 X2</td> <td>PROFIBUS</td> <td>10</td> <td>PROFIBUS_1</td> </tr> <tr> <td>HMI_RT_1</td> <td></td> <td></td> <td>S7USB</td> <td>—</td> <td></td> </tr> </tbody> </table> Type of the PG/PC interface: PN/IE PG/PC interface: Intel(R) PRO/1000 MT Network Connection Connection to interface/subnet: PNIE_1 1st gateway: PLC_proxy_315-2PN/DP Compatible devices in target subnet: ☐ Show all compatible devices <table border="1"> <thead> <tr> <th>Device</th> <th>Device type</th> <th>Type</th> <th>Address</th> <th>Target device</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table> ☐ Flash LED Start search Online status information: ☐ Display only error messages Load Cancel	Device	Device type	Slot	Type	Address	Subnet	TP1200_Comfort	TP1200 Comfort		Ethernet	Not configured		TP1200_Comfort.IE_...	PROFINET Interface	5 1	PN/IE	Not configured		TP1200_Comfort.MPI...	MPI/DP Interface	7 X2	PROFIBUS	10	PROFIBUS_1	HMI_RT_1			S7USB	—		Device	Device type	Type	Address	Target device																																																		
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3.8 H controller

As of WinCC V13 SP1, device proxy PLCs can be used with H controllers.

The H controller and the controller program are created with the SIMATIC Manager. To connect the operator panel to the H CPU, the proxy PLC is used in WinCC (TIA Portal).

Prerequisite for the use of the proxy PLC is a consistent STEP 7 V5.x project.

For more information, please refer to entry ID: [96837136](#). For this purpose, refer to chapters 3.4 to 4.4.

4 Restrictions

This chapter includes notes on functions that are not supported by the device proxy PLC or which are only available to a limited extent.

MS Windows operating system

The connection of a STEP 7 V5.x project requires the installation of the SIMATIC Manager on the same system. The combination of WinCC V13 and SIMATIC Manager is exclusively possible with Windows 7.

Direct buttons

Please note the procedure described in chapter [3.5.2](#).

Routing

Up to WinCC V13 (TIA Portal):

The communication between an operator panel and the CPU via the routing functionality of an S7 CPU is not supported.

As of WinCC V13 SP1 (TIA Portal):

The communication between an operator panel and the CPU via the routing functionality of an S7 CPU is supported (see chapter 3.7).

S7 PDIAG process diagnostics

The S7 PDIAG process diagnostics (incl. S7-PDIAG alarm) is not supported.

STEP 7 multiprojects

STEP 7 multiprojects are not supported.

H controllers

Up to WinCC V13 (TIA Portal):

H controllers are not supported.

As of WinCC V13 SP1 (TIA Portal):

H controllers are supported (see chapter 3.8).

MPI

Up to WinCC V13 (TIA Portal):

Communication via MPI is not supported.

As of WinCC V13 SP1 (TIA Portal):

Communication via MPI is supported.

CPU alarm procedure

“Assign unique message numbers CPU-wide”, as previously available, is not supported. Use the current, CPU-wide unique message number assignment.

Stations with several CPUs

Stations with several CPUs (e. g. two CPUs of type 400 in one rack) are not supported.

Alarm_D alarm procedure

Alarm_D alarms that have been created in the CFC programming language are also supported as of WinCC V13 SP1 (TIA Portal).

5 Links & Literature

Table 5-1

	Topic	Title
\1\	Siemens Industry Online Support	http://support.automation.siemens.com
\2\	Download page of the entry	https://support.industry.siemens.com/cs/ww/en/view/73502293
\3\	Manual	WinCC Advanced V13.0 SP1 https://support.industry.siemens.com/cs/#mdm/109091876?c=74461101323&t=1&s=WinCC Advanced V13 SP1&lc=en-EN
\4\	Manual	SIMATIC HMI devices Comfort Panels http://support.automation.siemens.com/WW/view/en/49313233
\5\	Application	Migration of Plants with SIMATIC (TIA Portal) – Visualization http://support.automation.siemens.com/WW/view/en/76878921
\6\	FAQ	How do you migrate a project integrated in STEP 7 from WinCC flexible to WinCC (TIA Portal)? http://support.automation.siemens.com/WW/view/en/54695062
\7\	FAQ	What requirements must be fulfilled and what should I watch out for when executing Routing? https://support.industry.siemens.com/cs/de/en/view/2383206
\8\	FAQ	In WinCC (TIA Portal), how do you transfer a project to an HMI panel using S7 Routing? https://support.industry.siemens.com/cs/de/en/view/90528617
\9\	FAQ	How do you connect a panel to a SIMATIC H station? https://support.industry.siemens.com/cs/ww/en/view/96837136

6 History

Table 6-1

Version	Date	Modifications
V1.0	03/2014	First version
V2.0	03/2015	Functional expansion (Routing...)
V2.1	09/2015	Expansion of supported controllers (ET200 IM151-8 CPU)
V3.0	08/2016	Description of GSDML file. New outline.