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SIMATIC S7-based telecontrol via the IEC 60870-5 protocol

CP 1243-1, CP 1542SP-1 IRC, TIM 1531 IRC

https://support.industry.siemens.com/cs/ww/en/view/87447188

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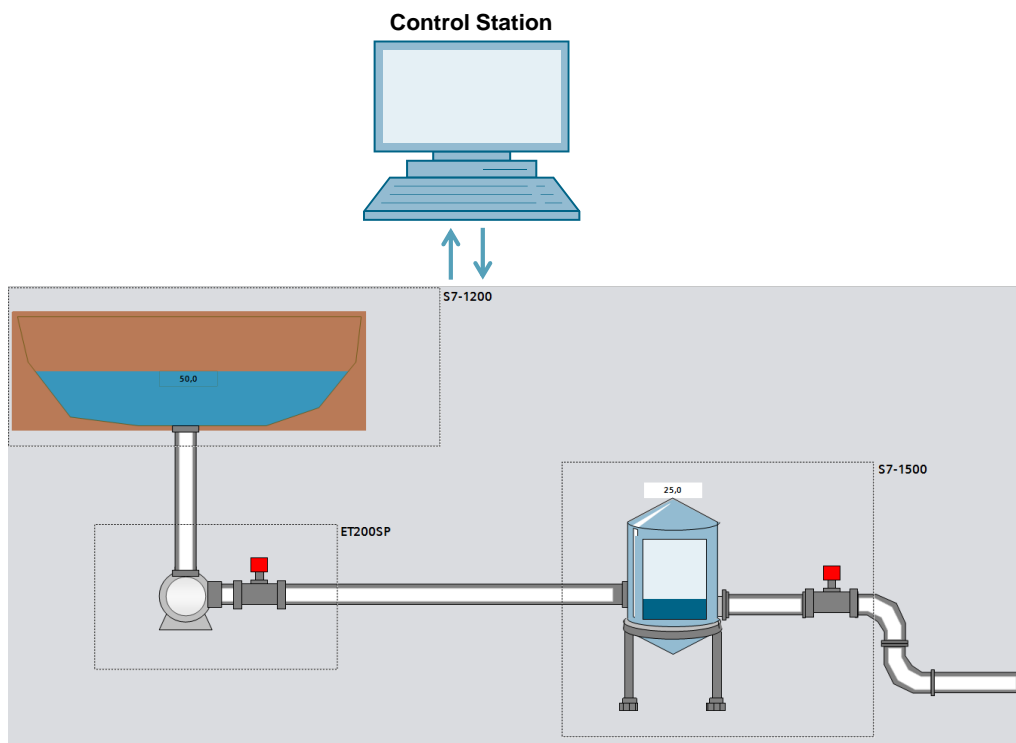
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1 The task

Overview of the automation task

The outstations "rain overflow basin", "pump station" and "elevated tank" are connected to a central control station.

The following figure gives an overview of the automation task.

Figure 1-1

Description of the automation task

An elevated tank that, for example, is responsible for supplying water to a town, is monitored by a SIMATIC S7-1500. If the level falls below the minimum, the pumping station is activated until the elevated tank is completely filled again.

The pumping station is monitored and controlled by an ET 200SP.

The stormwater overflow tank is monitored by a SIMATIC S7-1200. The level is transmitted to the control station, as is an alarm if the minimum or maximum level is reached.

The requirements based on the automation task

1. The control center must be able to request process data from the outstations.

2. The control station must be able to send commands and setpoints spontaneously to the outstations.

3. The outstations must be able to send process data spontaneously to the control station.

4. Process data must be stored in the outstations and sent to the master when the connection is re-established in the event of a disconnection.

5. A standardized protocol must be used for the implementation.

2 Solution

2.1 Overview

The control station communicates with the external stations via the telecontrol protocol IEC 60870-5 via Ethernet (IEC 60870-5-104).

In the application example, the following types of data points have been configured.

- Commands (Single Command)
- Measured values (Measured value, short floating point number)
- Binary Messages (Single-point information)

In the example, all data points are provided with time stamps.

The integration of TeleControl configuration into the TIA Portal V17 simplifies engineering. In addition, cross-communication between the outstations is now possible:

- S7-1200 with
    - CP 1243 1 or
    - CP 1243 7 LTE or
    - CP 1243-8 IRC
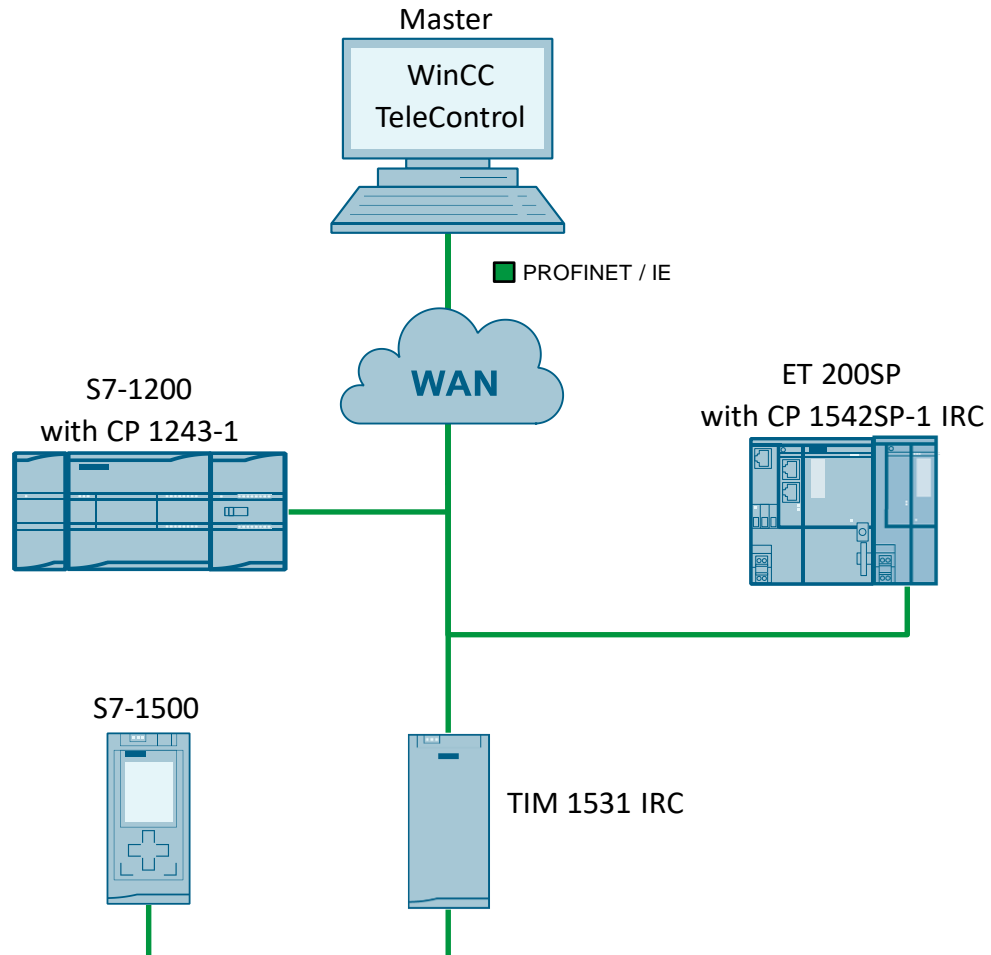- ET 200SP with CP 1542SP-1 IRC
- S7-1500 with TIM 1531 IRC

| NOTE | The scenario is typically put into operation with VPN tunnels. The configuration required for this is not covered in this document. |

Diagram

The following diagram shows the most important components of the configured solution:

Figure 2-1

The outstations are available in 3 versions:

- S7-1500 with TIM 1531 IRC
- S7-1200 with CP 1243-1
- ET 200SP (based on S7-1500) with CP 1542SP-1 IRC

The WinCC TeleControl software is installed at the control station, making the control station the IEC master.

A SIMATIC S7-1500 CPU with the TIM 1531 IRC as IEC station is installed on the outstation "elevated tank".

The outstation "rain overflow basin" consists of a SIMATIC S7-1200 CPU and a CP 1243-1 installed as IEC station.

The outstation "pump station" consists of a SIMATIC ET 200SP CPU and a CP 1542SP-1 IRC installed as IEC station.

Advantages

The solution presented here offers you the following advantages:

- Use of the standardized IEC 60870-5 protocol
- Efficient and safe monitoring and control of process plants
- Homogeneous SIMATIC solution, as the SIMATIC portfolio offers software and hardware for IEC 60875-5 masters and outstations
- Connection to all standardized IEC 60875-5 master systems.

Typical configuration with VPN tunnels

It is also possible to secure communication via VPN tunnels. The hardware structure could look like the following figure:

Figure 2-2
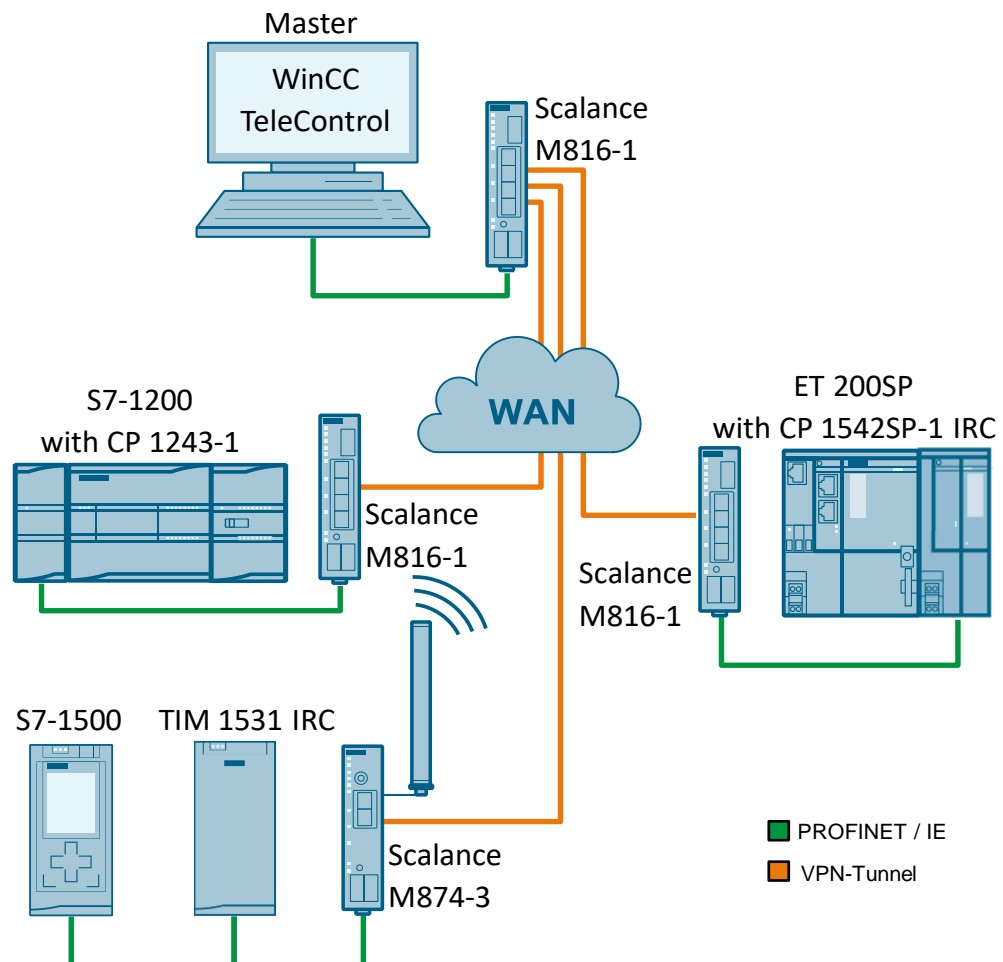
	NOTE	The configuration is not described further in this application example. An overview document of the various configuration options can be found under the following link:

https://support.industry.siemens.com/cs/ww/en/view/26662448

Scenario

The application example is operated via the WinCC Runtime. The user interface is shown in the following figure.

Figure 2-3
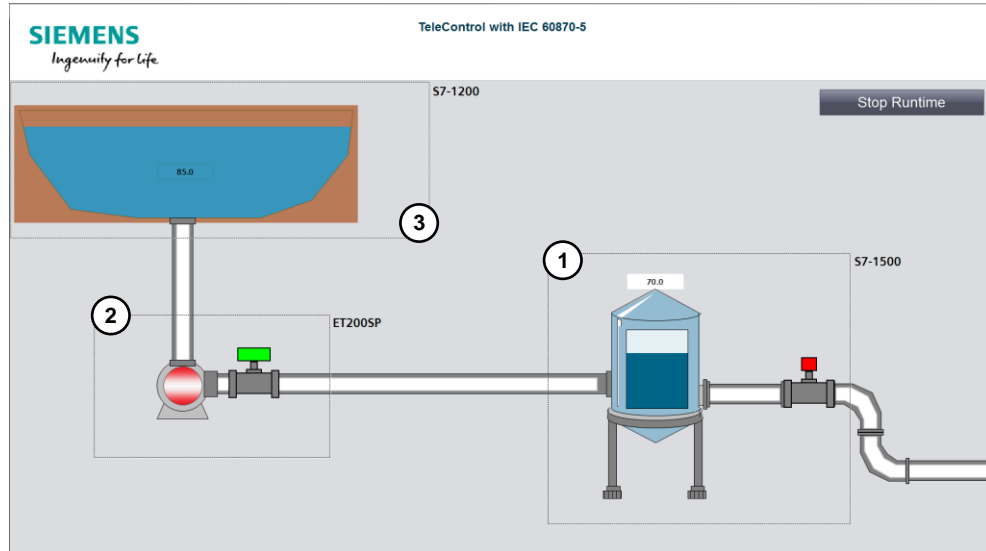
1. The filling level is simulated in the station "elevated tank" (S7-1500). This is transferred to the master when changes are made. If the level falls below a minimum (<=10%), an alarm is sent to the master. The pumping station must be activated by the operator to fill the elevated tank. If the maximum is reached (>= 90%), an alarm is sent again to the operator that intervention is required to prevent the elevated tank from overflowing. The operator can drain water from the elevated tank via a valve.

2. In the station "Pumpstation" (ET 200SP) a valve can be controlled by the operator. Depending on the valve position, the pump is activated or deactivated.

3. In the station "stormwater overflow tank" (S7-1200) the filling level is simulated and if there is a value change it is sent to the master.

2.2 Components used

This application example has been created with the following hardware and software components:

Table 2-1

Component	Number	Article number	Note
SIMATIC Field PG M6	1	6ES7718-0....-0...	
CPU 1511-1 PN	1	6ES7511-1AK01-0AB0	Firmware V2.6 or higher
TIM 1531 IRC	1	6GK7543-1MX00-0XE0	Firmware V2.0 or higher
CPU 1214C DC/DC/DC	1	6ES7214-1AG40-0XB0	Firmware V3.0 or higher
CP 1243-1	1	6GK7243-1BX30-0XE0	Firmware V3.1 or higher It can also be a CP 1243-7 LTE (Firmware V3.3 or higher) or a CP 1243-8 IRC (Firmware V3.0 or higher).
CPU 1510SP-1 PN	1	6ES7512-1DJ01-0AB0	Firmware V2.6 or higher
CP 1542SP-1 IRC	1	6GK7542-6VX00-0XE0	Firmware V2.0 or higher
WinCC V7.5 SP1	1	6AV6381-2CB07-5AX0	Service Pack 1 for WinCC V7.5 : https://support.industry.siemens.com/cs/ww/en/view/109772879
SIMATIC TeleControl 7.4 for WinCC Basic Engineering	1	6DL5000-7AA47-0XA5	
SIMATIC TeleControl 7.4 for WinCC Server Runtime (6 Stations)	1	6DL5002-7AA47-0XA0	
TeleControl IEC Driver	1	6DL5101-8EX00-0XB0	Patch 2 https://support.industry.siemens.com/cs/ww/en/view/109774012
STEP 7 PROF V17	1	6ES7822-1AA07-0YA5	

Example files and projects

This application example consists of the following components:

Table 2-2

Component	File name	Note
Documentation	87447188_IEC_Telecontrol_DOC_V40_en.pdf	This document
Project	87447188_IEC_Telecontrol_CODE_V40.zip	This compressed file contains: • STEP 7 V17 Project • WinCC 7.5 SP1 Project

3 Basics of IEC 60870-5

IEC 60870-5 is a telecontrol protocol that enables the transmission of process data via serial (IEC 60870-5-101) or IP-based (IEC 60870-5-104) communication.

The most important aspect of standard protocols is the high compatibility and interoperability between devices from different manufacturers.

ASDU Addresses

The IEC protocol defines a master, e.g. the computer from which the service personnel can operate and monitor the plant, and the outstations, the remote stations, often also called RTU (Remote Terminal Unit).

Each IEC device must have a unique address. Using this address, the message frames can be sent to the correct partner.

The source and destination addresses (ASDU addresses) of a telegram are sent with the process data, so the receiver knows to whom it must respond.

In this application example, process data is sent and received between four devices. The communication takes place between the master and the S7-1500 Station / S7-1200 Station / ET 200SP Station.

The addresses are assigned in this application example as shown in the following figure.

Figure 3-1
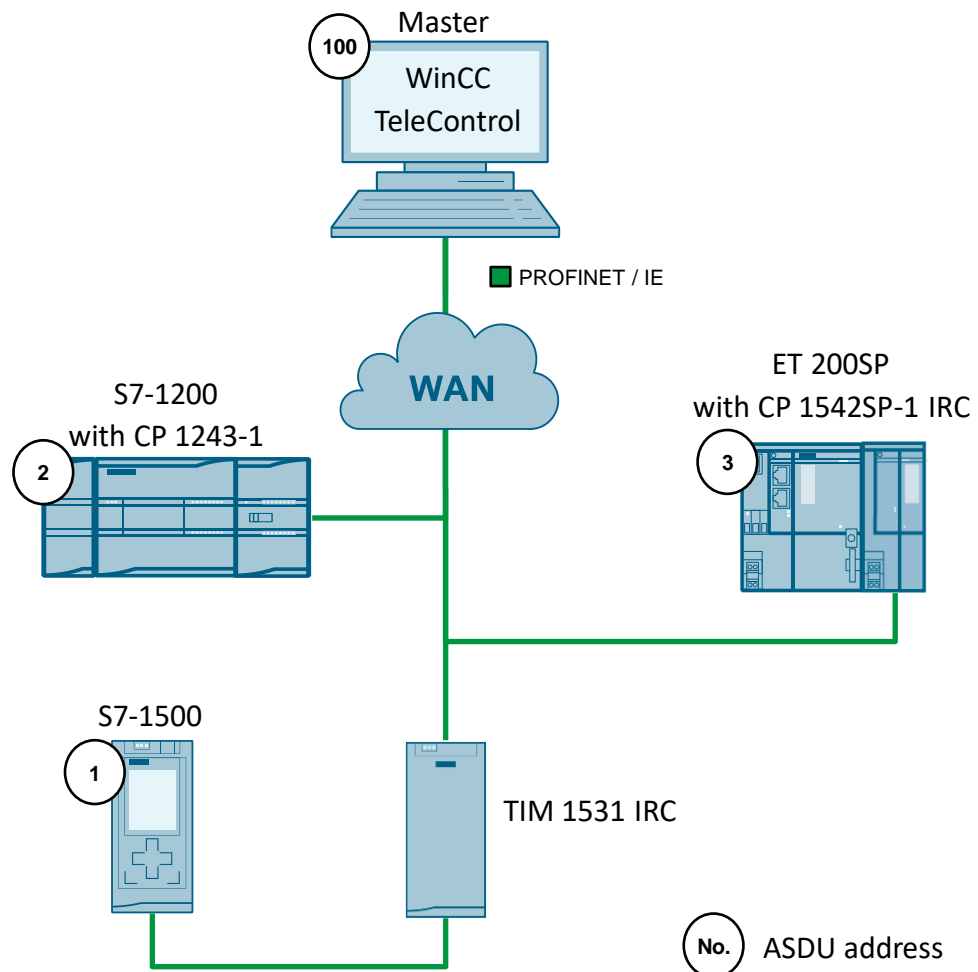
You can select an address between 1 and 65535.

NOTE	The configuration of the master is done in the WinCC Explorer. The configuration of the stations is carried out in the TIA Portal. During the connection configuration the configured master address must be specified.

4 Program overview

This chapter briefly explains the program structure of the application example. The supplied code contains the following files:

- STEP 7 V17 project
- WinCC V7.5 SP1 project

4.1 STEP 7 V17 projects (IEC stations)

The IEC stations are configured in the STEP 7 project. The focus of the application example is on the configuration of the devices in the TIA Portal. The configuration of the devices is described in chapter 5. To illustrate the functions of the IEC 60870-5 protocol, a simulation was created that is based on a water/wastewater application (greatly simplified).

NOTICE	This application example can only be used for test purposes!

4.2 WinCC project (IEC master)

The HMI system is configured in SIMATIC WinCC. In addition, the add-on software WinCC TeleControl is used to configure the IEC master. The IEC configuration of the master is described in detail in chapter 6. For the process data, a group was created for each station in the "Tag Management". The names of the tags do not have to match the names of the objects in the station configuration, but it is important that the configuration of the objects matches the station (group, variation, class, etc.).

Figure 4-1
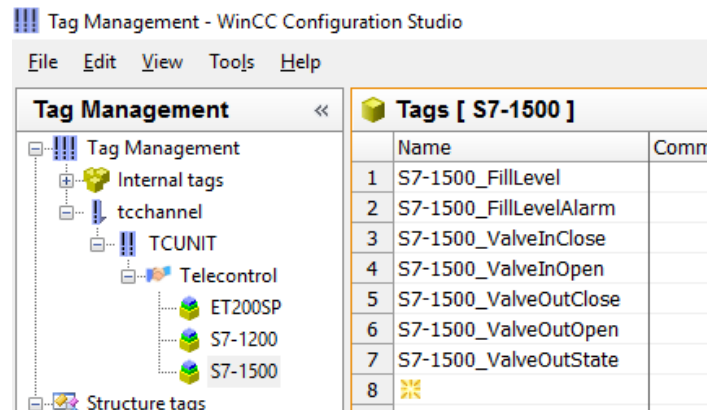
4.3 Overview of data points

The following tables provide an overview of the data points that are configured in this application example.

The data points of the IEC master are provided with a prefix.

The data point type indicates which objects/data points are commands, binary or analog values. The class indicates whether they are static data or events.

Data points S7-1200

Table 4-1: Data points station S7-1200

STEP 7	WinCC	Data point type	Index
FillLevel	S7-1200_FillLevel	Measured value, short floating point number with time tag CP56Time2a <36>	1
ValveOutOpen	S7-1200_ ValveOutOpen	Single command with time tag CP56Time2a <58>	2
ValveOutClose	S7-1200_ ValveOutClose	Single command with time tag CP56Time2a <58>	3

Data points S7-1500

Table 4-2: Data points station S7-1500

STEP 7	WinCC	Data point type	Index
FillLevel	S7-1500_FillLevel	Measured value, short floating point number with time tag CP56Time2a <36>	1
FillLevelAlarm	S7-1500_ FillLevelAlarm	Single-point information with time tag CP56Time2a <30>	2
ValveOutOpen	S7-1500_ ValveOutOpen	Single command with time tag CP56Time2a <58>	3
ValveOutClose	S7-1500_ ValveOutClose	Single command with time tag CP56Time2a <58>	4
ValveOutState	S7-1500_ ValveOutState	Single-point information with time tag CP56Time2a <30>	5
ValveInOpen	S7-1500_ValveInOpen	Single command with time tag CP56Time2a <58>	6
ValveInClose	S7-1500_ValveInCose	Single command with time tag CP56Time2a <58>	7
ValveInState	S7-1500_ValveInState	Single-point information with time tag CP56Time2a <30>	8

Data points ET 200SP

Table 4-3: Data points station ET 200SP

STEP 7	WinCC	Data point type	Index
PumpActivated	ET200SP_PumpActivated	Single-point information with time tag CP56Time2a <30>	1
ValveInOpen	ET200SP_ValveInOpen	Single command with time tag CP56Time2a <58>	2
ValveInClose	ET200SP_ValveInClose	Single command with time tag CP56Time2a <58>	3
ValveInState	ET200SP_ValveInState	Single-point information with time tag CP56Time2a <30>	4

4.4 Addresses in the example

The following IP and ASDU addresses are used to configure the example in the LAN:

Table 4-4: IP- / ASDU Adresses

Station	Module		IP address	Subnet mask	ASDU address
IEC master	SIMATIC PC station		192.168.1.100	255.255.255.0	100
S7-1500	TIM 1531 IRC	X1	192.168.0.11	255.255.255.0	1
		X2	192.168.1.1	255.255.255.0	
		X3	192.168.2.1	255.255.255.0	
S7-1200	CP 1243-1		192.168.1.2	255.255.255.0	2
ET 200SP	CP 1542SP-1 IRC		192.168.1.3	255.255.255.0	3

5 IEC configuration in the TIA Portal

The configuration of the hardware and the IEC configuration for the clients takes place in STEP 7 V17. No additional tool is required.

5.1 Device configuration

In the "Device configuration" both the hardware and the IEC parameters that are relevant for the entire station are configured. Make the settings as follows:

NOTE	The following description assumes that the WinCC runtime is started on the programming computer.

5.1.1 WinCC V7.5 as an IEC master

1. Add a "PC station" to your project.
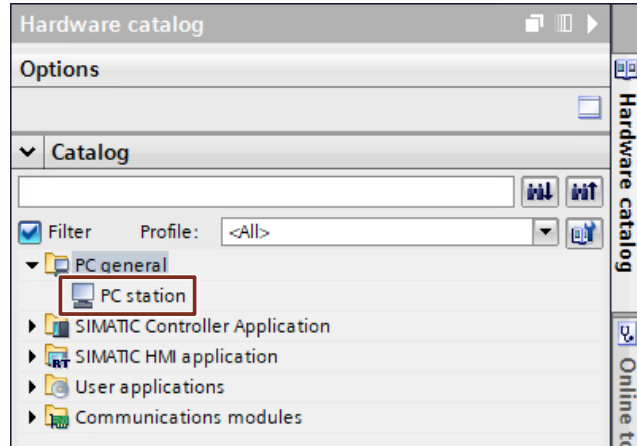
2. Add a communication module "IE general".
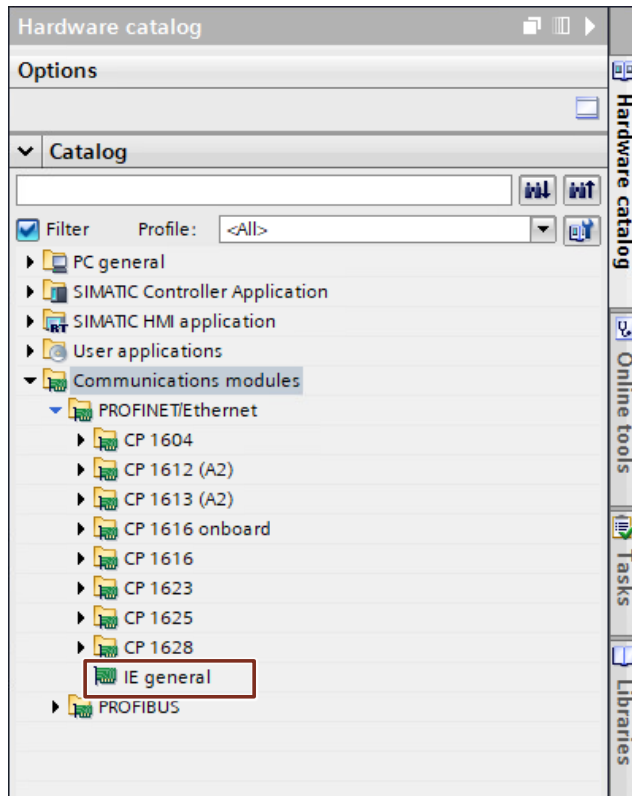
3. Add a user application "Application"
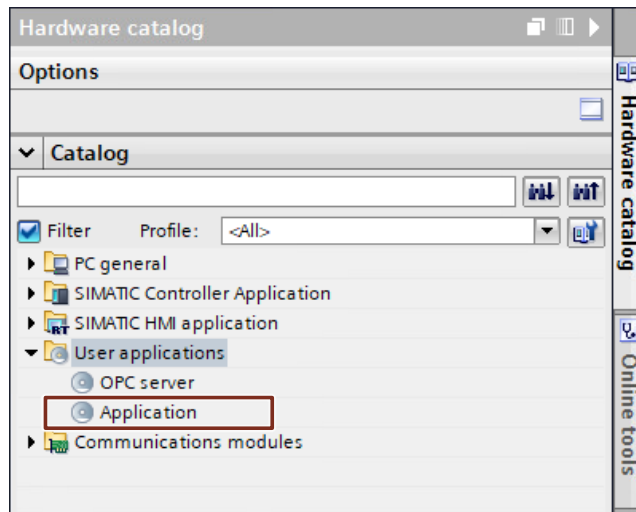
4. Network the communication module with a new subnet "IEC 60870-5"

   "IE general > Properties > Ethernet addresses > Interface networked with > Add new subnet").

5. Adjust the IP address and subnet mask according to Table 4-4.

6. Give the PC station a meaningful name and translate the PC station "SIMATIC PC station > General > Computer name".
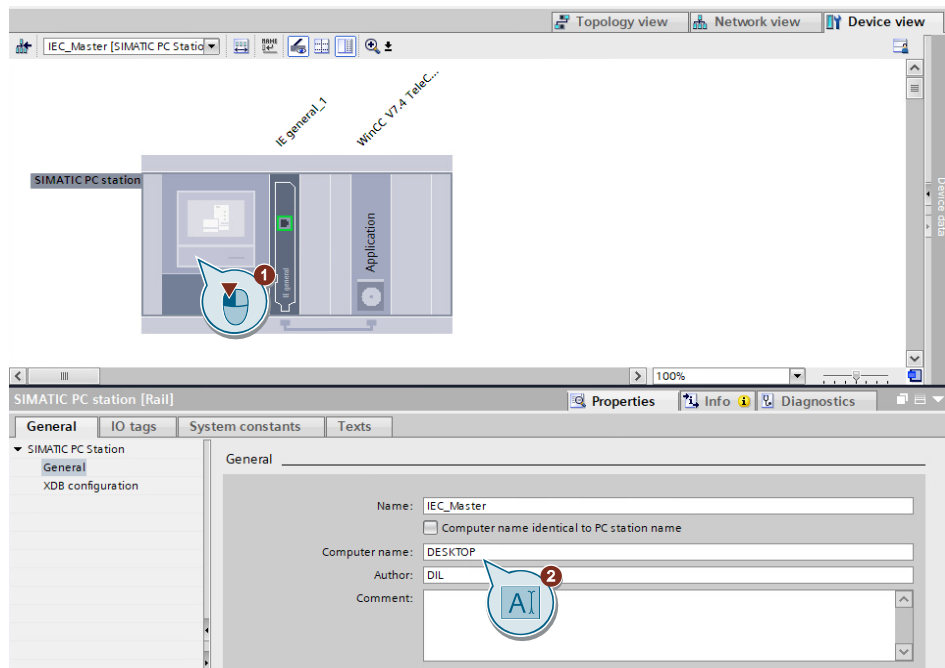
5.1.2 Station S7-1200 with CP 1243-1 or ET 200SP with CP 1542SP-1 IRC

In order for an S7-1200 or an ET 200SP CPU to work as an IEC station, some settings must be observed. These are described in the following chapter using an S7-1200 as an example.

Hardware configuration

1. Add your SIMATIC S7-1200 CPU with a CP 1243-1 to the project "Communication modules > Industrial Remote Communication > CP 1243-1".

2. Activate the "Telecontrol communication"

   "CP 1243-1 > Properties > Communication types > Enable telecontrol communication".
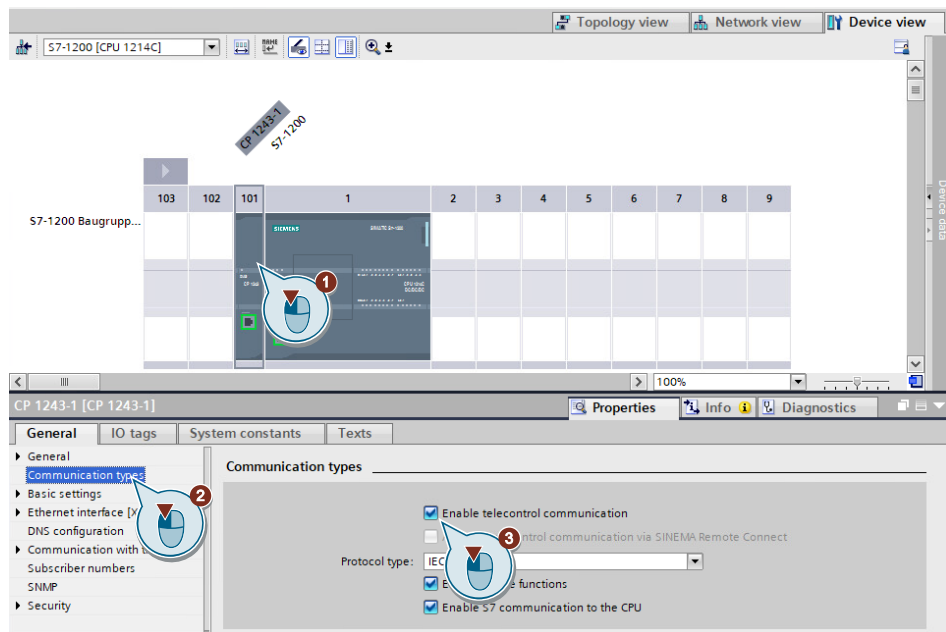
3. Select "IEC 60870-5" from the "Protocol type" drop-down list.

4. Enable the online functions

   "CP 1243-1 > Properties > Communication types > Enable online functions".
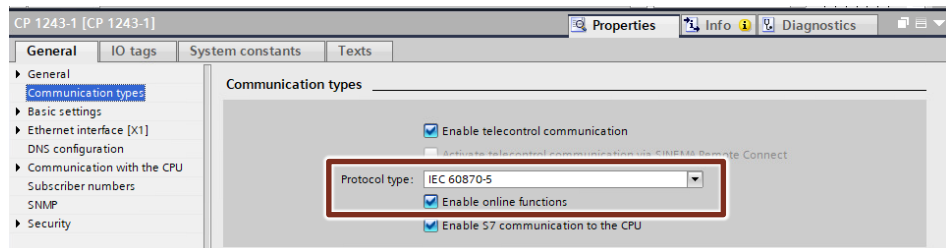
5. Add the "Ethernet interface [X1] to the subnet "IEC 60870-5"

"CP 1243-1 > Properties > Ethernet interface [X1] > Interface networked with".
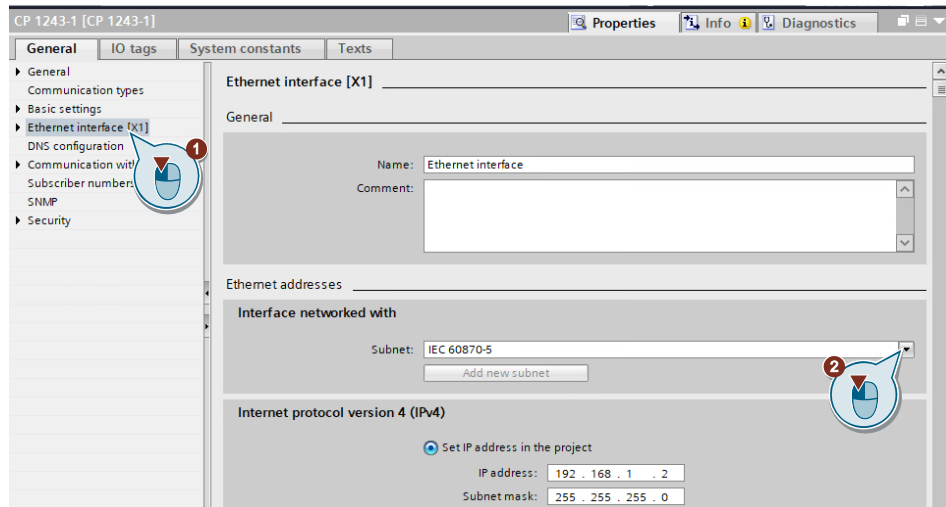
6. Adjust the IP address and subnet mask according to Table 4-4.
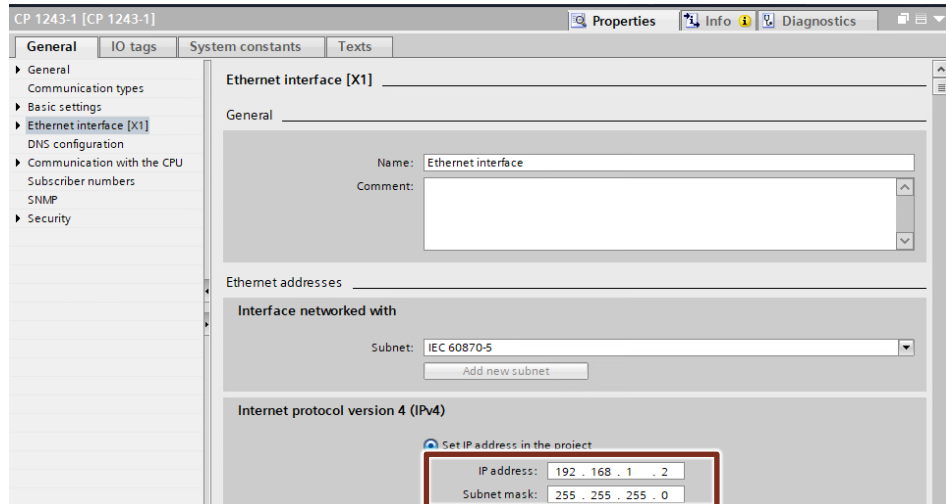
7. Enter an ASDU address for the IEC station (e.g. 2)

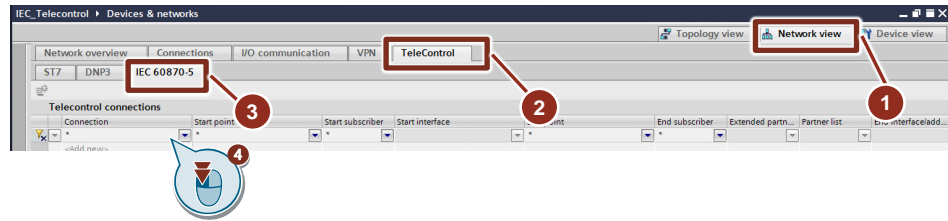"CP 1243-1 > Properties > Subscriber numbers > ASDU address".
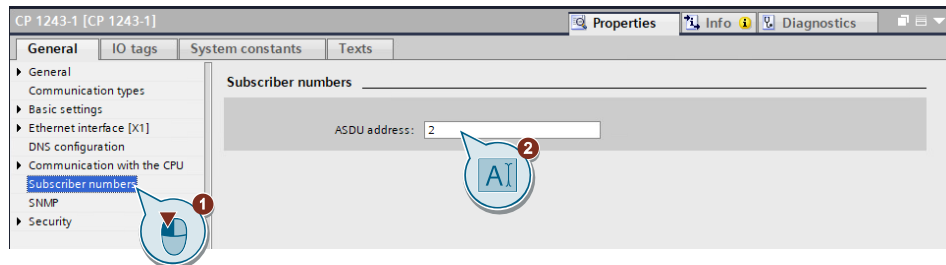
NOTE	The ASDU address assigned here must be entered in the configuration of the master station.

Configuring the TeleControl connection

1. Change to the network view.
2. Open the "Network data" editor and switch to the "TeleControl" tab.
3. Now switch to the "IEC 60870" tab and add a new connection.

4. Select the S7-1200 station as start point and the CP 1243-1 as start interface.
5. Select the application of the PC station as the end point and the IE interface of the PC station as the end interface.
6. Enter the end subscriber number (e.g. 100). This number is the subscriber number of the master station.
7. Under partner list, enter the subscriber number of the S7-1200.

Result:

The TeleControl connection is now configured for the client station.
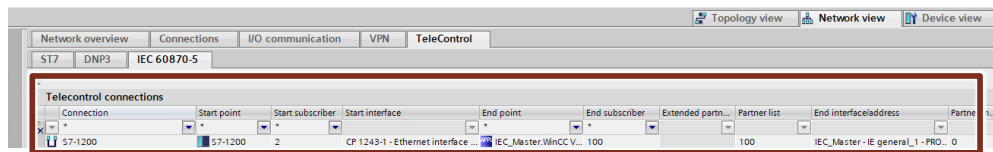
Data point configuration

1. Create a data block that contains all variables that are to be exchanged with the IEC master.
2. Open the data point settings via the project navigation "S7-1200 > Local modules > CP 1243-1" and double-click on "Data points".
3. Add a new data point. Link it to a tag of the previously created data block.

NOTE | The "Datapoint index" is assigned automatically. You need the index number for the configuration of the variable on the IEC master.

4. Assign the desired type to the data point and activate value monitoring so that the type of transmission (class) can be selected. The IEC type is displayed in brackets next to the data point type.
5. Select the IEC master as partner of the data point.
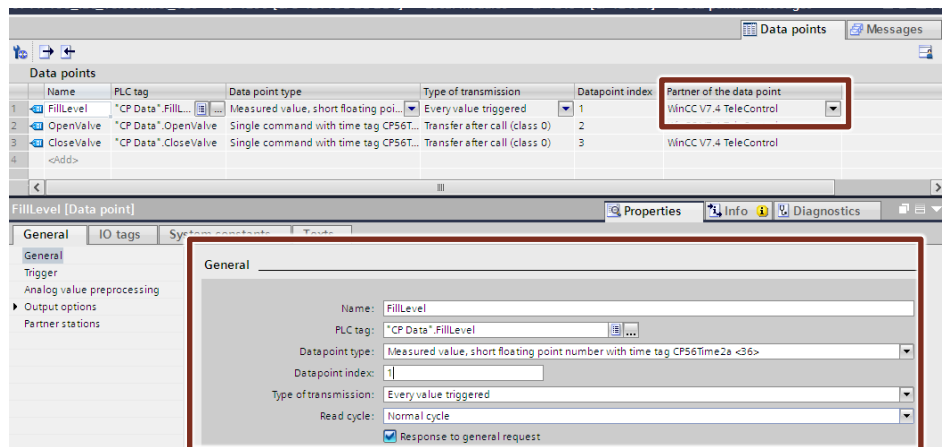
6. Adjust the options under "Trigger" and "Output options".

NOTE | The settings made here must match the data point configuration in the IEC master.

7. Repeat the configuration for all required data points.
8. Compile and load the configuration into your device.

NOTE | The configuration of the ET 200SP is analogous to the S7-1200.

5.1.3 Station S7-1500 with TIM 1531 IRC

To operate an S7-1500 as an IEC station, you need a TIM 1531 IRC. The TIM is not configured like a classic CP, but as an independent device.
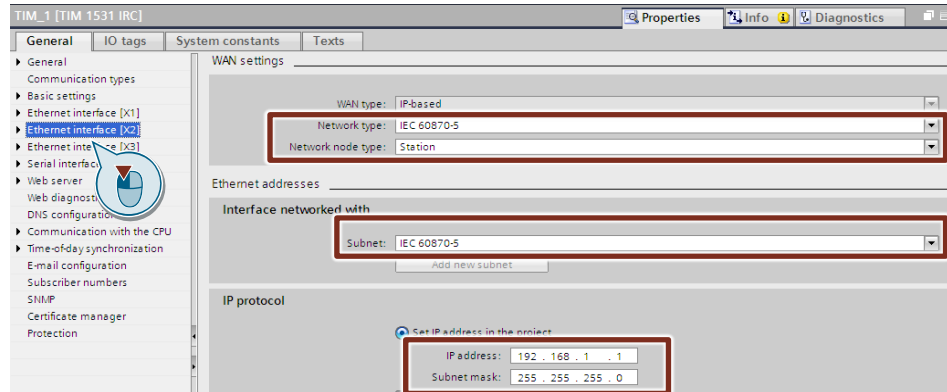
Device configuration

1. Add a S7-1500 CPU and a TIM 1531 IRC to your project.
2. Connect the S7-1500 to a TIM interface (e.g. in the network view of the device configuration). Connect another interface of the TIM with the subnet "IEC 60870-5".
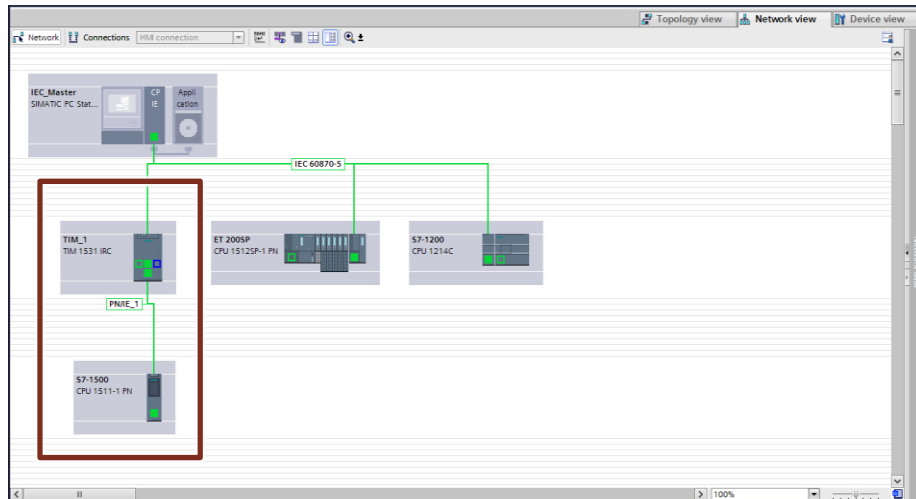

3. Activate the "Telecontrol communication" ("TIM 1531 IRC > Properties > Communication types > Enable telecontrol communication").
4. Select "IEC 60870-5" from the "Protocol type" drop-down list.
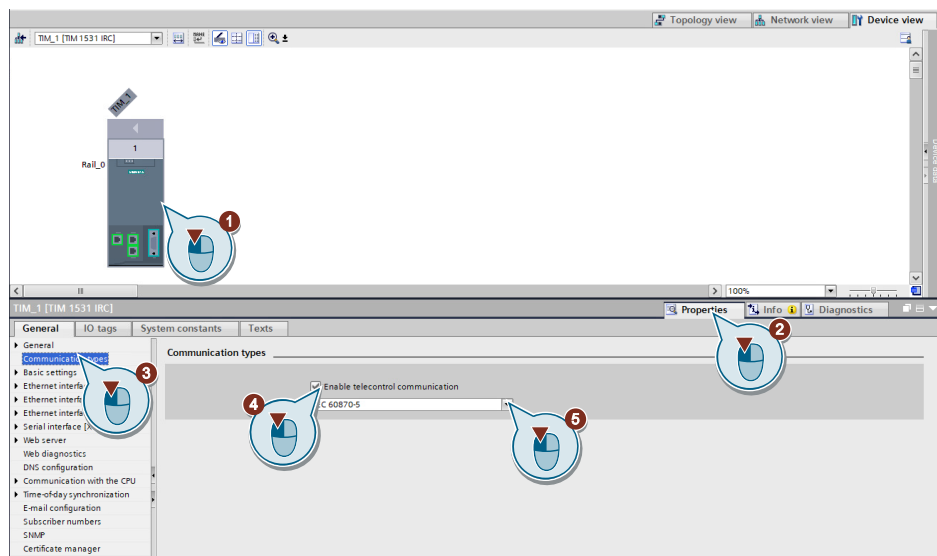
5. Switch to "Ethernet interface [X2]"

6. Under "WAN settings" select "IEC 60870-5" as the network type and "Station" as the network node type.

7. Add the interface to the "IEC 60870-5" subnet.

8. Adjust the IP address and subnet mask according to the Table 4-4.

9. Switch to "Subscriber numbers".

10. Select the S7-1500 as "Assigned CPU".

11. Assign an ASDU address ("ASDU address") (e.g. 1).
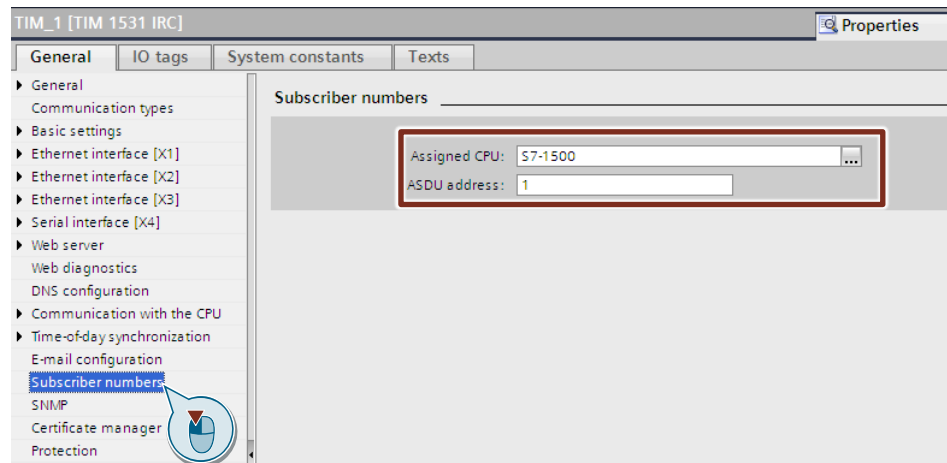
NOTE	The ASDU address assigned here must be entered in the configuration of the master station.

The configuration of the TeleControl connection and the configuration of the data points is identical to the S7-1200 or ET 200SP. Use the configuration steps in chapter 5.1.2.

5.2 Server Redundancy Setup

If you want to create server redundancy, you can do so as follows.

1. Create an IEC master with 2 Ethernet interfaces and network them with the subnet " IEC 60870-5". A detailed description of this can be found in chapter 5.1.1.
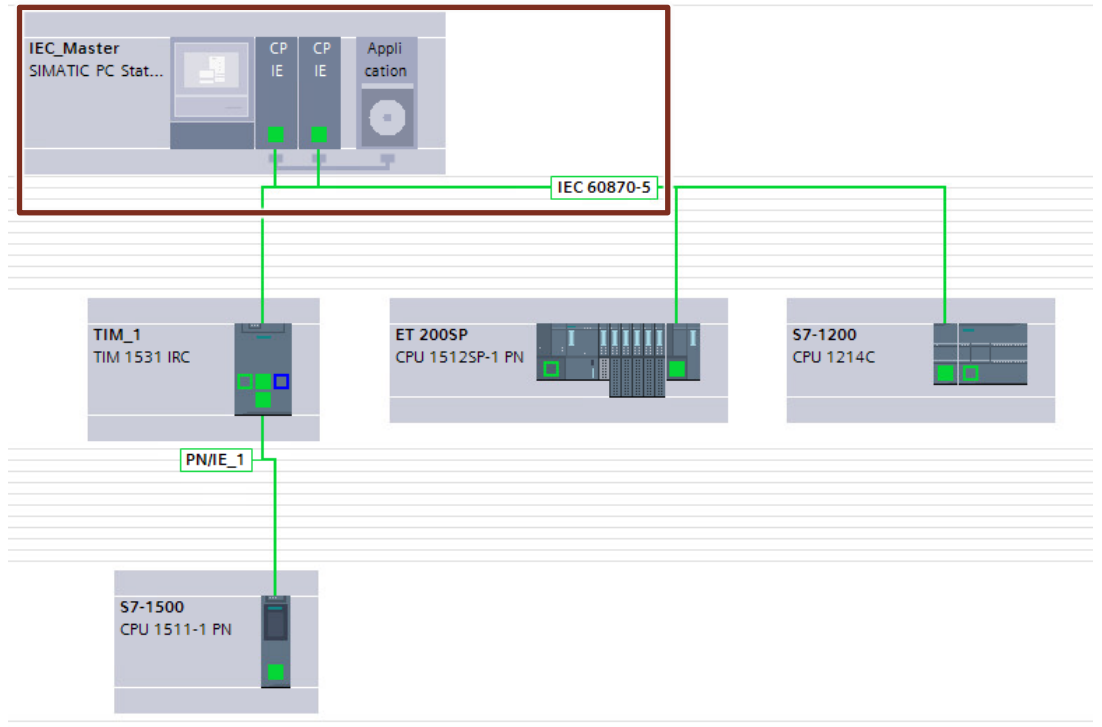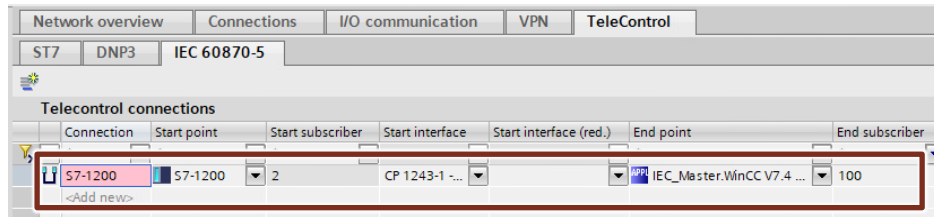
2. Change to the network view.
3. Open the "Network data" editor and switch to the "TeleControl" tab.
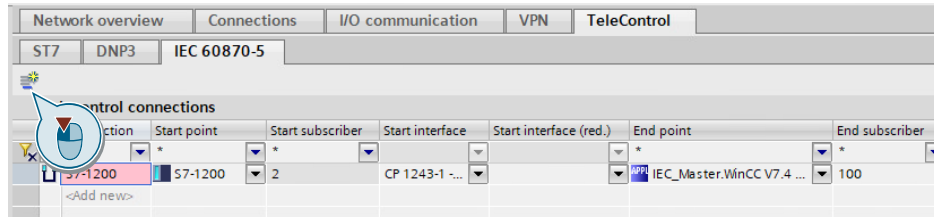4. Now switch to the "IEC 60870-5" tab and add a new connection.

5. Select the S7-1200 station as start point and the CP 1243-1 as start interface.

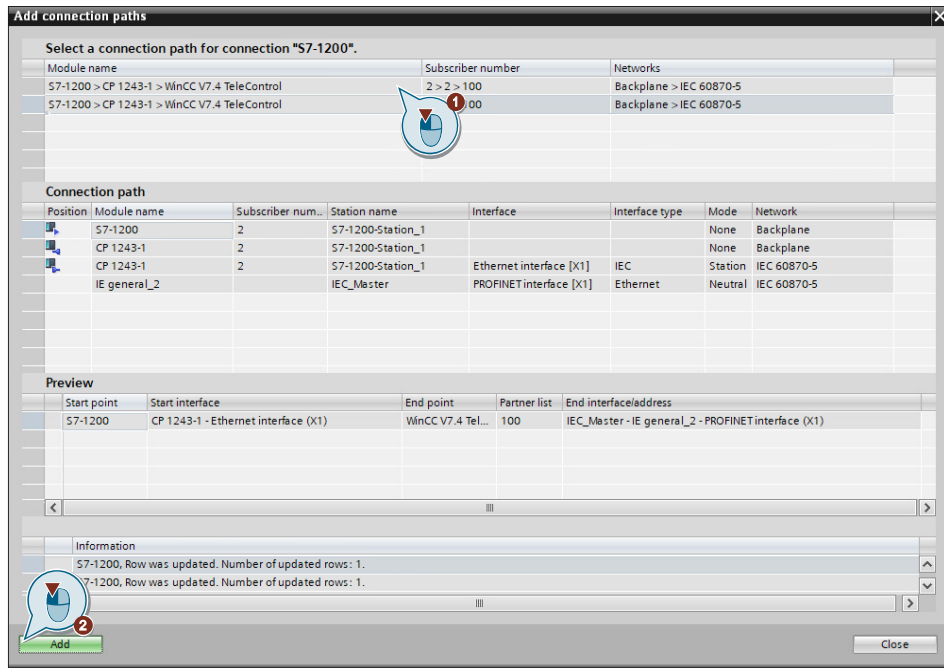6. Select the application of the PC station as the end point.

7. Start the "Add connection path" dialog.

Result:

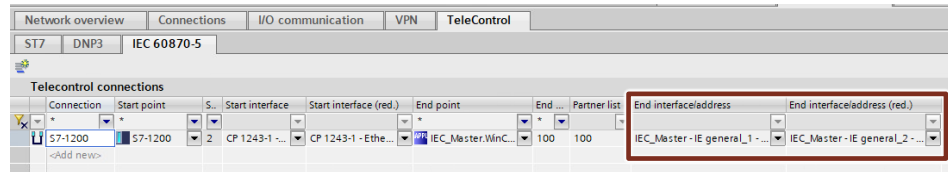Two connection paths are displayed.

8. Select the first connection path and add it.

9. Repeat this procedure for the second connection path.

Result:

Both routes are created and the interfaces are entered automatically.
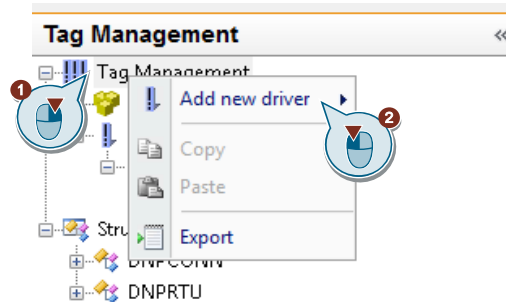

10. Perform these steps for the other devices as well.

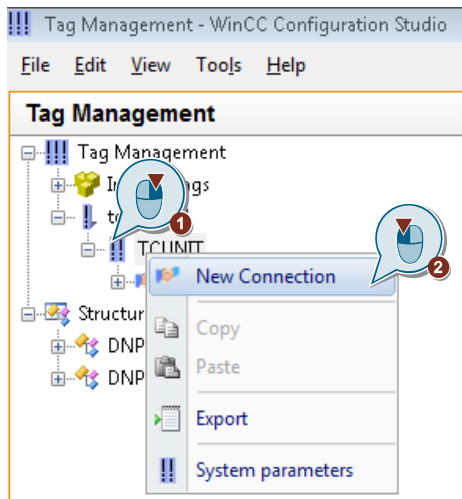# 6 IEC configuration for the IEC master

The IEC configuration of the master takes place in the SIMATIC WinCC Explorer. The WinCC TeleControl add-on software is required for this. Make the settings in WinCC as described in the following chapters.

6.1 Inserting the IEC driver

1. Open WinCC Explorer and create a new project.
2. Open the Task Management.
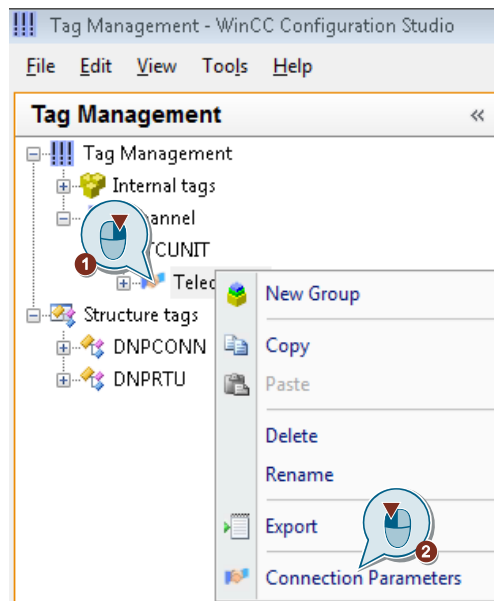3. Add the TeleControl channel "tcchannel".
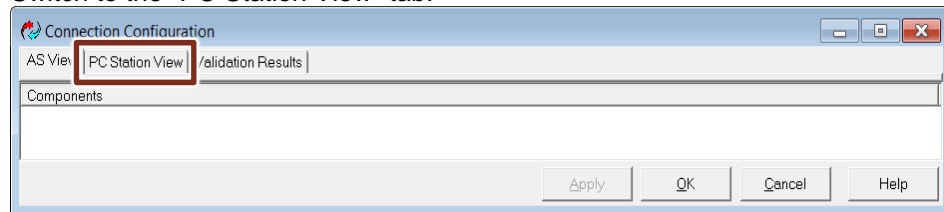

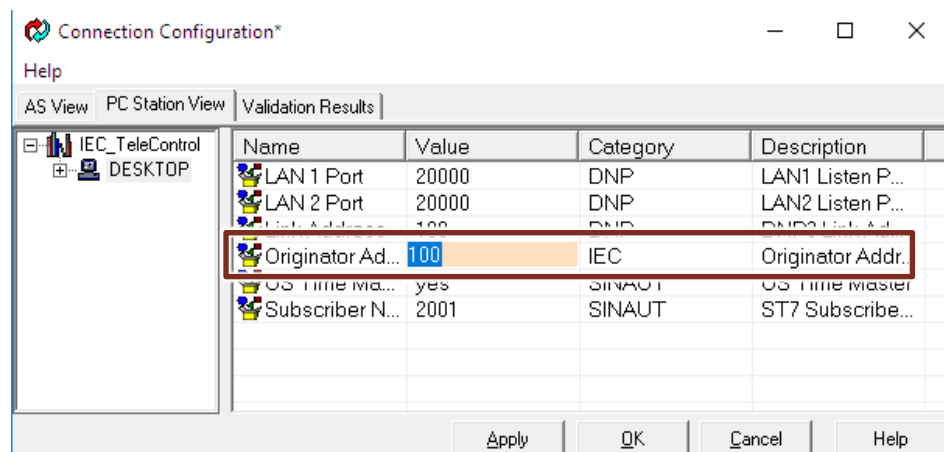4. Add a new connection.

5. Open the connection configuration.

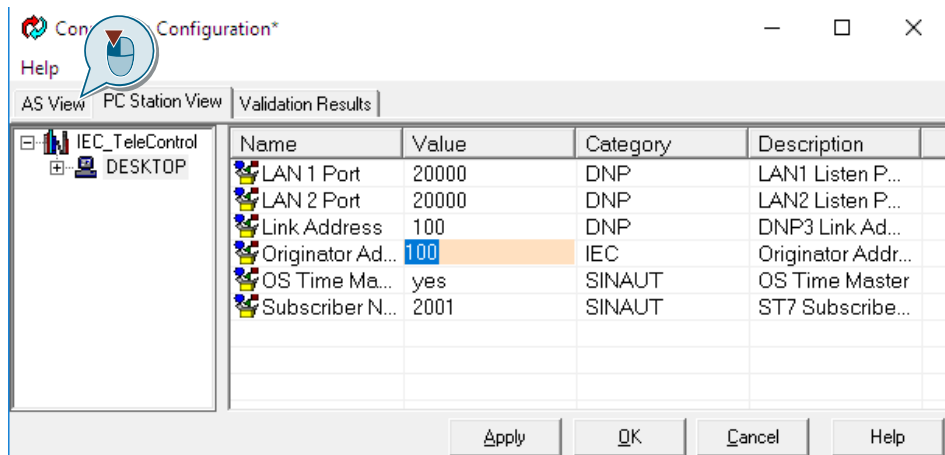
Result:

The "Connection configuration" window opens.

6. Switch to the "PC Station View" tab.

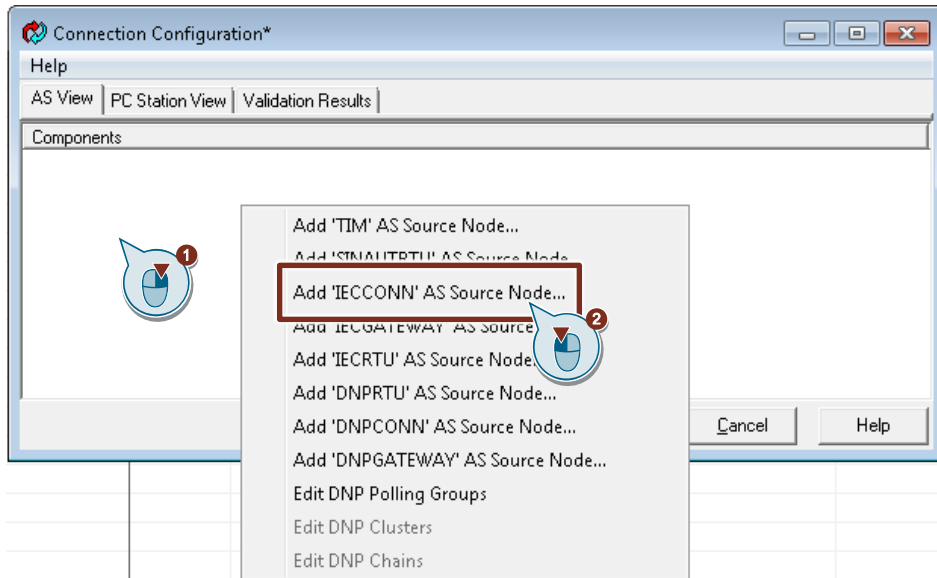
7. Adjust the ASDU address Table 4-4.

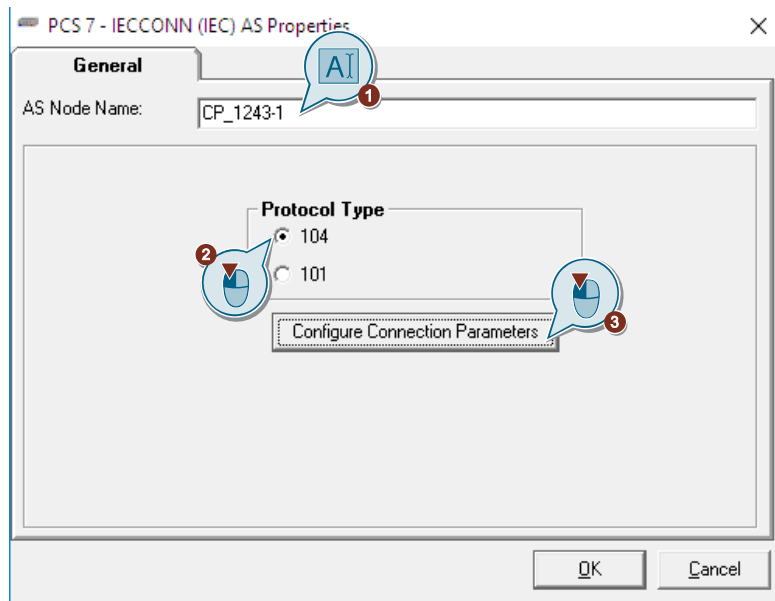8. Then switch to the AS View tab.

9. Create an IEC connection ("IECCONN" node) for the CP of the S7-1200 station.

10. Select "104" as the protocol type and open the connection configuration.

11. Enter the IP address of the CP 1243-1 (192.168.1.2).

12. Select "Unstructured" as the object structure so that the object addressing does not have to be specified in octets.

13. Confirm twice with "OK".
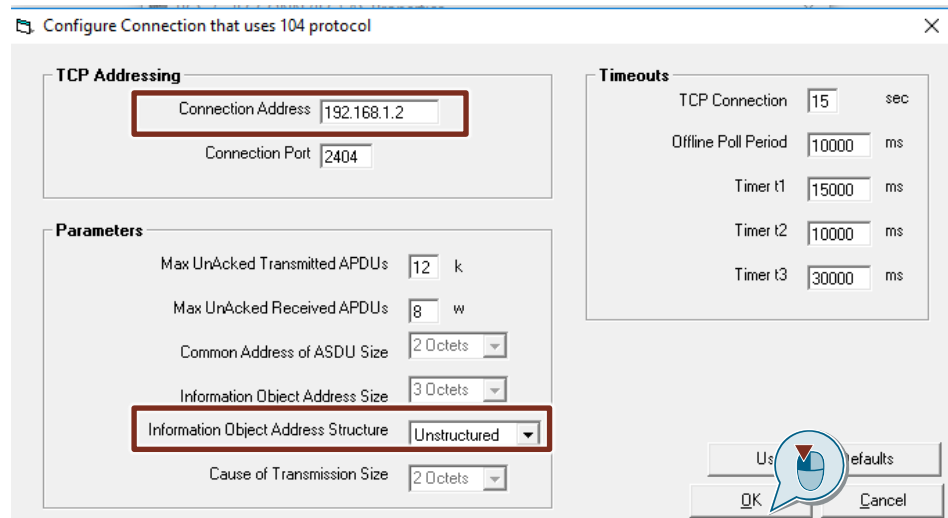
14. Now add a node for the RTU "S7-1200" (IECRTU).

15. Assign a node name and enter the ASDU address. Then open the connection configuration.

16. Select "Direct" as the connection type.
17. Select the previously created connection ("CP_1243-1") from the drop-down list.
18. Confirm the settings twice with "OK".
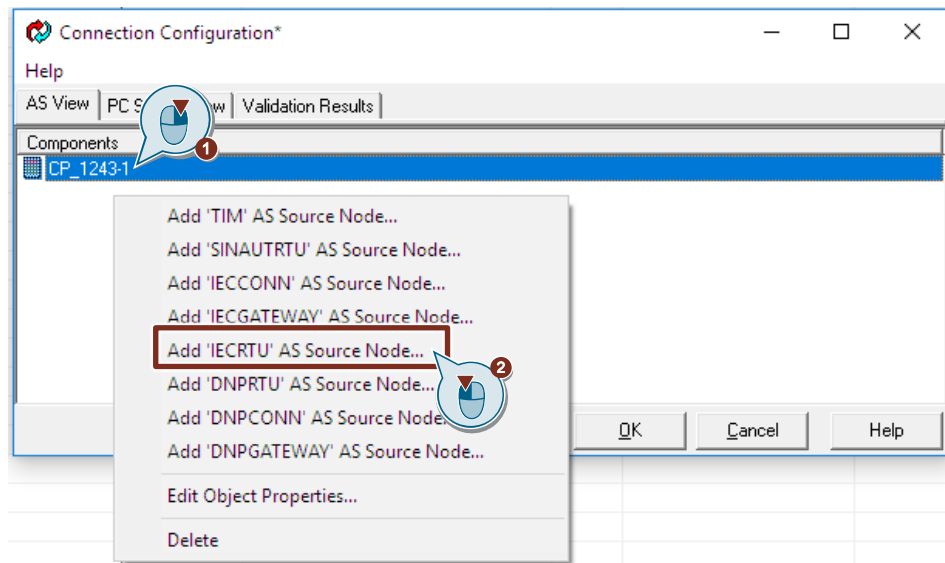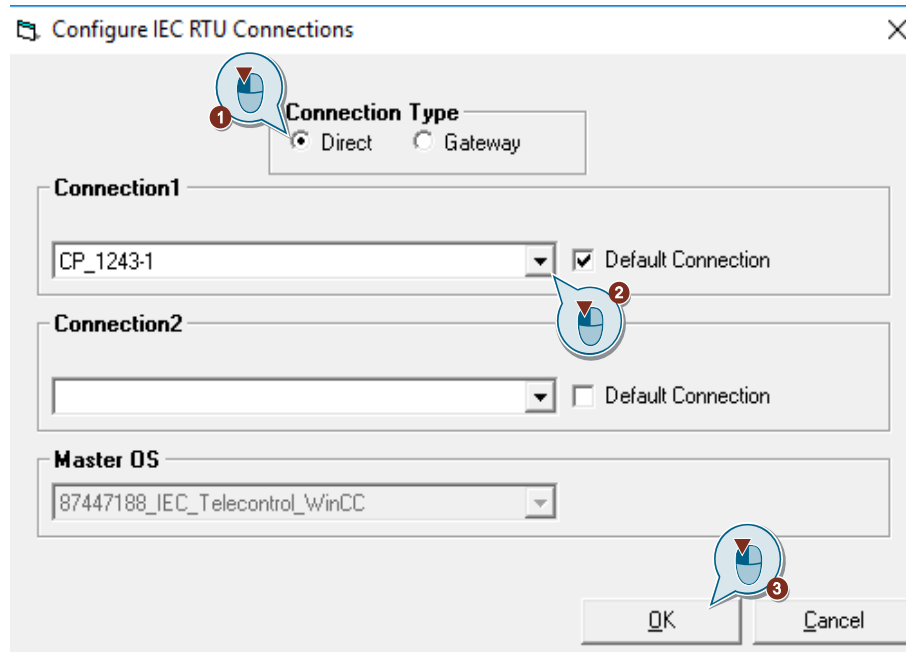

19. Repeat the project engineering for each additional IEC station.
20. Close all windows with "OK".

NOTE	The system tags are created automatically after the TIM (or CP) and CPU have been configured in the System Parameters tab. The description of these tags can be found in the "User Manual for WinCC TeleControl", which is delivered with the WinCC TeleControl software.

6.2 Tag configuration

In order for the data points to be sent and received by the master, they must be configured in WinCC "Tag Management". Make the settings for this as follows:

1. Open WinCC Tag Management.

2. Create a new tag by double-clicking on it and assign it a unique name.
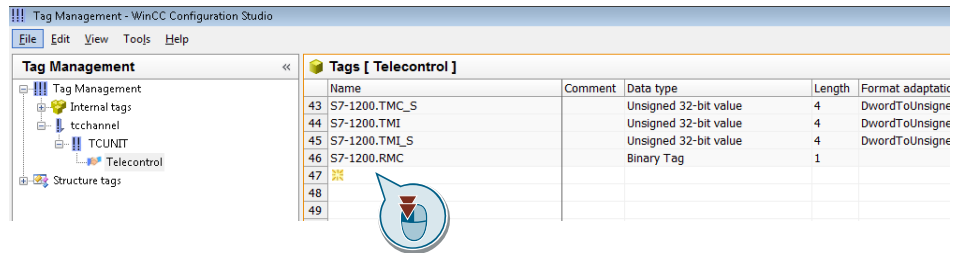
3. Select the data type and then open the address configuration.
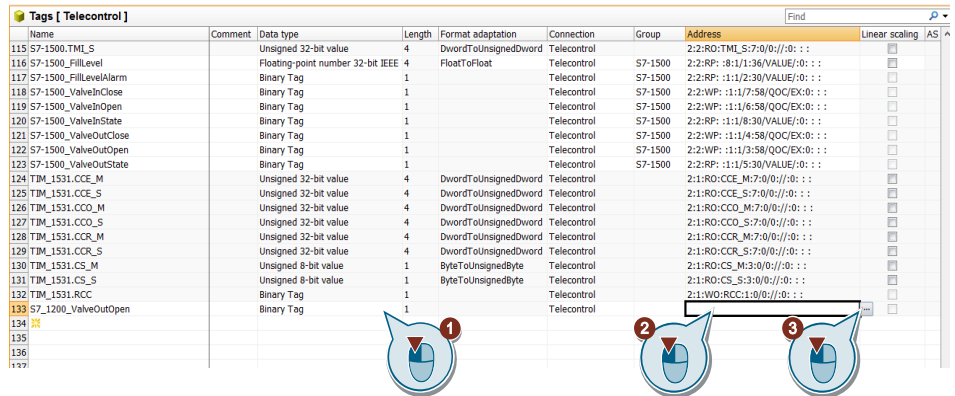
4. Adjust the settings to the configuration of the corresponding data point in the CPU.
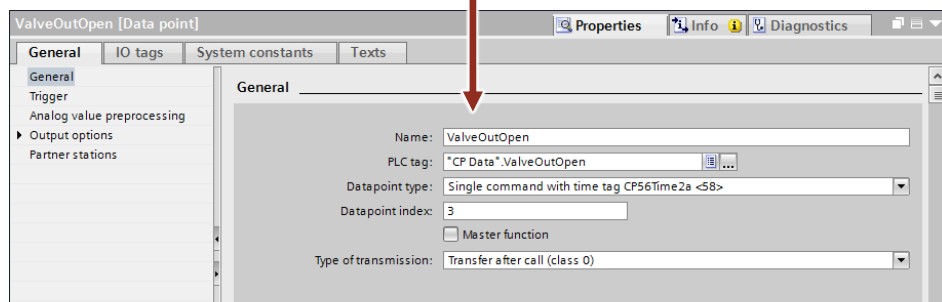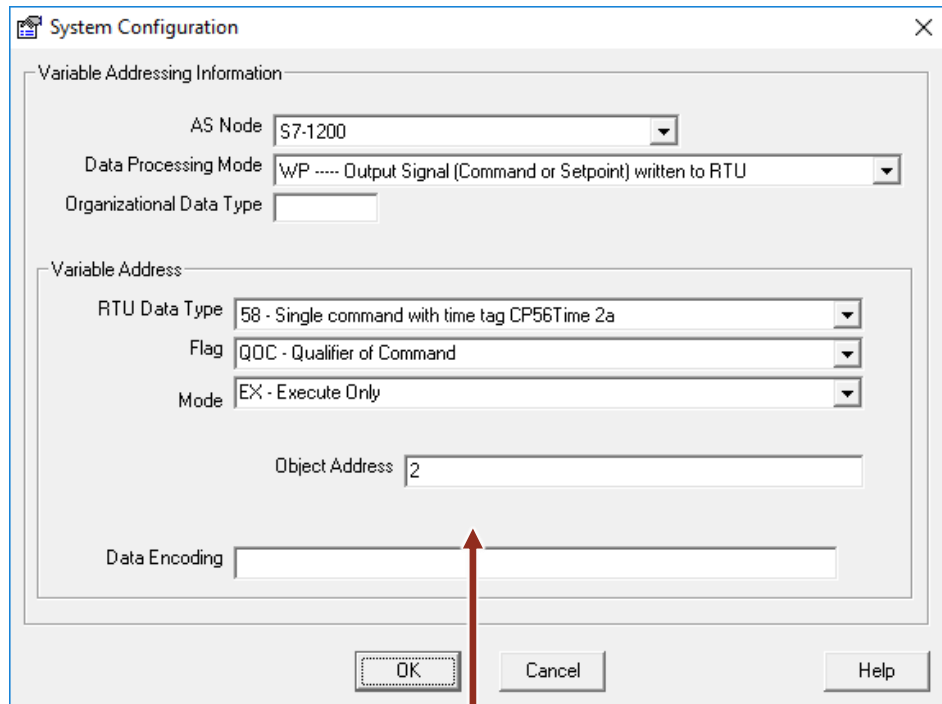
5. Repeat steps 2 to 4 for the other data points.

NOTE	Tag Management offers you a grouping of tags. This increases the clarity for a large number of tags.
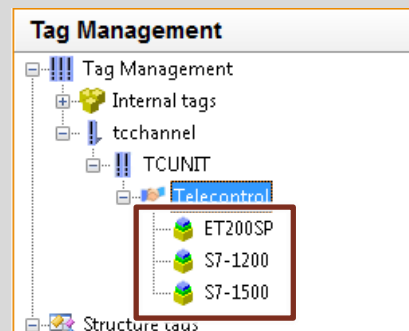
6.3   Setting up the Tag Logging

To ensure that the DNP3 objects can be completely archived and displayed by the master, you have to make some settings in the WinCC.

1. Open the WinCC "Tag Logging".
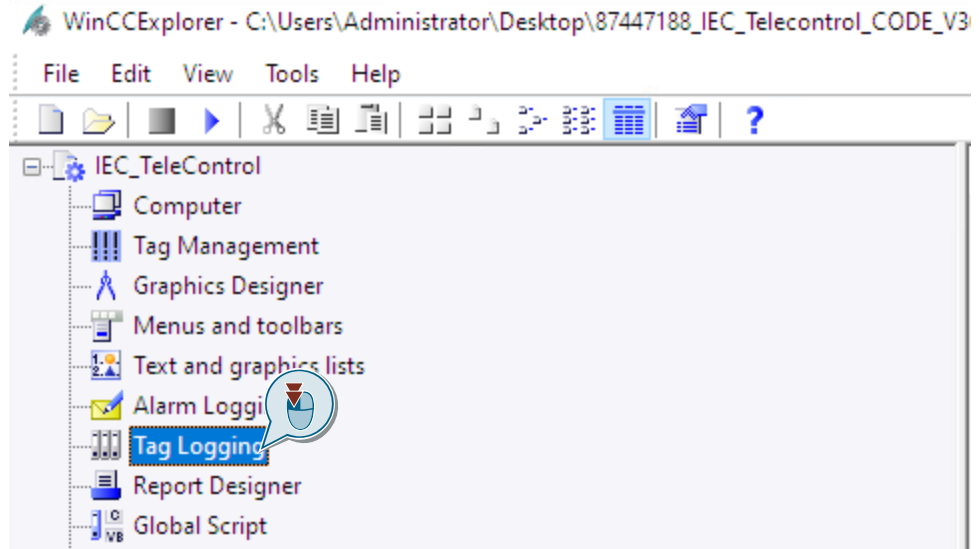
2. Create a new "Process Value Archive". Further settings are not necessary.
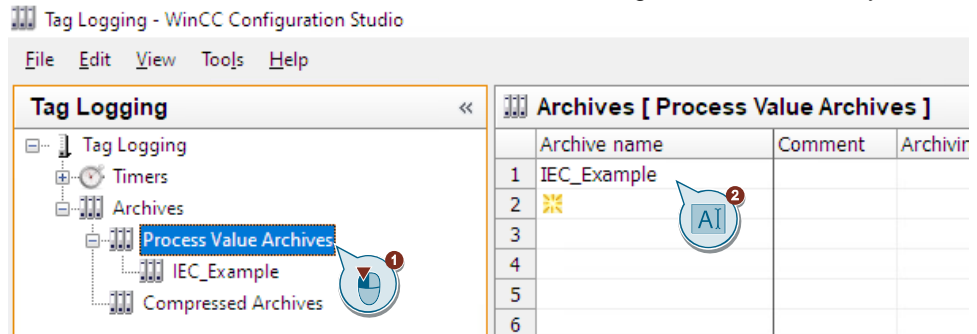
3. Open the archive you have just created and add the variables to be archived.
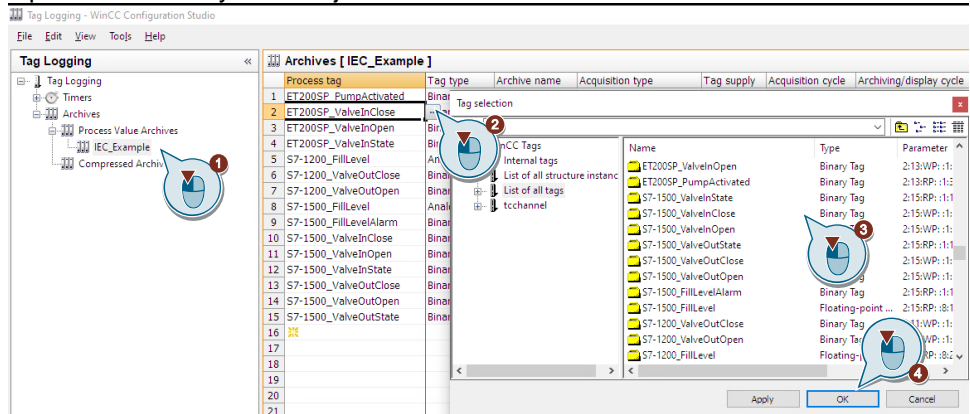
4. Adjust the "Acquisition type" and the "Archiving/display cycle".

	Process tag	Tag type	Archive name	Acquisition type	Tag supply	Acquisition cycle	Archiving/display cycle	
1	ET200SP_PumpActivated	Binary	IEC_Example	After every change	System	500 ms	1 day	
2	ET200SP_ValveInClose	Binary	IEC_Example	After every change	System	500 ms	1 day	
3	ET200SP_ValveInOpen	Binary	IEC_Example	After every change	System	500 ms	1 day	
4	ET200SP_ValveInState	Binary	IEC_Example	After every change	System	500 ms	1 day	
5	S7-1200_FillLevel	Analog	IEC_Example	After every change	System	500 ms	1 day	
6	S7-1200_ValveOutClose	Binary	IEC_Example	After every change	System	500 ms	1 day	
7	S7-1200_ValveOutOpen	Binary	IEC_Example	After every change	System	500 ms	1 day	
8	S7-1500_FillLevel	Analog	IEC_Example	After every change	System	500 ms	1 day	
9	S7-1500_FillLevelAlarm	Binary	IEC_Example	After every change	System	500 ms	1 day	

7 Installation

This chapter provides installation instructions for the hardware and software required to operate this example application.

7.1 Hardware installation

The hardware components can be found in chapter 2.2. Proceed as follows for the hardware setup:

1. Mount the individual modules on a suitable carrier.
2. Connect the components to a 24 V DC power source.

| NOTE | Make sure the polarity is correct. |

3. Connect all components to the power supply.

| NOTE | The CP 1243-1 is supplied via the CPU. |

4. When all stations are configured and loaded, they connect the devices according to the configuration as described in Figure 2-1.

| NOTE | Only switch on the power supply after you have completed and checked the assembly! |

| NOTE | The installation guidelines for the installation of all components must generally be observed. |

7.2 Installing the software

In this application example, the configuration computer is also used as IEC master at the same time.

If you use separate computers for project engineering and for the IEC master, the following software must be installed on the IEC master computer:

- SIMATIC WinCC Server Runtime V7.5 SP1
- SIMATIC TeleControl Server V7.4 with Patch 2

Installation sequence

Install the software listed in Table 2-1. Make sure that WinCC TeleControl cannot be installed until SIMATIC WinCC has been installed.

NOTE	Follow the instructions for installing the software in the manuals for the respective software.

7.3 Installing the application software

Follow the steps below to install the sample code.

1. Download the code for this application example from the corresponding article page.
2. Unzip the file "87447188_IEC_Telecontrol_CODE_V40.zip" and open the project. The project is located in the subfolder "TIA Portal".
3. Log in with the following user data:
   - User name: "administrator"
   - Password: "administrator"

8 Commissioning

Download the zipped project file from the article page and unzip it.

Downloading stations

Load the configurations into the stations and into the TIM 1531 IRC as described.

1. Assign the IP address to your IEC master from .
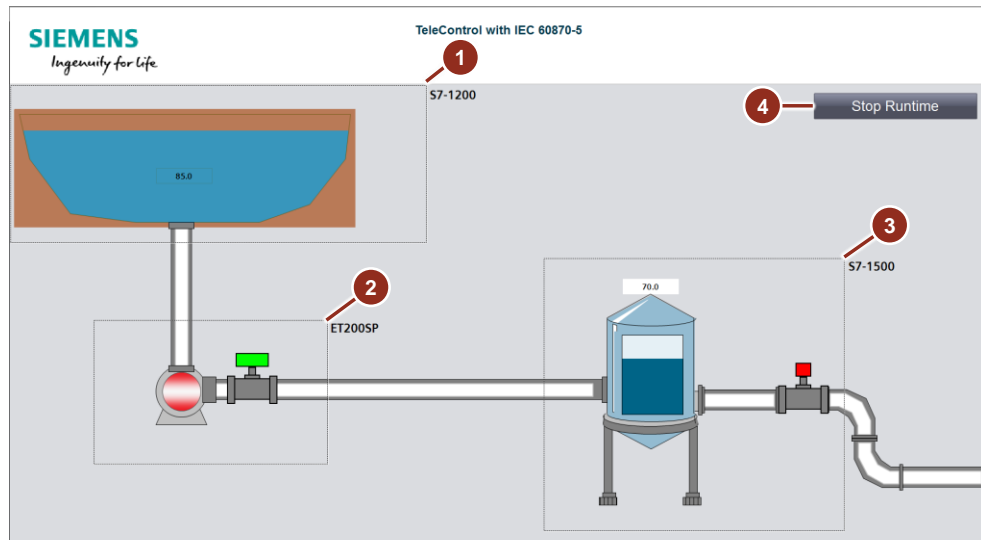
2. Open the TIA Portal project.

3. Load the S7 stations.

NOTE	The ER-LED of the CP 1542SP-1 IRC flashes RED until a TeleControl connection is established.

9 Operation of the application example

If the stations are configured and loaded, the application example can be operated. Open the WinCC project in the WinCC Editor and start the WinCC Runtime.

Figure 9-1

1. Outstation "stormwater overflow tank"

   This is controlled/simulated by a SIMATIC S7-1200. The filling level fills up automatically to 100 %. When the pumping station is activated, water is taken from the tank. There is no direct operating option.

2. Outstation "pumping station"

   This is controlled/simulated by a ET 200SP. The valve can be activated to fill the elevated tank. The pump is controlled according to the valve status and flashes red when it is active.

3. Outstation "elevated tank"

   This is controlled/simulated by a SIMATIC S7-1500. The valve can be activated to empty the elevated tank. If the level drops below 10% or rises above 90%, an alarm is sent to the server and the level indicator flashes red.

4. End the runtime

10 Appendix

10.1 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:

siemens.com/SupportRequest

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

10.2 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

10.3 Links and literature

Table 10-1

No.	Topic
\1\	Siemens Industry Online Support https://support.industry.siemens.com
\2\	Link to this entry page of this application example https://support.industry.siemens.com/cs/ww/en/view/87447188
\3\	Overview: Secure Remote Access with VPN https://support.industry.siemens.com/cs/ww/en/view/26662448
\4\	SIMATIC TeleControl V7.4 use with WinCC V7.5 SP1 https://support.industry.siemens.com/cs/ww/en/view/109774012
\5\	SIMATIC NET: S7-1500 - TeleControl TIM 1531 IRC https://support.industry.siemens.com/cs/ww/en/view/109748454
\6\	SIMATIC NET: ET 200SP - Industrial Ethernet CP 1542SP-1, CP 1542SP-1 IRC and CP 1543SP-1 https://support.industry.siemens.com/cs/ww/en/view/109741690
\7\	SIMATIC NET: S7-1200 - TeleControl CP 1243-1 https://support.industry.siemens.com/cs/ww/en/view/103948898
\8\	WinCC V7.5 SP1: Working with WinCC https://support.industry.siemens.com/cs/ww/en/view/109773058
\9\	Service Pack 1 for WinCC V7.5 : https://support.industry.siemens.com/cs/ww/en/view/109772879

10.4   Change documentation

Table 10-2

Version	Date	Modifications
V1.0	05/2014	First version
V2.0	09/2019	Complete revision. Creation of a variant with IEC 60870-5-104 protocol
V3.0	01/2021	Update to TIA Portal V16 and addition of chapter 5.2
V3.1	02/2021	New chapter 6.3
V4.0	11/2022	Update to TIA Portal V17 and WinCC 7.5 SP1