Generating the Parameters for the Modbus/TCP Communication

SIMATIC Modbus/TCP Wizard

https://support.industry.siemens.com/cs/ww/en/view/60735352

Siemens Industry Online Support

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1 Introduction

1.1 Overview

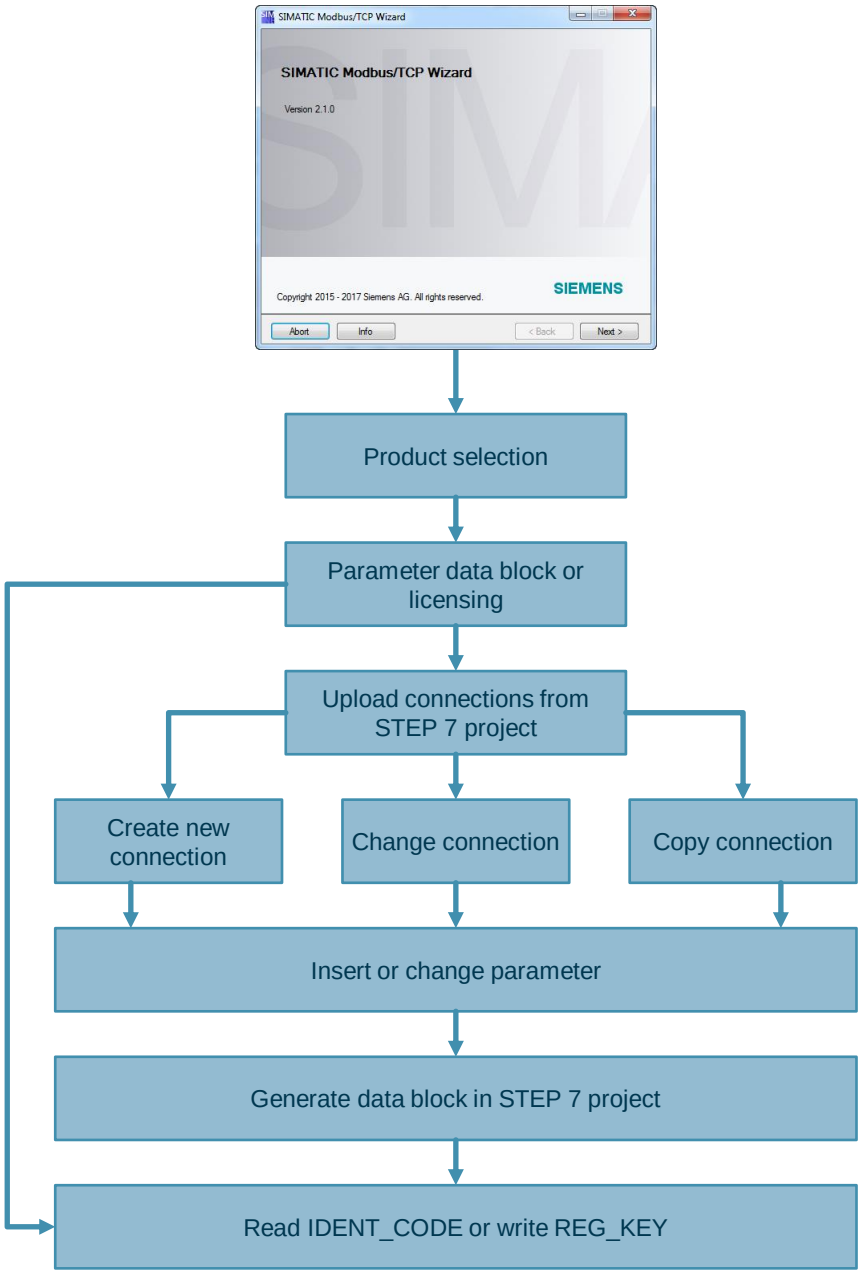
The configuration of the Modbus/TCP communication is possible using the Modbus/TCP function blocks.

The connection and Modbus parameter must be specified for each connection.

1.2 Mode of operation

Using the "SIMATIC Modbus/TCP Wizard" tool enables simple and clear specification of the connection and Modbus parameters. The tool then exports a DB with all parameters into your STEP 7 project.

Figure 1-1



Advantages

The SIMATIC Modbus/TCP Wizard provides the following advantages:

- simplified parameterization of the Modbus/TCP connection
- reduced susceptibility to errors
- reduces the parameter input to actually required parameters
- existing connections can be uploaded and represented
- an existing connection can be used as template for a new connection (copy)
- an existing connection can be changed (change)
- support for licensing

1.3 Components used

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

Table 1-1

Component	Number	Article number	Note
STEP 7 V5.4	1	6ES7810-4CC08-0YA5	or higher version

NOTE Operating the SIMATIC Modbus/TCP Wizard requires the installation of .NET Framework on your PG/PC. After Installation of STEP 7 at your PG/PC this .NET Framework is already installed. Therefore it is not necessary to install .Net Framework manually.

This application example consists of the following components:

Table 1-2

Component	File name	Note
Modbus/TCP Wizard	60735352_Modbus_TCP_CP_Wizard_CODE.zip	Installation program for the Tool – SIMATIC Modbus/TCP Wizard
Documentation	60735352_Modbus_TCP_CP_Wizard_DOKU_de.pdf	This document

2 Installation

Software Preconditions

The SIMATIC Modbus/TCP Wizard is running under:

- MS Windows XP Professional SP2 or SP3
- MS Windows Server 2003 R2 SP2 standard edition as workstation
- MS Windows 7 32-Bit Ultimate, Professional and Enterprise (Standard installation), with or w/o SP1. However, the Windows XP mode under Windows 7 is not released.
- MS Windows 7 64-Bit Ultimate, Professional and Enterprise with or w/o SP1
- MS Windows Server 2008 R2 (64 Bit), with or w/o SP1

Installing the Wizard

Retrieve the zip-file "60735352_Modbus_TCP_Wizard_CODE.zip" and go through the setup process.

The tool is available after installation at "Start > SIMATIC" or "Start > Siemens Automation > SIMATIC".

NOTE The SIMATIC Modbus/TCP Wizard works with STEP 7 projects. For this reason, STEP 7 must have been installed on the PG/PC. If STEP 7 has not been installed, the installation of the SIMATIC Modbus/TCP Wizard will be aborted.

3 Operation of the Modbus/TCP Wizard

3.1 Functions of the SIMATIC Modbus/TCP Wizards as an overview

All functions of the SIMATIC Modbus/TCP Wizard are described here. The "step by step" instructions are given in the course of this document.

Generating a new Modbus/TCP connection

The Modbus/TCP connection data is stored directly in your project in a DB.

Uploading the connections from a STEP 7 project

SIMATIC Modbus/TCP Wizard can read out the existing Modbus/TCP connections from the STEP 7 project. In STEP 7 the SIMATIC Modbus/TCP Wizard searches the blocks (DB) of a station for structures, which contain the connection data. The loaded data can be used for further processing.

Change an existing connection

Uploaded Modbus/TCP connections can be changed with the tool. Subsequently, the data are stored at the same location in the STEP 7 project.

Generate new connection by means of the copying function

New Modbus/TCP connections can be generated by copying and changing an uploaded connection. This facilitates the data input in case of many identical parameters.

License the function block

The SIMATIC Modbus/TCP Wizard can read out the IDENT_CODE from the online instance data block and show it as a data matrix code.

With the "Industry Support" app it is possible to scan this data matrix and the data matrix code on the software Modbus package to generate a service request for licensing the function block.

Afterwards the sent REG_KEY can be written into a data block and downloaded into the PLC.

3.2 General information on the dialog masks

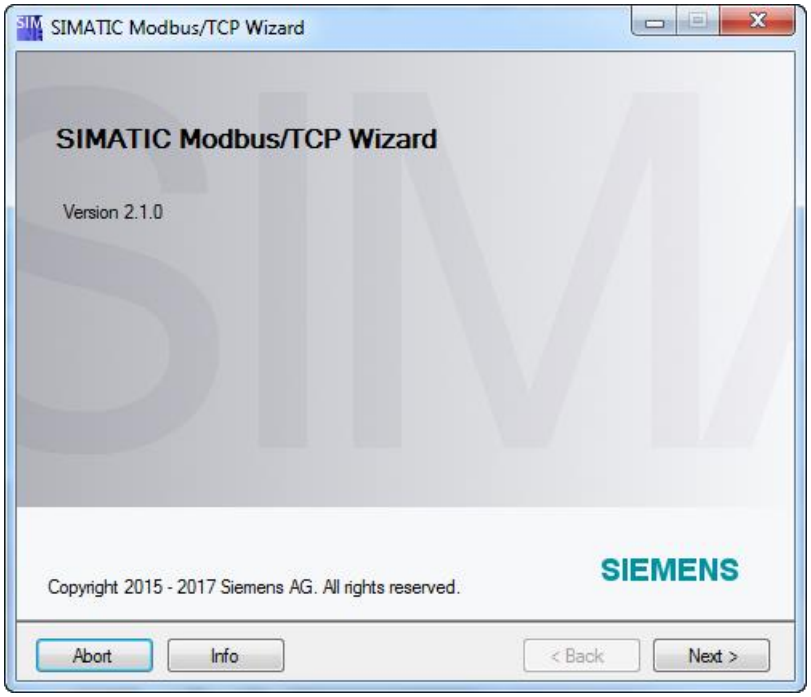
Subsequently dialogs of the SIMATIC Modbus/TCP Wizard are described from a general point of view. This description serves as a supplementation of the step-by-step instruction, which you find in the further course of the document.

3.2.1 SIMATIC Modbus/TCP CP

"SIMATIC Modbus/TCP Wizard" dialog

The SIMATIC Modbus/TCP Wizard starts with this dialog. Further information on the Modbus/TCP communication is available on the internet.

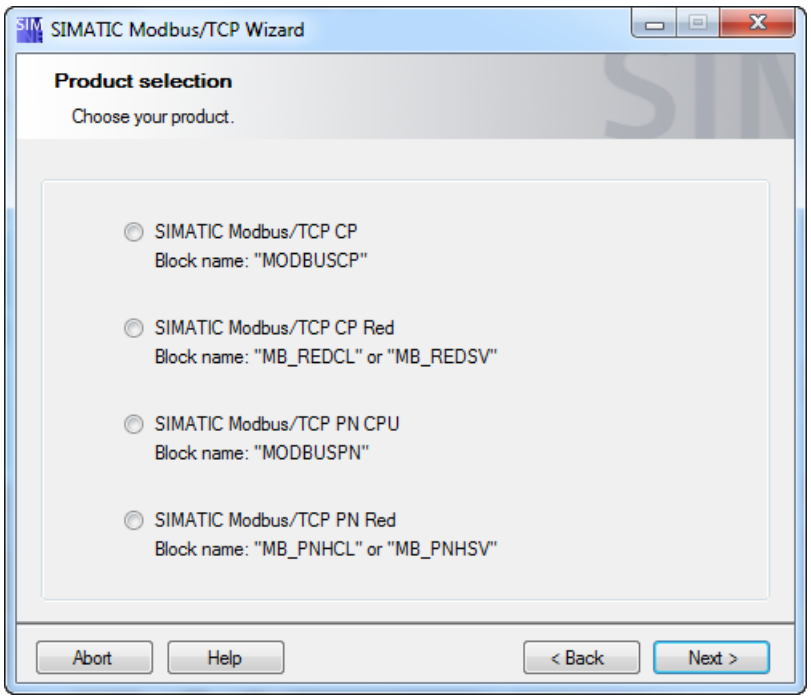
Figure 3-1



"Product selection" dialog

You need to select your product in this dialog.

Figure 3-2

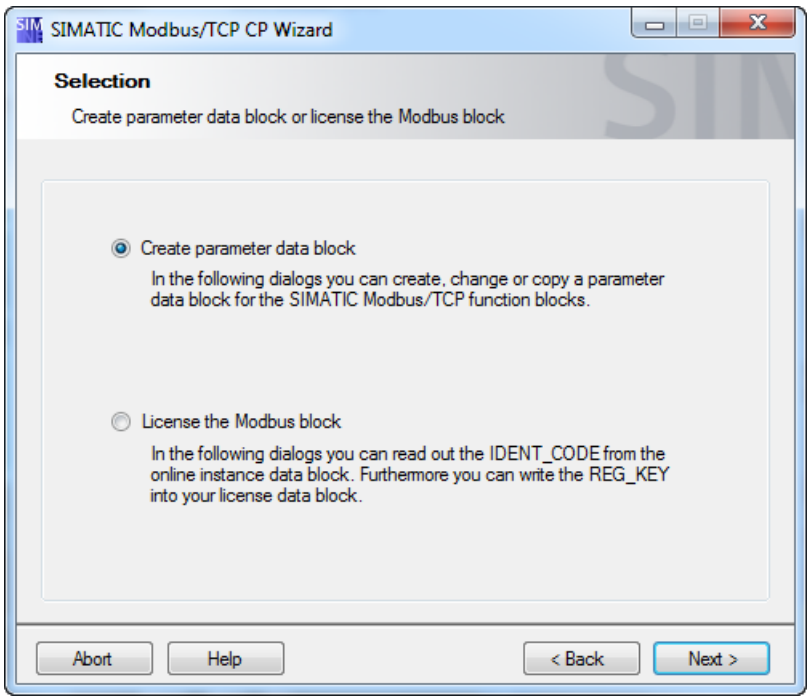


"Selection" dialog

You select if you want to create a parameter data block or to license the function block in this dialog.

You find the "Licensing" dialog in Figure 3-11.

Figure 3-3



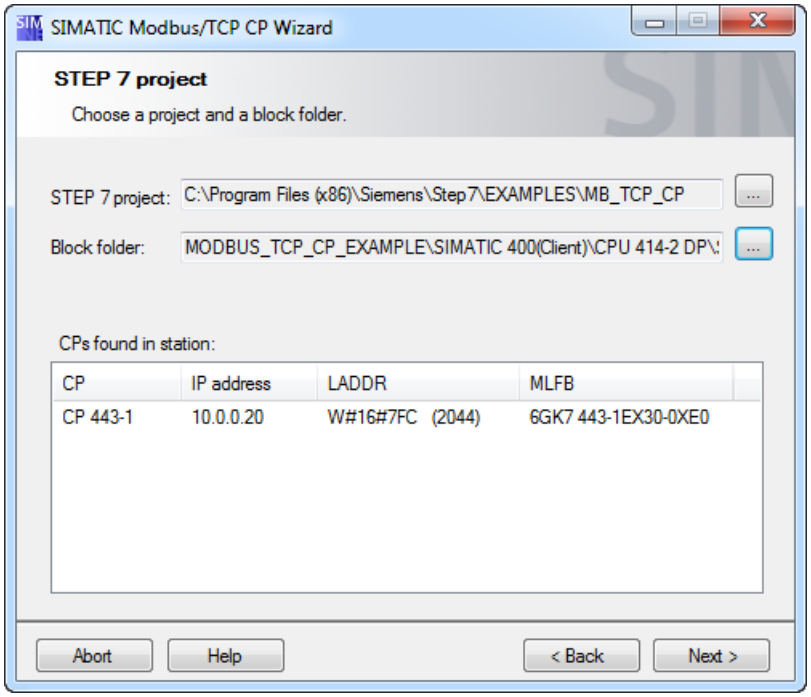
"STEP 7 project" dialog

The STEP 7 project selected in this dialog as well as the block folder can be considered as a source station. From this station connection data are uploaded. This station is at the same time used as target station.

The tool determines IP addresses of the selected station. These IP addresses can be considered as local IP addresses. The Modbus/TCP communication generally only uses TCP/IP as connection type. For this reason, only the IP address of the used CP is suitable as local IP address.

After using the "Next" button the upload of the specified project starts automatically.

Figure 3-4



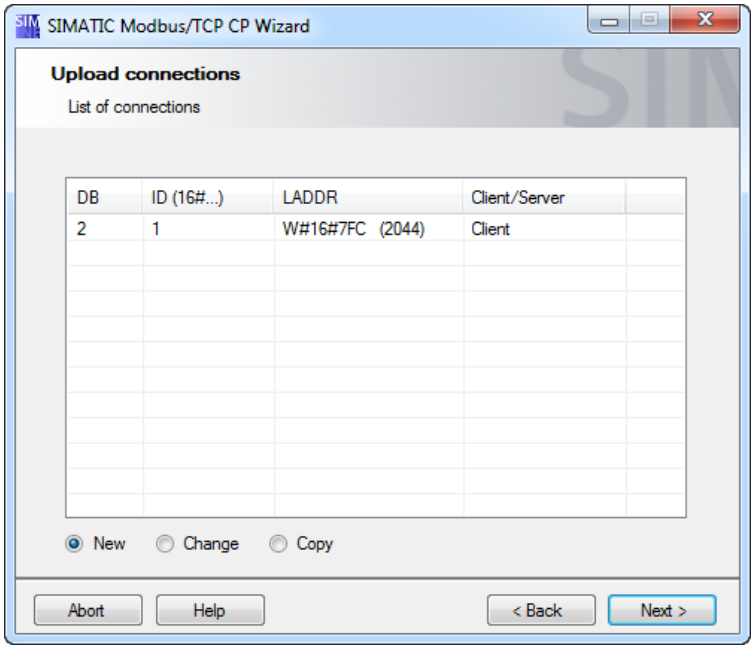
"Upload connections" dialog

In this dialog the uploaded connections in the overview are represented.

The upload starts automatically. This gives you an overview of the connections of the selected station.

The functions "Change" and "Copy" assume the selection of an uploaded connection in the overview.

Figure 3-5

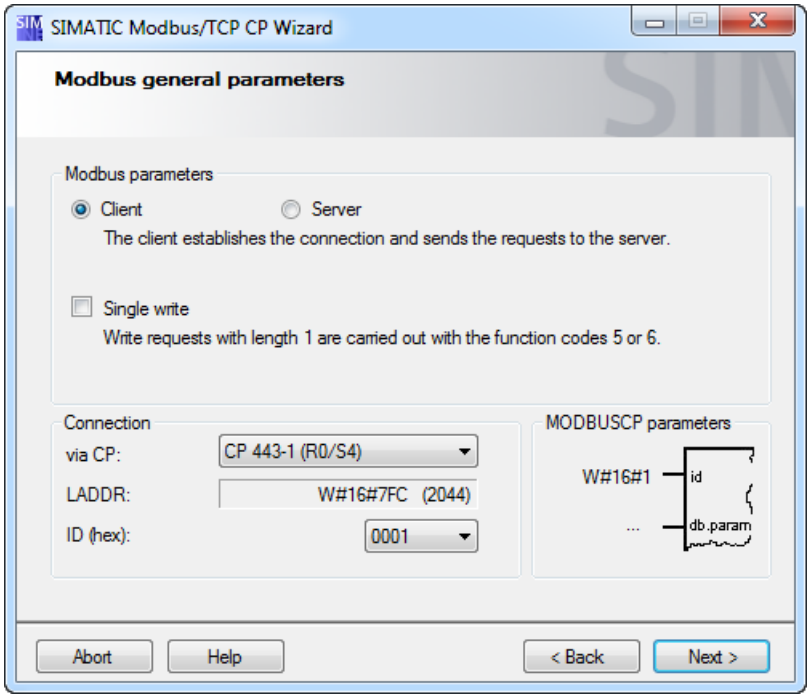


"Modbus general parameters" dialog

Here you can enter general parameters for Modbus/TCP communication. Choose the CP for the communication. The ID must be the ID in NetPro.

The option "Single write" is only available when the option "Client" has been selected.

Figure 3-6



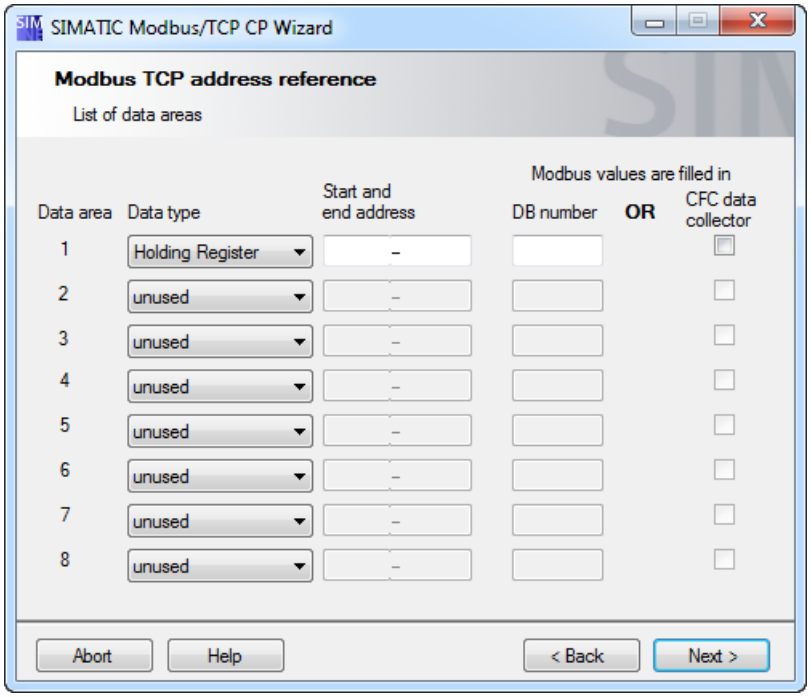
"Modbus TCP address reference" dialog

In this dialog you enter the Modbus/TCP address reference. The first data range is always used. A seamless continuation is not required.

The used data areas must not overlap. The values in the grayed fields are not considered in this check.

The data blocks are defined, in which the defined Modbus registers are to be mapped. With the optional data collector blocks the values can be interconnected directly in CFC - without usage of global data blocks. In this case there is no entering of the data block number.

Figure 3-7



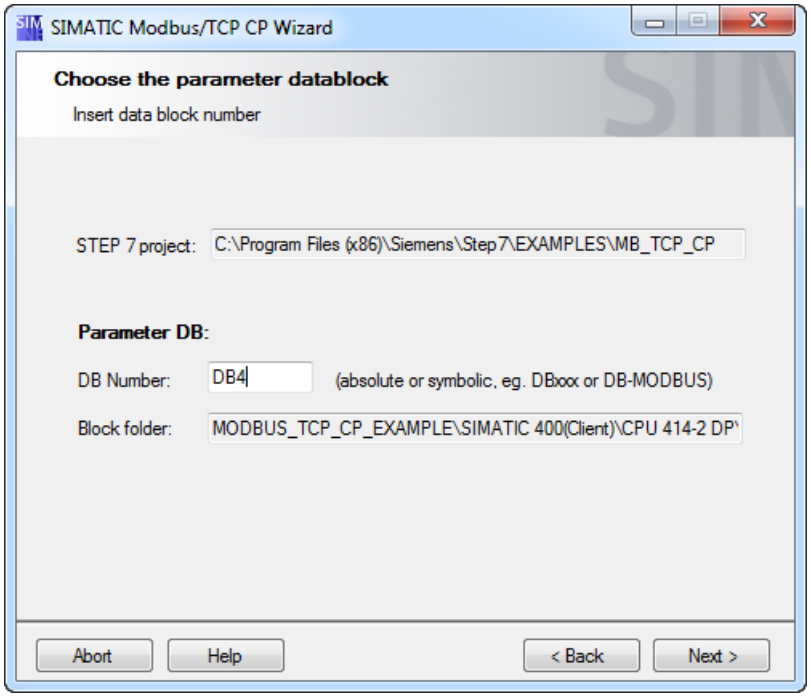
"Choose the parameter datablock" dialog

In the dialog assign any DB number or a symbolic name. When using a symbolic name ensure that the symbolic name is defined in your S7 program.

The wizard checks whether the specified block already exists in your S7 program. If the block does not yet exist in your S7 program, it will be generated. An existing data block is overwritten by the wizard after confirmation.

If a connection is changed (function "Change") details in this dialog cannot be changed. The connection data are filed in the same data block.

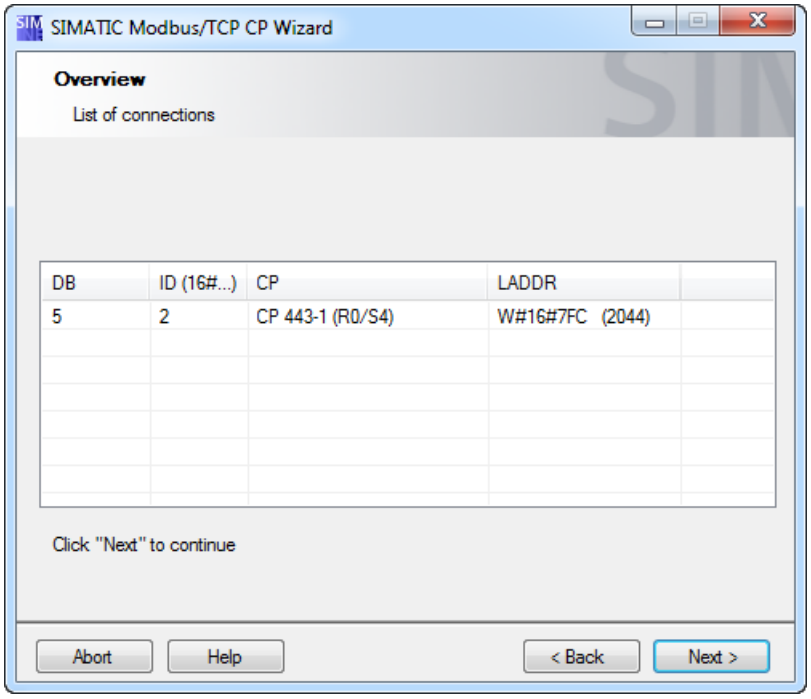
Figure 3-8



"Overview" dialog

To check the performed changes the connection is again represented as an overview in this dialog.

Figure 3-9

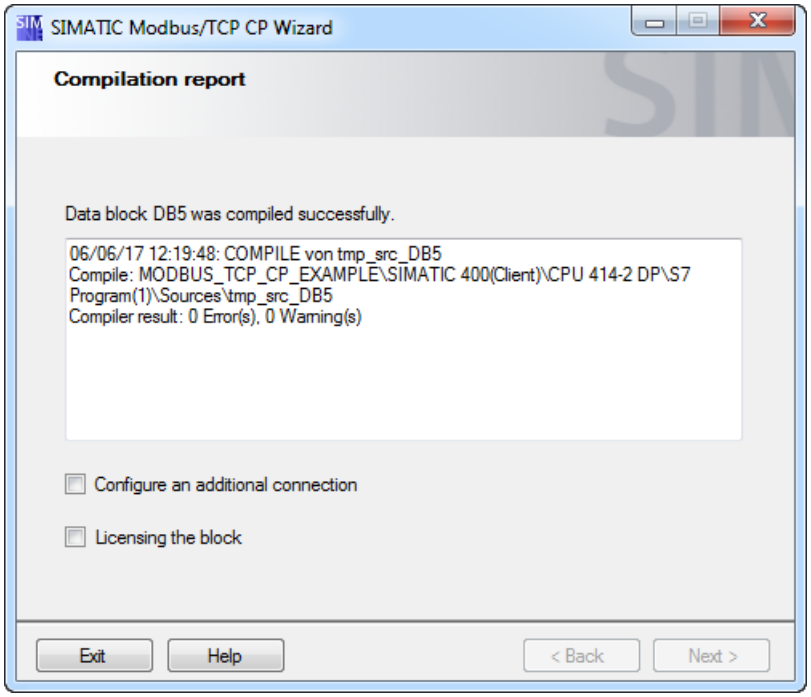


"Compilation report" dialog

In this dialog the results of the compilation are displayed. If no errors are displayed in the report, the changes in the STEP 7 project are made successfully. In case of an error no changes are made.

If an error message is displayed in the report, you check whether the used data block has not been opened otherwise.

Figure 3-10



NOTE The AWL file displayed in the compilation report is created temporarily, compiled and subsequently deleted.

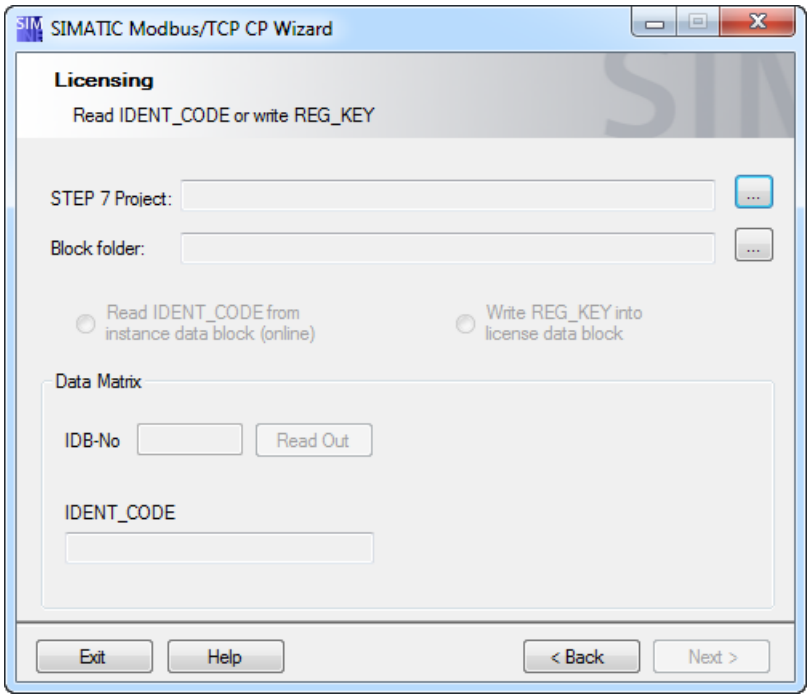
"Licensing" dialog

In this dialog you can read the IDENT_CODE from the online instance data block or write the REG_KEY into a license data block and download it into the PLC.

First choose your project and your block folder. After that you can select to read the IDENT_CODE or write the REG_KEY into a data block.

To read the IDENT_CODE or download the license data block your PLC must be reachable.

Figure 3-11

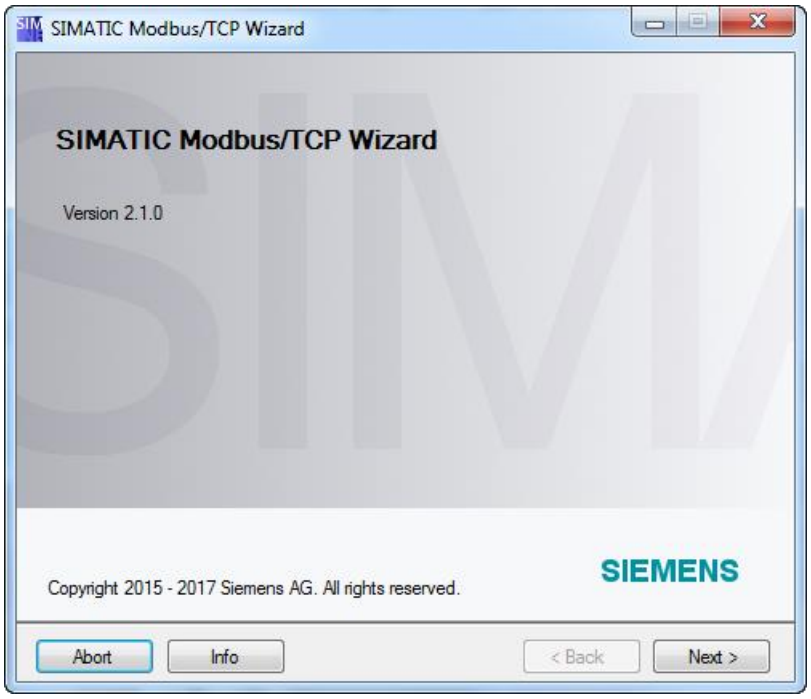


3.2.2 SIMATIC Modbus/TCP CP Red

"SIMATIC Modbus/TCP Wizard" dialog

The SIMATIC Modbus/TCP Wizard starts with this dialog. Further information on the Modbus/TCP communication is available on the internet.

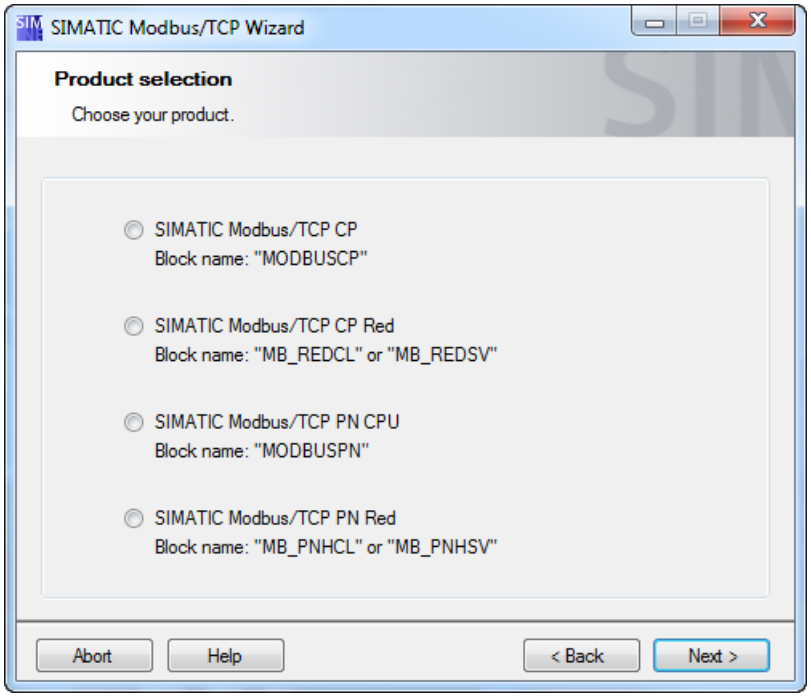
Figure 3-12



"Product selection" dialog

You need to select your product in this dialog.

Figure 3-13

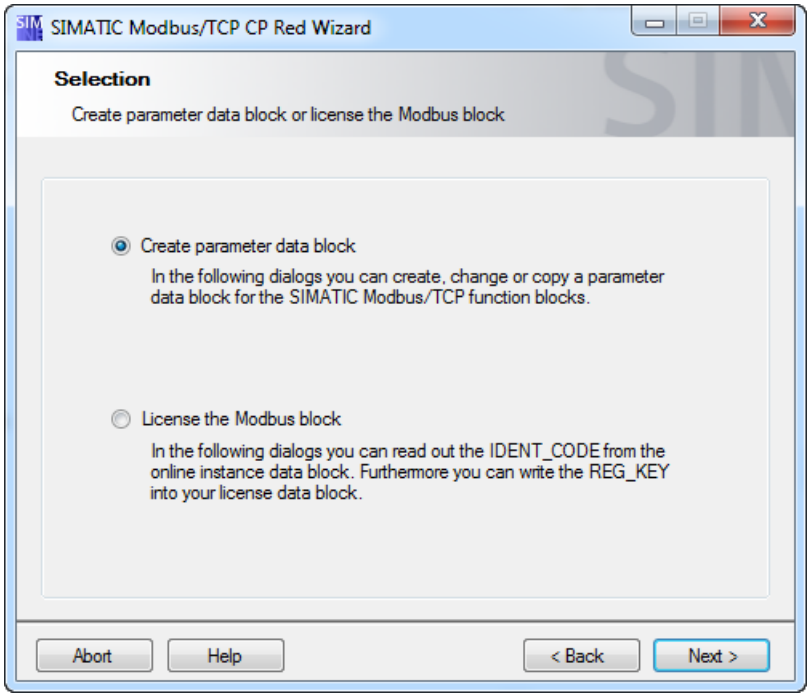


"Selection" dialog

You select if you want to create a parameter data block or to license the function block in this dialog.

You find the "Licensing" dialog in Figure 3-23.

Abbildung 3-14



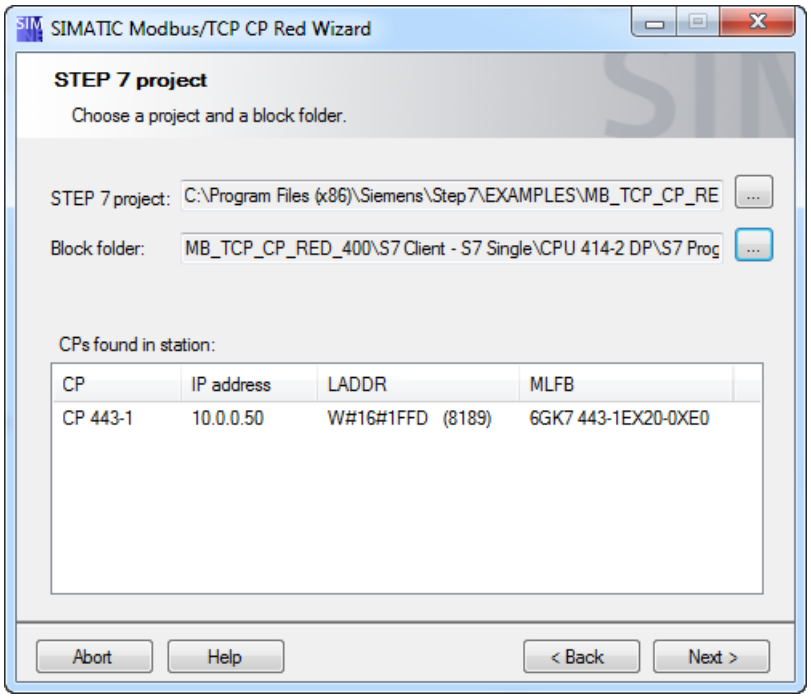
"STEP 7 project" dialog

The STEP 7 project selected in this dialog as well as the block folder can be considered as a source station. From this station connection data are uploaded. This station is at the same time used as target station.

The tool determines IP addresses of the selected station. These IP addresses can be considered as local IP addresses. The Modbus/TCP communication generally only uses TCP/IP as connection type. For this reason, only the IP address of the used CP is suitable as local IP address.

After using the "Next" button the upload of the specified project starts automatically.

Figure 3-15



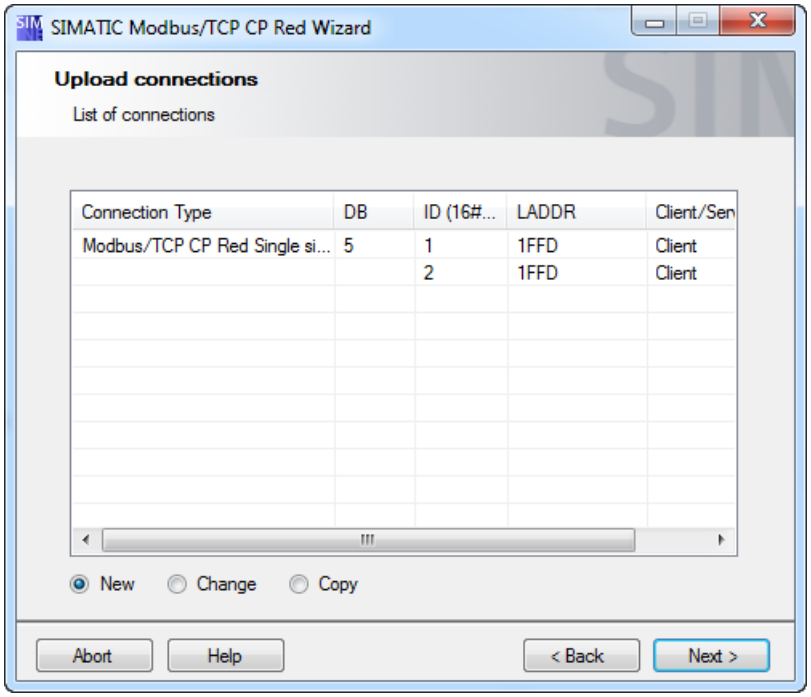
"Upload connections" dialog

In this dialog the uploaded connections in the overview are represented.

The upload starts automatically. This gives you an overview of the connections of the selected station.

The functions "Change" and "Copy" assume the selection of an uploaded connection in the overview.

Figure 3-16

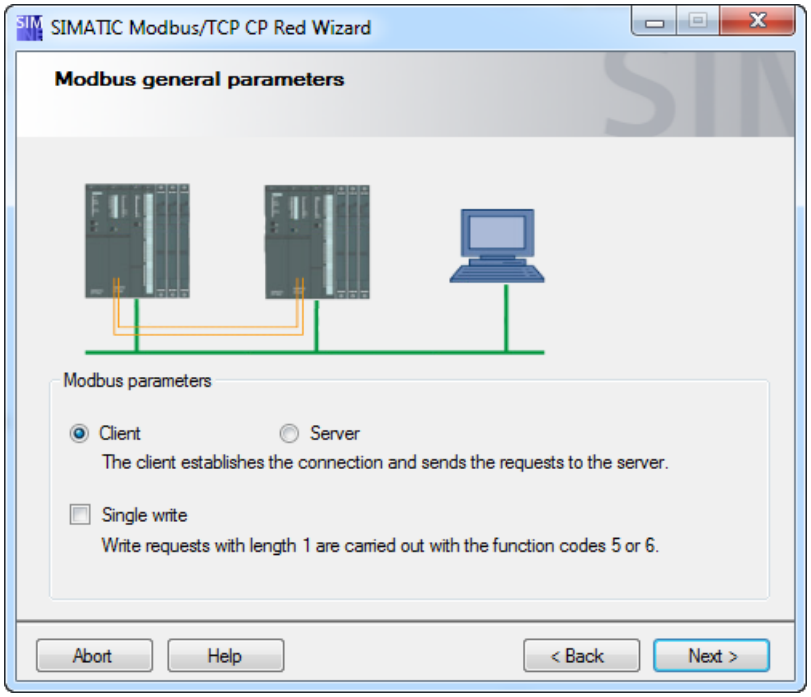


"Modbus general parameters" dialog

Here you enter the general parameters for the Modbus/TCP communication.

The option "Single write" is only available when the option "Client" has been selected.

Figure 3-17



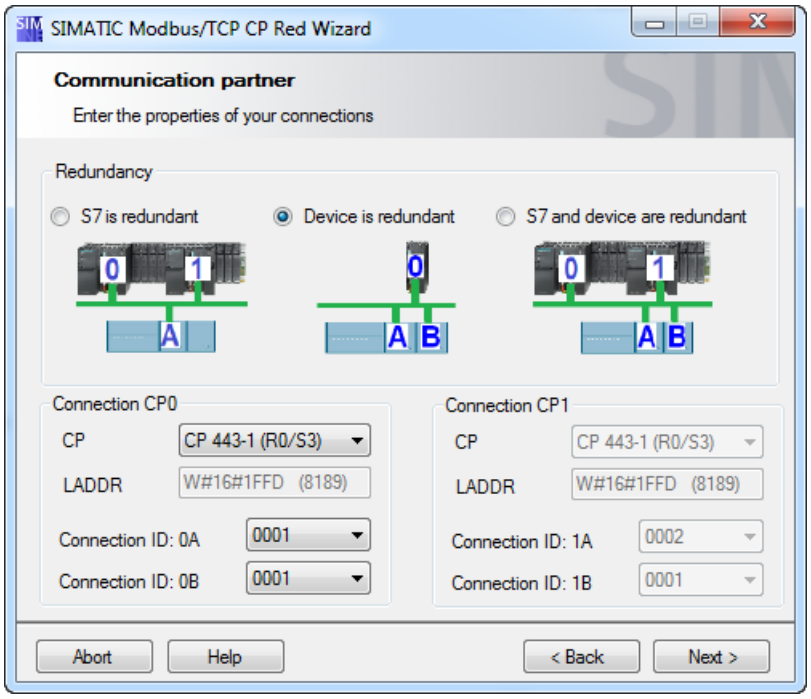
"Communication partner" dialog

Here you enter connection parameters. Make sure to select the used CPs.

Each redundant connection consists of 2 connections (single-sided redundancy) or 4 connections (double-sided redundancy).

You must select a CP and an ID for each connection. The ID must be the ID in NetPro.

Figure 3-18



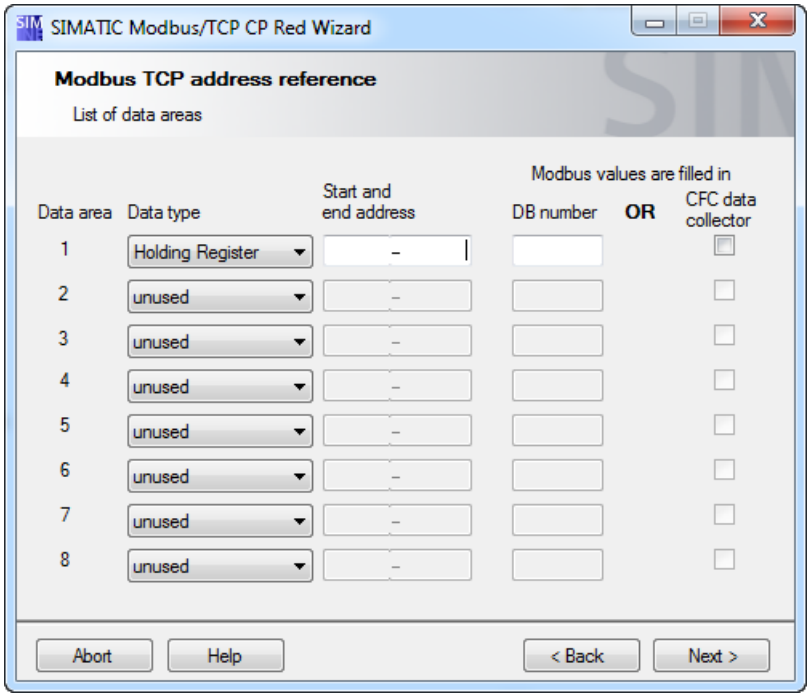
"Modbus TCP address reference" dialog

In this dialog you enter the Modbus/TCP address reference. The first data range is always used. A seamless continuation is not required.

The used data areas must not overlap. The values in the grayed fields are not considered in this check.

The data blocks are defined, in which the defined Modbus registers are to be mapped. With the optional data collector blocks the values can be interconnected directly in CFC - without usage of global data blocks. In this case there is no entering of the data block number.

Figure 3-19



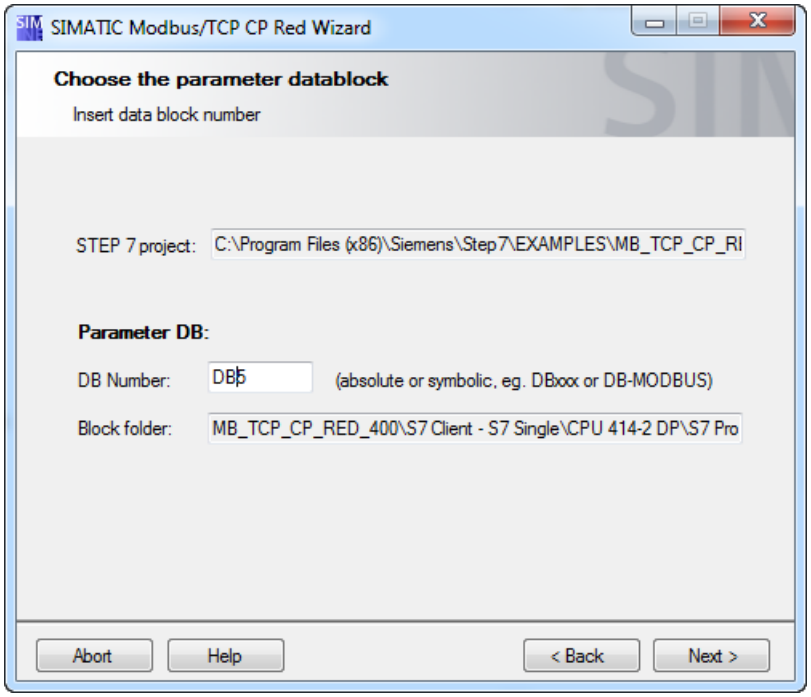
"Choose the parameter datablock" dialog

In the dialog assign any DB number or a symbolic name. When using a symbolic name ensure that the symbolic name is defined in your S7 program.

The wizard checks whether the specified block already exists in your S7 program. If the block does not yet exist in your S7 program, it will be generated. An existing data block is overwritten by the wizard after confirmation.

If a connection is changed (function "Change") details in this dialog cannot be changed. The connection data are filed in the same data block.

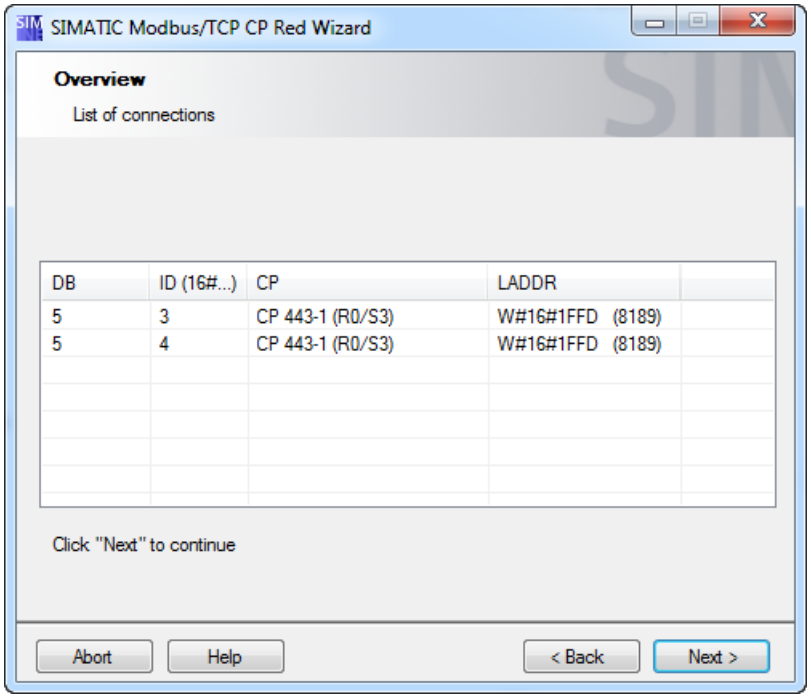
Figure 3-20



"Overview" dialog

To check the performed changes the connections are again represented as an overview in this dialog.

Figure 3-21

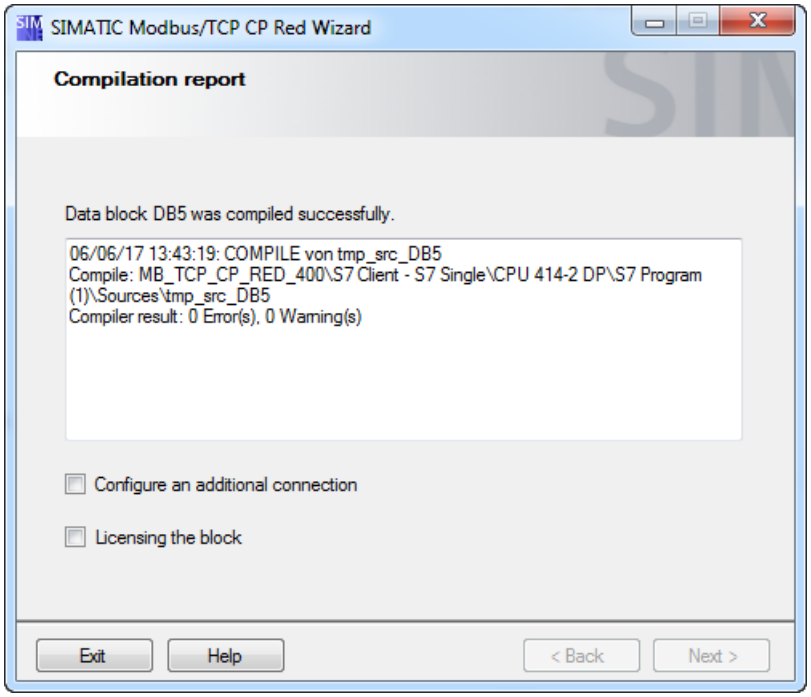


"Compilation report" dialog

In this dialog the results of the compilation are displayed. If no errors are displayed in the report, the changes in the STEP 7 project are made successfully. In case of an error no changes are made.

If an error message is displayed in the report, you check whether the used data block has not been opened otherwise.

Figure 3-22



NOTE The AWL file displayed in the compilation report is created temporarily, compiled and subsequently deleted

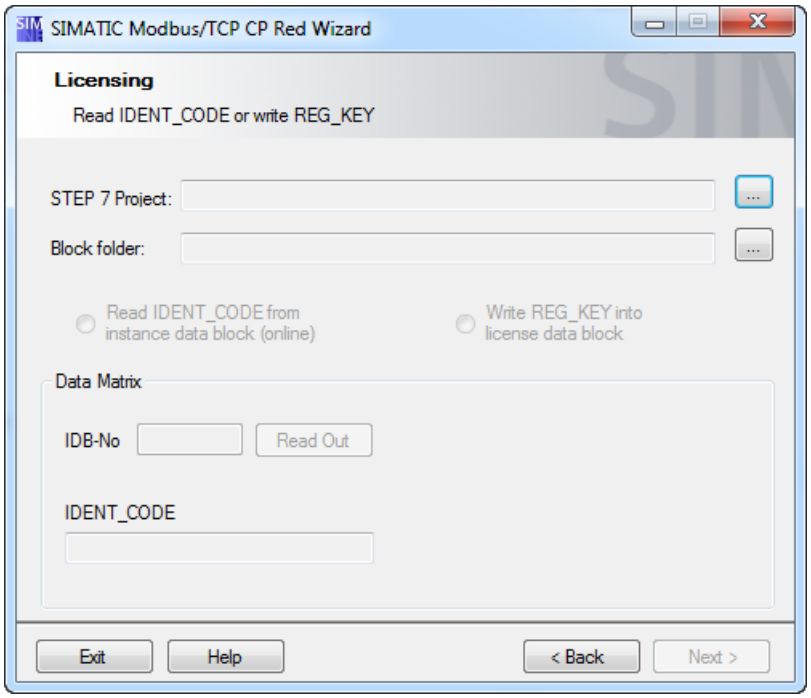
"Licensing" dialog

In this dialog you can read the IDENT_CODE from the online instance data block or write the REG_KEY into a license data block and download it into the PLC.

First choose your project and your block folder. After that you can select to read the IDENT_CODE or write the REG_KEY into a data block.

To read the IDENT_CODE or download the license data block your PLC must be reachable.

Figure 3-23

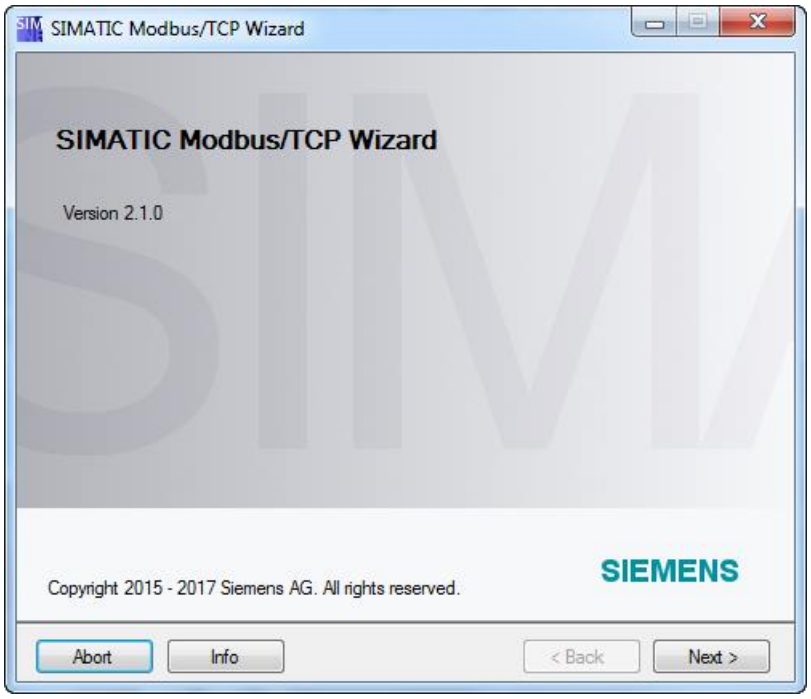


3.2.3 SIMATIC Modbus/TCP PN

"SIMATIC Modbus/TCP Wizard" dialog

The SIMATIC Modbus/TCP Wizard starts with this dialog. Further information on the Modbus/TCP communication is available on the internet.

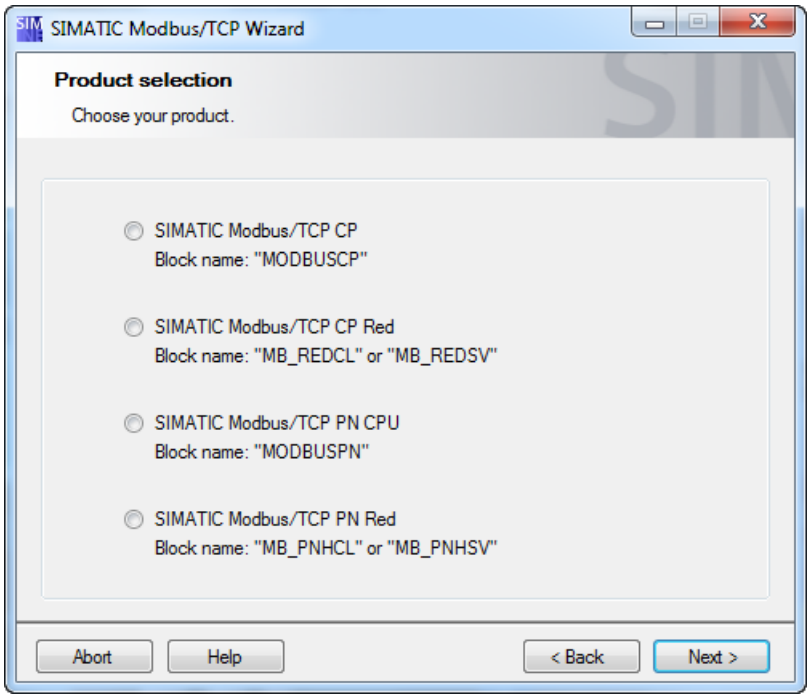
Figure 3-24



"Product selection" dialog

You need to select your product in this dialog.

Figure 3-25

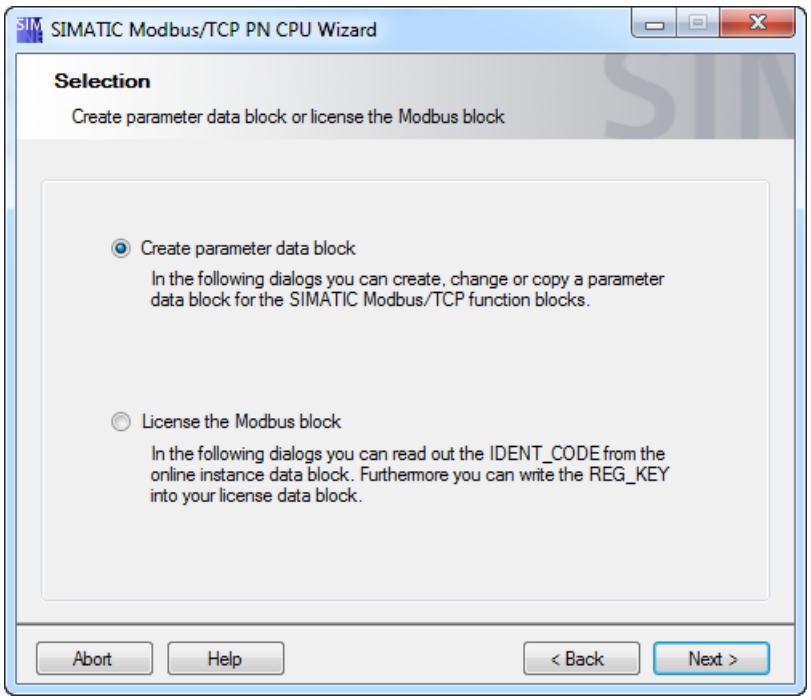


"Selection" dialog

You select if you want to create a parameter data block or to license the function block in this dialog.

You find the "Licensing" dialog in Figure 3-34.

Figure 3-26



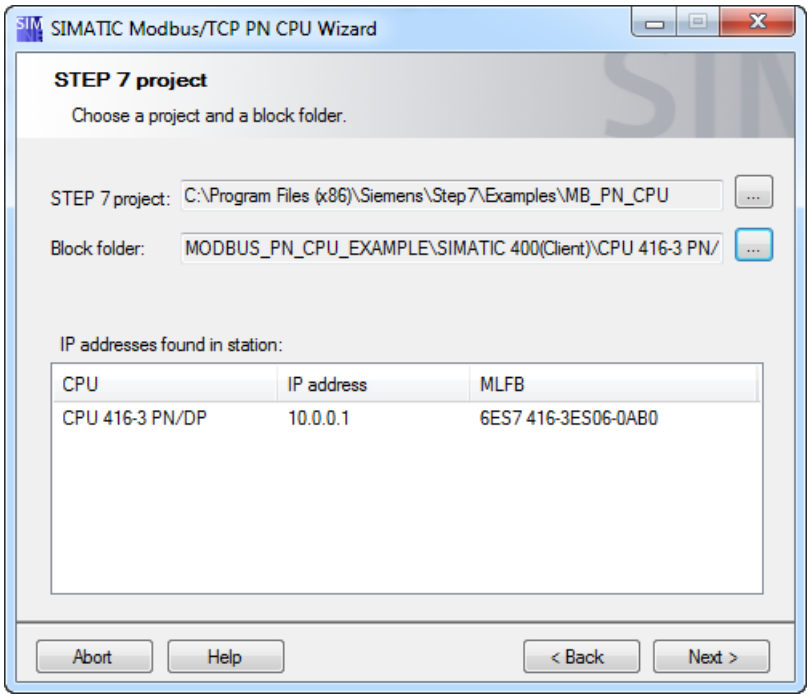
"STEP 7 project" dialog

The STEP 7 project selected in this dialog as well as the block folder can be considered as a source station. From this station connection data are uploaded. This station is at the same time used as target station.

The tool determines IP addresses of the selected station. These IP addresses can be considered as local IP addresses. The Modbus/TCP communication generally only uses TCP/IP as connection type. For this reason, only the IP address of the used CPU is suitable as local IP address.

After using the "Next" button the upload of the specified project starts automatically.

Figure 3-27



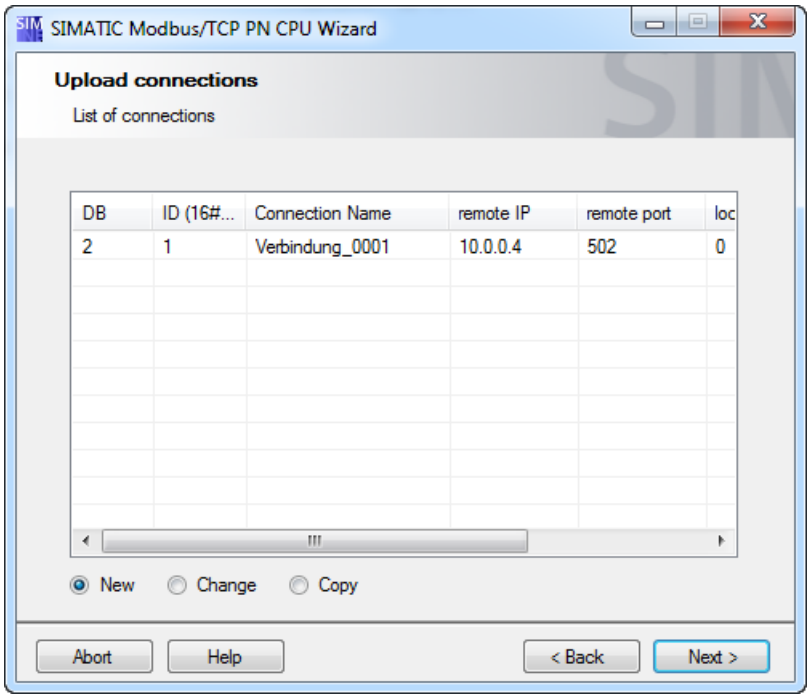
"Upload connections" dialog

In this dialog the uploaded connections in the overview are represented.

The upload starts automatically. This gives you an overview of the connections of the selected station.

The functions "Change" and "Copy" assume the selection of an uploaded connection in the overview.

Figure 3-28



"Modbus general parameters" dialog

Here you enter the general parameters for the Modbus/TCP communication.

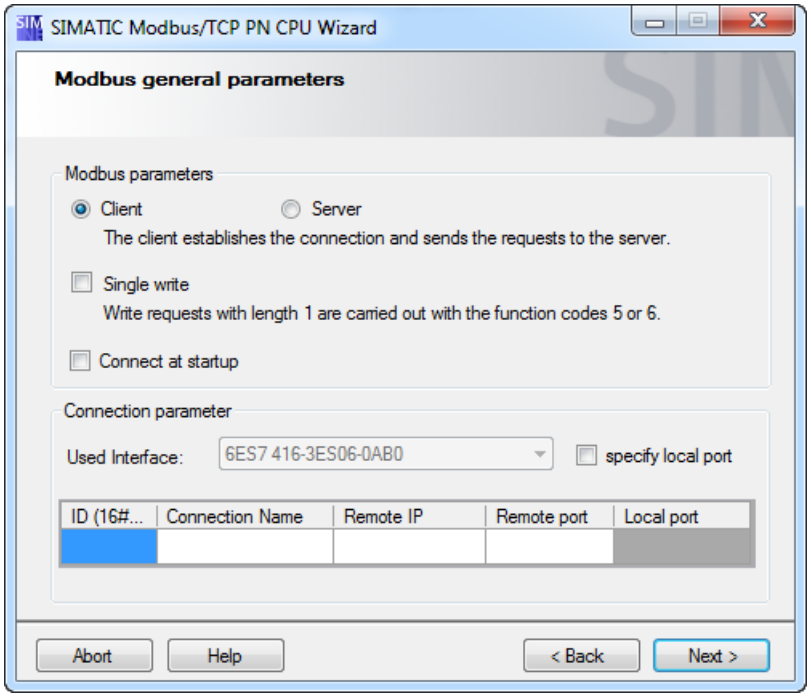
The option "Single write" is only available when the option "Client" has been selected.

You must enter an ID and a connection name. The connection name is filled in the comment.

If S7 acts as client, the IP address and the port number for the connection must be entered. The Modbus communication usually runs via server port 502.

If S7 acts as server, the local port number must be entered. Please note that not all CPU types can use port 502.

Figure 3-29



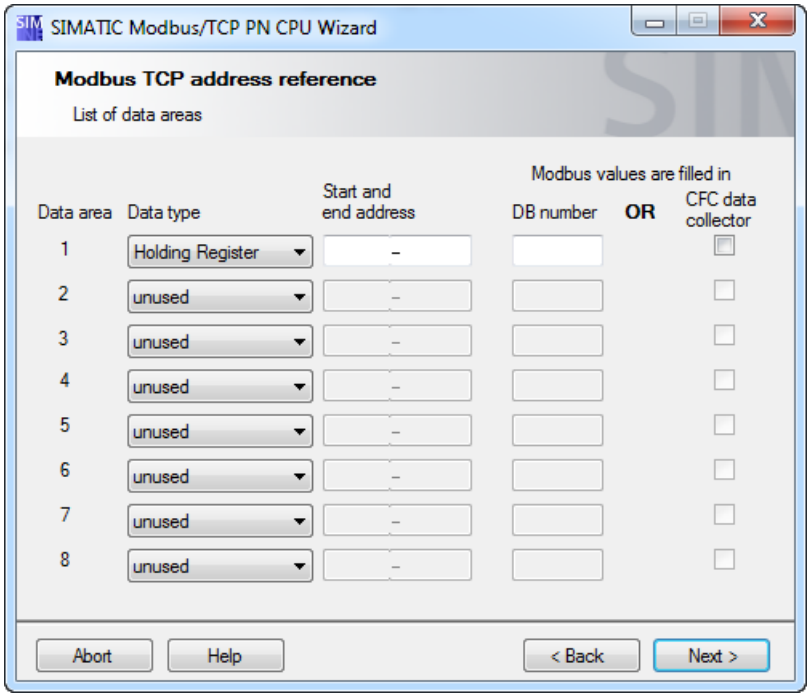
"Modbus TCP address reference" dialog

In this dialog you enter the Modbus/TCP address reference. The first data range is always used. A seamless continuation is not required.

The used data areas must not overlap. The values in the grayed fields are not considered in this check.

The data blocks are defined, in which the defined MODBUS registers are to be mapped. With the optional data collector blocks the values can be interconnected directly in CFC - without usage of global data blocks. In this case there is no entering of the data block number.

Figure 3-30



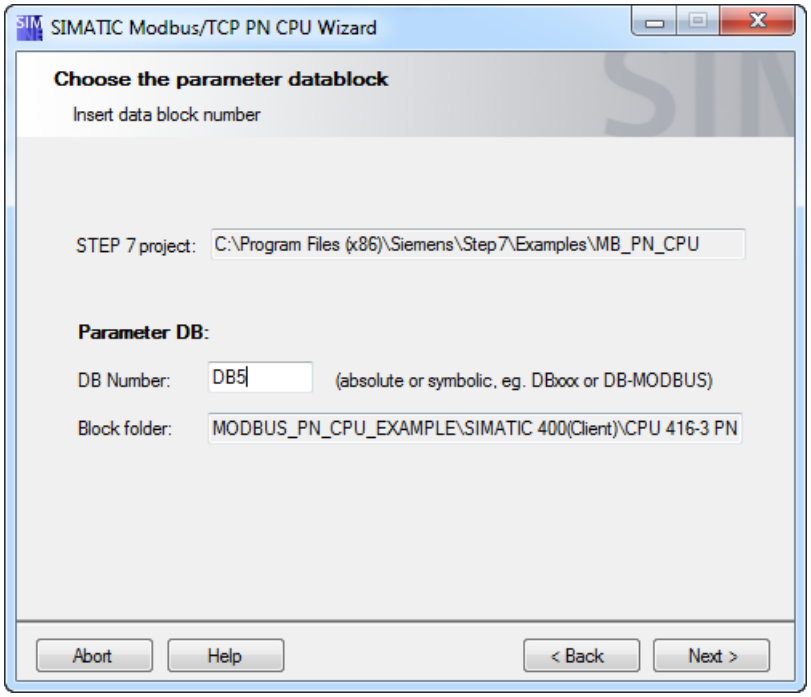
"Choose the parameter datablock" dialog

In the dialog assign any DB number or a symbolic name. When using a symbolic name ensure that the symbolic name is defined in your S7 program.

The wizard checks whether the specified block already exists in your S7 program. If the block does not yet exist in your S7 program, it will be generated. An existing data block is overwritten by the wizard after confirmation.

If a connection is changed (function "Change") details in this dialog cannot be changed. The connection data are filled in the same data block.

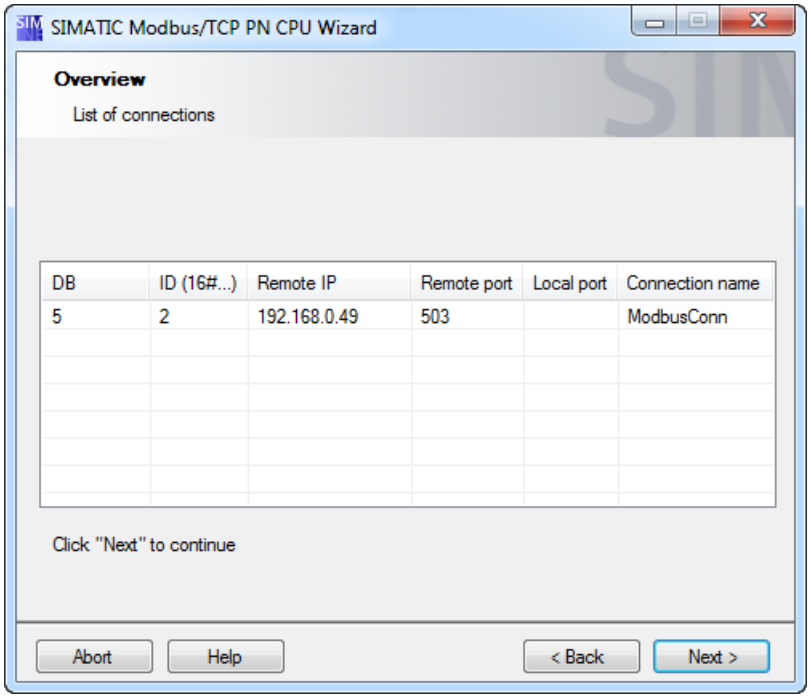
Figure 3-31



"Overview" dialog

To check the performed changes the connections are again represented as an overview in this dialog.

Figure 3-32

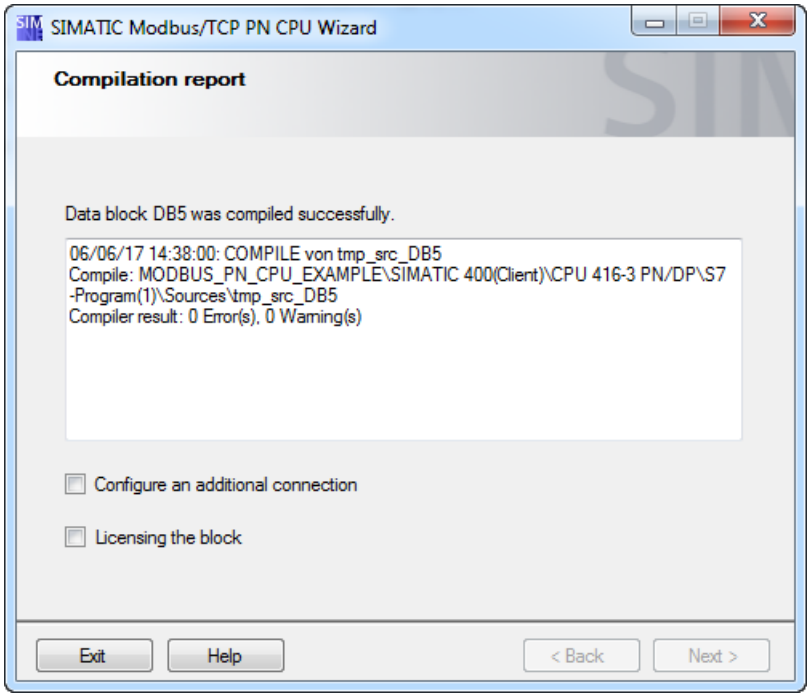


"Compile report" dialog

In this dialog the results of the compilation are displayed. If no errors are displayed in the report, the changes in the STEP 7 project are made successfully. In case of an error no changes are made.

If an error message is displayed in the report, you check whether the used data block has not been opened otherwise.

Figure 3-33



NOTE The AWL file displayed in the compilation report is created temporarily, compiled and subsequently deleted.

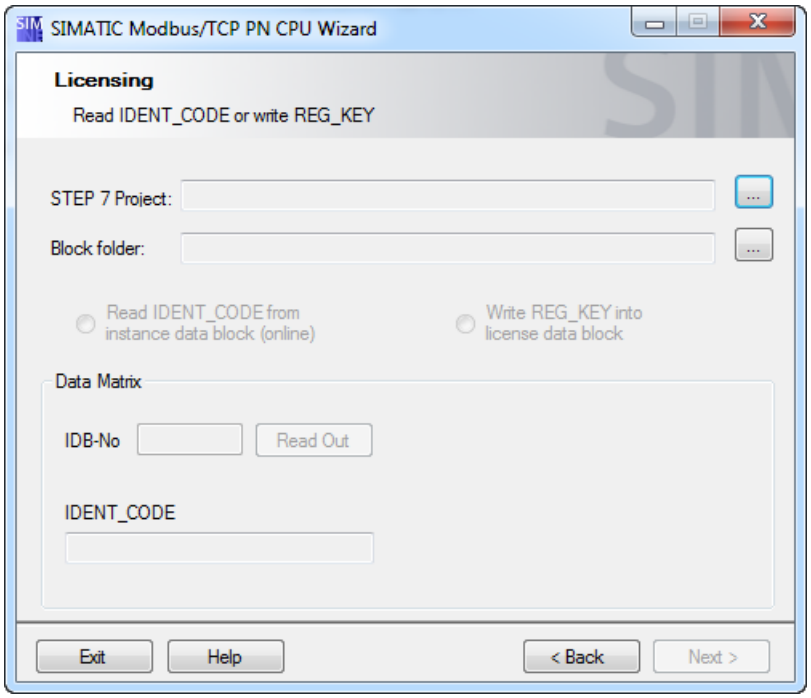
"Licensing" dialog

In this dialog you can read the IDENT_CODE from the online instance data block or write the REG_KEY into a license data block and download it into the PLC.

First choose your project and your block folder. After that you can select to read the IDENT_CODE or write the REG_KEY into a data block.

To read the IDENT_CODE or download the license data block your PLC must be reachable.

Figure 3-34

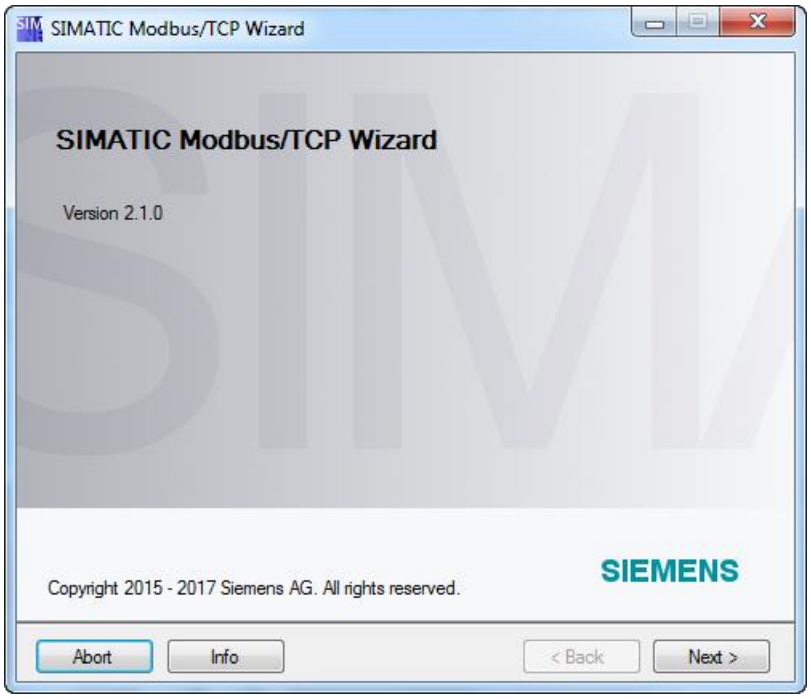


3.2.4 SIMATIC Modbus/TCP PN Red

"SIMATIC Modbus/TCP Wizard" dialog

The SIMATIC Modbus/TCP Wizard starts with this dialog. Further information on the Modbus/TCP communication is available on the internet.

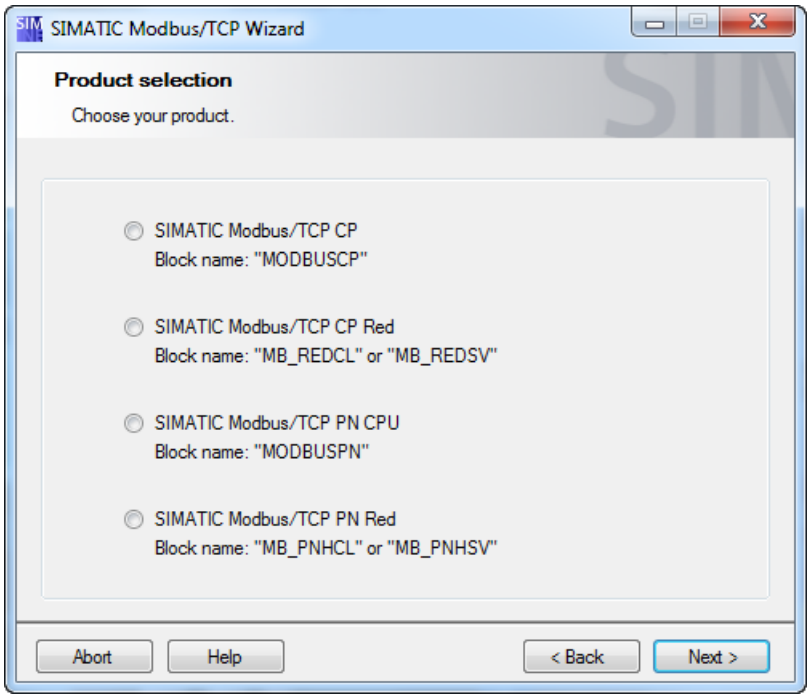
Figure 3-35



"Product selection" dialog

You need to select your product in this dialog.

Figure 3-36

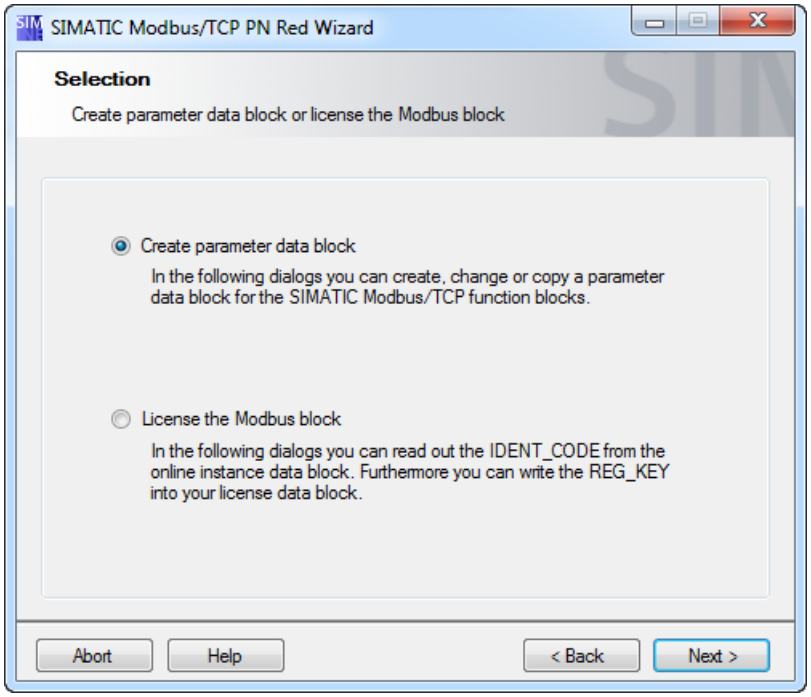


"Selection" dialog

You select if you want to create a parameter data block or to license the function block in this dialog.

You find the "Licensing" dialog in Figure 3-46.

Abbildung 3-37



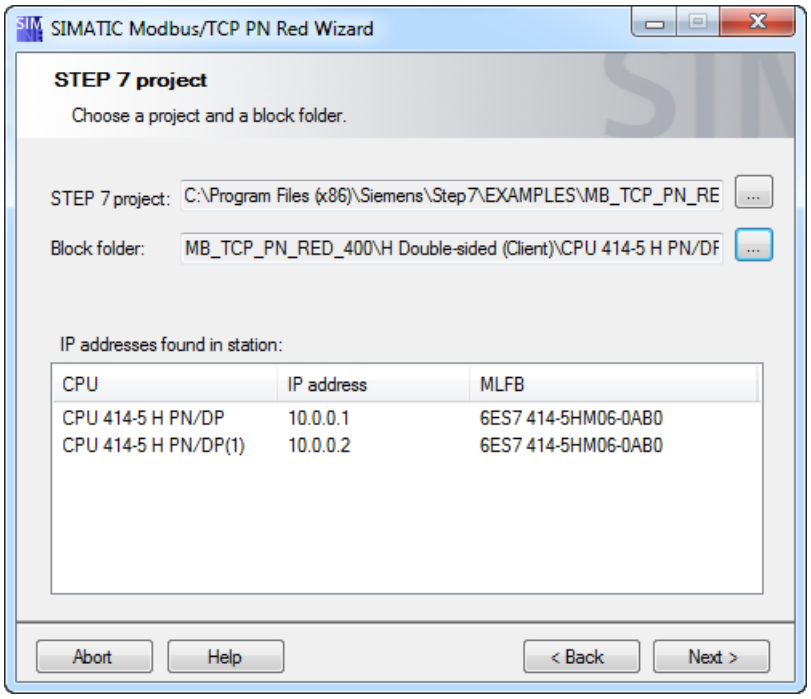
"STEP 7 project" dialog

The STEP 7 project selected in this dialog as well as the block folder can be considered as a source station. From this station connection data are uploaded. This station is at the same time used as target station.

The tool determines IP addresses of the selected station. These IP addresses can be considered as local IP addresses. The Modbus/TCP communication generally only uses TCP/IP as connection type. For this reason, only the IP address of the used CPU is suitable as local IP address.

After using the "Next" button the upload of the specified project starts automatically.

Figure 3-38



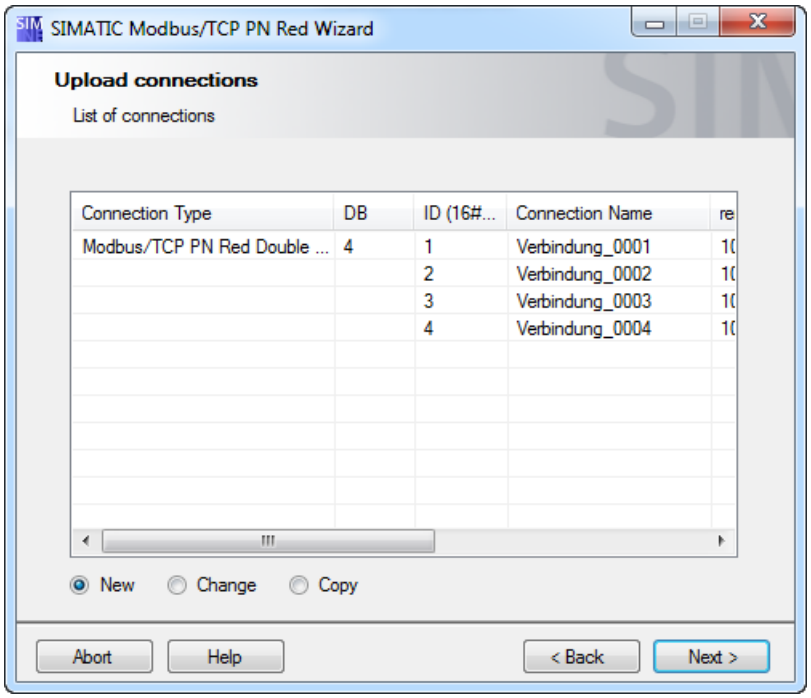
"Upload connections" dialog

In this dialog the uploaded connections in the overview are represented. Here you can switch between functions of the SIMATIC Modbus/TCP Wizard.

The upload starts automatically. This gives you an overview of the connections of the selected station.

The functions "Change" and "Copy" assume the selection of an uploaded connection in the overview.

Figure 3-39

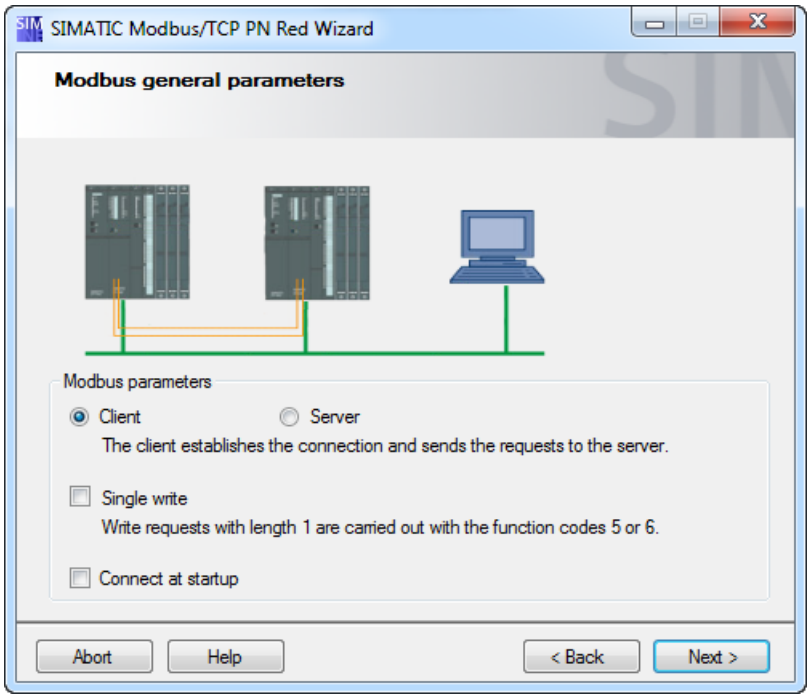


"Modbus general parameters" dialog

Here you enter the general parameters for the Modbus/TCP communication.

The option "Single write" is only available when the option "Client" has been selected.

Figure 3-40



"Communication partner" dialog

Here you enter connection parameters. Please ensure that the correct interface has been selected.

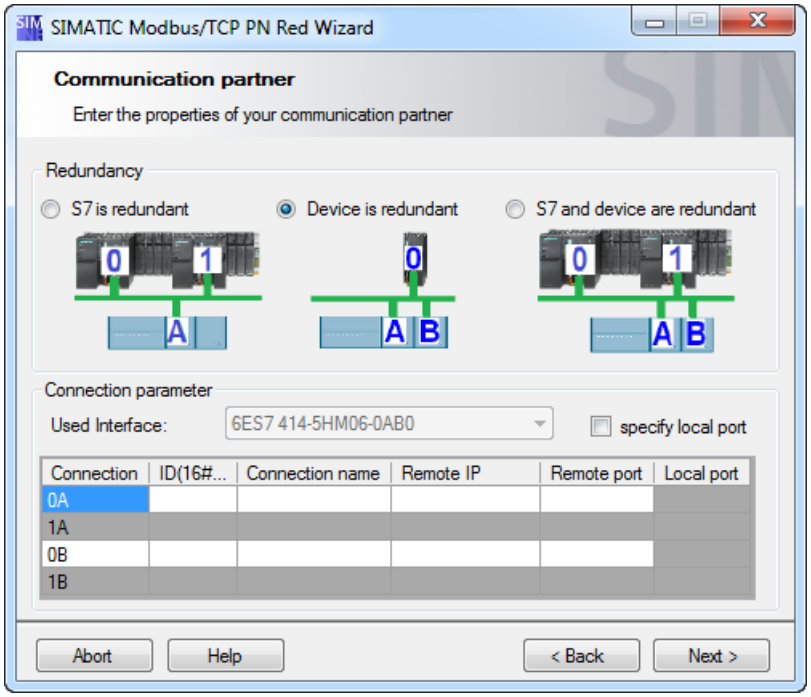
Each redundant connection consists of 2 connections (single-sided redundancy) or 4 connections (double-sided redundancy).

You must enter an ID and a connection name for each connection. The connection name is filled in the comment.

If S7 acts as client, the IP addresses and the port numbers for the connections must be entered. The Modbus communication usually runs via server port 502.

If S7 acts as server, the local port numbers must be entered. Please note that not all CPU types can use port 502.

Figure 3-41



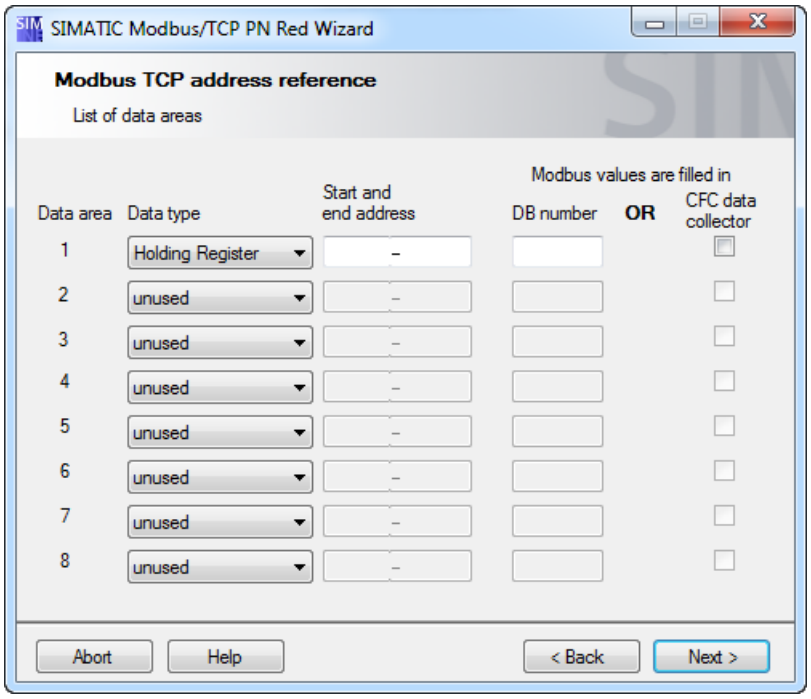
"Modbus TCP address reference" dialog

In this dialog you enter the Modbus/TCP address reference. The first data range is always used. A seamless continuation is not required.

The used data areas must not overlap. The values in the grayed fields are not considered in this check.

The data blocks are defined, in which the defined Modbus registers are to be mapped. With the optional data collector blocks the values can be interconnected directly in CFC - without usage of global data blocks. In this case there is no entering of the data block number.

Figure 3-42



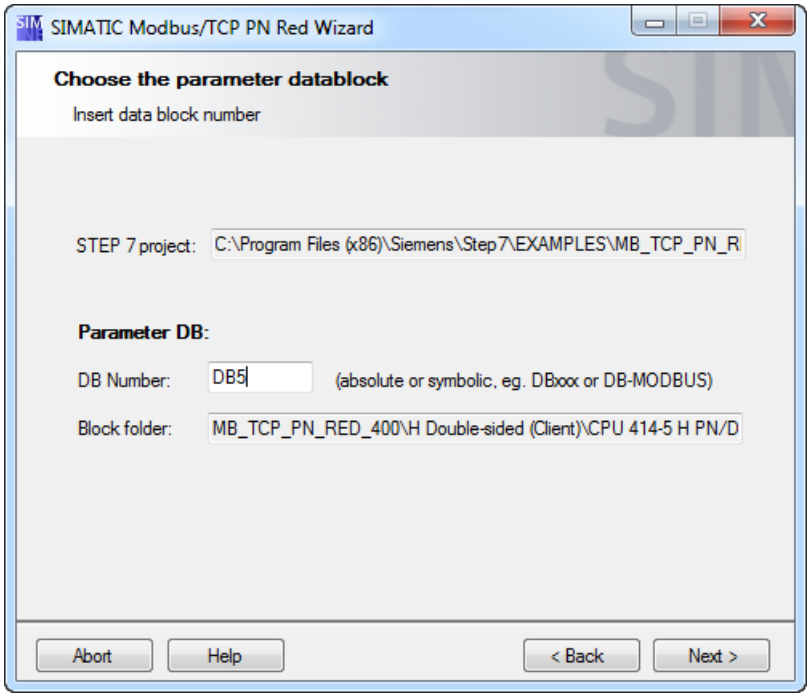
"Choose the parameter datablock" dialog

In the dialog assign any DB number or a symbolic name. When using a symbolic name ensure that the symbolic name is defined in your S7 program.

The wizard checks whether the specified block already exists in your S7 program. If the block does not yet exist in your S7 program, it will be generated. An existing data block is overwritten by the wizard after confirmation.

If a connection is changed (function "Change") details in this dialog cannot be changed. The connection data are filed in the same data block.

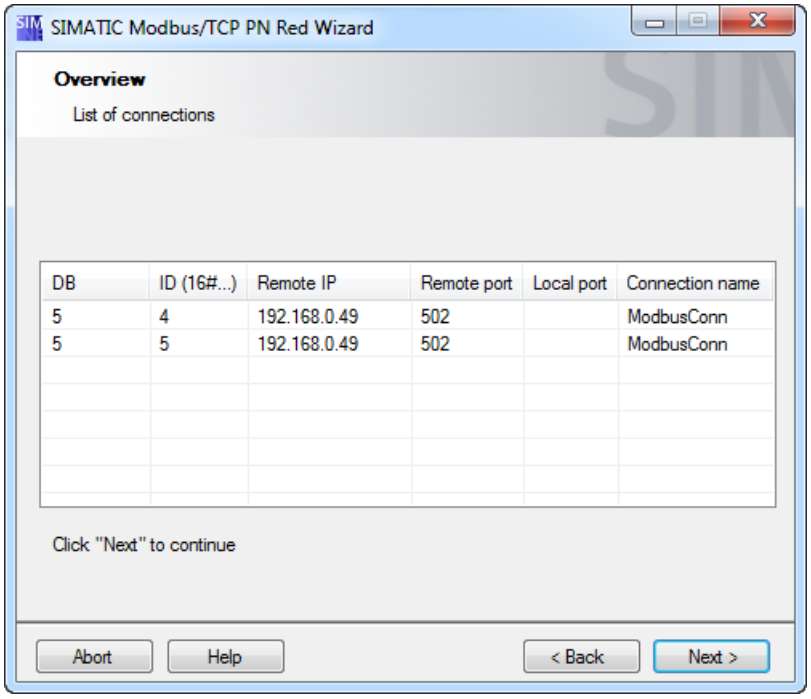
Figure 3-43



"Overview" dialog

To check the performed changes the connections are again represented as an overview in this dialog.

Figure 3-44

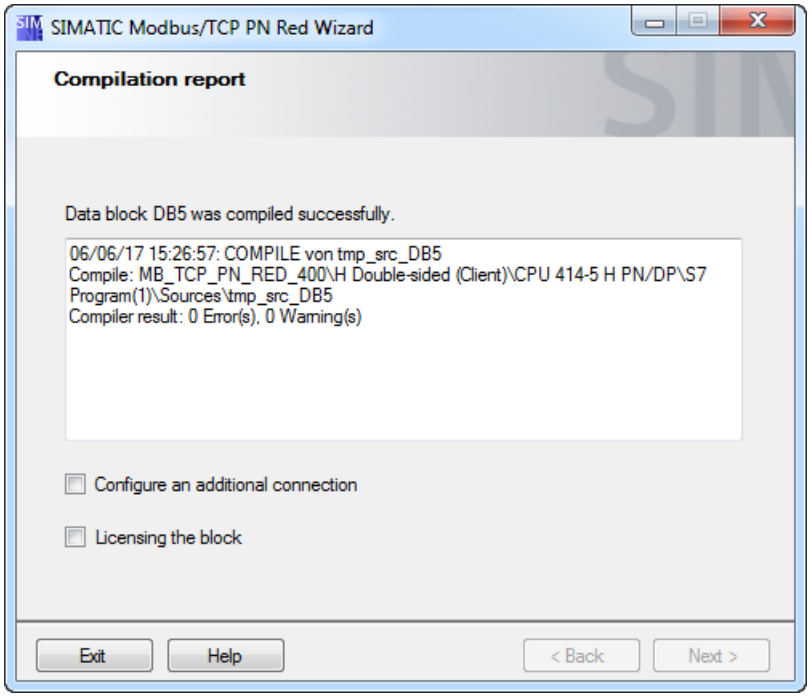


"Compile report" dialog

In this dialog the results of the compilation are displayed. If no errors are displayed in the report, the changes in the STEP 7 project are made successfully. In case of an error no changes are made.

If an error message is displayed in the report, you check whether the used data block has not been opened otherwise.

Figure 3-45



NOTE The AWL file displayed in the compilation report is created temporarily, compiled and subsequently deleted

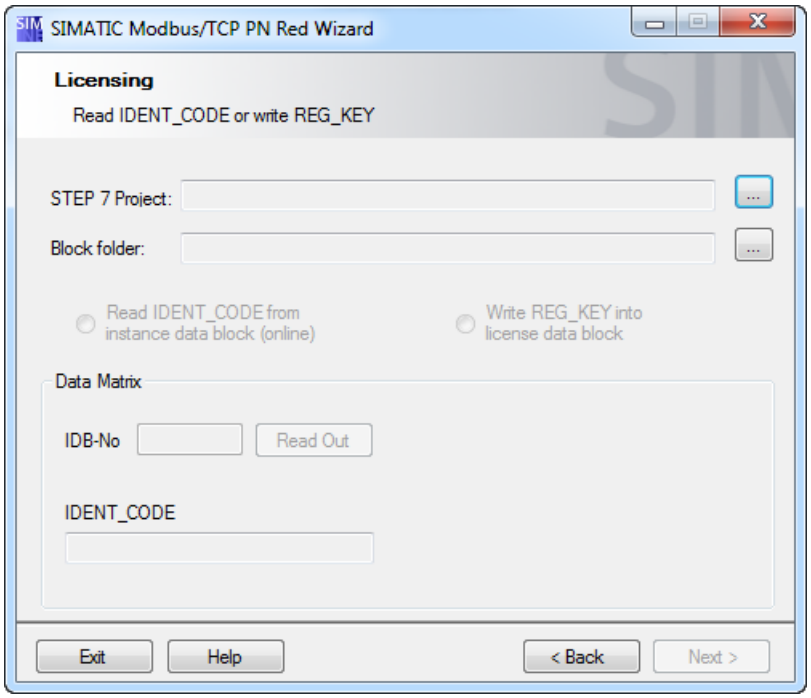
"Licensing" dialog

In this dialog you can read the IDENT_CODE from the online instance data block or write the REG_KEY into a license data block and download it into the PLC.

First choose your project and your block folder. After that you can select to read the IDENT_CODE or write the REG_KEY into a data block.

To read the IDENT_CODE or download the license data block your PLC must be reachable.

Figure 3-46



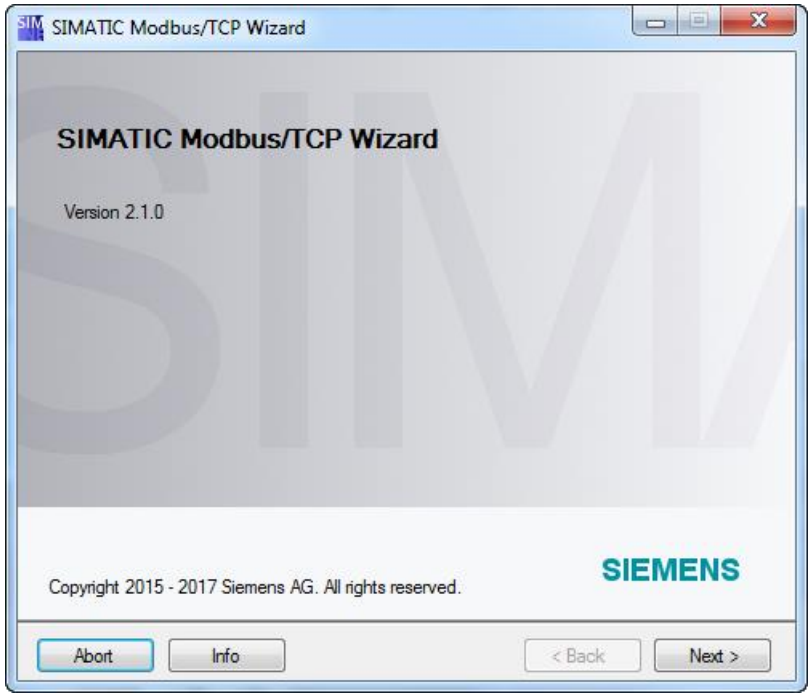
3.3 Step by step instruction: Create new connection

In this chapter we show you step by step the procedure for generating a new Modbus/TCP connection.

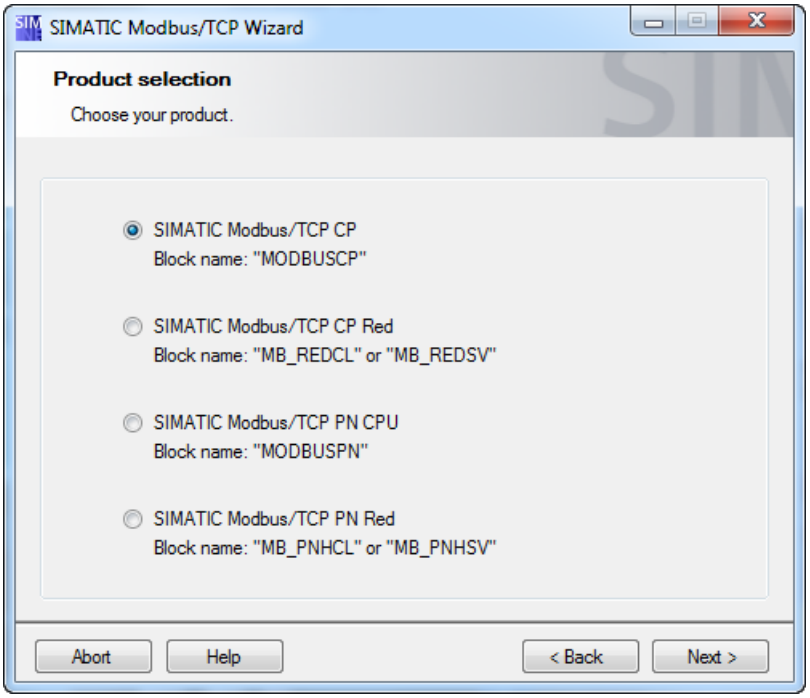
NOTE If already configured Modbus/TCP connections exist in your project, you can also create new connections via the “Copy” option. You find the instruction in chapter 3.5)

Instruction

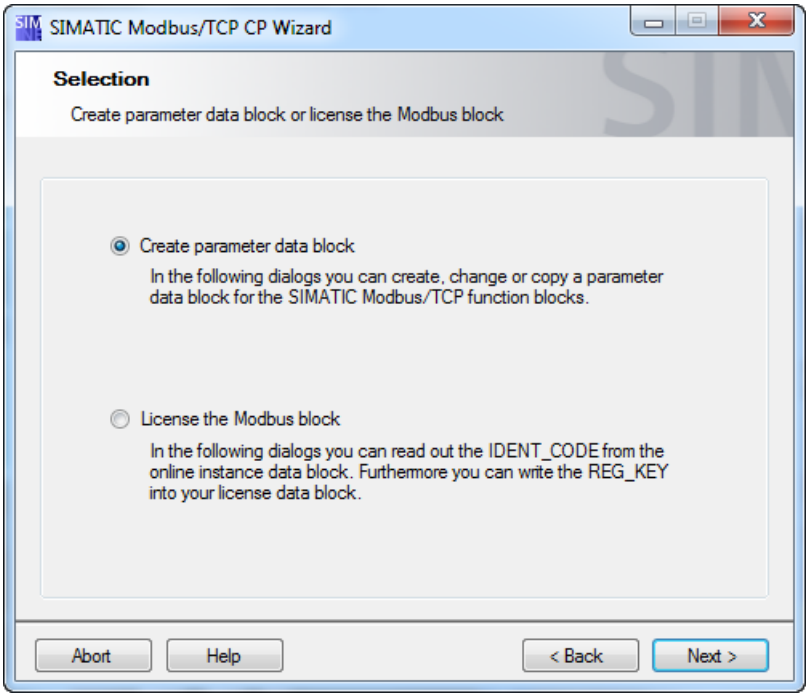
1. Click the "Next" button in the "SIMATIC Modbus/TCP Wizard" dialog. Further information on this dialog is available in chapter ""SIMATIC Modbus/TCP Wizard" dialog".



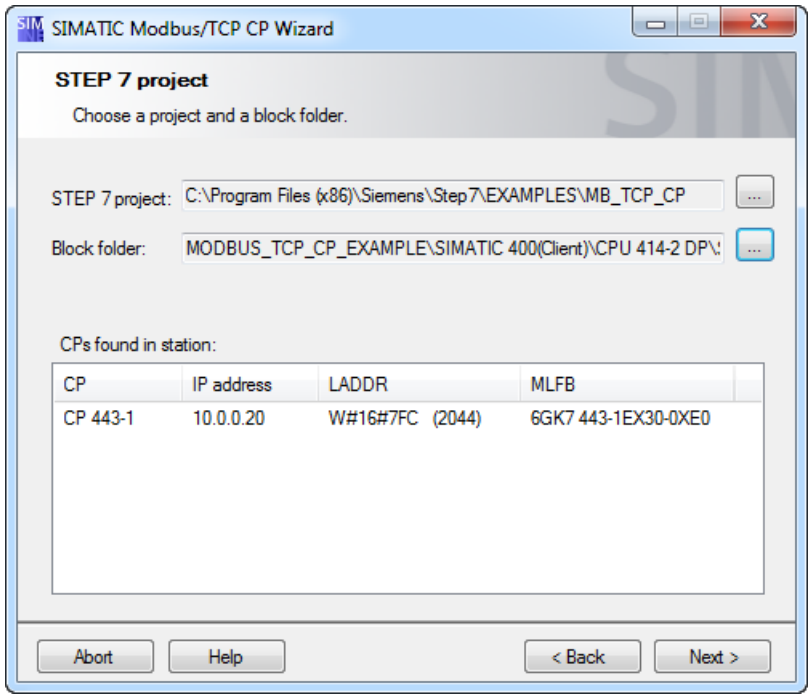
2. Select the product "SIMATIC Modbus/TCP CP" and click the "Next" button in the "Product selection" dialog. Further information on this dialog is available in chapter ""Product selection" dialog" or by calling the online help with the "Help" button.



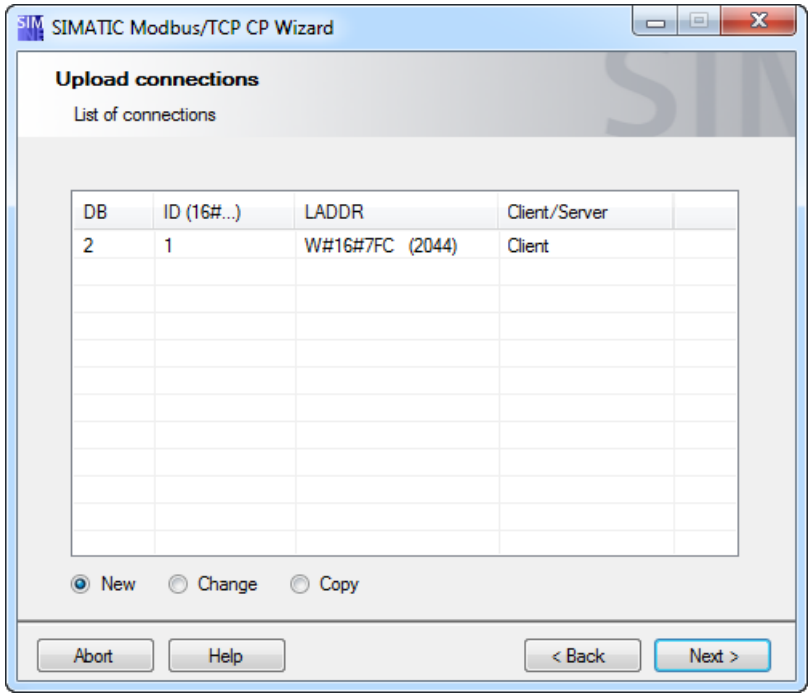
3. Select "Create parameter data block" and click the "Next" button in the "Selection" dialog. Further information on this dialog is available in chapter ""Selection" dialog" or by calling the online help with the "Help" button.



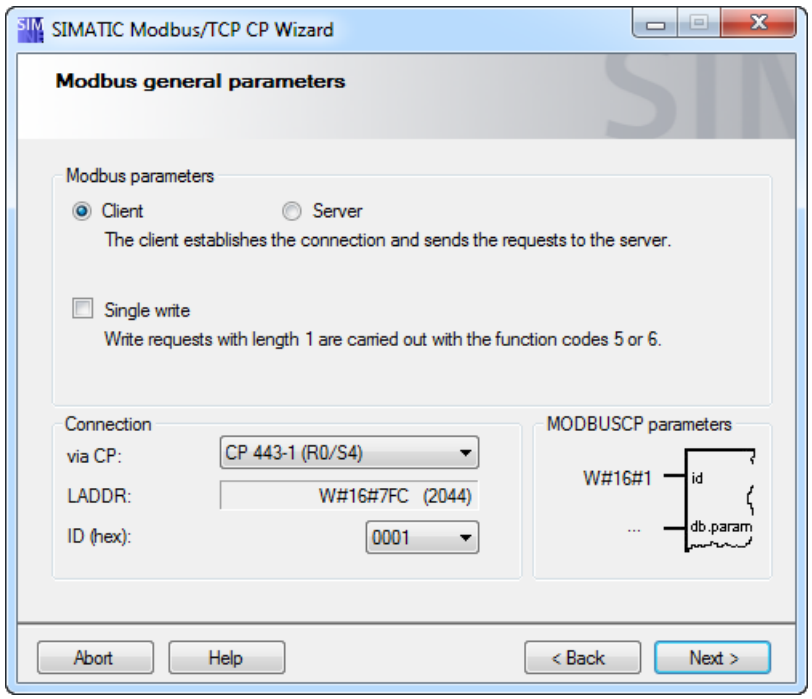
4. Select a STEP 7 project and a block folder in the "STEP 7 project" dialog. Further information on this dialog is available in chapter ""STEP 7 project" dialog" or by calling the online help with the "Help" button.

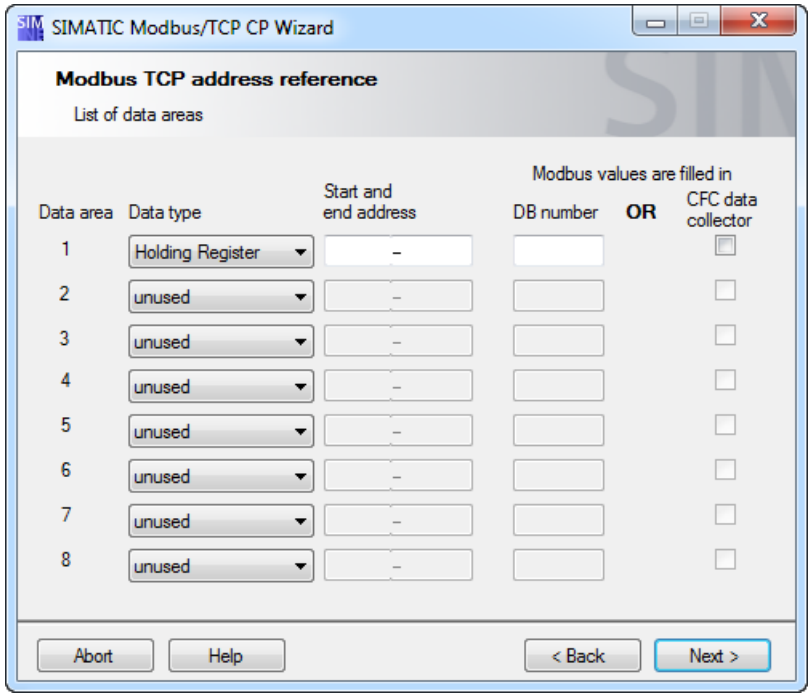


5. The option "New" has been selected as a standard in the "Upload connections" dialog. Click the "Next" button to get into the next dialog. Further information on this dialog is available in chapter ""Upload connections" dialog" or by calling the online help with the "Help" button.

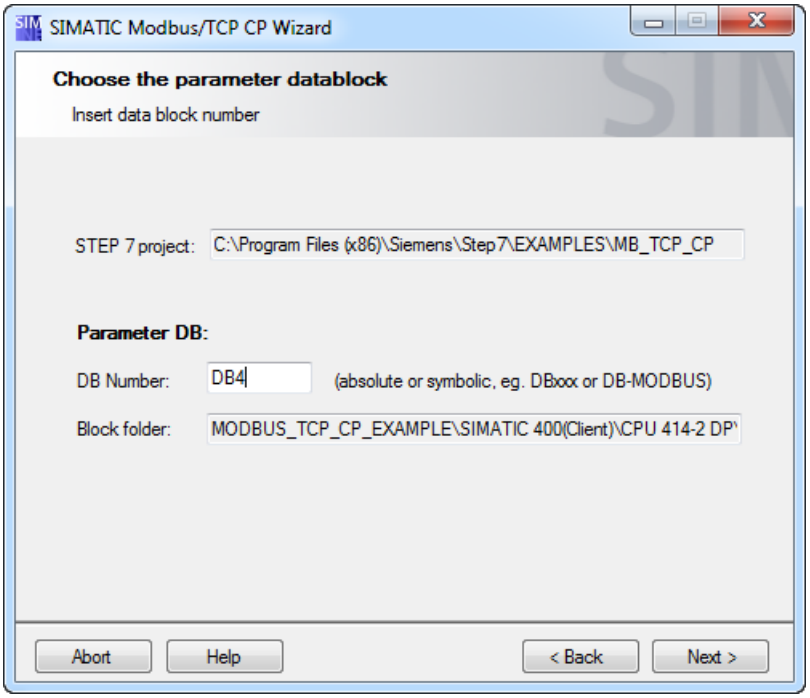


6. In the following dialogs you enter the parameters for the Modbus/TCP communication.
   Further information on this dialog is available by calling the online help with the "Help" button or in following chapters:
   - ""Modbus general parameters" dialog"
   - ""Modbus TCP address reference" dialog"

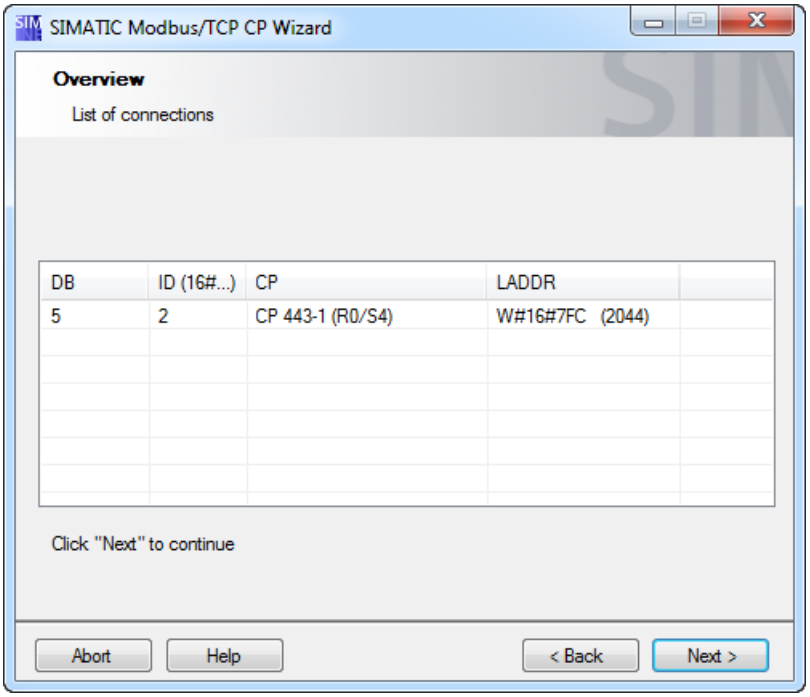




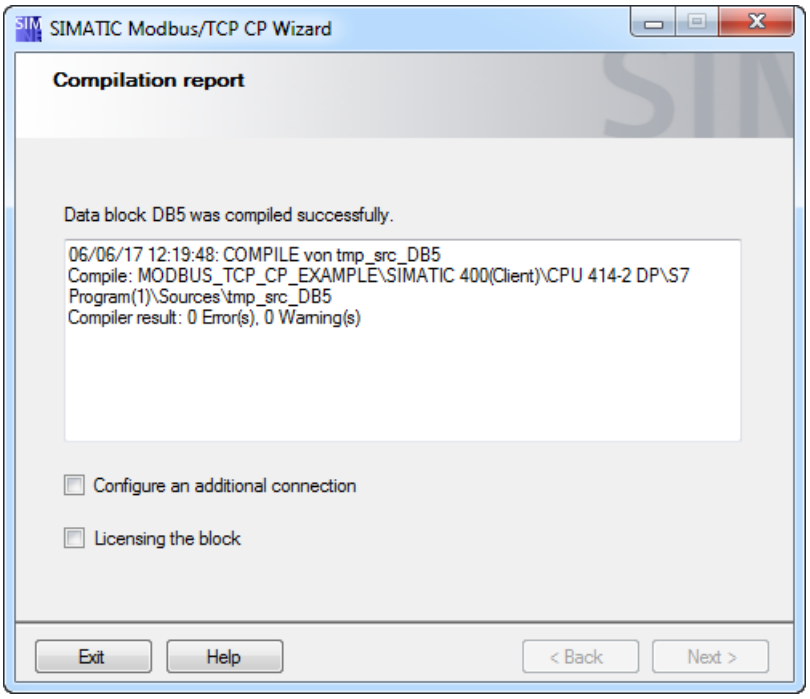
7. Enter a DB number or a name in the "Choose the parameter datablock" dialog. Further information on this dialog is available in chapter ""Choose the parameter datablock" dialog" or by calling the online help with the "Help" button.



8. Check your details and click the "Next" button in the "Overview" dialog. Further information on this dialog is available in chapter ""Overview" dialog" or by calling the online help with the "Help" button.



9. A new connection was configured. Click the "Exit" button. Further information on this dialog is available in chapter ""Compilation report" dialog" or by calling the online help with the "Help" button.

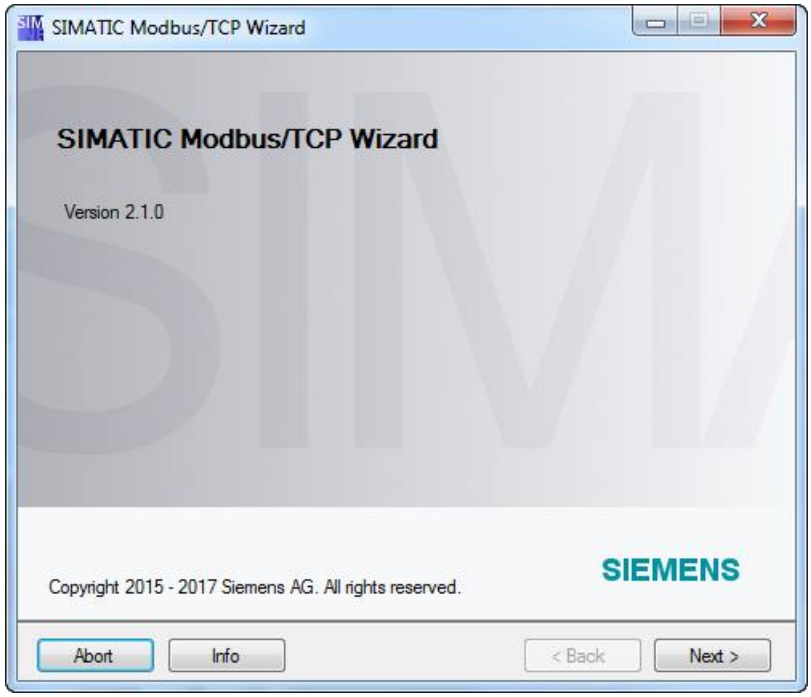


3.4 Step by step instruction: Change connection

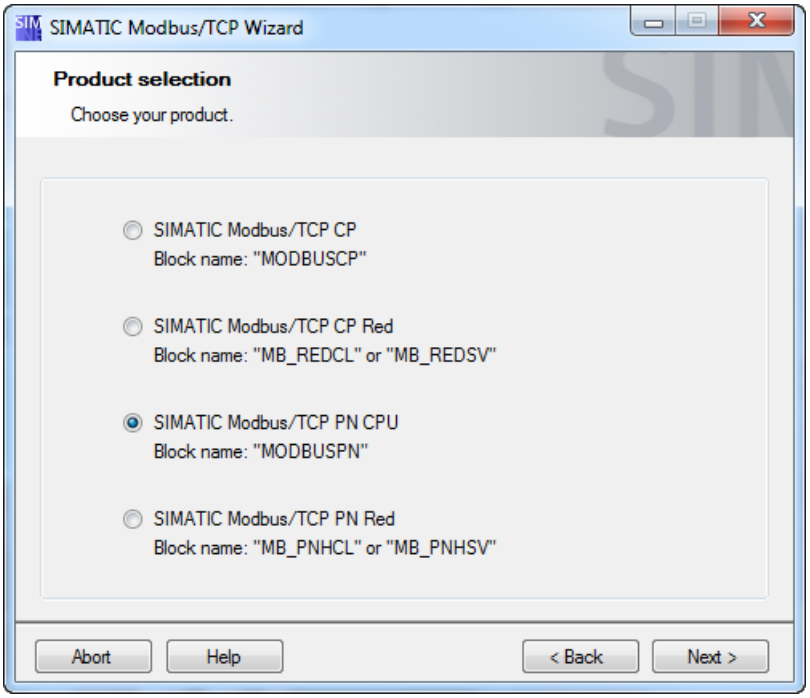
In this chapter we show you step by step the procedure for changing an existing Modbus/TCP connection.

Instruction

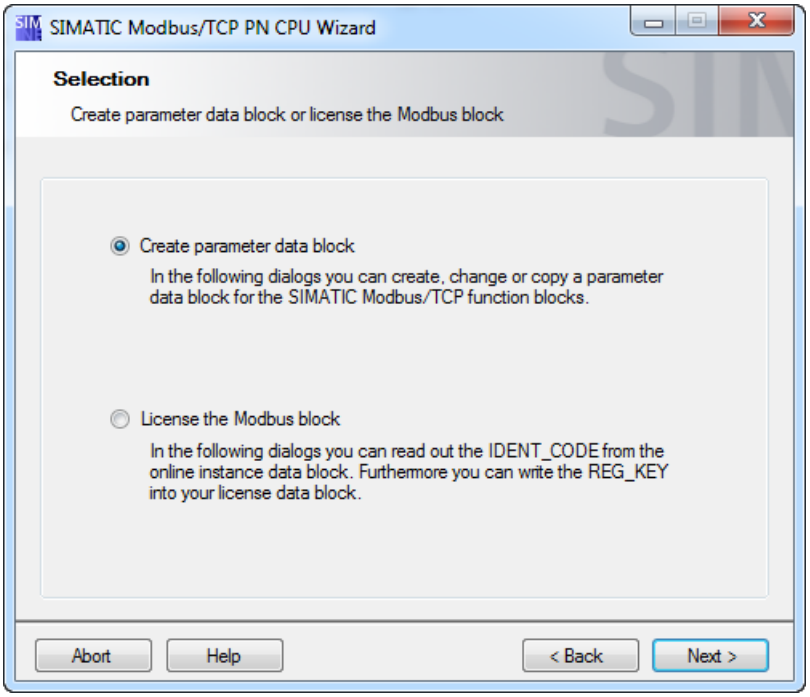
1. Click the "Next" button in the "SIMATIC Modbus/TCP Wizard" dialog. Further information on this dialog is available in chapter ""SIMATIC Modbus/TCP Wizard" dialog".



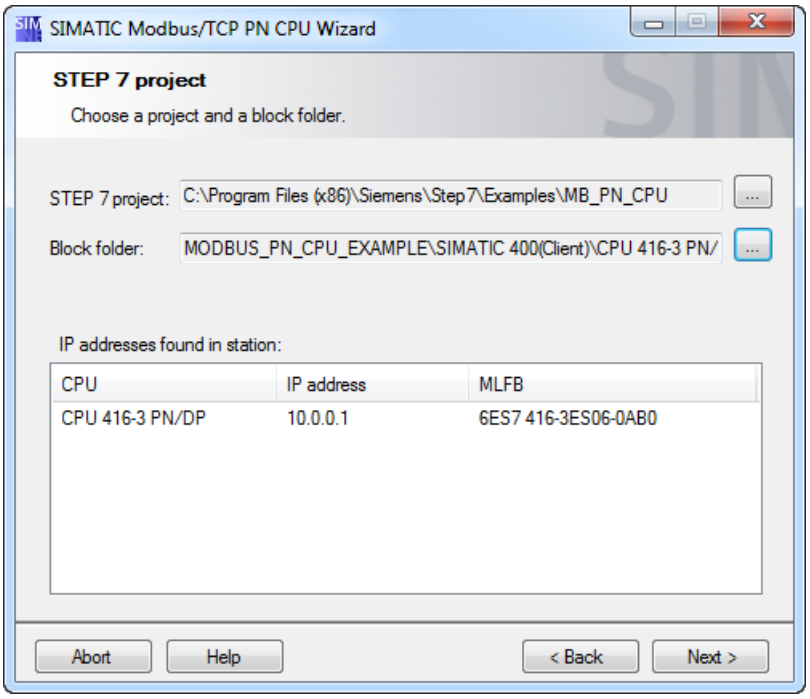
2. Select the product "SIMATIC Modbus/TCP PN CPU" and click the "Next" button in the "Product selection" dialog. Further information on this dialog is available in chapter ""Product selection" dialog" or by calling the online help with the "Help" button.



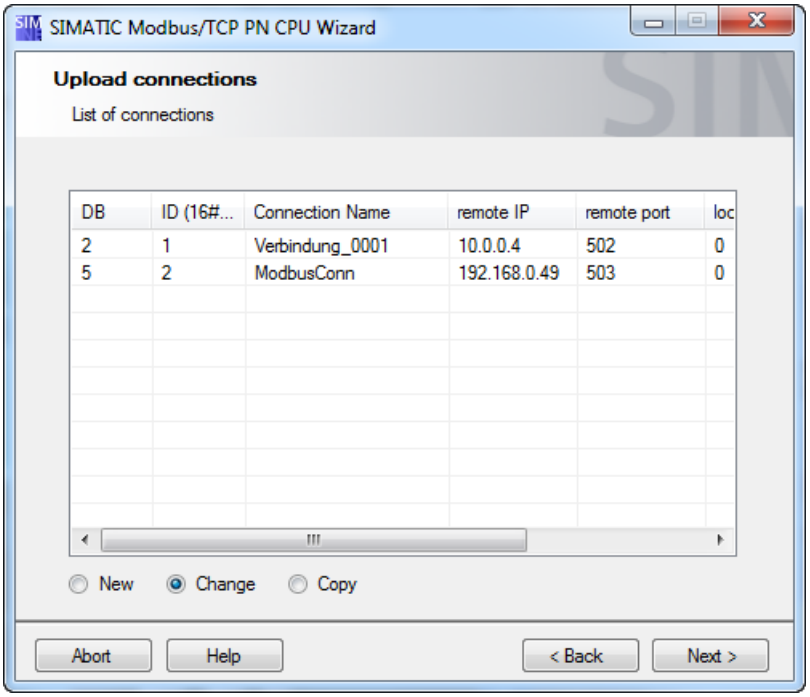
3. Select "Create parameter data block" and click the "Next" button in the "Selection" dialog. Further information on this dialog is available in chapter ""Selection" dialog" or by calling the online help with the "Help" button.



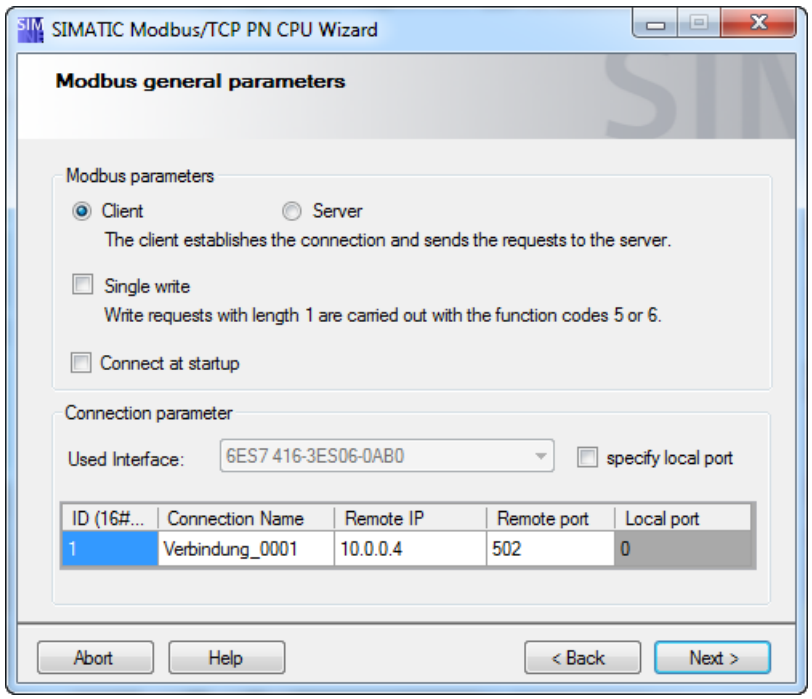
4. Select a STEP 7 project and a block folder in the "STEP 7 project" dialog. Further information on this dialog is available in chapter ""STEP 7 project" dialog" or by calling the online help with the "Help" button.

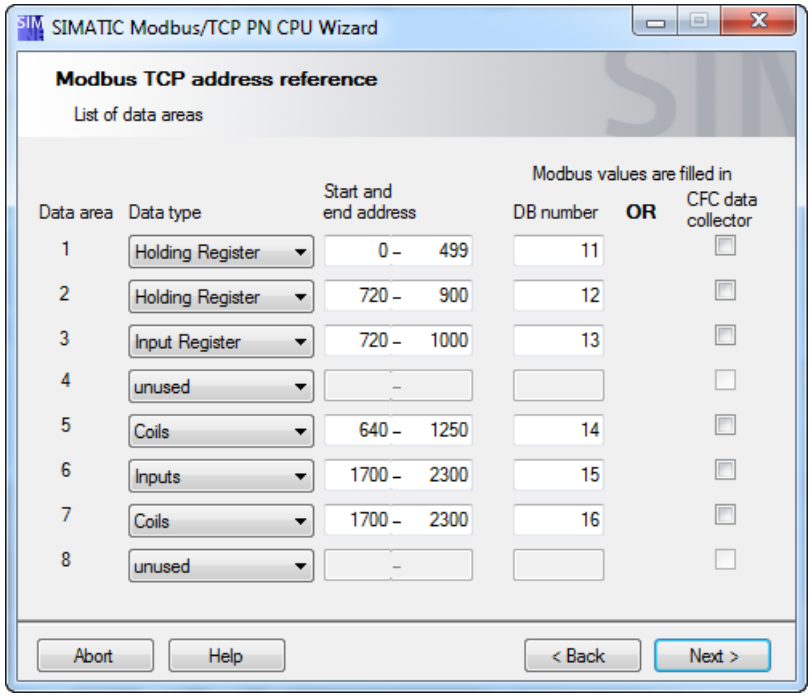


5. Select an uploaded connection in the list of connections which is shown in the "Uploaded connections" dialog. Activate the "Change" option and click the "Next" button. Further information on this dialog is available in chapter ""Upload connections" dialog" or by calling the online help with the "Help" button.

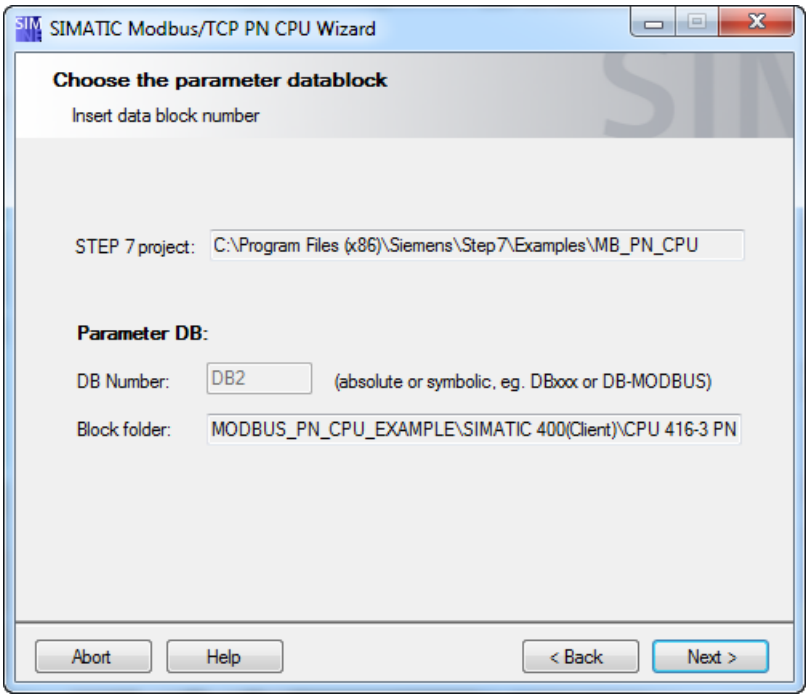


6. In the following dialogs you change the parameters for the Modbus/TCP communication.
   Further information on this dialog is available by calling the online help with the "Help" button or in following chapters:
   - ""Modbus general parameters" dialog"
   - ""Modbus TCP address reference" dialog"

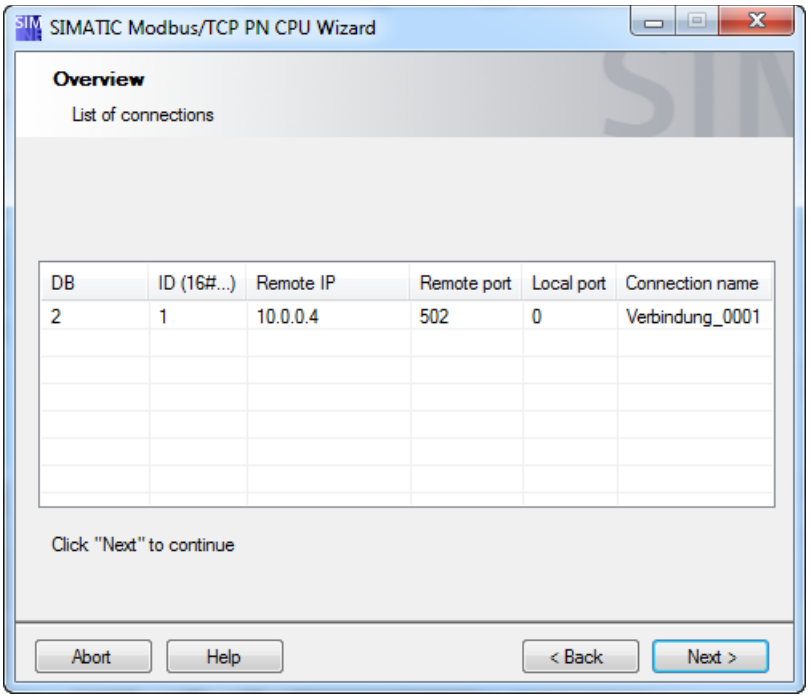




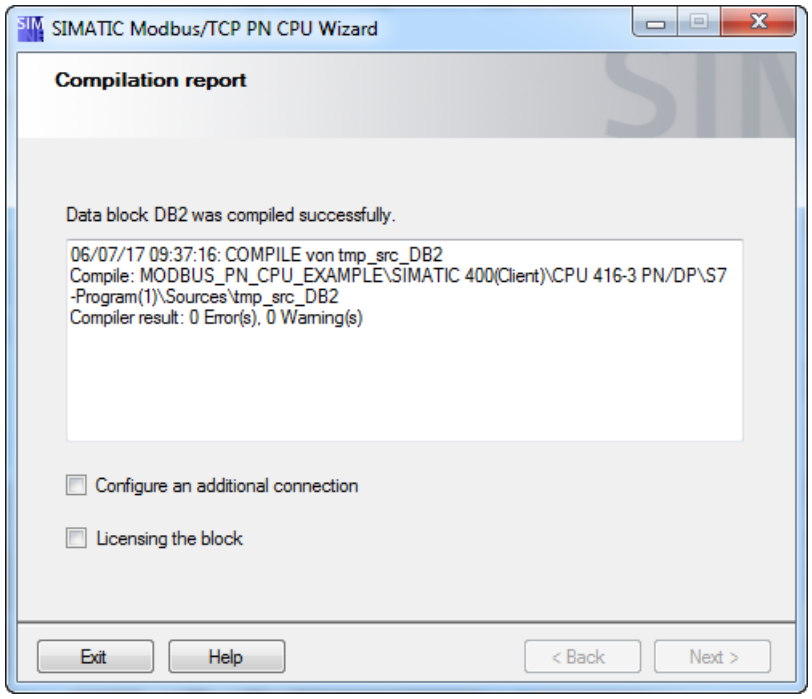
7. Click the "Next" button in the "Choose the parameter block" dialog. Further information on this dialog is available in chapter "Choose the parameter datablock" dialog or by calling the online help with the "Help" button.



8. Check your details and click the "Next" button in the "Overview" dialog. Further information on this dialog is available in chapter ""Overview" dialog" or by calling the online help with the "Help" button.



9. The selected connection was changed. Click the "Exit" button. Further information on this dialog is available in chapter ""Compile report" dialog" or by calling the online help with the "Help" button.

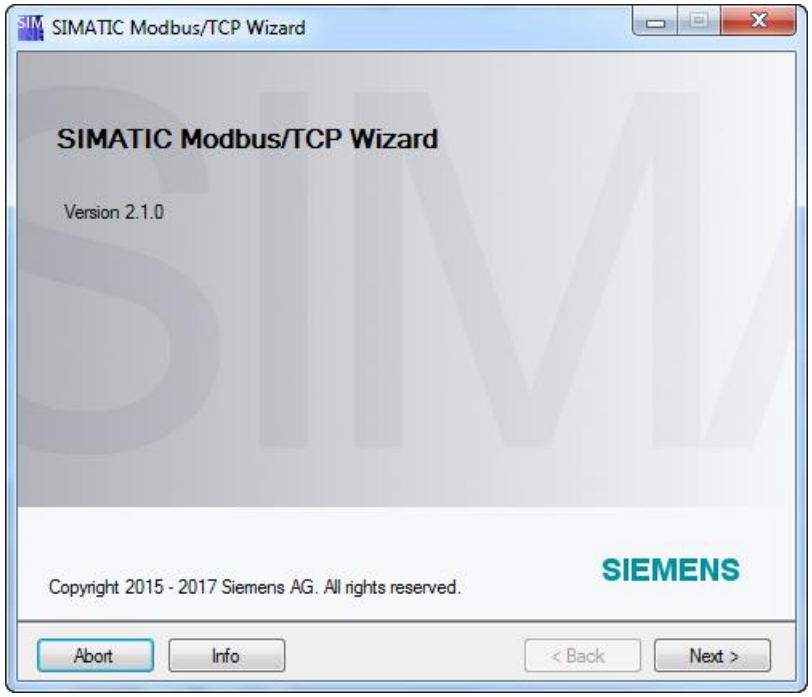


3.5 Step by step instruction: Copy connection

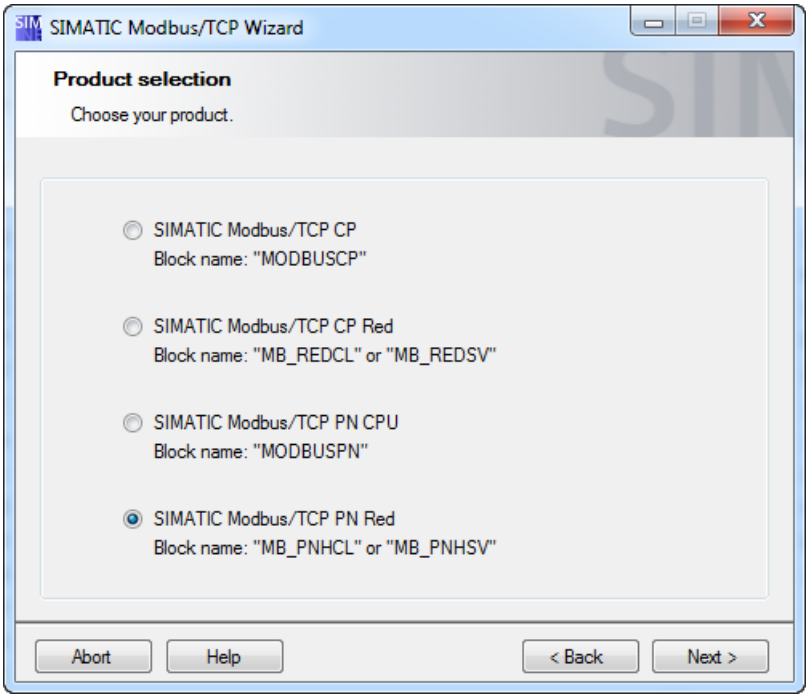
In this chapter we show you step by step the procedure for copying or using an existing Modbus/TCP connection as template for creating a new connection.

Instruction

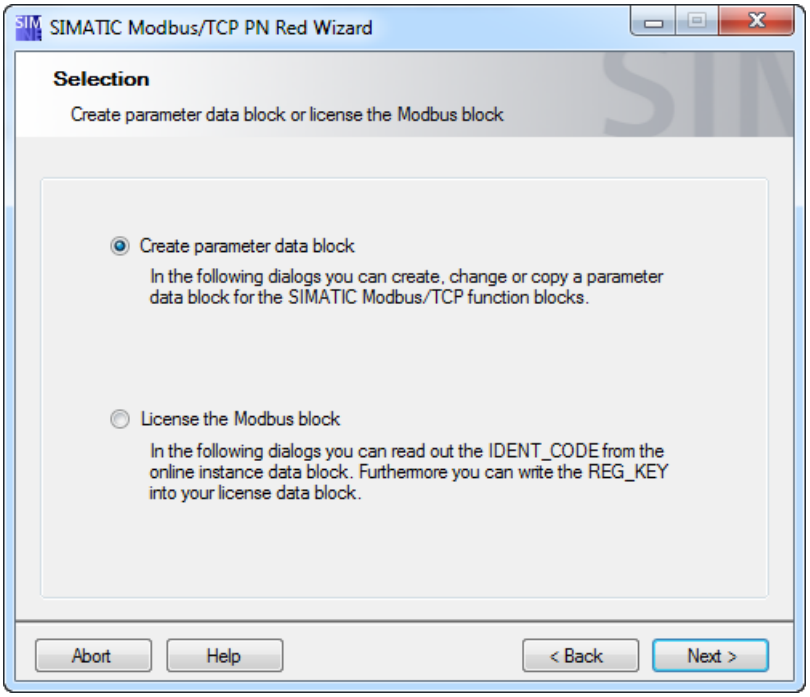
1. Click the "Next" button in the "SIMATIC Modbus/TCP Wizard" dialog. Further information on this dialog is available in chapter ""SIMATIC Modbus/TCP Wizard" dialog".



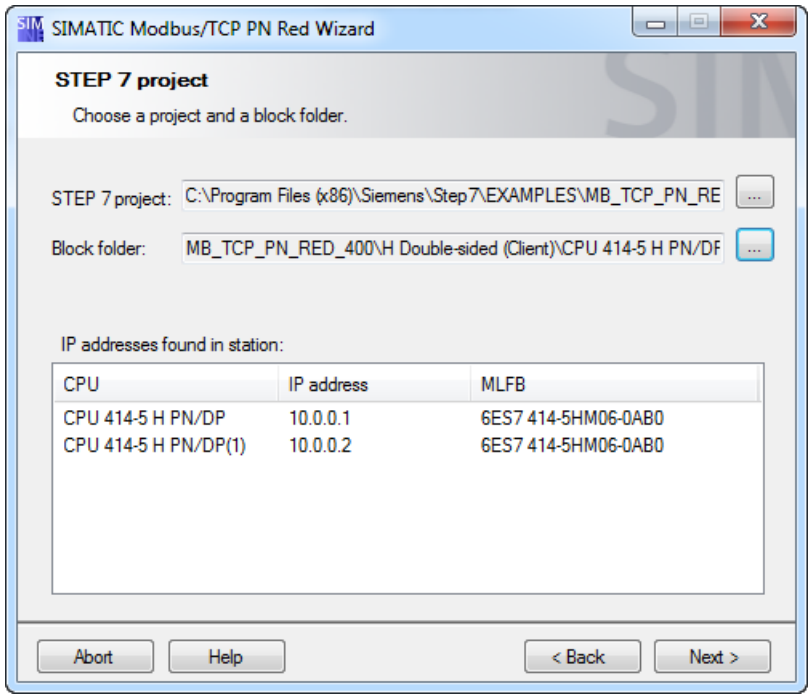
2. Select the product "SIMATIC Modbus/TCP PN Red" and click the "Next" button in the "Product selection" dialog. Further information on this dialog is available in chapter ""Product selection" dialog" or by calling the online help with the "Help" button.



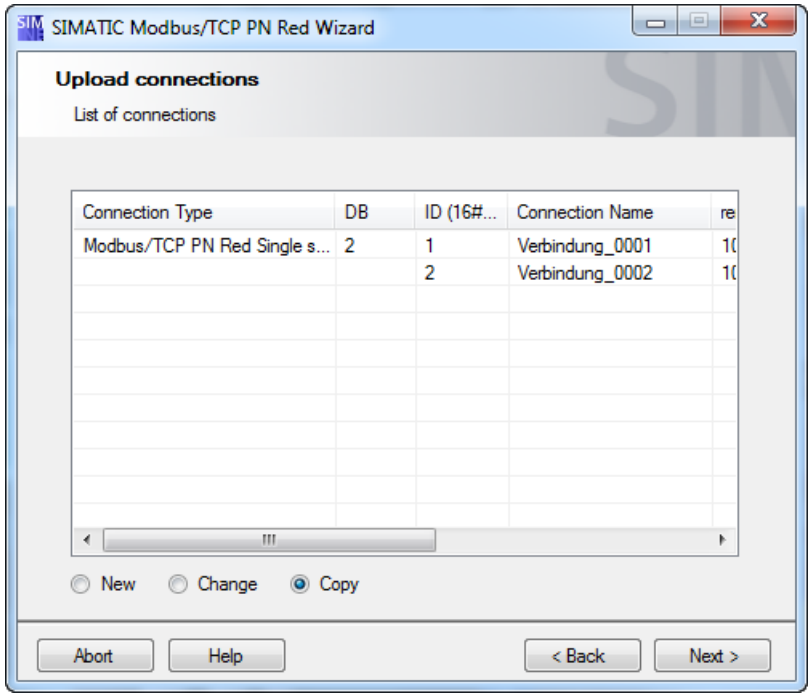
3. Select "Create parameter data block" and click the "Next" button in the "Selection" dialog. Further information on this dialog is available in chapter ""Selection" dialog" or by calling the online help with the "Help" button.



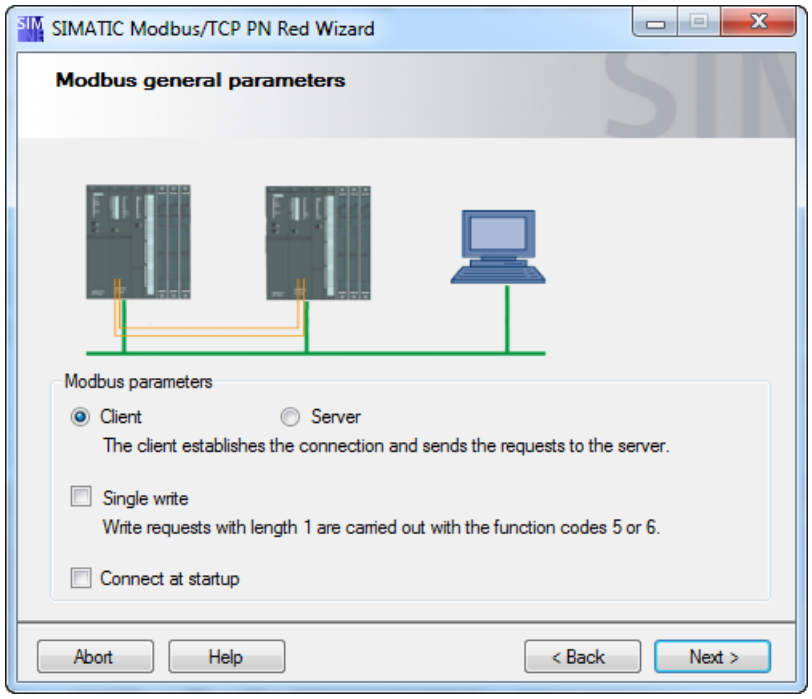
4. Select a STEP 7 project and a block folder in the "STEP 7 project" dialog. Further information on this dialog is available in chapter ""STEP 7 project" dialog" or by calling the online help with the "Help" button.

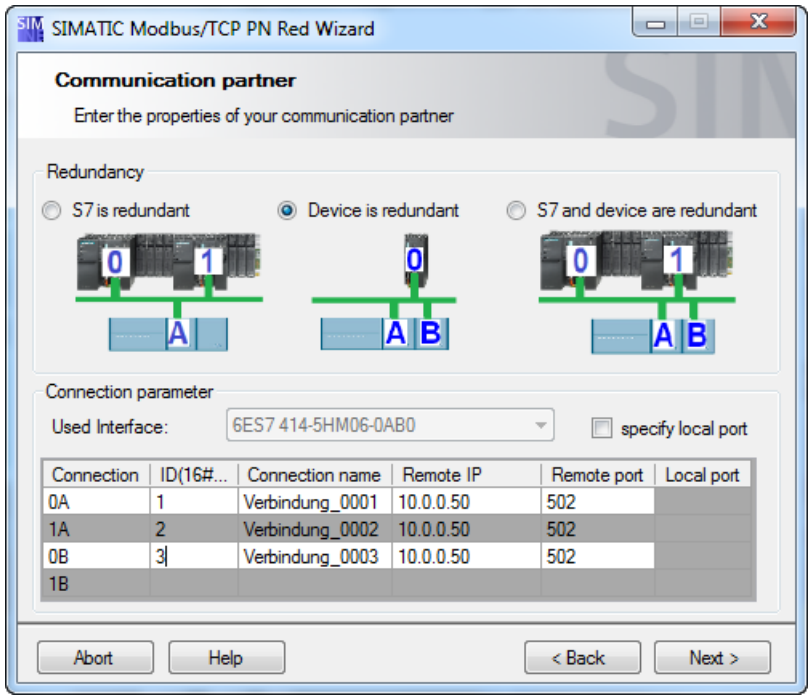


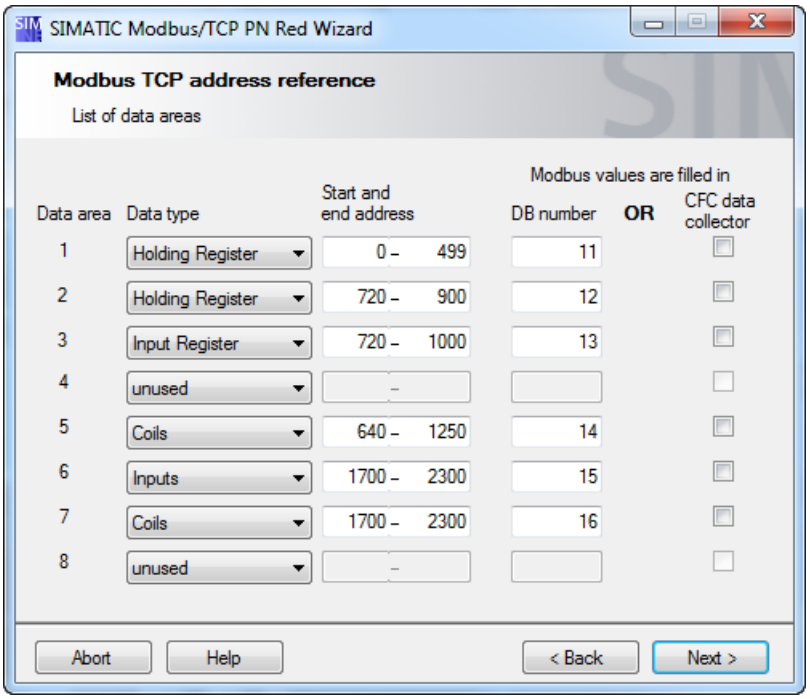
5. Select an uploaded connection in the list of connections which is shown in the "Uploaded connections" dialog. Activate the "Copy" option and click the "Next" button. Further information on this dialog is available in chapter "Upload connections" dialog or by calling the online help with the "Help" button.



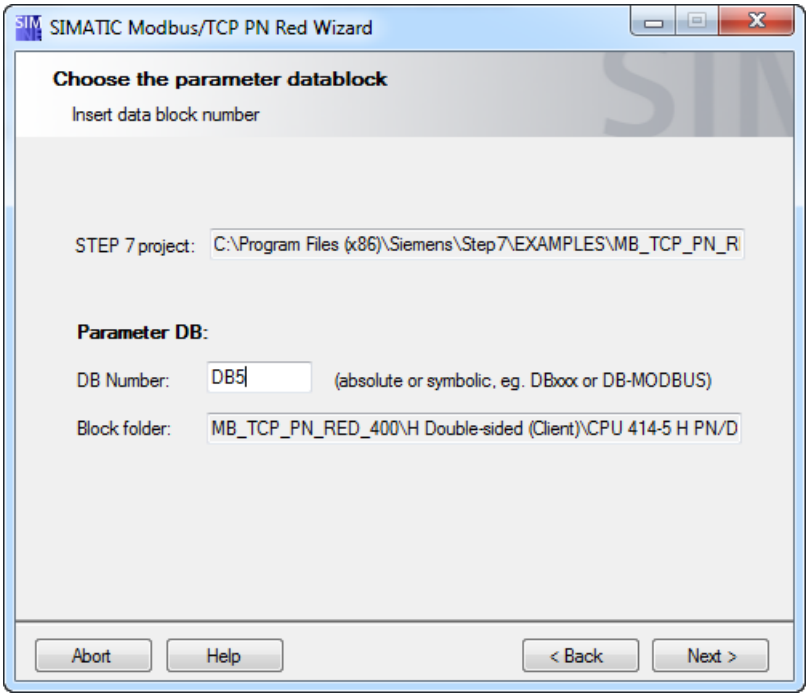
6. In the following dialogs you change the parameters for the Modbus/TCP communication.
   Further information on this dialog is available by calling the online help with the "Help" button or in following chapters:
   - ""Modbus general parameters" dialog"
   - ""Communication partner" dialog"
   - ""Modbus TCP address reference" dialog"



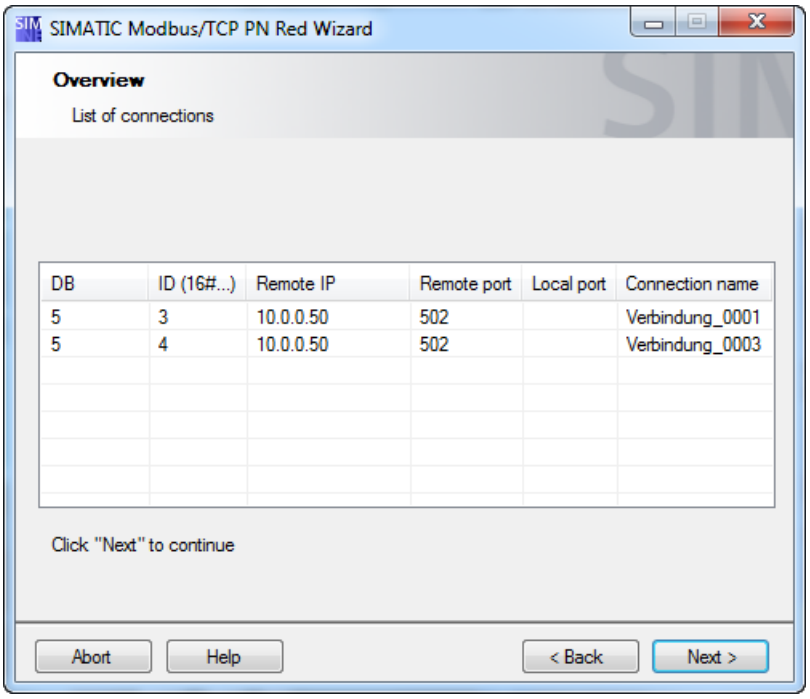




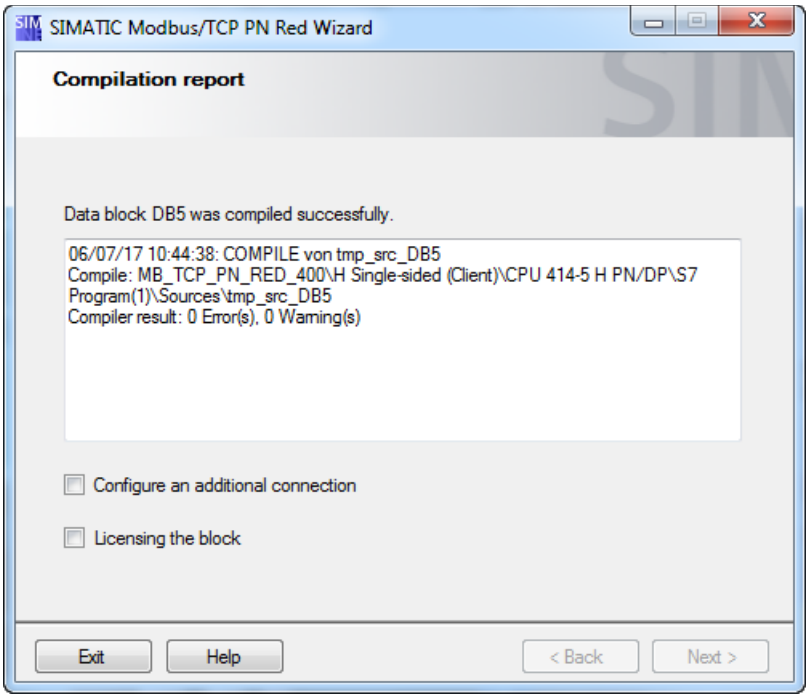
7. Enter a DB number or a name in the "Choose the parameter datablock" dialog. Further information on this dialog is available in chapter ""Choose the parameter datablock" dialog" or by calling the online help with the "Help" button.



8. Check your details and click the "Next" button in the "Overview" dialog. Further information on this dialog is available in chapter "'"Overview" dialog" or by calling the online help with the "Help" button.



9. A new connection was configured from the template. Click the "Exit" button. Further information on this dialog is available in chapter "'"Compile report" dialog" or by calling the online help with the "Help" button.

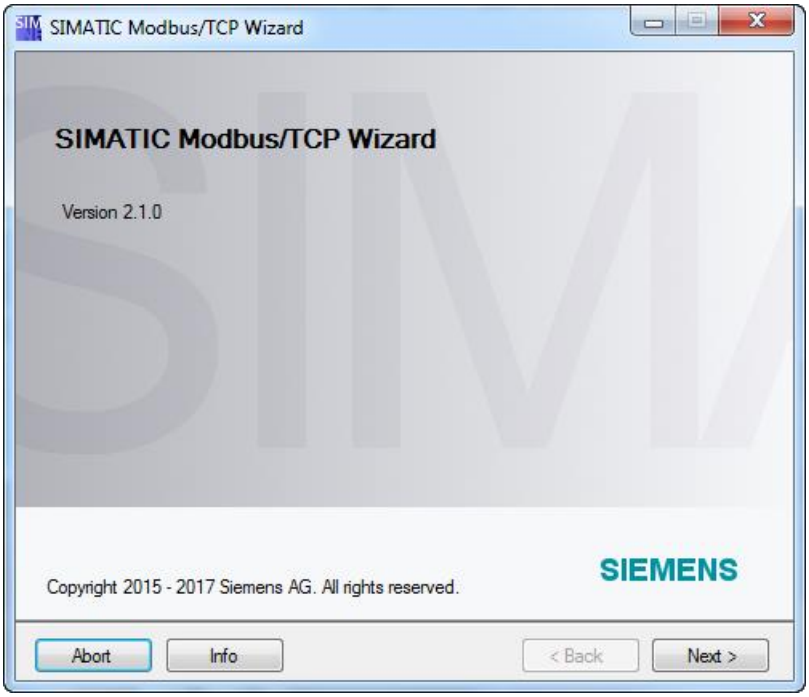


3.6 Step by step instruction: Licensing

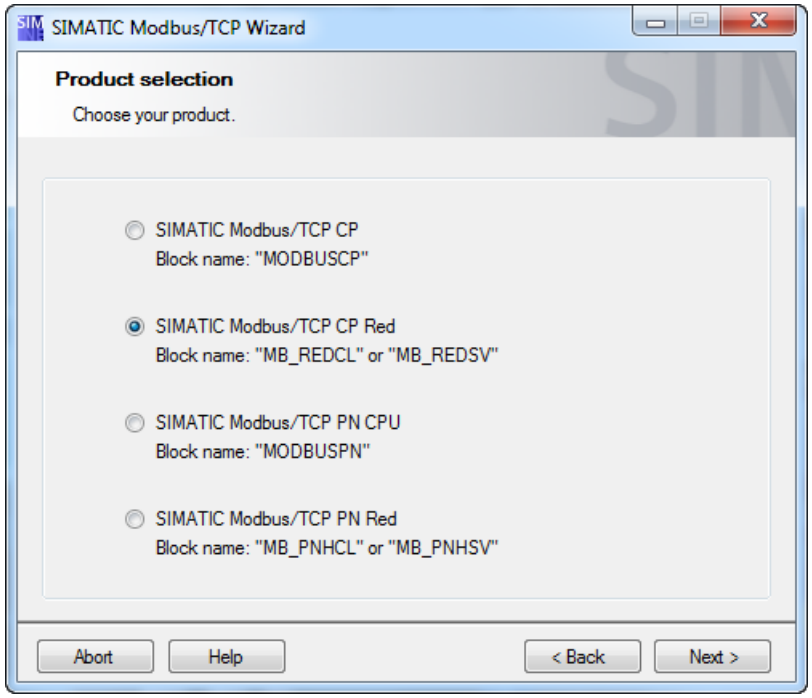
In this chapter we show you step by step the procedure for reading the IDENT_CODE from an online instance data block or write the REG_KEY into a license data block.

Instruction

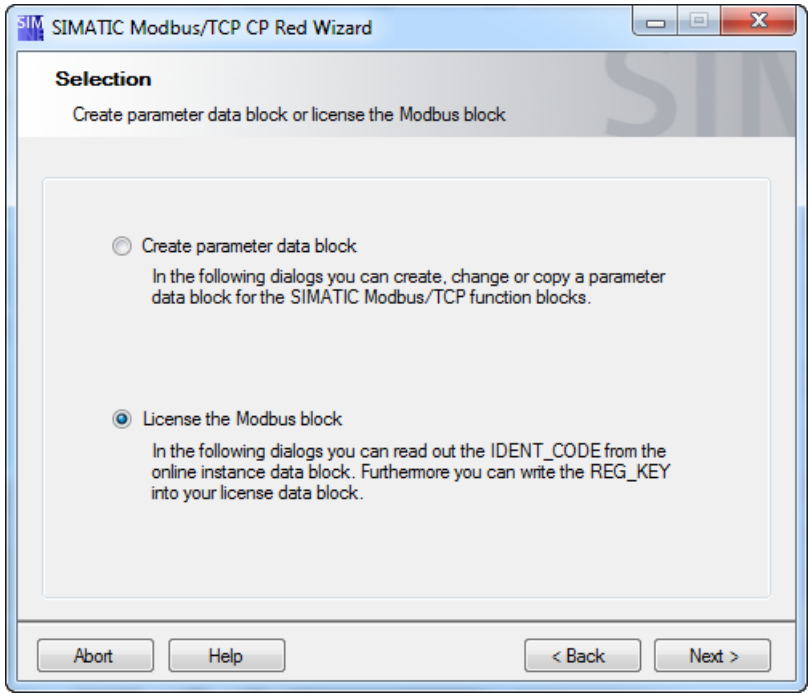
1. Click the "Next" button in the "SIMATIC Modbus/TCP Wizard" dialog. Further information on this dialog is available in chapter ""SIMATIC Modbus/TCP Wizard" dialog".



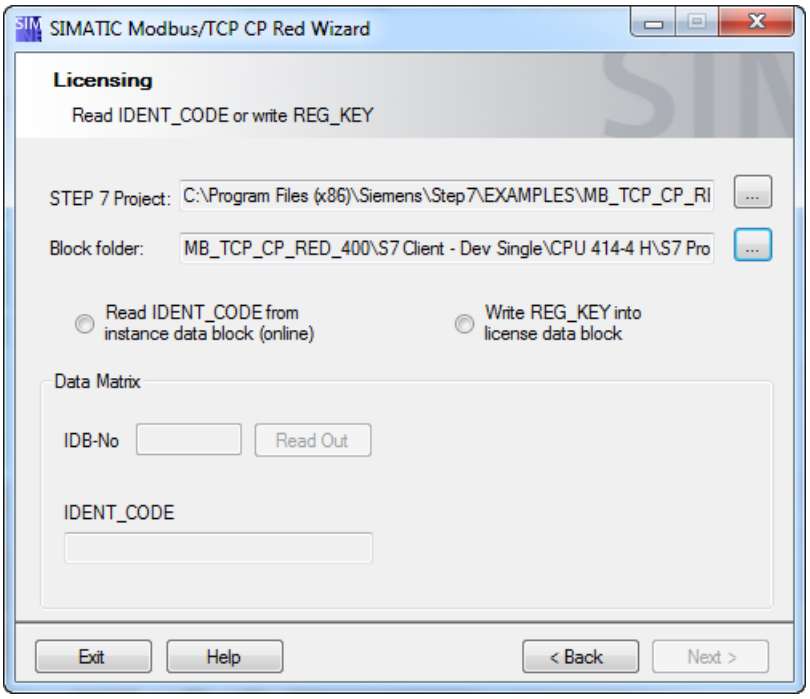
2. Select the product "SIMATIC Modbus/TCP CP Red" and click the "Next" button in the "Product selection" dialog. Further information on this dialog is available in chapter ""Product selection" dialog" or by calling the online help with the "Help" button.



3. Select "License the Modbus block" and click the "Next" button in the "Selection" dialog. Further information on this dialog is available in chapter ""Selection" dialog" or by calling the online help with the "Help" button.

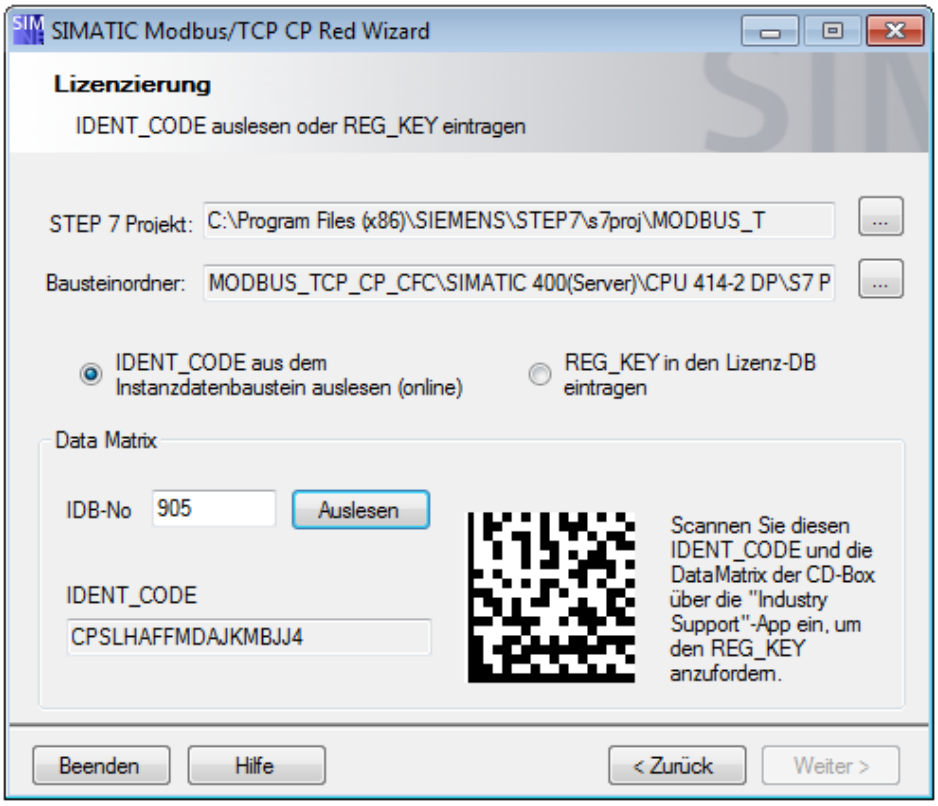


4. Select a STEP 7 project and a block folder in the "Licensing" dialog. Further information on this dialog is available in chapter "Licensing" dialog or by calling the online help with the "Help" button.



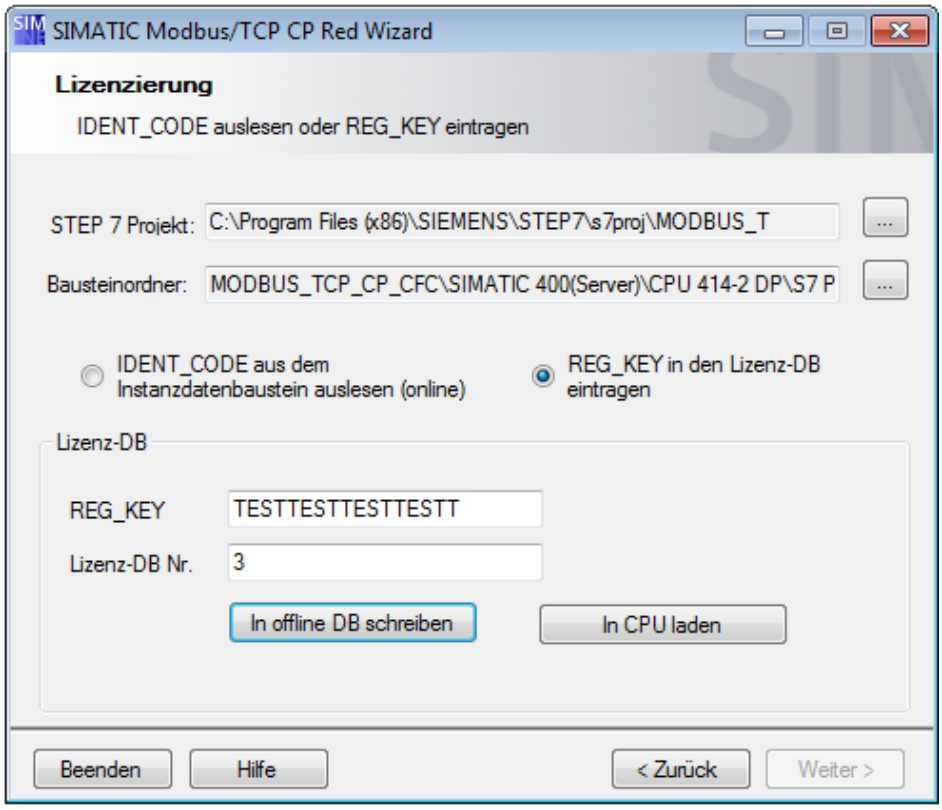
5. Afterwards you can choose to read the IDENT_CODE from the online instance data block or write a REG_KEY into a license data block.

6. To show the IDENT_CODE in text form and as a data matrix code in the Modbus/TCP Wizard do the following setting:
   - Select the "Read IDENT_CODE from instance data block (online)" option.
   - Insert the Modbus instance data block number into the text field.
   - Click the "Read out" button.



7. Using the “Industry Support”-App to scan the data matrix code from the Modbus/TCP Wizard and the data matrix code from the Modbus package to request the REG_KEY.

8. Execute the following actions to save the requested REG_KEY in the license data block:
   - Select the option "Write REG_KEY into license data block" in the "Licensing" dialog.
   - Insert the REG_KEY and the license data block number into the text fields.
   - Click the "Write into offline DB" button to write the REG_KEY into the data block.
   - Click the "Download to PLC" button to download the data block into the PLC.



4 Appendix

4.1 Service and Support

Industry Online Support

Do you have any questions or need assistance?

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

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

Product information, manuals, downloads, FAQs, application examples and videos – all information is accessible with just a few mouse clicks at:
https://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. You send queries to Technical Support via Web form:
www.siemens.com/industry/supportrequest

Service offer

Our range of services includes, inter alia, the following:

- Product trainings
- 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:
https://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 Apple iOS, Android and Windows Phone:
https://support.industry.siemens.com/cs/ww/en/sc/2067

4.2 Links und Literature

Table 4-1

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/60735352
\3\	Customized Automation – Software Portfolio http://www.siemens.com/s7modbus

4.3 History

Table 4-2

Version	Date	Modifications
V1.0	06/2016	First version
V1.1	03/2017	Extented version