

SINUMERIK

**SINUMERIK ONE /840D sl / 828D /
808D**

**SINUMERIK Access MyMachine /
P2P (PC)**

Operating Manual

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A

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Legal information

Warning notice system

This manual contains notices you have to observe in order to ensure your personal safety, as well as to prevent damage to property. The notices referring to your personal safety are highlighted in the manual by a safety alert symbol, notices referring only to property damage have no safety alert symbol. These notices shown below are graded according to the degree of danger.

DANGER

indicates that death or severe personal injury will result if proper precautions are not taken.
--

WARNING
--

indicates that death or severe personal injury may result if proper precautions are not taken.

CAUTION
--

indicates that minor personal injury can result if proper precautions are not taken.
--

NOTICE

indicates that property damage can result if proper precautions are not taken.
--

If more than one degree of danger is present, the warning notice representing the highest degree of danger will be used. A notice warning of injury to persons with a safety alert symbol may also include a warning relating to property damage.

Qualified Personnel

The product/system described in this documentation may be operated only by **personnel qualified** for the specific task in accordance with the relevant documentation, in particular its warning notices and safety instructions. Qualified personnel are those who, based on their training and experience, are capable of identifying risks and avoiding potential hazards when working with these products/systems.

Proper use of Siemens products

Note the following:

WARNING
--

Siemens products may only be used for the applications described in the catalog and in the relevant technical documentation. If products and components from other manufacturers are used, these must be recommended or approved by Siemens. Proper transport, storage, installation, assembly, commissioning, operation and maintenance are required to ensure that the products operate safely and without any problems. The permissible ambient conditions must be complied with. The information in the relevant documentation must be observed.
--

Trademarks

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Disclaimer of Liability

We have reviewed the contents of this publication to ensure consistency with the hardware and software described. Since variance cannot be precluded entirely, we cannot guarantee full consistency. However, the information in this publication is reviewed regularly and any necessary corrections are included in subsequent editions.

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Preface

SINUMERIK documentation

The SINUMERIK documentation is organized into the following categories:

- General documentation/catalogs
- User documentation
- Manufacturer/service documentation

Additional information

You can find information on the following topics at the following address (<https://support.industry.siemens.com/cs/document/108464614/>):

- Ordering documentation/overview of documentation
- Additional links to download documents
- Using documentation online (find and search in manuals/information)

If you have any questions regarding the technical documentation (e.g. suggestions, corrections), please send an e-mail to the following address (<mailto:docu.motioncontrol@siemens.com>).

mySupport/Documentation

At the following address (<https://support.industry.siemens.com/My/ww/en/documentation>), you can find information on how to create your own individual documentation based on Siemens' content, and adapt it for your own machine documentation.

Training

At the following address (<http://www.siemens.com/sitrain>), you can find information about SITRAIN (Siemens training on products, systems and solutions for automation and drives).

FAQs

You can find Frequently Asked Questions in the Service&Support pages under Product Support (<https://support.industry.siemens.com/cs/de/en/ps/faq>).

SINUMERIK

You can find information about SINUMERIK at the following address (<http://www.siemens.com/sinumerik>).

Target group

This documentation is intended for operators of the "SINUMERIK Access MyMachine /P2P (PC)" software and teaches them how to utilize all the software functions correctly and completely.

Benefits

The operating manual familiarizes the target group with the control elements and commands. Based on the manual, the target group is capable of responding to problems and to take corrective action.

Standard scope

This documentation only describes the functionality of the standard scope. Additions or revisions made by the machine manufacturer are documented by the machine manufacturer.

Other functions not described in this documentation might be executable in the control. This does not, however, represent an obligation to supply such functions with a new control or when servicing.

For the sake of simplicity, this documentation does not contain all detailed information about all types of the product and cannot cover every conceivable case of installation, operation, or maintenance.

Note regarding the General Data Protection Regulation

Siemens observes standard data protection principles, in particular the principle of privacy by design. That means that this product does not process / store any personal data, only technical functional data (e.g. time stamps). If a user links this data with other data (e.g. a shift schedule) or stores personal data on the same storage medium (e.g. hard drive) and thus establishes a link to a person or persons, then the user is responsible for ensuring compliance with the relevant data protection regulations.

Technical Support

Country-specific telephone numbers for technical support are provided in the Internet at the following address (<https://support.industry.siemens.com/cs/sc/2090/>) in the "Contact" area.

If you have any technical questions, use the online form in the "Support Request" area.

Introduction

2.1 Scope of functions and supported SINUMERIK control systems

The "SINUMERIK Access MyMachine /P2P (PC)" tool (previously "RCS Commander") supports the commissioning and maintenance of machines with SINUMERIK Operate as of software version 2.6 using a standard Windows PC.

From here on, the following terms/abbreviations are used synonymously in this document: "Access MyMachine" and "AMM".

Functionality

AMM allows simple file management on your PC and on the SINUMERIK controls.

AMM provides the following functions:

- Exchanging data between the SINUMERIK control and your PC.
- Generating and restoring an image from the CompactFlash card of your control to backup data.
- Writing images to a CompactFlash card.
- Loading of all files relevant for the commissioning directly to the CompactFlash card of your SINUMERIK control, and loading these files from the control to your PC.
- Managing the NC data of the SINUMERIK control (part programs: *.mpf, *.spf).
You can copy files directly from the PC to the NC and from the NC to the PC.
- Process monitoring and remote control of the SINUMERIK via a remote control function using VNC.
- Saving the screenshot of the HMI on the PC.
This function is used to represent your control and improves support in the event of an error.
- User-friendly editing of the following OEM files on the PC (Page 159):
 - PLC alarm texts
 - Color attribute files
 - Configuration files
 - Cycle alarm texts
 - Part program messages
 - EasyScreen files
 - Tool management texts
 - EasyExtend files
 - Maintenance scheduler files
 - Archives
- Creating and loading an archive from the control.

2.1 Scope of functions and supported SINUMERIK control systems

- Comparing archives with the aid of the SINUMERIK "Create MyConfig – Diff" software.
- Managing the OEM files mentioned above with the following options (Page 89):
 - Creating a project OFFLINE.
 - Creating a project for which the OEM files mentioned above are automatically copied from the control.
 - Copying individual files using the project dialog to the control or copying from the control to the project.
 - Deleting the OEM files using the project dialog on the control.
- Converting alarm texts from powerline format to solution line format.
- CNC lock function
Using the CNC lock function, you can activate, extend or deactivate a date in the control as of which the NC Start is locked.
- SINUMERIK OPC UA Server Tools
Using the SINUMERIK OPC UA server tools, you can export a SINUMERIK address space for creating your own customer specific object model in OPC UA. Furthermore you can convert the modelled xml file to a binary file for import in the control.

Supported SINUMERIK controls

The following SINUMERIK controls are supported:

- SINUMERIK ONE
- SINUMERIK 840D sl (NCUs)
- SINUMERIK 828D (PPUs)
- SINUMERIK 808D (as of AMM version 4.6, PPU141.2 and PPU161.2)

Foreign languages

- The AMM itself can be switched into various interface languages. The following languages are available:
 - German
 - English
 - Chinese (Simpl.)
 - Chinese (Trad.)
 - Spanish
 - Italian
 - French
 - Portuguese (Braz.)
 - Japanese
 - Korean
 - Russian
- The HMI of the control can also handle several language packages and the associated language selection. The creation and installation of such language packages and/or individual language files is supported by the AMM in the project.

In Windows, activate the support for Asian languages at "Region and Language" so that Asian characters are displayed correctly.

Connections

The following connections to a SINUMERIK solution line control are available:

- Modem (56k)
via TeleService Adapter IE on X127
- Peer-to-peer Ethernet
- Ethernet network

Safety notes

3.1 Fundamental safety instructions

3.1.1 General safety instructions

WARNING
Danger to life if the safety instructions and residual risks are not observed
If the safety instructions and residual risks in the associated hardware documentation are not observed, accidents involving severe injuries or death can occur.
• Observe the safety instructions given in the hardware documentation. • Consider the residual risks for the risk evaluation.

WARNING
Malfunctions of the machine as a result of incorrect or changed parameter settings
As a result of incorrect or changed parameterization, machines can malfunction, which in turn can lead to injuries or death.
• Protect the parameterization against unauthorized access. • Handle possible malfunctions by taking suitable measures, e.g. emergency stop or emergency off.

3.1.2 Warranty and liability for application examples

Application examples are not binding and do not claim to be complete regarding configuration, equipment or any eventuality which may arise. Application examples do not represent specific customer solutions, but are only intended to provide support for typical tasks.

As the user you yourself are responsible for ensuring that the products described are operated correctly. Application examples do not relieve you of your responsibility for safe handling when using, installing, operating and maintaining the equipment.

3.1.3 Security information

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

3.1 Fundamental safety instructions

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

Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place.

For additional information on industrial security measures that may be implemented, please visit

<https://www.siemens.com/industrialsecurity> (<https://www.siemens.com/industrialsecurity>).

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

To stay informed about product updates, subscribe to the Siemens Industrial Security RSS Feed under

<https://www.siemens.com/industrialsecurity> (<https://new.siemens.com/global/en/products/services/cert.html#Subscriptions>).

Further information is provided on the Internet:

Industrial Security Configuration Manual (<https://support.industry.siemens.com/cs/ww/en/view/108862708>)



WARNING

Unsafe operating states resulting from software manipulation

Software manipulations, e.g. viruses, Trojans, or worms, can cause unsafe operating states in your system that may lead to death, serious injury, and property damage.

- Keep the software up to date.
- Incorporate the automation and drive components into a holistic, state-of-the-art industrial security concept for the installation or machine.
- Make sure that you include all installed products into the holistic industrial security concept.
- Protect files stored on exchangeable storage media from malicious software by with suitable protection measures, e.g. virus scanners.
- On completion of commissioning, check all security-related settings.
- Protect the drive against unauthorized changes by activating the "Know-how protection" converter function.

3.2 Security information on the product

Security information on the product

NOTICE

Misuse of data

It is essential to use secure data storage when saving your data - particularly your confidential data. It is best to store this data encrypted locally or encrypted on the network. Make sure that this data cannot be accessed by unauthorized personnel.

This applies to the following data:

- Archive files
- Image files
- Project files
- Trace files
- Safety-relevant files

Further information on secure data storage can be found at Industrial Security Configuration Manual (<https://support.industry.siemens.com/cs/us/en/view/108862708>).

NOTICE

Danger due to insecure Internet connection

Before establishing a network connection, ensure your PC is connected to the Internet via a secure connection. Pay attention to the security-relevant notes. Further information about communications security can be found at Industrial Security Configuration Manual (<https://support.industry.siemens.com/cs/us/en/view/108862708>).

NOTICE

Security risk through administrator rights

If you operate a PC with permanent administrator rights, there is an increased security risk. Therefore, ensure that there is a secure operating environment, and assign administrator rights only temporarily and selectively.

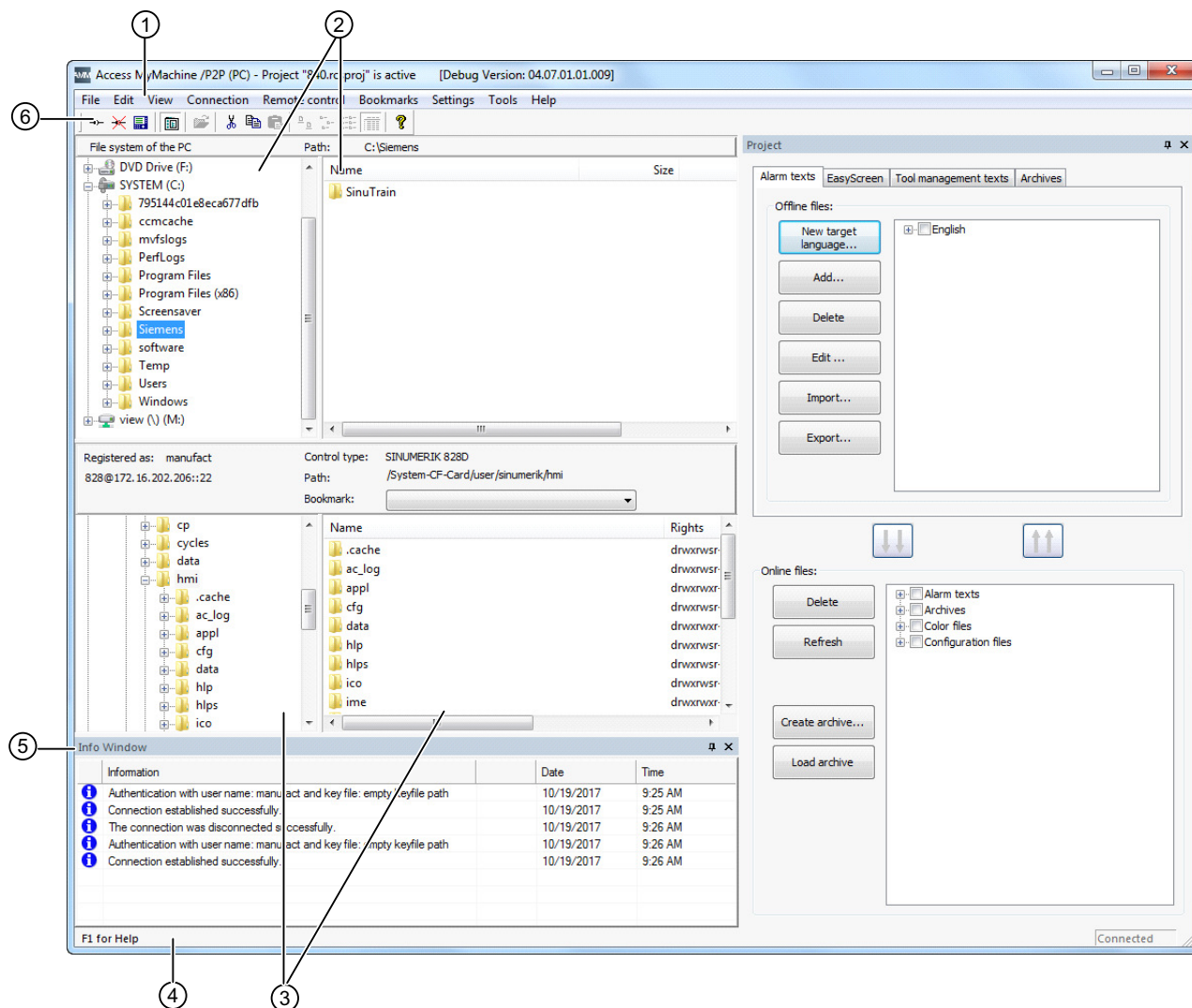
Further information on the secure administration of user accounts and the assignment of rights can be found at Industrial Security Configuration Manual (<https://support.industry.siemens.com/cs/us/en/view/108862708>).

Description

4.1 Structure of the user interface

AMM user interface

The following shows an overview of the AMM user interface with the most important windows, status indicators and operator controls.



- ① Main menu
- ② View of the computer file system (local file system)
- ③ View of the file system of the connected control (remote file system)
- ④ Status bar

4.1 Structure of the user interface

- ⑤ Status window for messages concerning the connection and actions in the control (e.g. copy).
- ⑥ Toolbar

Figure 4-1 User interface

4.2 First start

Operating sequence

The following prompts appear when AMM is started for the first time:

1. Enter a password. AMM always requires a password when started for the first time.



Figure 4-2 Enter password

- With the password, the file with the connection data of AMM is encrypted.
 - The password can be subsequently changed at any time.
 - In order to change the password, the previously entered password must be entered to ensure that only authorized users change the password.
2. Press "OK".
AMM starts up with the language set in Windows.
If the relevant language is not available in AMM, English is automatically set.
The set language can be changed at any time via AMM.
 3. If earlier versions of AMM are installed on your PG/PC, you are given the option of accepting the connection data of the earlier versions. Confirm the acceptance of the data with "Yes" or reject with "No".

You have successfully completed the first start of AMM. You can now use all the functions of AMM.

Connection to the control

5.1 Establishing a connection to the control system: An overview

AMM offers two options for establishing a connection to a control system:

1. Direct connection (peer-to-peer Ethernet)

Direct connection involves connecting the PG/PC to the control system's X127 interface directly.

You can establish this type of connection if you are where the control system is located.

Note

The SINUMERIK 808 control uses the X130 interface instead of the X127 interface for a direct connection. Follow the corresponding control manuals when assigning parameters.

2. Network connection

A network connection is a connection between the PG/PC and the control system via a local area network (LAN).

This type of connection is also possible if the control system is at another location.

Note

Connection via modem is a special feature.

You will find a manual explaining how a modem connection is set up (e.g. via TS adapter IE (analog)) at Establishing a modem connection (Page 36).

See also

Assigning parameters for direct connection (peer-to-peer Ethernet) (Page 25)

Assigning parameters for network connection (Page 27)

Establishing a direct connection (peer-to-peer Ethernet) (Page 31)

Establishing a network connection (Page 32)

Establishing a modem connection (Page 36)

5.2 Assigning the connection parameters

5.2.1 Enable control ports

5.2.1.1 Overview

You must access port 22 to establish a connection from AMM to the control. You must access port 5900 to establish a connection from AMM via remote control.

Three ways of enabling a port are described below for each port access required.

- Enabling ports from the HMI (Page 22)
- Otherwise: Enable ports via basesys.ini (Page 24)
- Otherwise: Enabling ports via the service shell (Page 25)

Note

Ports on the SINUMERIK 808D and 828D controls can only be enabled from the user interface.

5.2.1.2 Enabling ports from the HMI

Operating sequence for ONE/ 840D sl/828D controls

1. Open the "Commissioning > Network" menu on your control.
2. Open extended horizontal softkeys with the right arrow key.
3. Open the "Workplace network" menu on your control.
4. The "Workplace network settings" window opens.

5. Press the "Change" softkey.

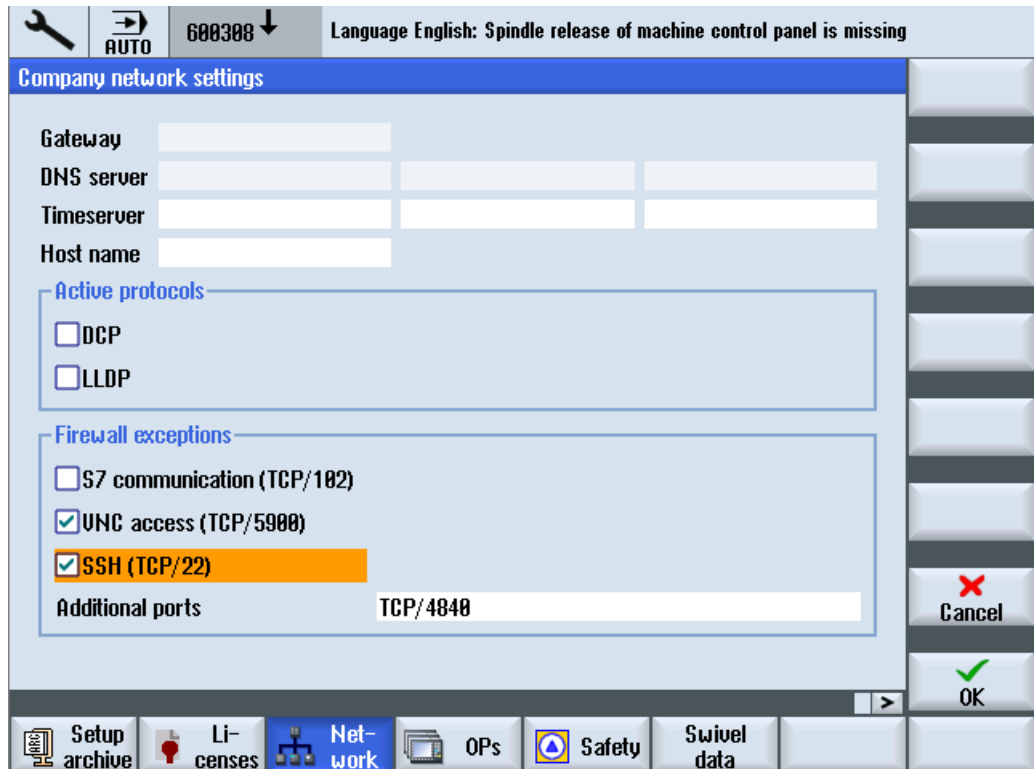


Figure 5-1 Settings of the 840 sl workplace network

6. Set a check mark in the "Firewall exceptions" area for the following options:
 - VNC access (TCP/5900)
 - SSH (TCP/22)

Use the arrow keys of your control to select the particular port. Use the SELECT button to enable/disable the particular port.

7. Select "OK" to save the changes.
8. Restart the control to make the changes effective.

Operating sequence for an 808D control

1. Change to the <SYSTEM> operating area with the shortcut <Shift> + <SYSTEM ALARM>.
2. Open extended horizontal softkeys with the right arrow key.
3. Press the "Serv. display" and "Service control" softkeys.

4. Open "Firewall configuration" via "Service network".

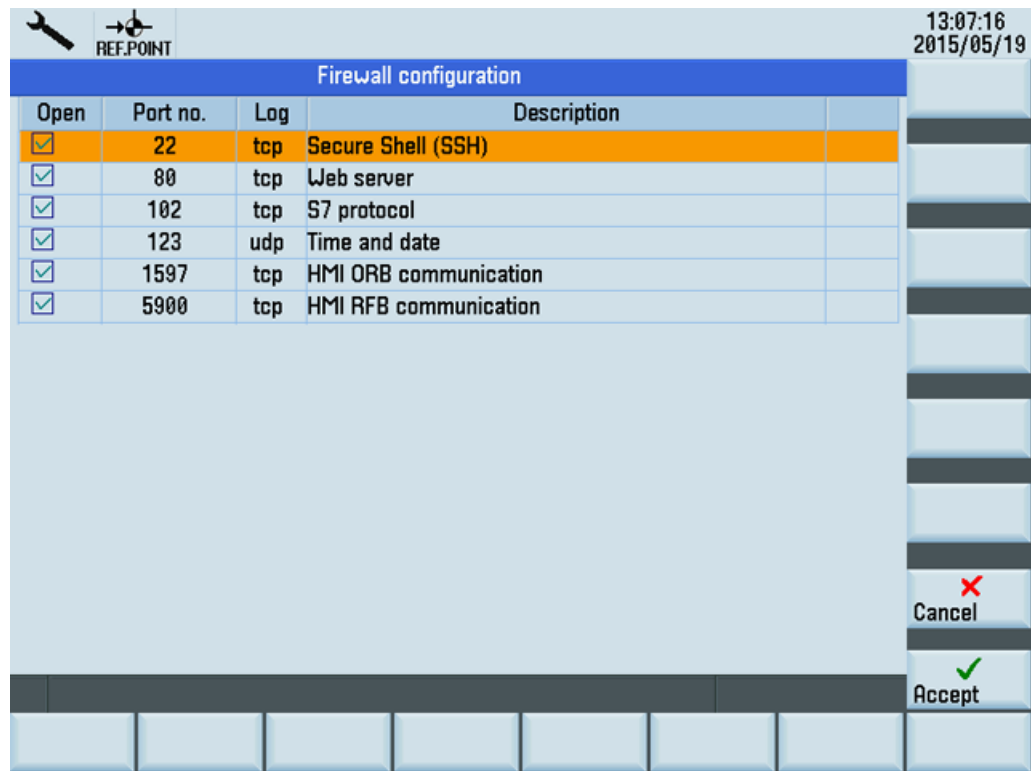


Figure 5-2 Firewall settings for the 808D

5. Select the desired port with the cursor.
6. Press the "INPUT" key to disable the selected port.
7. Select the "Accept" softkey to save the changes.
8. Restart the control to make the changes effective.

5.2.1.3 Otherwise: Enable ports via basesys.ini

Note

The port enable procedure applies only to the following SINUMERIK control:

- SINUMERIK 840D sl

Operating sequence

1. Open the "/user/system/etc/basesys.ini" file on your control.
2. Under the variable "FirewallOpenPorts" enter the port "TCP/22" or if needed the port "TCP/5900".
3. Restart the control to make the changes effective.

5.2.1.4 Otherwise: Enabling ports via the service shell

Note

The port enable procedure applies only to the following SINUMERIK control:

- SINUMERIK 840D sl
-

Operating sequence

1. Open a service shell on the TCU.
2. Enter the command "sc openport tcp/22 <IP Address>".
3. This command opens port 22 in the firewall on the workplace network (X130) for a default time of 15 minutes. The default time can be adjusted via the option -MINUTES. The maximum possible time is 60 minutes.
If necessary you can repeat the command for port 5900.

5.2.2 Assigning parameters for direct connection (peer-to-peer Ethernet)

Requirement

- You are connected to the X127 interface of the control by an Ethernet cable.

Note

The SINUMERIK 808 control uses the X130 interface instead of the X127 interface for a direct connection. Follow the corresponding control manuals when assigning parameters.

- The SSH port 22 in the firewall to the company network is enabled (Page 22).

Operating sequence

1. Press the "Connection" icon.



- OR -

Select "Connection" > "Connection configuration" in the main window menu.

The following dialog appears:

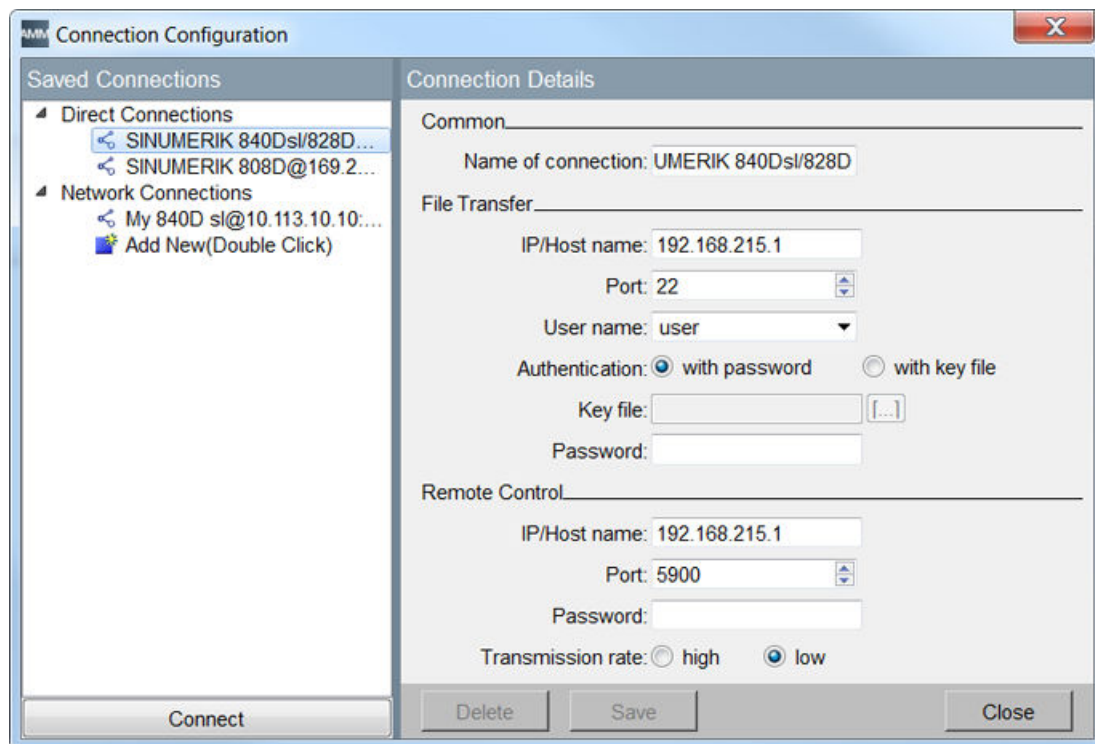


Figure 5-3 Settings for direct connection

2. Select a direct connection, and edit the settings.

3. A direct connection is always established through the IP address 192.168.215.1 or IP 169.254.11.22 and via port 22.

Enter the following authentication data:

- Select a user name and enter the appropriate password.
OR
- Select a user name and an SSH key file (Page 29).

NOTICE

The SSH key file must be available in OpenSSH format and must also be password protected.

Note

If the authentication fields are not filled in, the authentication prompt appears on its own when establishing the connection.

Note

Note that the same access levels should be activated in the HMI and in AMM in order to avoid error sources.

4. Press "Save".

Note

When selecting another saved connection without saving the current data before, these get lost. A warning is output indicating this state.

See also

Establishing a connection to the control system: An overview (Page 21)

5.2.3 Assigning parameters for network connection

Requirement

- You are connected to the X130 interface of the control by an Ethernet cable.
- The ports required in the firewall to the company network are enabled (Page 22).

Operating sequence

1. Press the "Connection" icon.



- OR -

Select "Connection > Connection configuration" in the main window menu. The following dialog appears:

Figure 5-4 Network connection

2. Double-click "Add" to create a new connection.
3. Select a suitable connection name.
4. When establishing a network connection to the control, select the IP address and the port 22 of the control.

5. Enter the following authentication data:

- Select a user name and enter the appropriate password.
OR
- Select a user name and an SSH key file (Page 29).

NOTICE

The SSH key file must be available in OpenSSH format and must also be password protected.

Note

If the authentication fields are not filled in, the authentication prompt appears on its own when establishing the connection.

Note

Note that the same access levels should be activated in the HMI and in AMM in order to avoid error sources.

6. If the control is remote controlled, enter the IP address of the control and port 5900.

7. Set the desired transmission rate.

Note

The transmission rate "low" should be selected for a connection via a modem.

Also select the transmission rate "low" if the network connection is poor. This will ensure that you can also operate the control remotely if the network connection is poor.

"High" can be selected if the network connection is good. This setting displays the control's screen with a higher color resolution.

This setting has no effect on file operations such as "Copy".

8. Press "Save".

The new network connection will be saved and added.

Note

When selecting another saved connection without saving the current data before, these get lost. A warning is output indicating this state.

See also

Establishing a connection to the control system: An overview (Page 21)

5.2.4 Converting an SSH key file

As of software version V4.7, the key file must have a specific format for authentication via SSH on a control. You can convert this format, for example with the aid of PuTTYgen software. The PuTTYgen program is a freely available open source program for Windows.

Requirement

This description is applicable to the PuTTYgen version 0.64:

Note

Note the central security information in Section Security information on the product (Page 15).

Operating sequence

1. Download the PuTTYgen program from the Internet (<http://www.chiark.greenend.org.uk/~sgtatham/putty/download.html>).
2. Start the program.
3. Load the key file via "Load".

Note

If the key file is not shown, change the file extension to "*.ppk".

4. Select "Conversions > Export OpenSSH key" in the menu.
5. Select a password via the "Key passphrase" input field and confirm the assigned password in the "Confirm passphrase" input field.

NOTICE
The SSH key file must be password protected.

6. Assign a file name and click "Save".

Note

The file name does not need an extension. The string length is not specifically limited.

Result

You can now use the key file for authentication in AMM.

5.3 Establishing the connection

5.3.1 Establishing a direct connection (peer-to-peer Ethernet)

Operating sequence

1. There are two ways of establishing a "direct connection":
 - Press the "Connect" button  in the toolbar to set up a connection.
 - Select "Connection > Connection configuration" in the main window menu. Select the direct connection from a selection dialog.

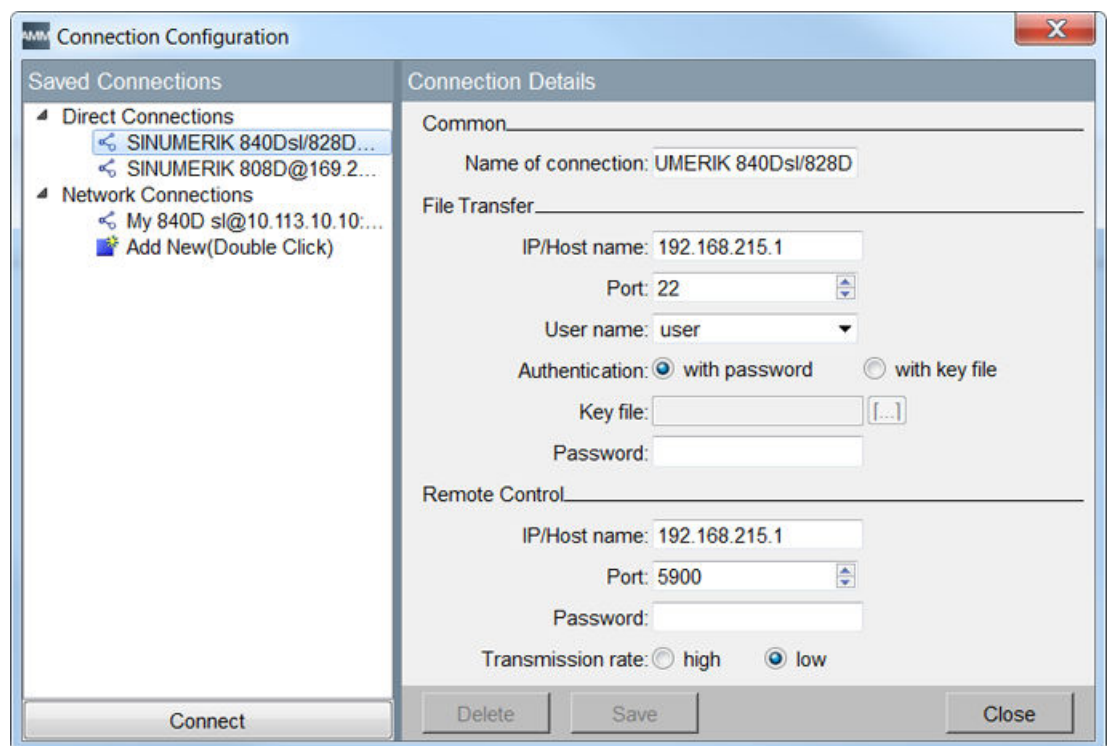


Figure 5-5 Connect direct connection

2. Press the "Connect" button.
3. If the authentication data for the direct connection has already been saved, a connection to the control is set up immediately.
If not, a dialog for entering the authentication data opens.

Note

If there is already an active connection, a warning is output stating that the active connection is separated in order to set up the new connection.

See also

Establishing a connection to the control system: An overview (Page 21)

Industrial Security Configuration Manual (<https://support.industry.siemens.com/cs/us/en/view/108862708>)

5.3.2 Establishing a network connection

Requirement

Note

Note the central security information in Section Security information on the product (Page 15).

Operating sequence

1. The following ways of establishing a "network connection" are available:
 - Select "Connection" in the main window menu.
The last five network connections are offered for selection.
Select one of the menu entries.
The connection to the selected control is established.
- OR -
 - Press the "Connection"  button in the toolbar.
- OR -
 - Select "Connection" > "Connection configuration" in the main window menu.
A selection dialog opens, in which you still have to select the corresponding connection.
All the saved connections are available for selection here.

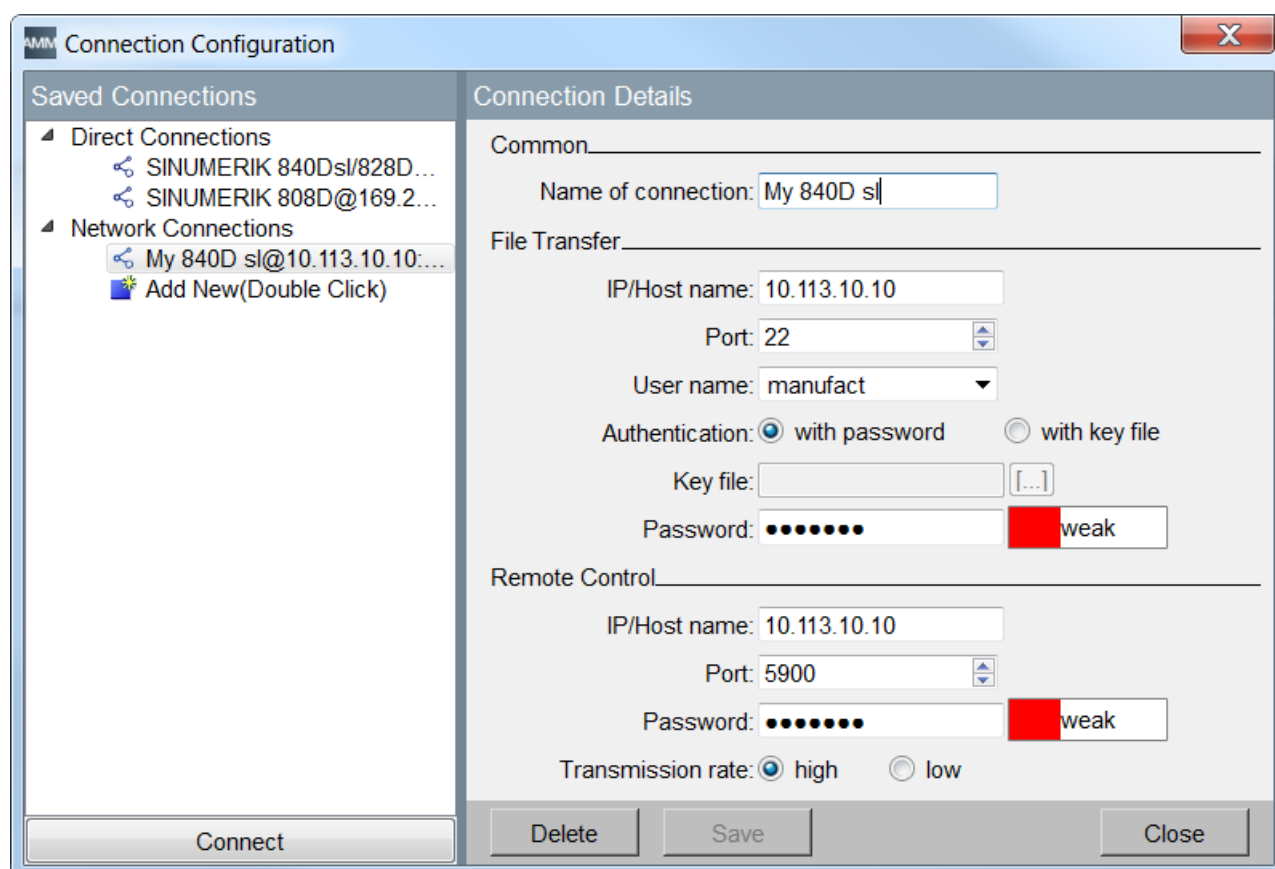


Figure 5-6 Network connections

2. Press the "Connect" button in the selection dialog.

5.3 Establishing the connection

3. If a selection dialog containing only the direct connection opens when you press the "Connect" button in the toolbar, this means you have not yet parameterized any network connections. Parameters have to be assigned to them in advance. Proceed as described in Section Assigning parameters for network connection (Page 27).
4. If you have not entered any authentication data, a dialog for entering the authentication data opens.

Note

Connection without previous disconnection

If there is already an active connection, a warning is output stating that the active connection is separated in order to set up the new connection.

You can always connect your system to a controller, no matter whether a connection has already been set up or not. The old connection need not be disconnected manually.

See also

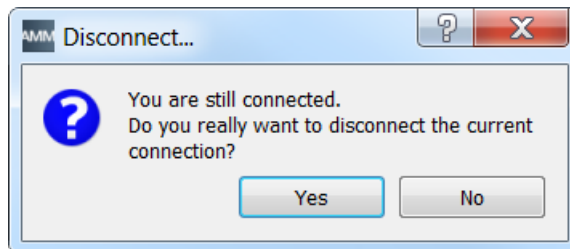
Establishing a connection to the control system: An overview (Page 21)

5.4 Disconnect connection

You can disconnect a current connection to the control. Note that disconnecting the connection to the control also ends the remote control of your control.

Operating sequence

1. There are two ways of disconnecting an active connection:
 - Press the "Disconnect"  button in the toolbar.
 - Select "Connection > Disconnect" in the main window menu.
2. Confirm the prompt dialog with "Yes".



5.5 Establishing a modem connection

5.5.1 General information

There are various ways to set up a modem connection from the PC to the control.

This brief guide describes a modem connection to the 840D sl control using the TeleService Adapter IE (TS Adapter).

This brief guide describes the following two options for the parameterization:

- TeleService Adapter with the "TeleService" software
- TeleService Adapter without the "TeleService" software

The "TeleService" software is included with the TeleService Adapter. More information about the software can be found in the Help for the TeleService adapter.

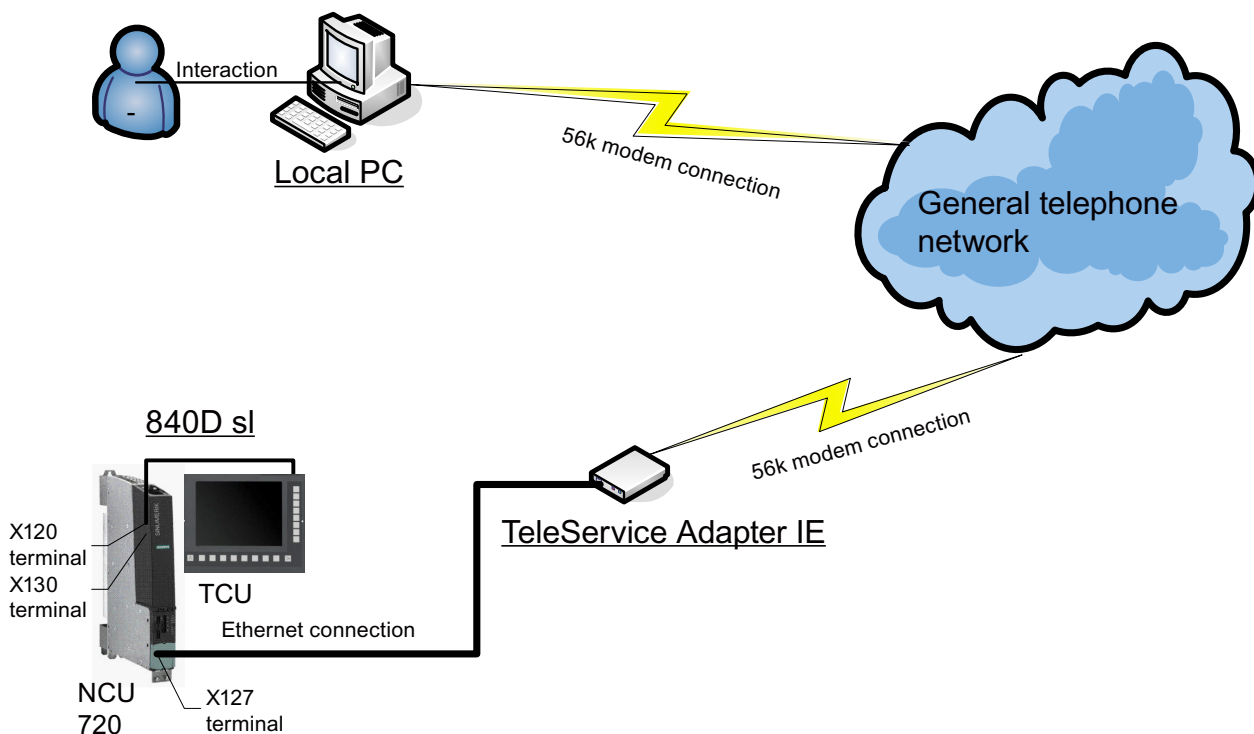


Figure 5-7 Modem connection from the PC to the control via the network and the TeleService Adapter IE

Note

You can only establish (Page 60) the connection/cabling as shown in the figure after you have assigned parameters (Page 38) for the TeleService Adapter IE with the PC.

See also

Setting up the PG/PC interface (Page 37)

Establishing a connection/Cabling (Page 60)

Parameterize the TeleService adapter IE with the "TeleService" software (Page 38)

Parameterize the TeleService adapter IE without the "TeleService" software (Page 59)

5.5.2 Setting up the PG/PC interface

Operating sequence

During the installation of the "TeleService" software you are prompted to set up the PG/PC interface

1. Check the dialog box "Set up PG/PC interface".
 - If the "TS Adapter IE" interface is included in the selection list, go to step 5.
 - If the "TS Adapter IE" interface is missing from the list, continue with step 2.
2. To add or remove interfaces, click "Select...".
The "Install/Remove Interface" dialog box opens.
3. Select the "TS Adapter IE" module from the selection list and install the adapter.
4. Click "Close" to close the dialog box.
5. In the "Set up PG/PC interface" dialog box select the TS adapter IE.
6. Click "Properties".
The "Properties - TS Adapter IE" dialog box opens.
7. Open the "Local Modem" tab.
8. Under "Modem:" select the modem with which you want to connect to the TS adapter IE.
Under ISDN select the protocol "B-Kanal-Protokoll X.75",
e.g. "AVM ISDN SoftCompensation X.75-V.42bis"

9. Under "Location > Name:" select the location of your PG/PC.
Click "Edit" if needed to open up the "Phone and Modem Options" dialog box to set up a new location.
For more information on the location, refer to the help function for the "Edit location" dialog box.
10. Click
"OK" to exit the "Properties - TS Adapter IE" dialog box.
If you have changed an access path in these settings, a warning message then appears.
To accept the changes, click
"OK".

See also

Parameterize the TeleService adapter IE with the "TeleService" software (Page 38)

Assigning parameters for the TS Adapter (Page 43)

Parameterize the TeleService adapter IE without the "TeleService" software (Page 59)

5.5.3 Parameterize the TeleService adapter IE with the "TeleService" software

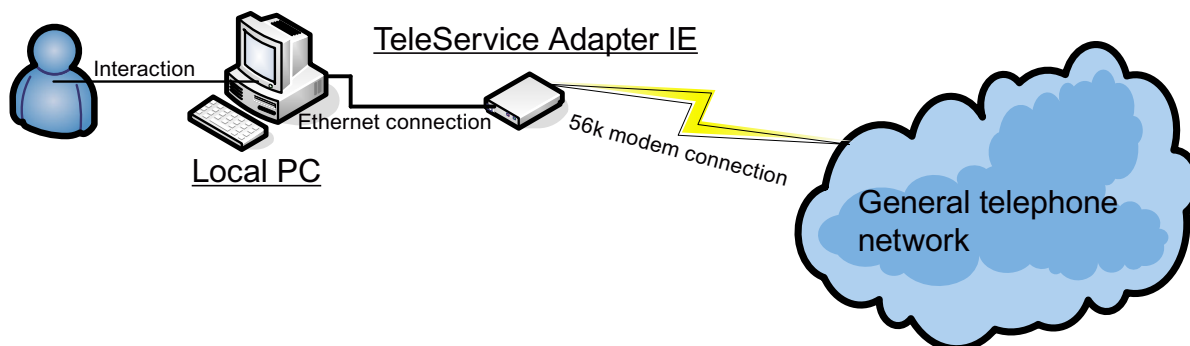
5.5.3.1 Overview of TeleService Adapter parameter assignment

Introduction

Parameters are assigned for the TeleService Adapter IE from the PC via the network.

Requirements

You must have connected the PC and the TeleService Adapter IE with an Ethernet cable via the network (see figure below).



Network connection of the PC to the TeleService Adapter IE

You must have installed the "TeleService" software and the license on the PC.

Note

The "SINUMERIK Access MyMachine /P2P (PC)" (6FC5800-0AP30-0YB0) option is required for remote access via TeleService Adapter.

Note

The software is usually installed at C:\Program Files\Siemens\TeleService
The license is on the supplied USB flash drive.

In the first step, insert the plant (e.g. "840D sl") into the "TeleService" software.

Principle operating sequence

Parameter assignment involves the following steps:

1. Insert the plant.
2. Assign parameters for the TS Adapter.
3. Administrate the TS Adapter.
4. Assign parameters for the internal modem of the TS Adapter.
5. Test the connection.

5.5.3.2 Inserting the system

Operating sequence

1. Start the "TeleService" Software.
2. Close all internal windows and select "Phone book" > "New".
3. Call it "newphonebook.tel".
4. Press <F3>.
A new folder is created.

5. Call it "my control systems".

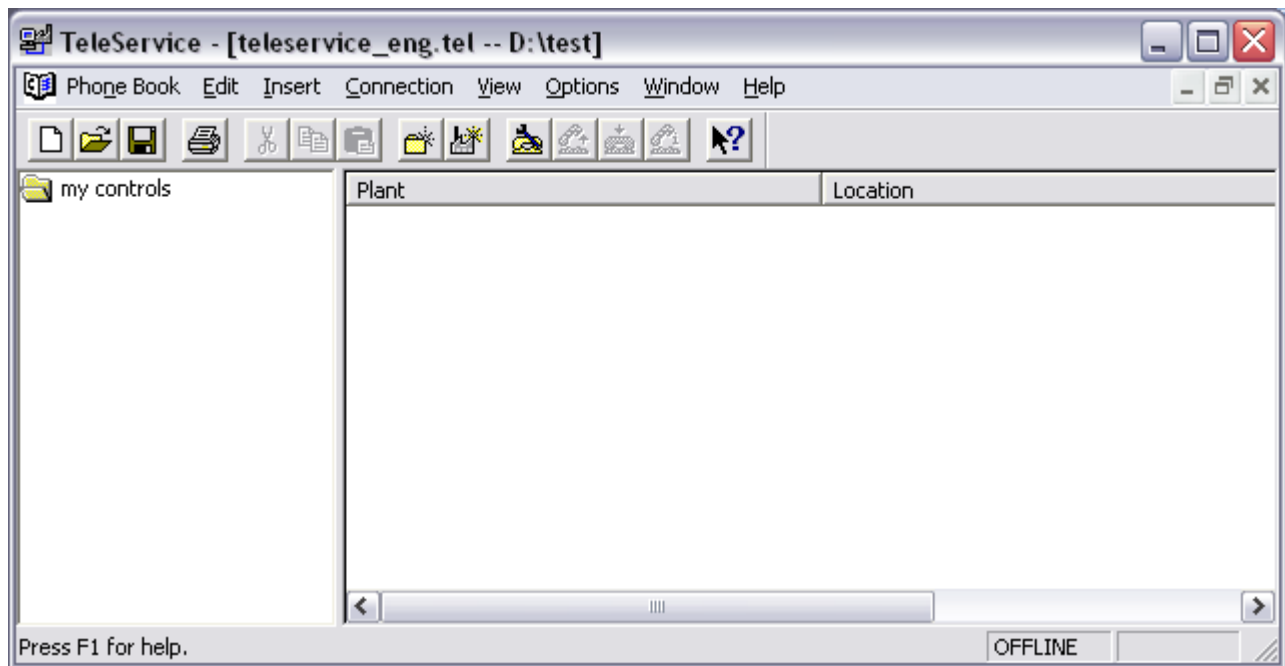
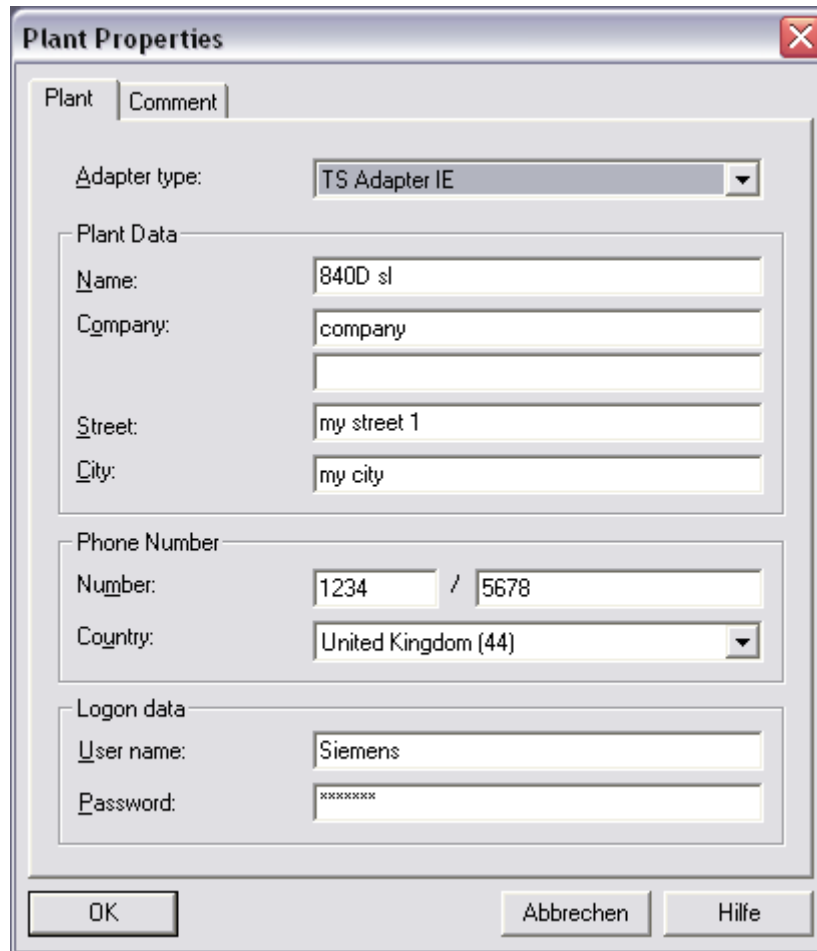


Figure 5-8 TeleService

6. Press <F4>.
A new system is inserted.



The image shows a 'Plant Properties' dialog box with a title bar containing a close button (X). The dialog has two tabs: 'Plant' (selected) and 'Comment'. The 'Plant' tab contains several sections of input fields:

- Adapter type:** A dropdown menu showing 'TS Adapter IE'.
- Plant Data:** A group box containing:
 - Name:** Text field with '840D sl'.
 - Company:** Text field with 'company'.
 - Street:** Text field with 'my street 1'.
 - City:** Text field with 'my city'.
- Phone Number:** A group box containing:
 - Number:** Two text fields separated by a slash, containing '1234' and '5678'.
 - Country:** A dropdown menu showing 'United Kingdom (44)'.
- Logon data:** A group box containing:
 - User name:** Text field with 'Siemens'.
 - Password:** Text field with masked characters 'XXXXXXXX'.

At the bottom of the dialog are three buttons: 'OK', 'Abbrechen', and 'Hilfe'.

Figure 5-9 Inserting a new system

5.5 Establishing a modem connection

7. Enter the data for the system (see figure for an example).
 - Enter "840D sl" as the name and select "TS Adapter IE" as the adapter type.
 - Enter the telephone number for contacting the TS Adapter as the number.
 - The log-on data must specify a user created in the TS Adapter.
You can leave these fields empty at this point or enter "Administrator" + "admin" as the default user.
8. Select "OK".
The application should now resemble the figure below.

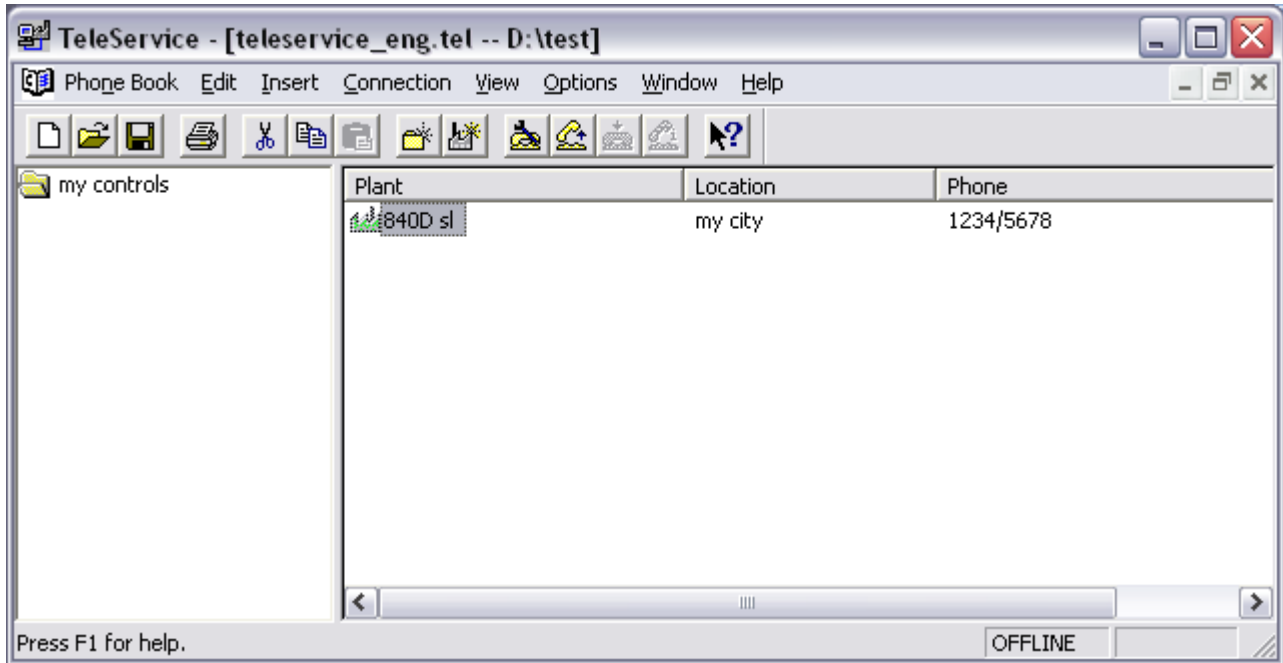


Figure 5-10 System after insertion

You will now assign parameters for the TS Adapter.

See also

Assigning parameters for the TS Adapter (Page 43)

5.5.3.3 Assigning parameters for the TS Adapter

Operating sequence

1. In the PG/PC interface, set the access point you wish to use when connecting to the TS Adapter. In this instance, we are using a network connection to the PC via USB.
2. Select "Options" > "Settings".
The following dialog appears.

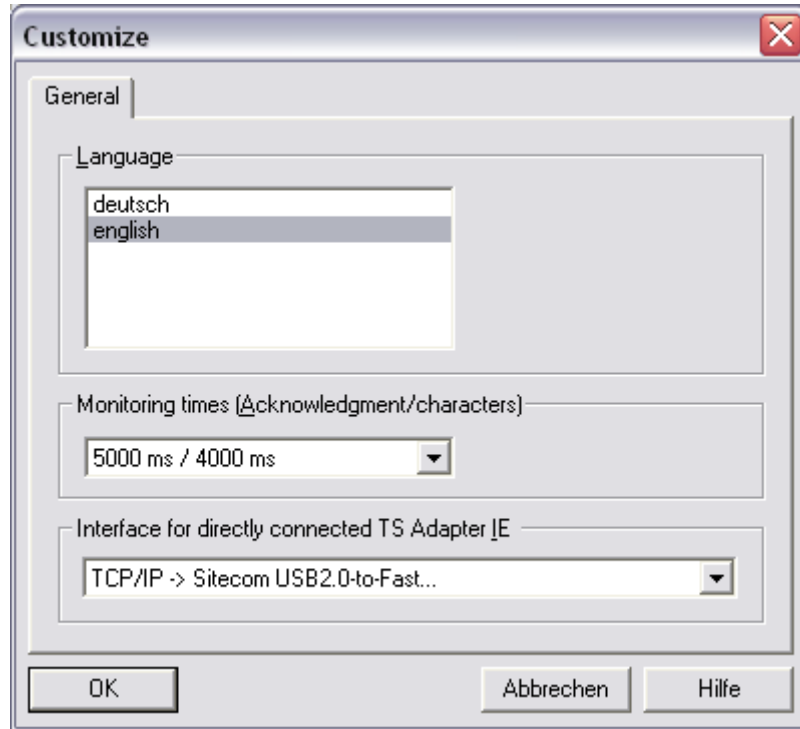


Figure 5-11 Settings

3. Set the network connection to connect you with the TS Adapter directly.

4. Select "Options" > "Set TS Adapter IE IP Parameter..."

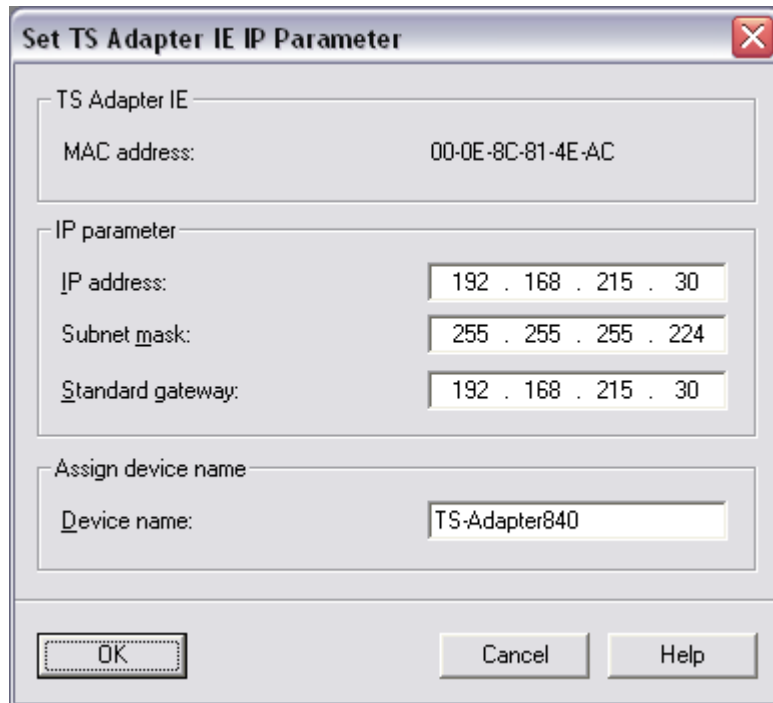


Figure 5-12 Setting parameters

5. Compare the MAC address with the MAC address printed on the TS Adapter.

Note

If the MAC addresses are different, select "Options" > "Settings". Now select the appropriate TS Adapter in the "Settings" dialog.

6. Make the settings shown in the "Setting parameters" figure.
Make sure the TS Adapter and the control system are in the same subnet.
7. Select "OK".

You will now administrate the TS Adapter IE.

See also

Adminstrating the TS Adapter (Page 45)

5.5.3.4 Administrating the TS Adapter

Operating sequence

1. Select "Options" > "Administrate TS Adapter IE" in the "TeleService" software menu.
The following window appears.

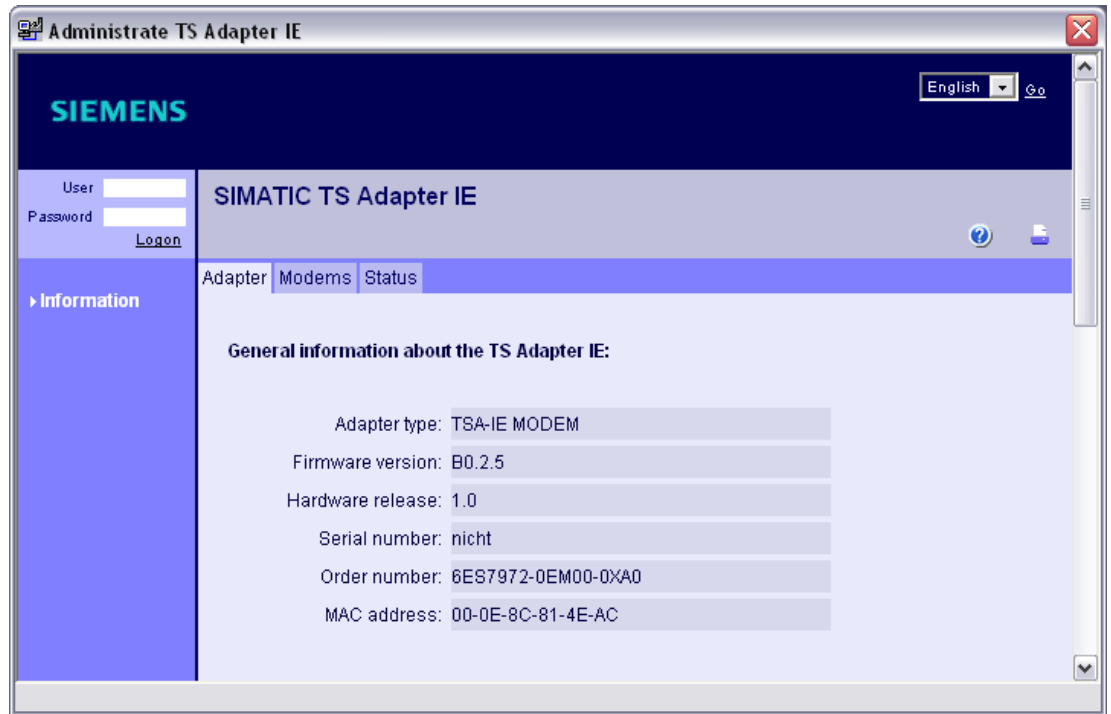


Figure 5-13 Administrate TS Adapter IE

2. Log on by entering "Administrator" and "admin" in the top-left section of the window.

5.5 Establishing a modem connection

3. Generate at least one additional user in the "Security" > "User administration" window (see figure below) and assign admin rights to this user.
Example: "Siemens" + "siemens"
This user will be required again later and used to establish the connection to the TS Adapter.

Note

Delete the default user for security purposes.

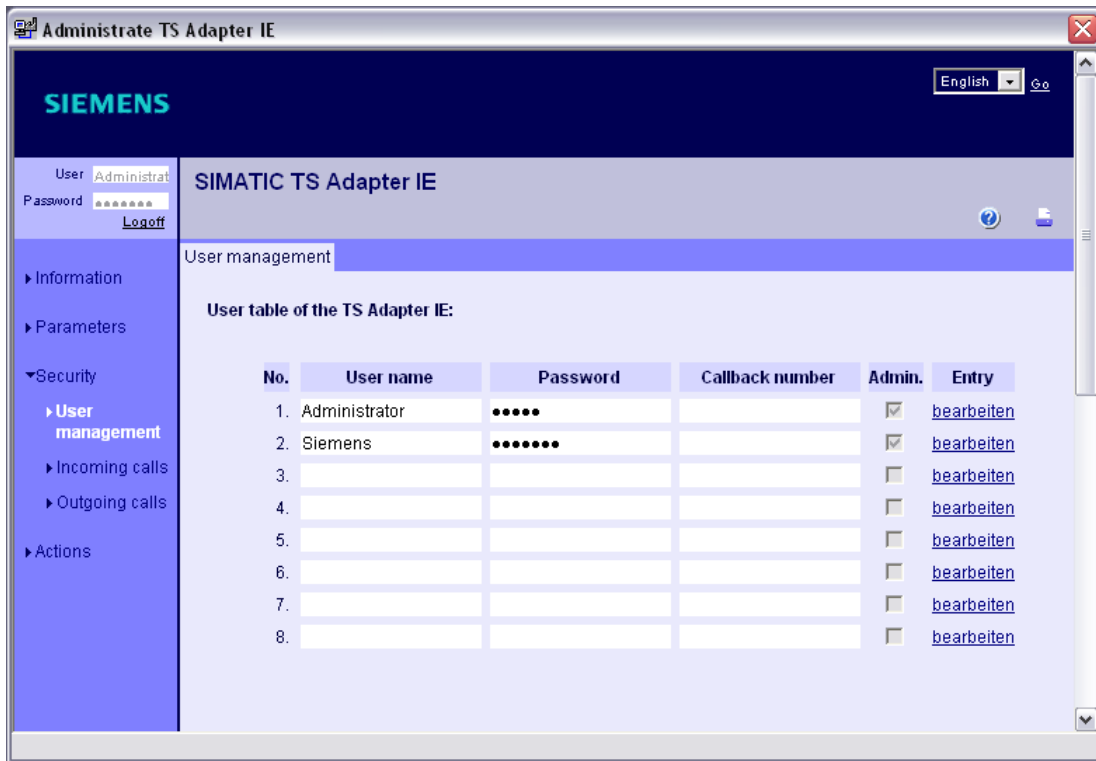


Figure 5-14 User administration

4. Activate the following (see figure below) for the TS Adapter on the "General" tab in the "Security" > "Incoming calls" window:
 - "Firewall"

- "Allow the following exceptions"
"Expert mode"
The "expert mode" function is used subsequently to enable the port for the VNC connection.

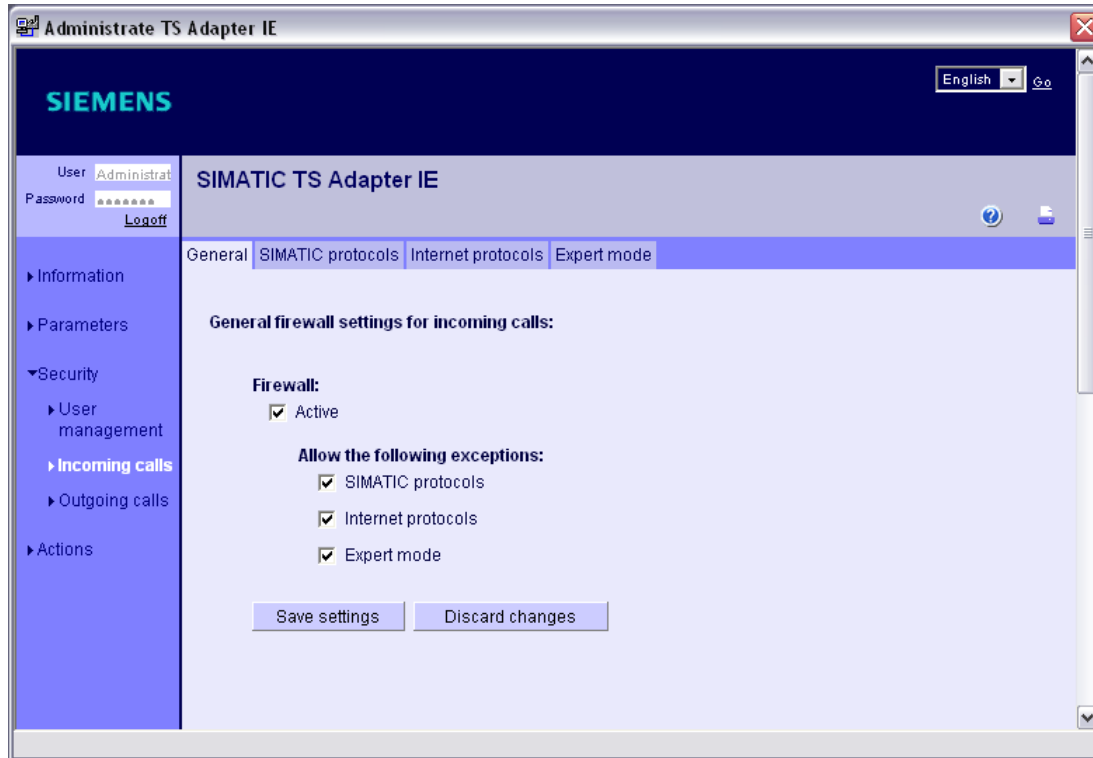


Figure 5-15 "Security" > "Incoming calls" > "General" tab

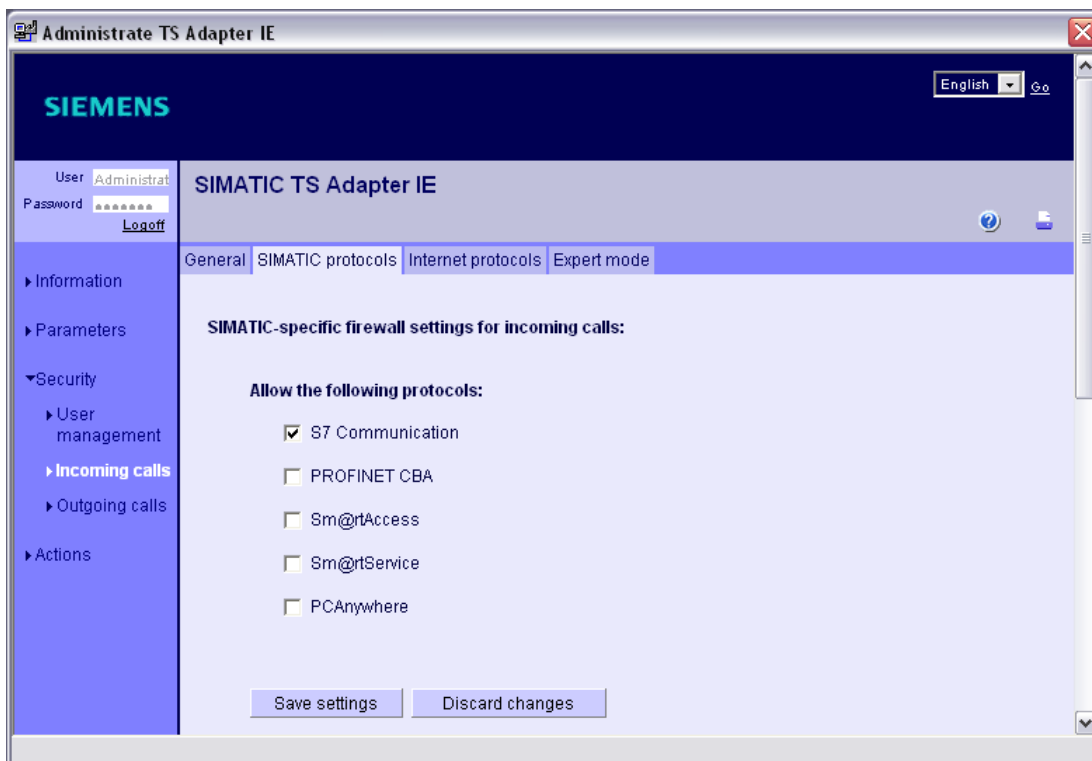


Figure 5-16 "Security" > "Incoming calls" > "SIMATIC protocols" tab

5. It is important that SSH is approved (see figure below).

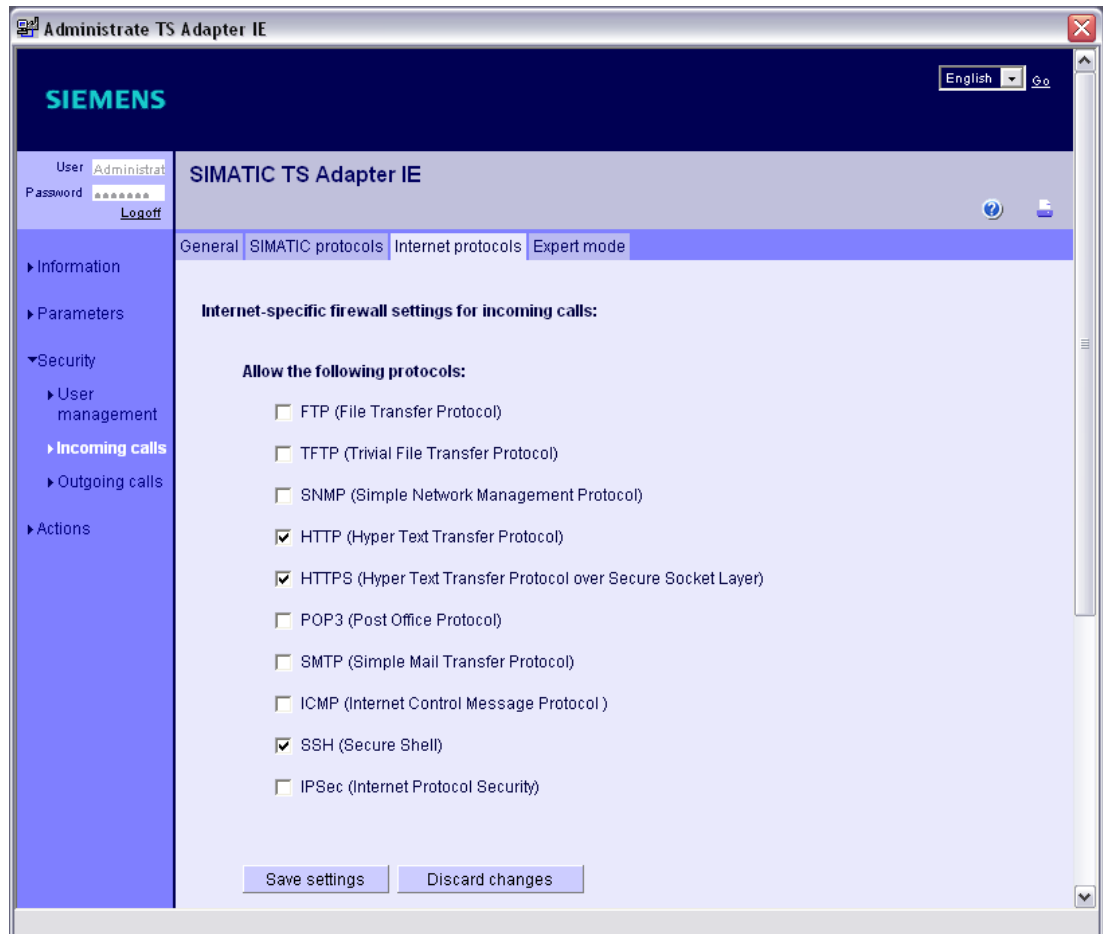


Figure 5-17 "Security" > "Incoming calls" > "Internet protocols" tab

6. As already mentioned, VNC still requires approval. This is done in expert mode.
Port 5900 for VNC must be opened (see figure below).

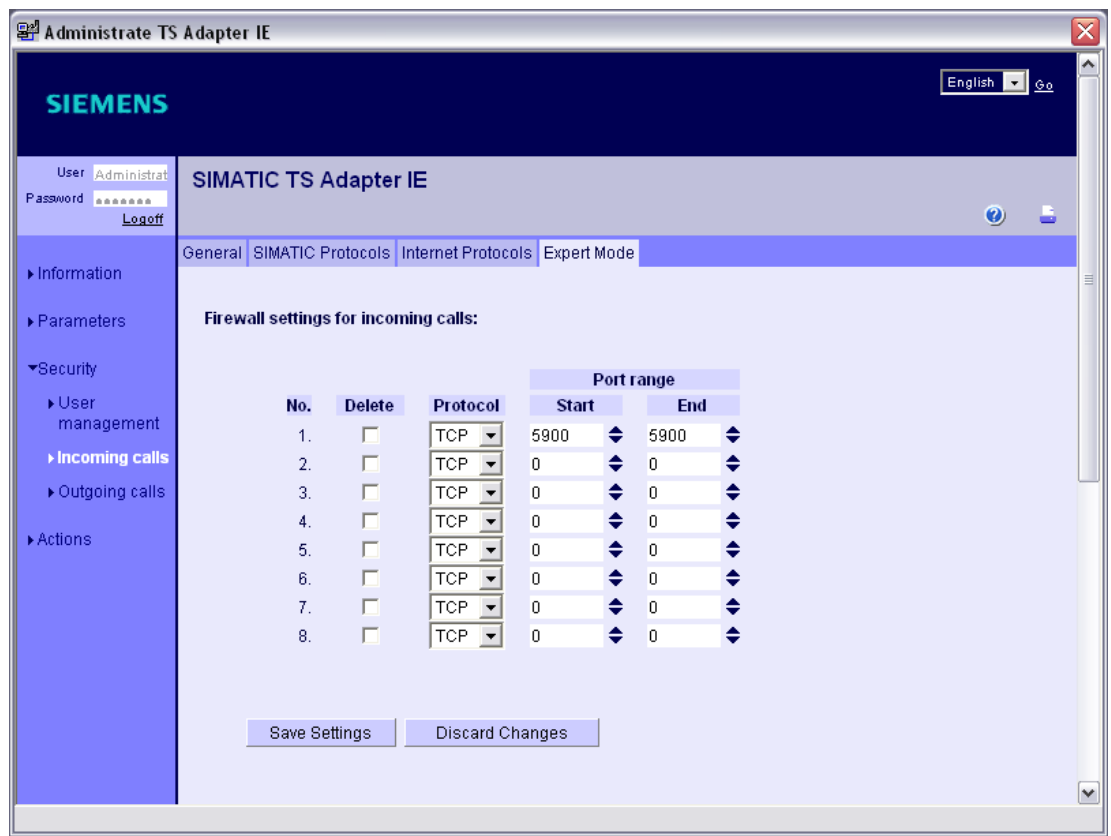


Figure 5-18 "Security" > "Incoming calls" > "Expert mode" tab

Note

Make the same settings for "outgoing calls".

You will now assign parameters for the internal modem of the TS Adapter IE.

See also

Assigning parameters for the internal modem (Page 52)

5.5.3.5 Assigning parameters for the internal modem

Operating sequence

1. Select "Options" > "Administrate TS Adapter IE" in the "TeleService" software menu.
2. Assign the parameters for the internal modem as shown.
If you are using an external modem, you will have to make the appropriate settings there.

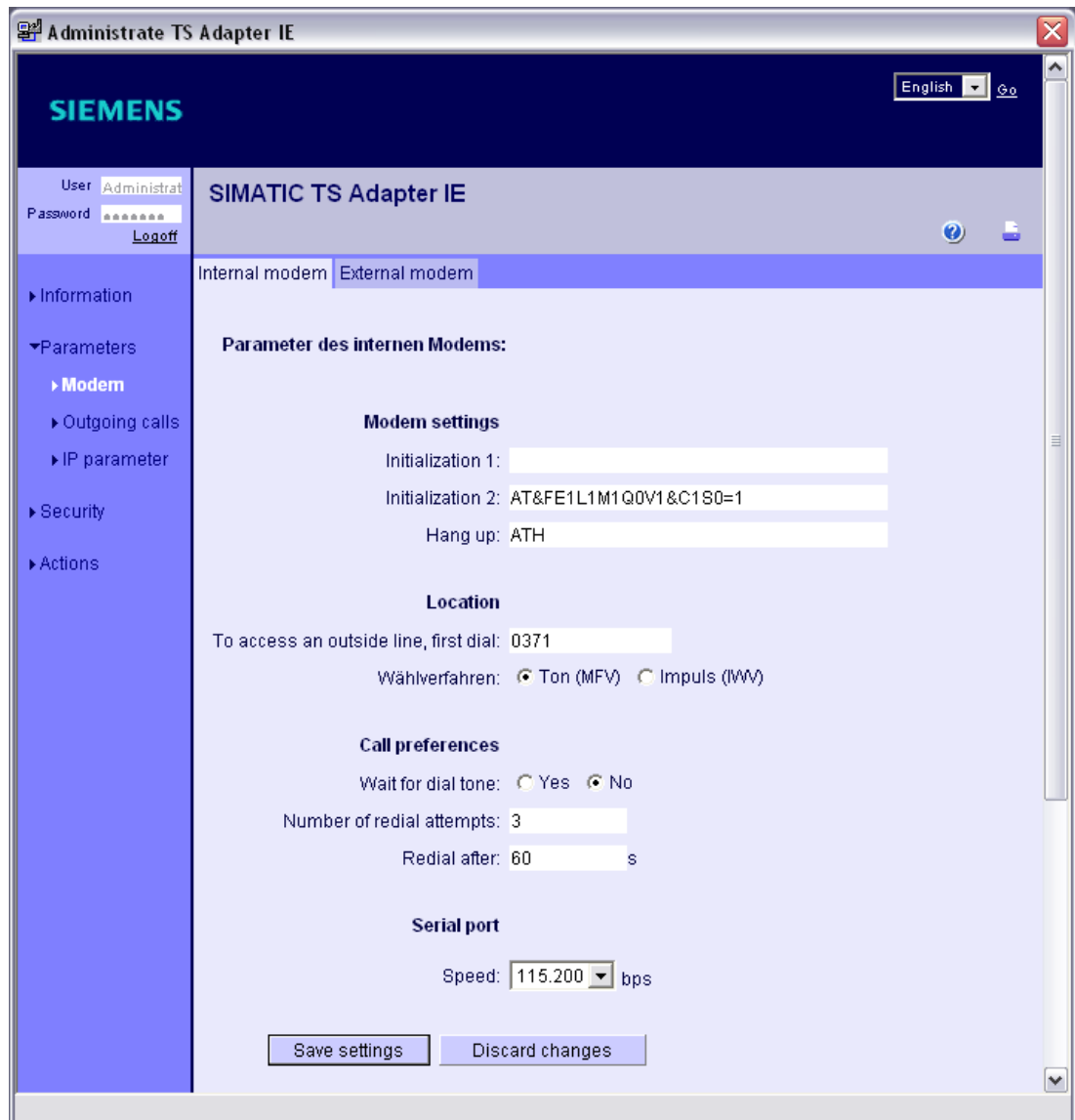


Figure 5-19 "Parameters" > "Modem" > "Internal modem" tab

3. Enter the external access code which applies to you.

4. Check the IP parameters you set earlier with the TeleService software.

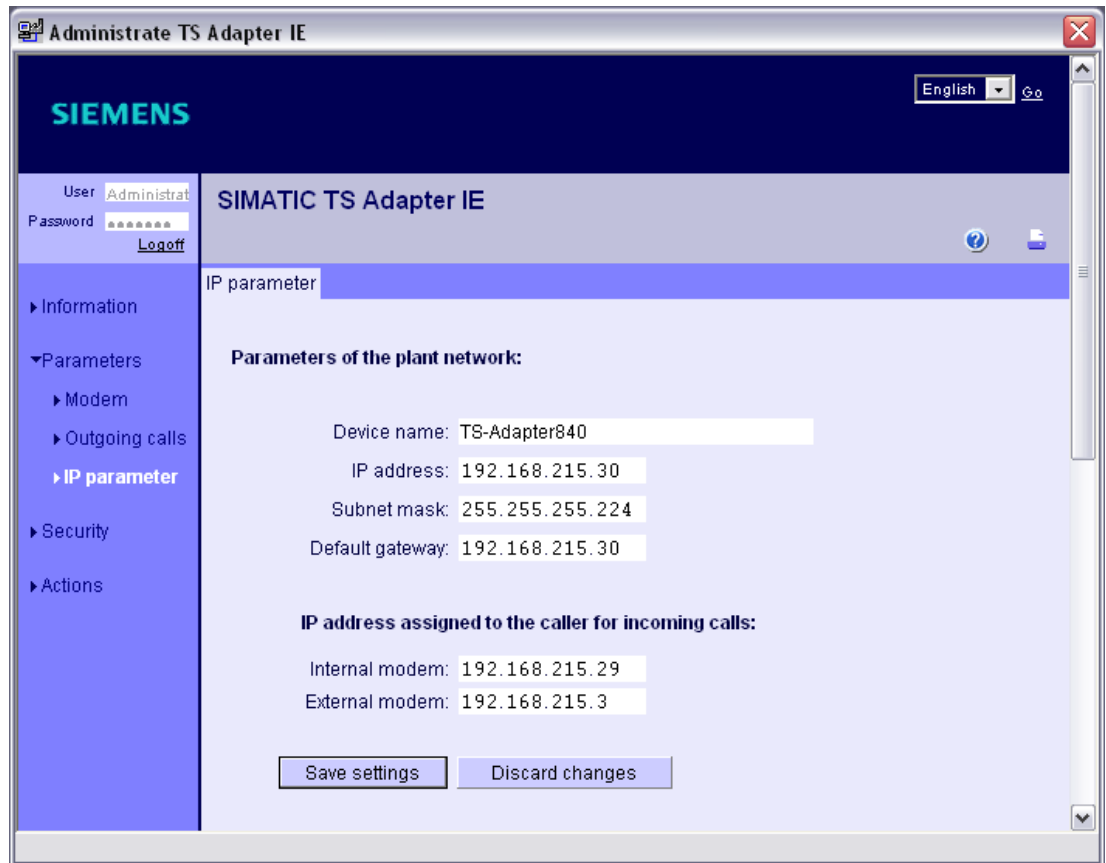


Figure 5-20 "Parameters" > "IP parameters"

5. To finish, reenter the contact telephone number for your modem on the PC.

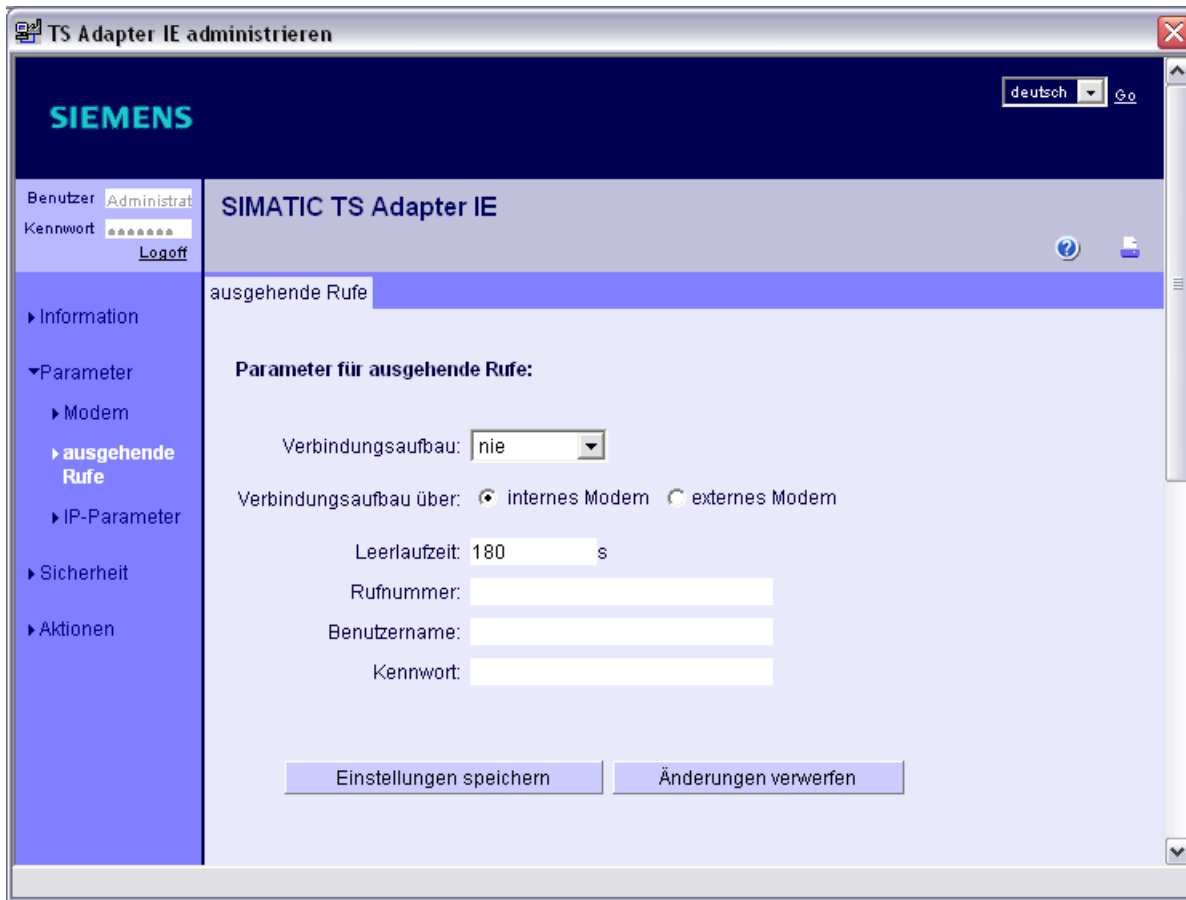


Figure 5-21 "Parameters" > "Outgoing calls"

6. Close the window.

You will now test the connection which has been set.

See also

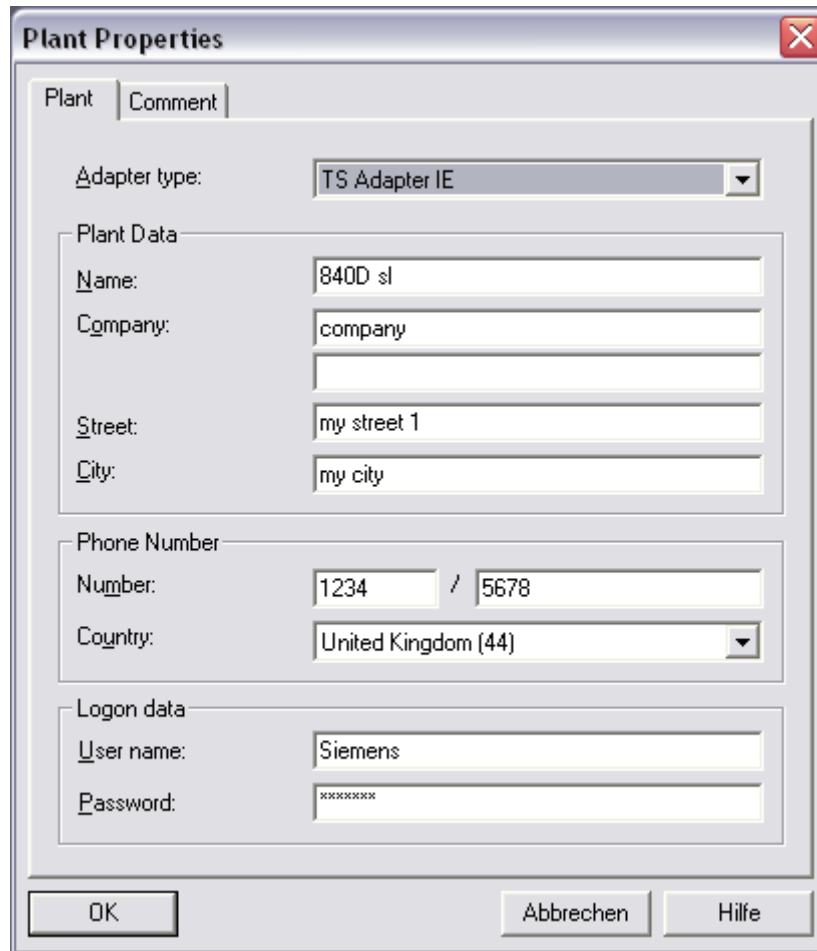
Testing the connection (Page 54)

5.5.3.6 Testing the connection

Operating sequence

1. Right-click to access "Object properties..." via the shortcut menu.
2. Select the object properties of the "840D sl" system created previously (see figure below).

3. Enter the data for the user you have just created as the log-on data (e.g. "Siemens" + "siemens").



The image shows a 'Plant Properties' dialog box with two tabs: 'Plant' and 'Comment'. The 'Plant' tab is active. It contains several sections: 'Adapter type' with a dropdown menu set to 'TS Adapter IE'; 'Plant Data' with fields for Name ('840D sl'), Company ('company'), Street ('my street 1'), and City ('my city'); 'Phone Number' with fields for Number ('1234 / 5678') and Country ('United Kingdom (44)'); and 'Logon data' with fields for User name ('Siemens') and Password ('XXXXXXXX'). At the bottom are buttons for 'OK', 'Abbrechen', and 'Hilfe'.

Figure 5-22 "Insert new system" > "Log-on data"

4. You can now test the connection you have set. To do this, select the system and choose "Establish" in the "Connection" menu (<F7> button).

Establish Connection

Plant

Name: 840D sl

Number to dial: 00 44 1234 5678

Modem connection

Modem: Agere Systems HDA Modem

Location: test

☐ Connection establishment with callback

Logon data

User name: Siemens

Password: xxxxxxxx

☐ Save logon data in phone book

Status

Establish connection: dialing.

Dial Disconnect Help

Figure 5-23 "Establish connection"

5. Choose the modem and location and click "Select".
If connection is successful, the "ONLINE" field in the status bar will become green.

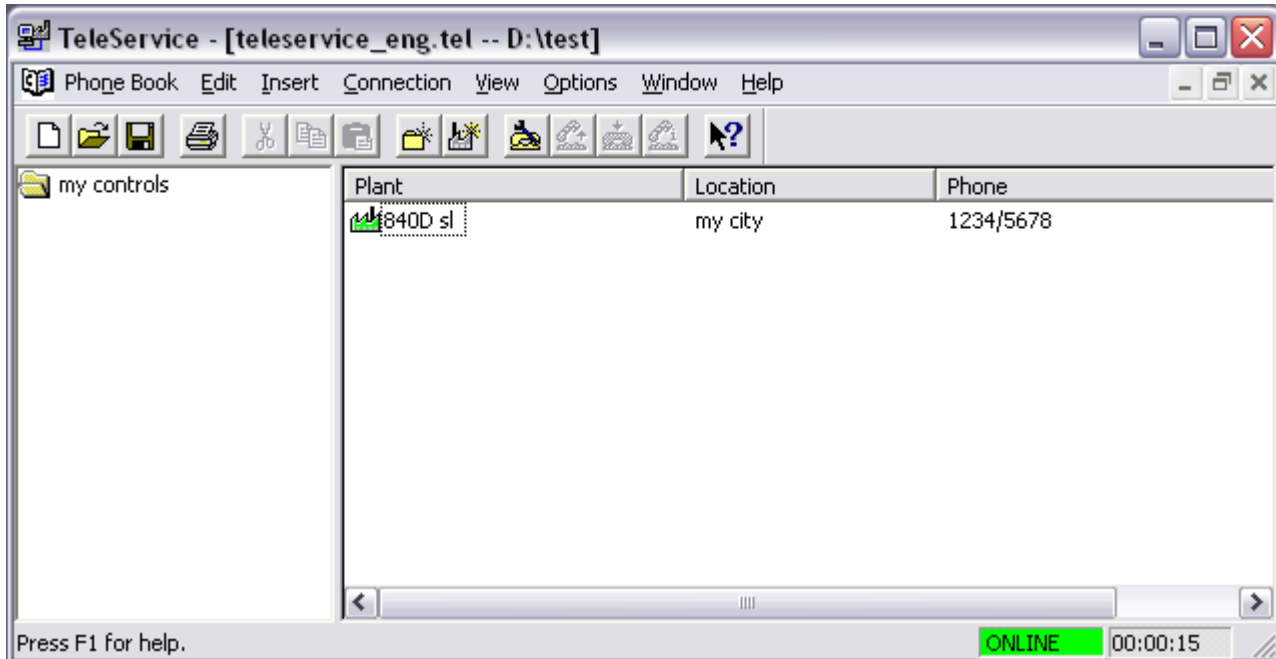


Figure 5-24 "ONLINE" system connection

5.5 Establishing a modem connection

6. Select "Connection" > "Current connection" to observe the status of the connection currently established (see figure).

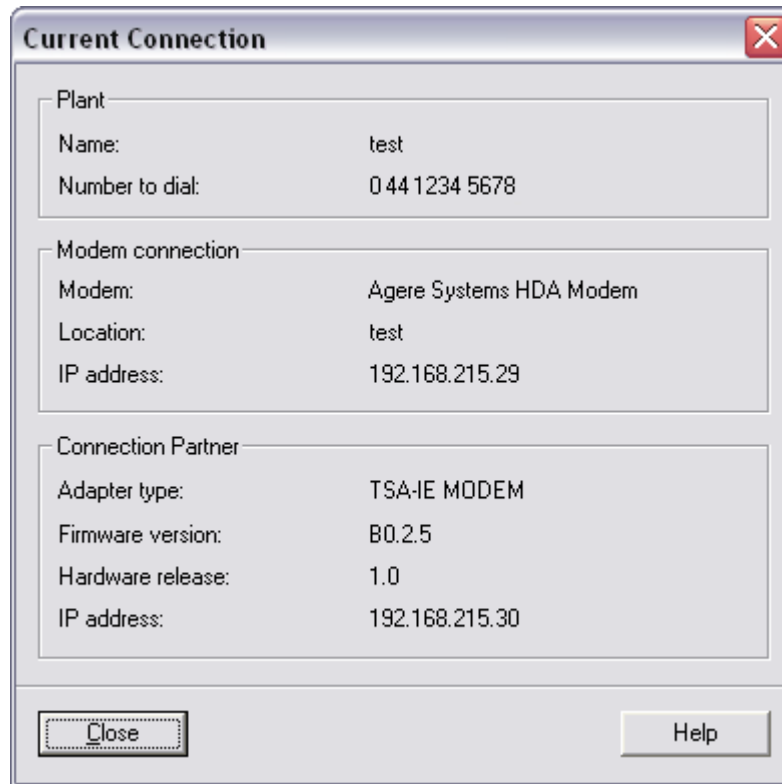


Figure 5-25 Current connection

7. Parameter assignment for your TS Adapter is now complete. Make the following changes to the cabling (Page 60). Connect the control system for X127 with the TS Adapter. The PC should be already connected with the modem cable and the TS Adapter with the other modem cable.

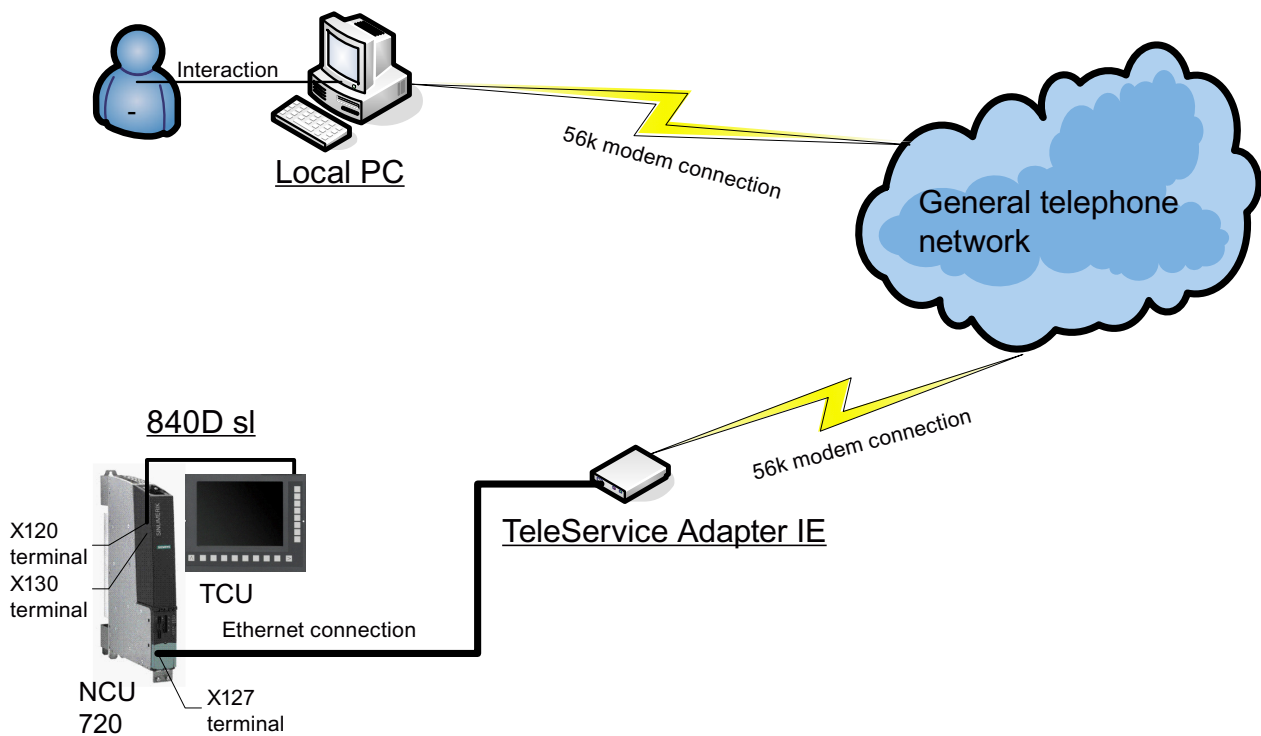


Figure 5-26 Modem connection from the PC to the control system via the network and the TeleService Adapter IE

See also

Establishing a connection/Cabling (Page 60)

5.5.4 Parameterize the TeleService adapter IE without the "TeleService" software

Operating sequence

1. Item 7.16 (Reset parametrization with the P RES button) (see Help for TS adapters).
2. Modem selection (long-distance data transmission network), (see Create modem connection under Windows 7 (Page 62) and Establish modem connection under Windows 7 (Page 67)).
IP address 192.168.0.2 or 192.168.0.3 is assigned.
3. Start Internet browser and link up with <http://192.168.0.1>.
4. Log in with user Administrator and Password admin.

5.5 Establishing a modem connection

5. Enter IP parameter as described as from Assigning parameters for the TS Adapter (Page 43) Step 4.
6. Continue through the following steps:
 - see Administrating the TS Adapter (Page 45)
 - see Assigning parameters for the internal modem (Page 52)
 - see Establishing a connection/Cabling (Page 60) right through to Connecting AMM to the control system via the modem connection (Page 75)

See also

Create modem connection under Windows 7 (Page 62)

Establish modem connection under Windows 7 (Page 67)

Assigning parameters for the TS Adapter (Page 43)

Administrating the TS Adapter (Page 45)

Assigning parameters for the internal modem (Page 52)

Establishing a connection/Cabling (Page 60)

Connecting AMM to the control system via the modem connection (Page 75)

5.5.5 Establishing a connection/Cabling

Components

You will need the following components:

- Two modem terminals in the general telephone network for the following components:
 - PC
 - TeleService adapter IE
- PC with 56k modem
- TeleService adapter IE
- Ethernet cable
- Control system (840D sl with NCU 720.1 in this example)

Requirement

You need to have assigned parameters (Page 38) for the TeleService adapter IE.

Establishing a modem connection via the general telephone network

Set up the network via the modem terminals as follows (please also refer to the figure below):

1. Connect the PC with the general telephone network via the modem terminal.
2. Connect the TS adapter with the general telephone network via the modem terminal.
3. Connect the TS adapter with the control system's X127 interface via the Ethernet interface.
Use an Ethernet cable for this purpose.
There is no need to integrate the TS adapter into the system network/workplace network, as the control system operates its own DHCP server on the X127 interface.
The TS adapter is automatically assigned an IP address from this X127 interface.

Note

The control system is still accessible via the X130 interface, for example.

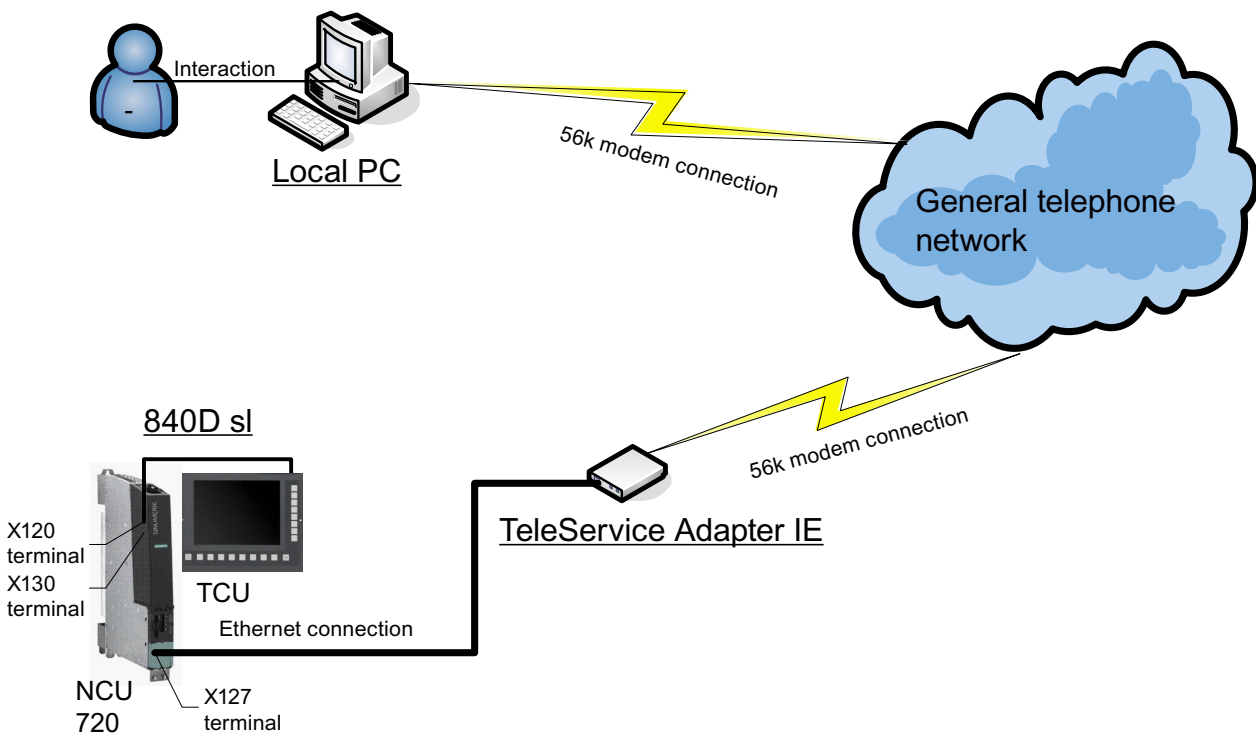


Figure 5-27 Modem connection from the PC to the control system via the network and the TeleService adapter IE

See also

Parameterize the TeleService adapter IE with the "TeleService" software (Page 38)

5.5.6 Create modem connection under Windows 7

Operating sequence

1. Select "Start > Control Panel > Network and Sharing Center > Set up a new connection or network".
2. Select the connection option "Connect to a workplace".

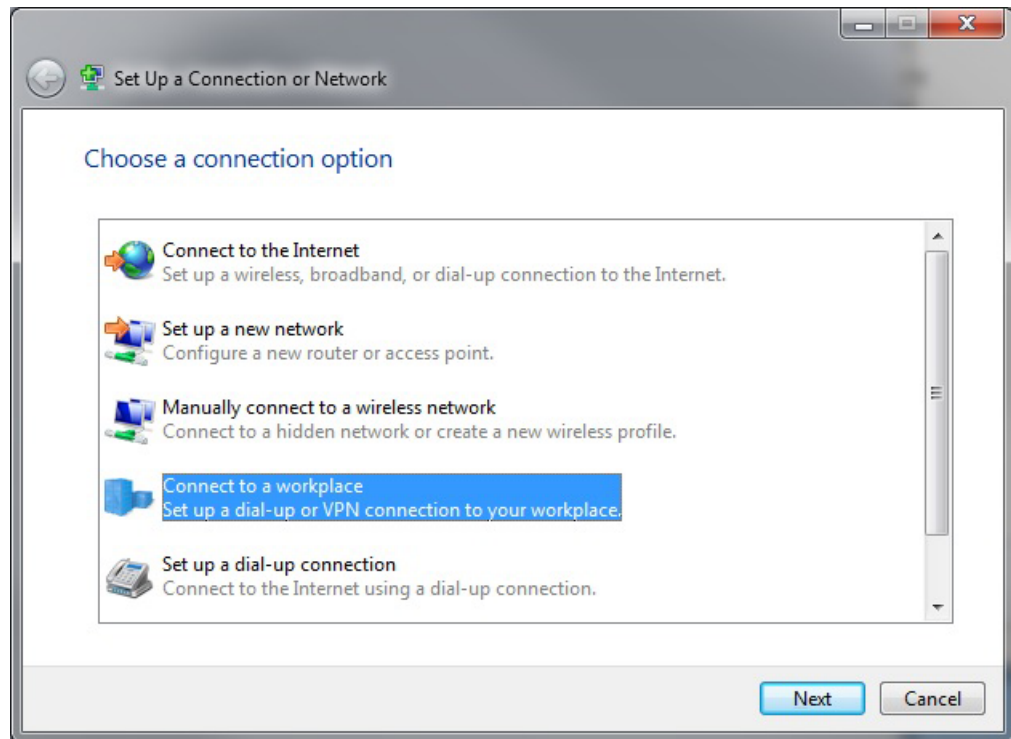


Figure 5-28 Connect to a workplace

3. Press "Next".

4. Select "Dial directly".

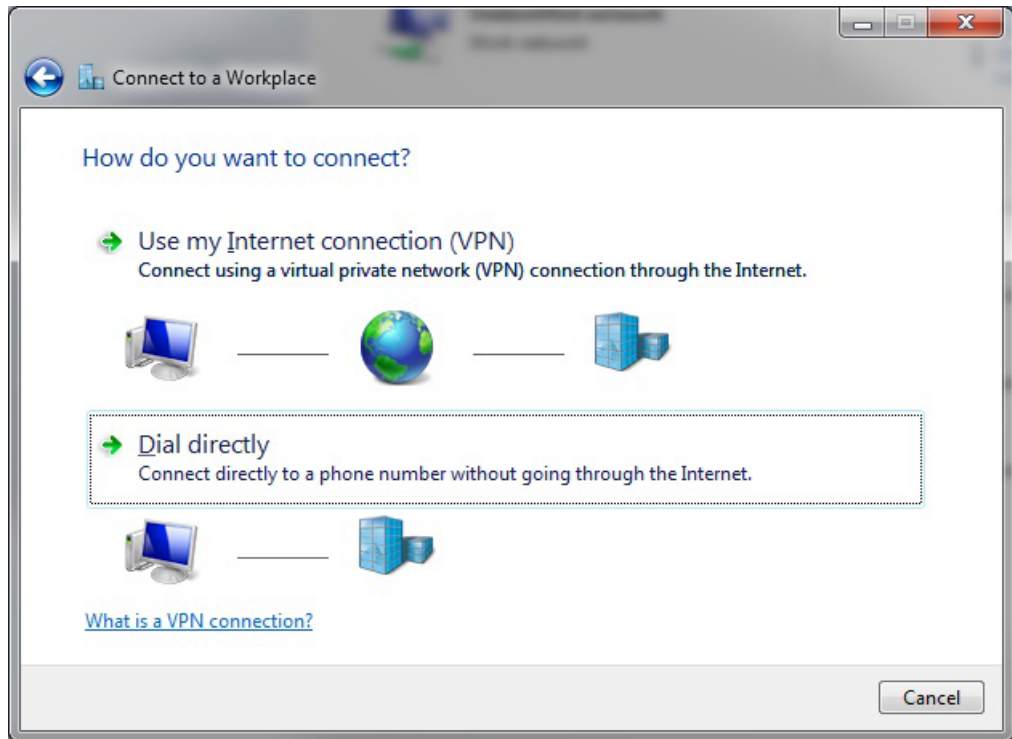


Figure 5-29 Dial directly

5. Press "Set up a connection anyway". Connect a modem later if no modem is connected.

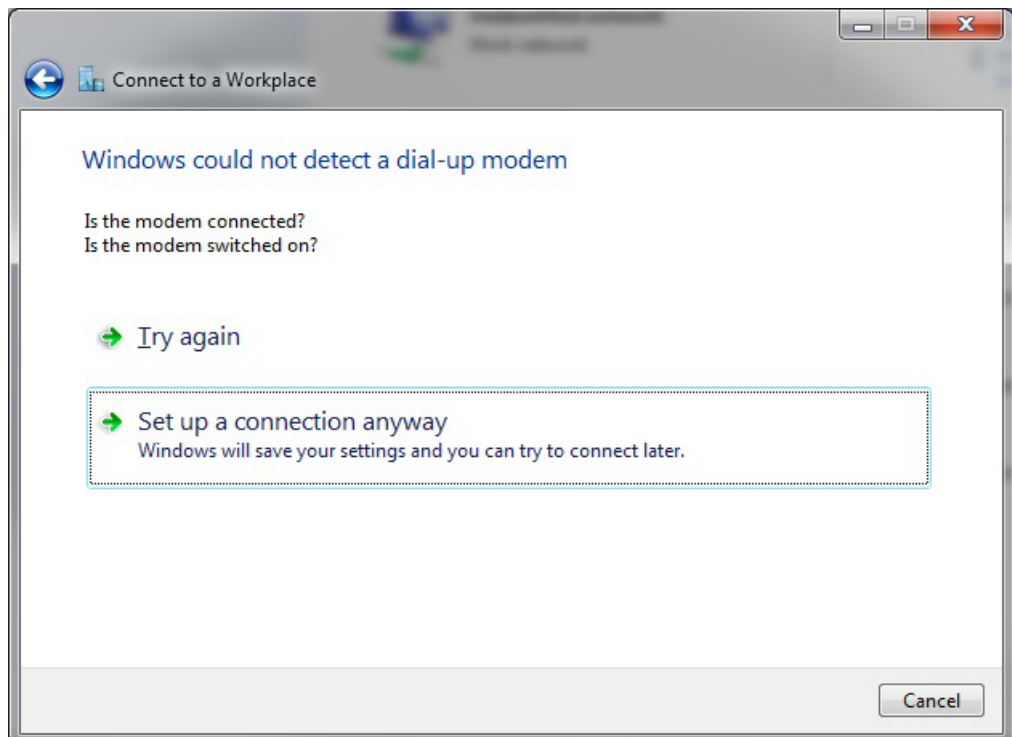


Figure 5-30 Set up a connection anyway

6. Enter the telephone number for contacting your TS adapter and assign a name to the connection.

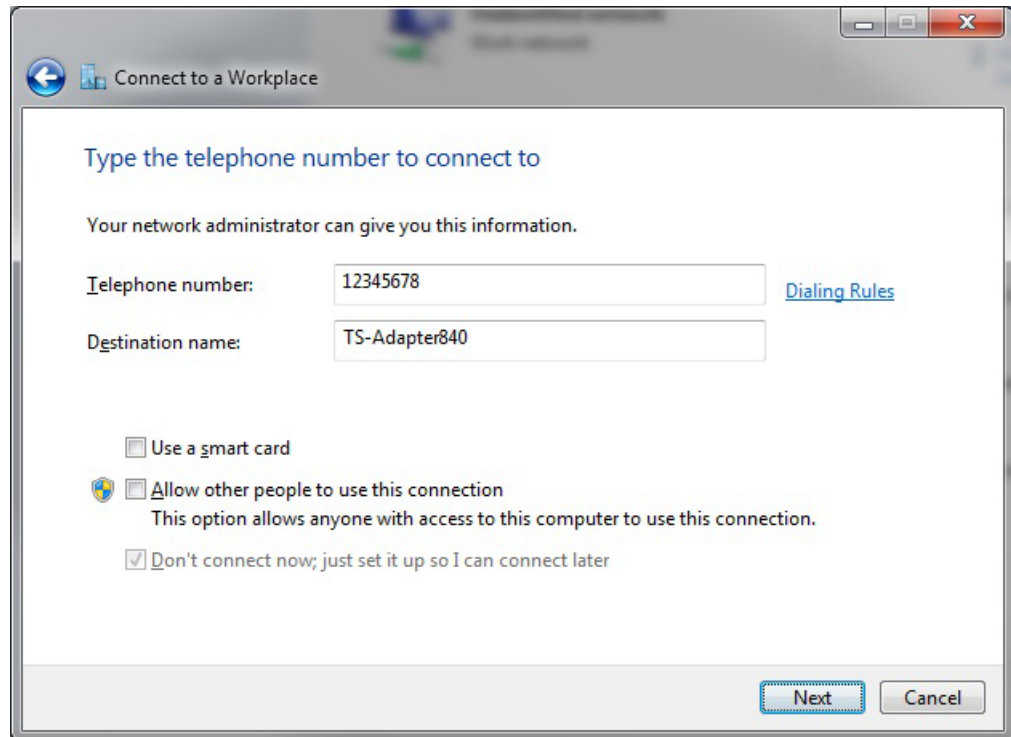


Figure 5-31 Enter telephone number

7. Press "Next".

8. Enter the user name and password of the TS adapter.

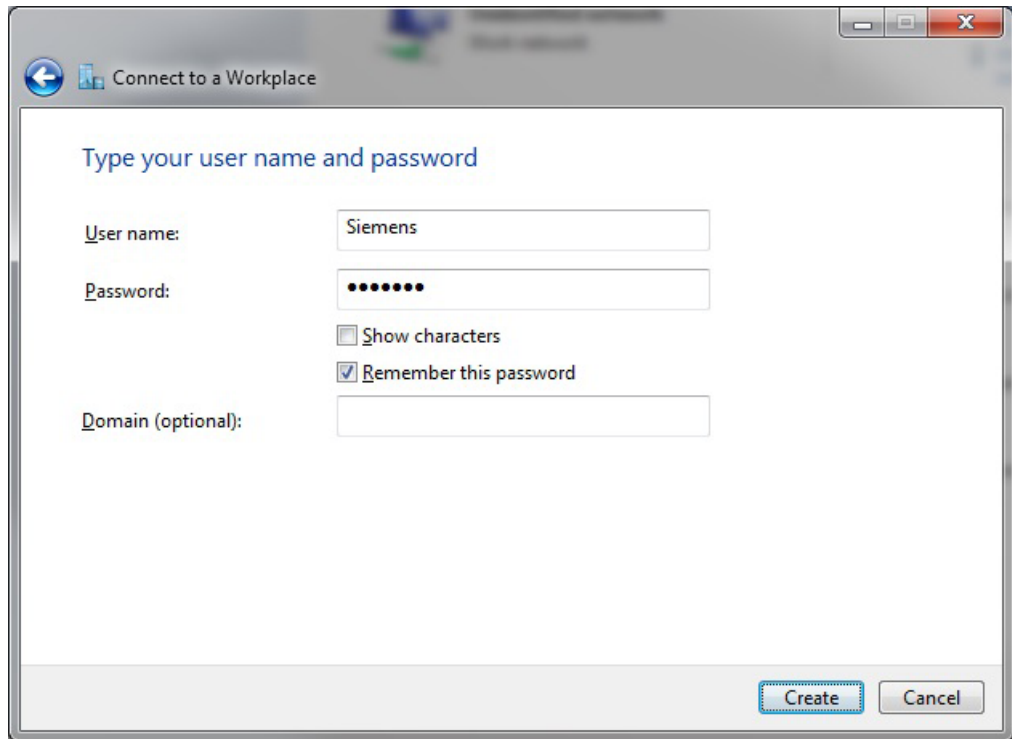


Figure 5-32 Enter user name and password:

9. Press "Create".

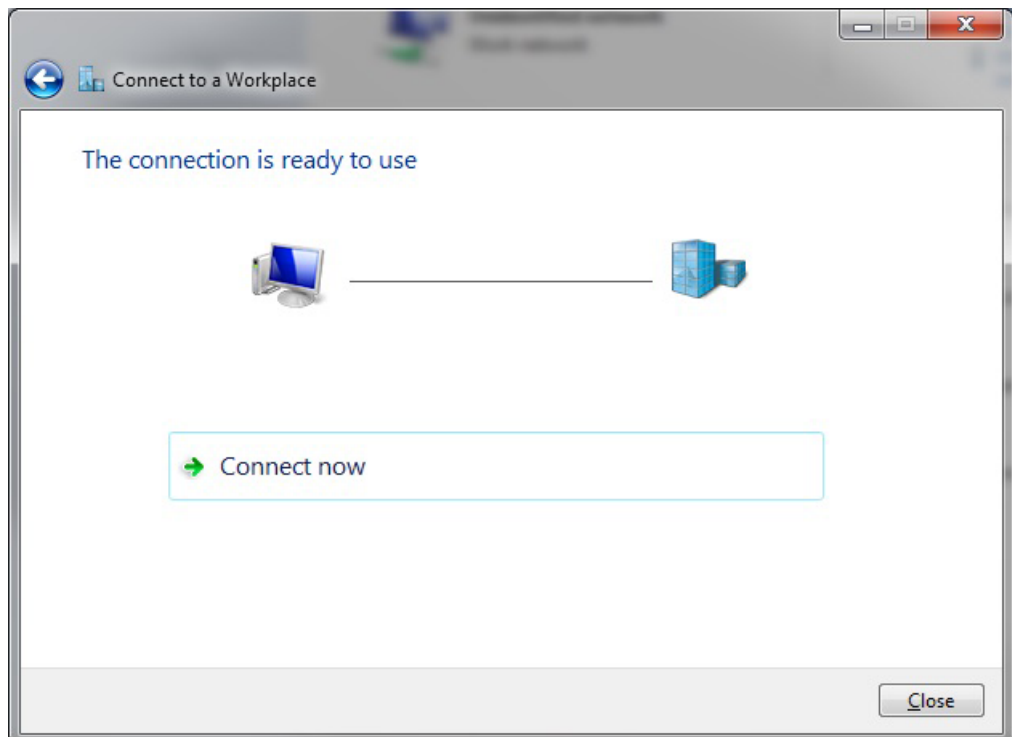


Figure 5-33 Establish connection

Connection successfully established You can close the dialog or establish a connection.

5.5.7 Establish modem connection under Windows 7

Operating sequence

Establish a connection to your TS adapter as follows.

1. In Windows, select "Start > Control panel > Network and sharing center > Connect to a network".
2. Click the dial-up connection with the name you have assigned.

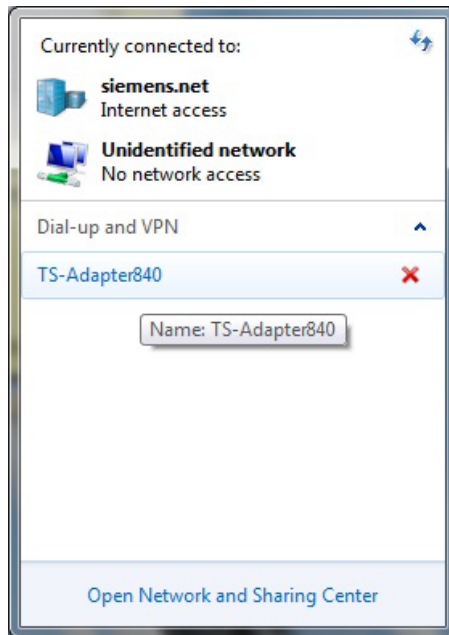


Figure 5-34 Select modem connection

3. Press "Connect".

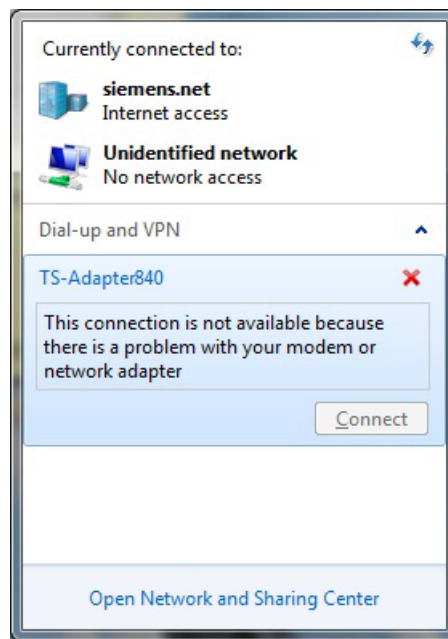


Figure 5-35 Connecting

A connection is established to the TS adapter.

5.5.8 Create a modem connection under Windows 10

Operating sequence

1. Select Start > Settings > Network and Internet > Dial-up > Set up a new connection".
2. Select the connection option "Connect to a workplace".

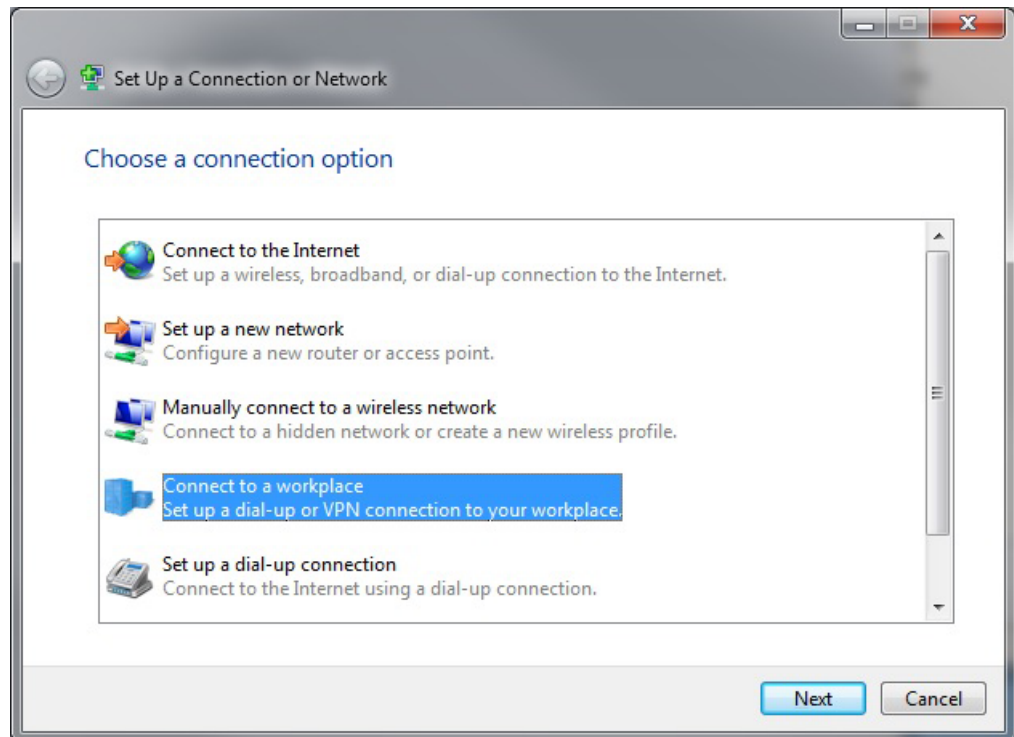


Figure 5-36 Connect to a workplace

3. Press "Next".

4. Select "Dial directly".

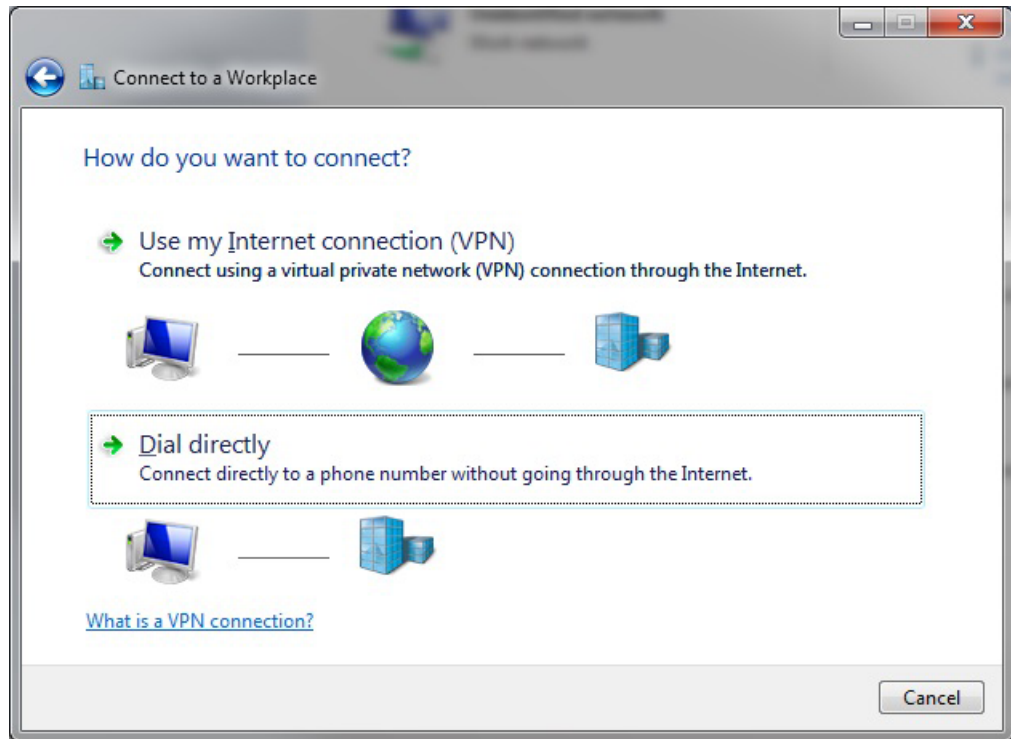


Figure 5-37 Dial directly

5. Press "Set up a connection anyway". Connect a modem later if no modem is connected.

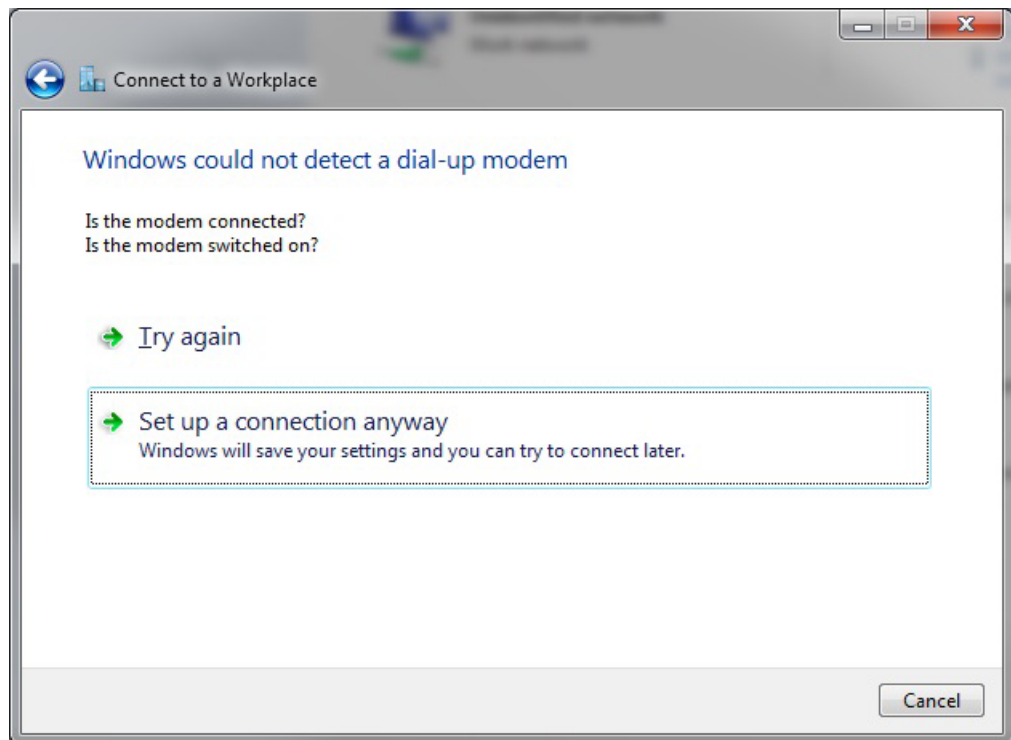


Figure 5-38 Set up a connection anyway

6. Enter the telephone number for contacting your TS adapter and assign a name to the connection.

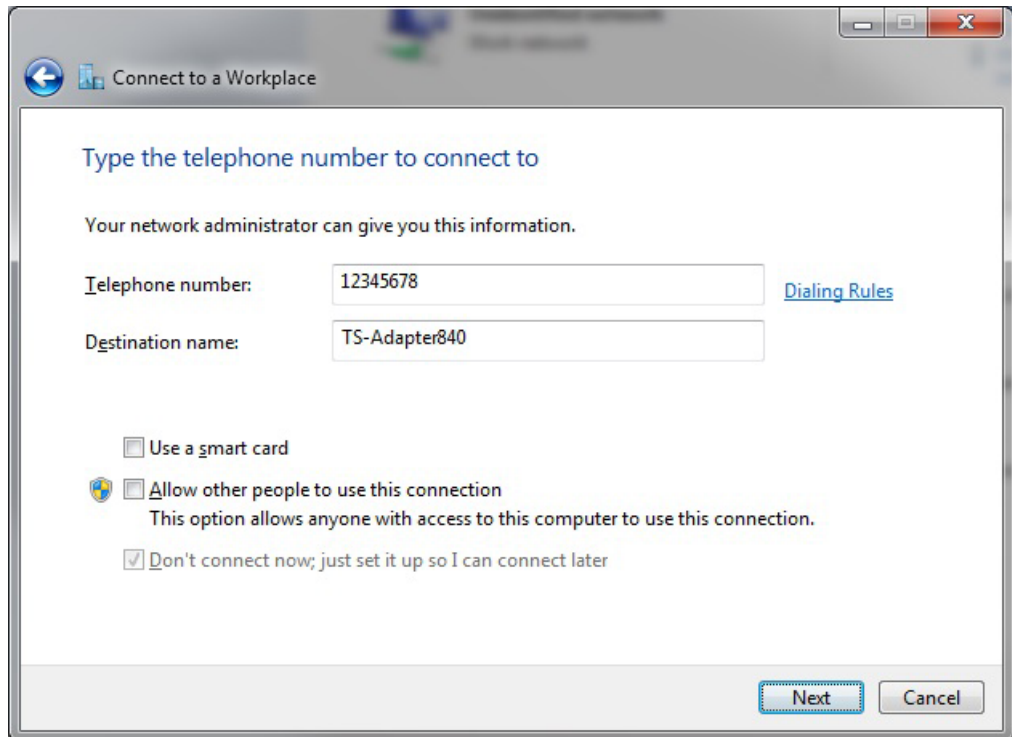


Figure 5-39 Enter telephone number

7. Press "Next".

8. Enter the user name and password of the TS adapter.

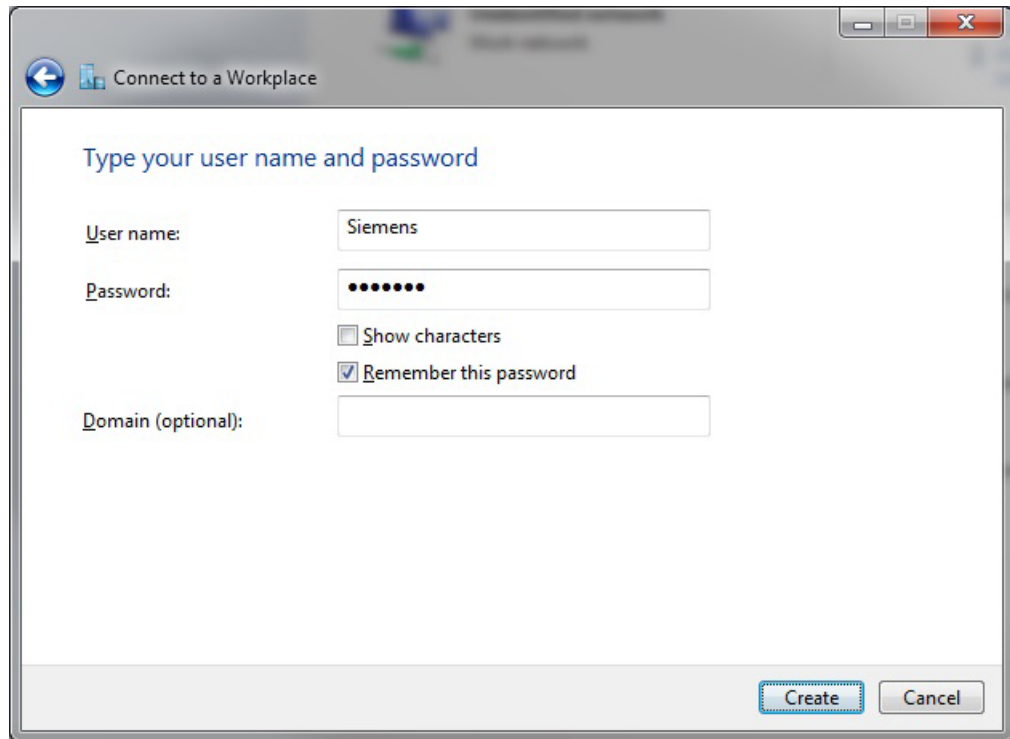


Figure 5-40 Enter user name and password:

9. Press "Create".

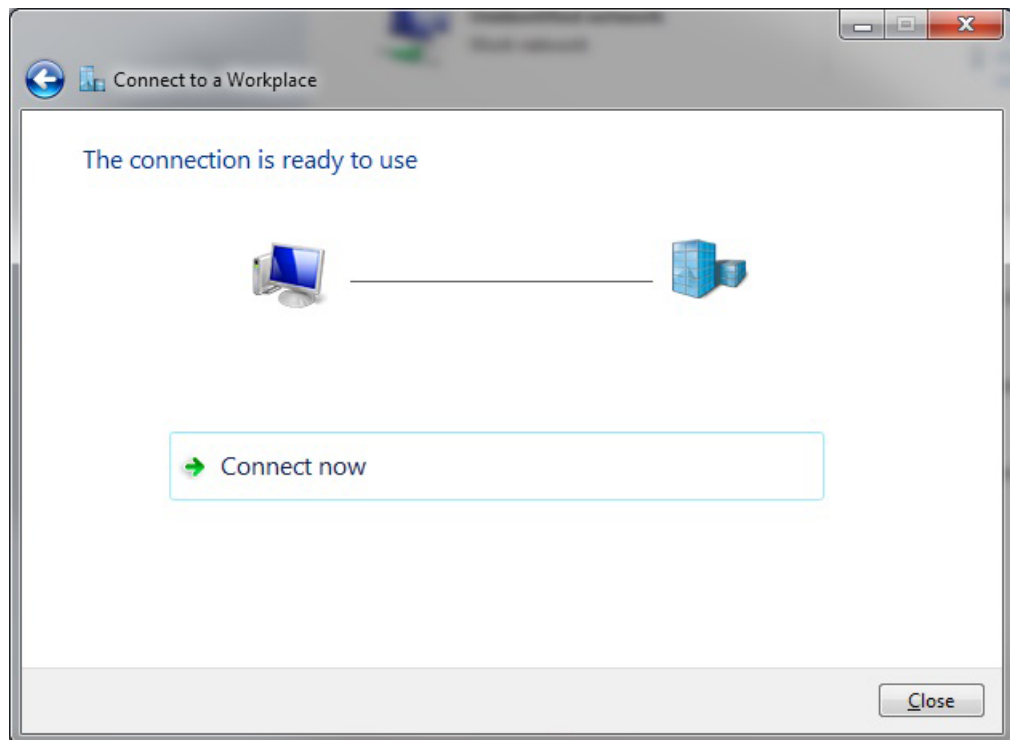


Figure 5-41 Establish connection

Connection successfully established You can close the dialog or establish a connection.

5.5.9 Establish a modem connection under Windows 10

Operating sequence

Establish a connection to your TS adapter as follows.

1. In Windows, select "Start > Settings > Network and Internet > Dial-up".
2. Click the dial-up connection with the name you have assigned.

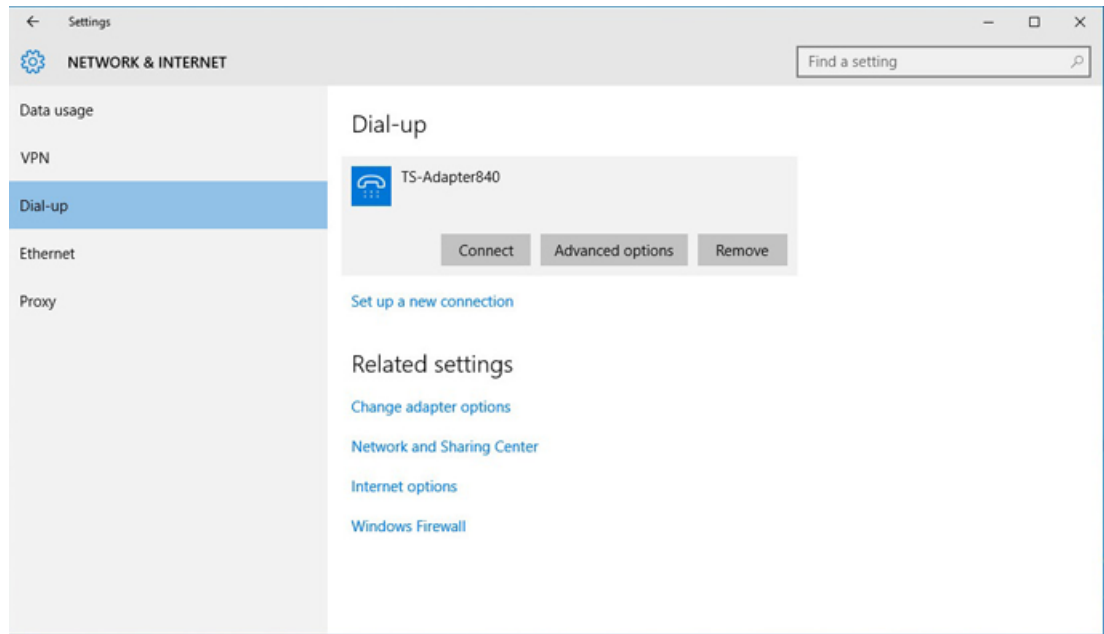


Figure 5-42 Dial up - select modem connection

3. Press "Connect".

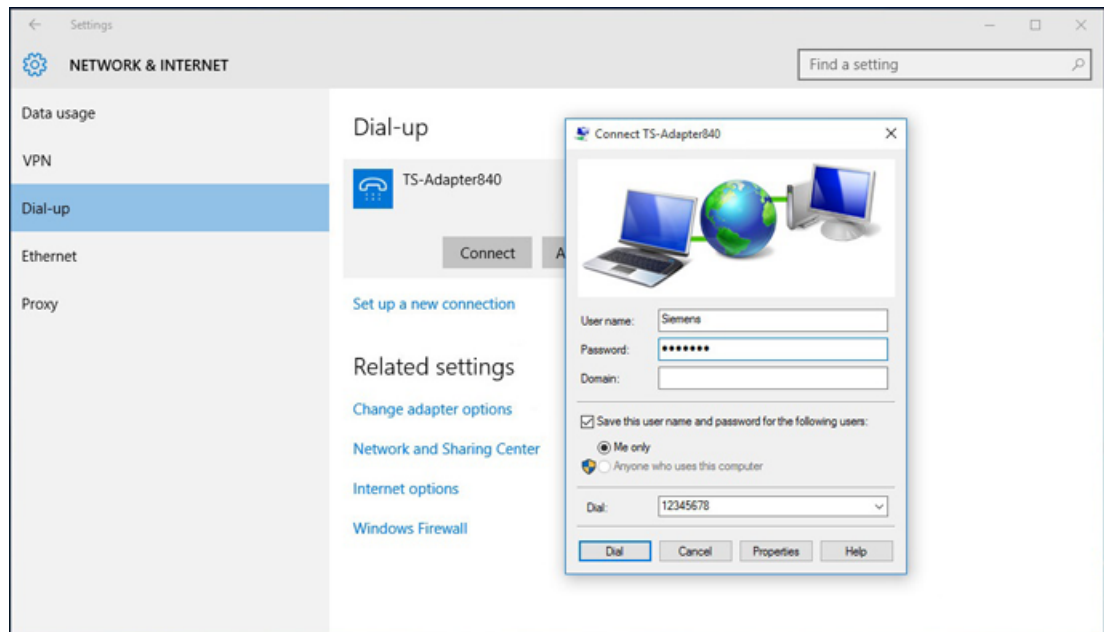


Figure 5-43 Dial up - establish connection

A connection is established to the TS adapter.

5.5.10 Connecting AMM to the control system via the modem connection

Operating sequence

1. Establish a modem connection (Page 67) to your TS adapter.
2. Next, start AMM and select the direct connection (see Establishing the connection (Page 31)). Enter the authentication data you wish to use when logging onto the control system. This is not the same data you entered for the TS adapter.
3. Once you have established the connection, you can copy files in either direction and operate the control system remotely.

Note

When making the settings for the connection used (direct connection or network connection) in AMM, you should set the "Transmission type" to transmission rate "Low". If you do not do this, you may not be able to operate the control remotely, and the connection may suffer from frequent interruptions.

This setting only applies to remote control: it does not apply to file transfers.

See also

Establish modem connection under Windows 7 (Page 67)

Establishing the connection (Page 31)

5.5.11 Further information

For more detailed information on parameter assignment for the TS Adapter, please refer to the supplementary material provided ("TS Adapter IE – Handbuch.pdf") or the following online sources:

Product Support (<http://support.automation.siemens.com/WW/view/de/10805406/130000>)

TeleService Adapter Manual (<http://support.automation.siemens.com/WW/view/de/24623021>)

Operator control (software)

6.1 Remote control of the control system

6.1.1 Overview of remote control

With the "remote control" function you can:

- Monitor and operate the control from the PG/PC (remotely).
- Generate screenshots of the control's HMI, and save them to the PG/PC. This enables you to inform support personnel of errors in the control's HMI via screenshots.



Software option

The "SINUMERIK Access MyMachine /P2P (PC) (6FC5800-0AP30-0YB0)" option is required for remote access via TeleService Adapter.

See also

Starting/ending remote control (Page 82)

Using remote control to generate the screen of the control system's HMI user interface (Page 87)

6.1.2 Approving remote control of the control system on the HMI

6.1.2.1 Approving remote control on the HMI

Operating sequence for ONE/ 840D sl/828D controls

1. Press the "Remote diagnostics" softkey in the "Diagnosis" operating area.

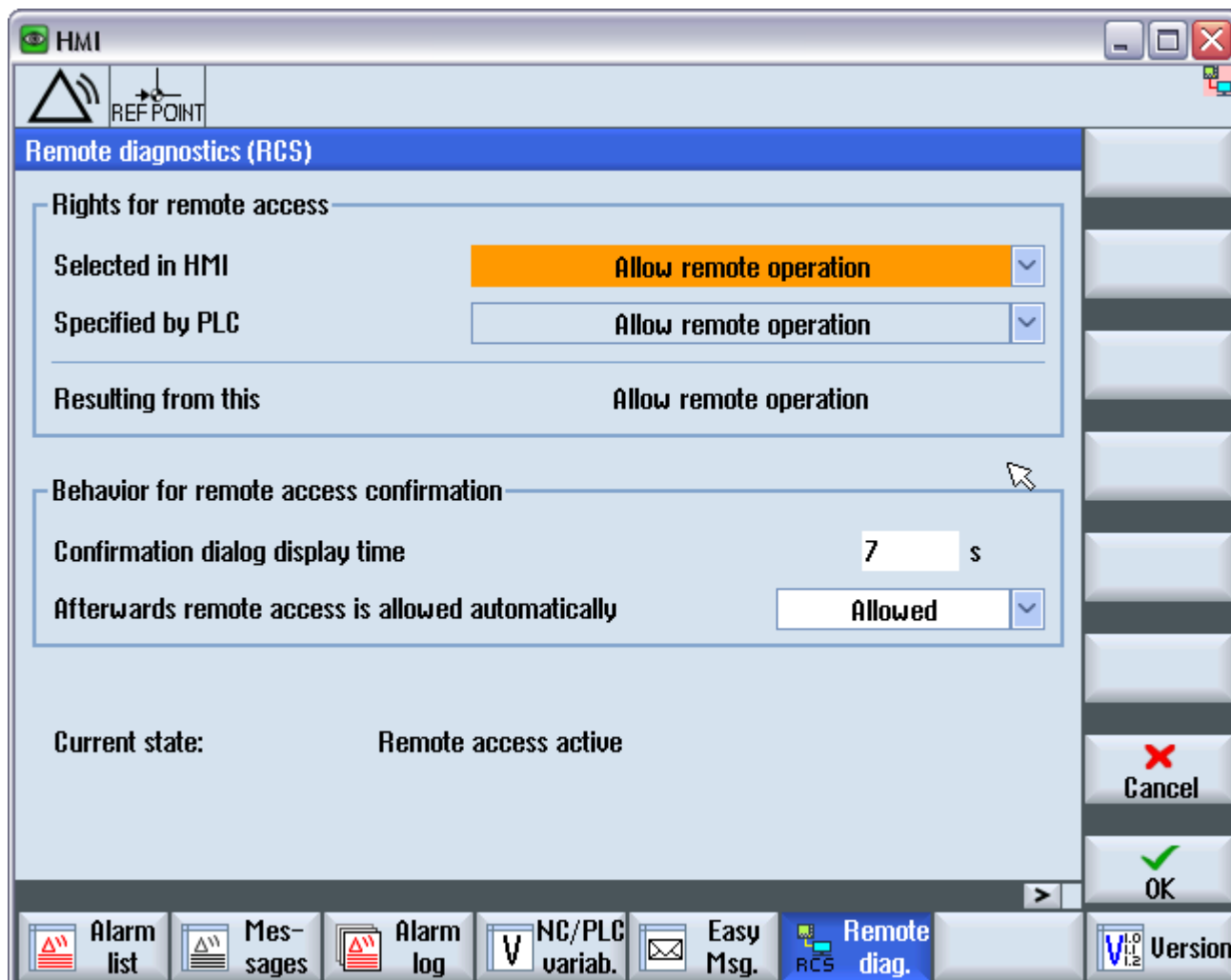


Figure 6-1 "Remote diagnostics" on the HMI

2. The following settings can be made:
 - Remote access rights

- Procedure for confirming remote access

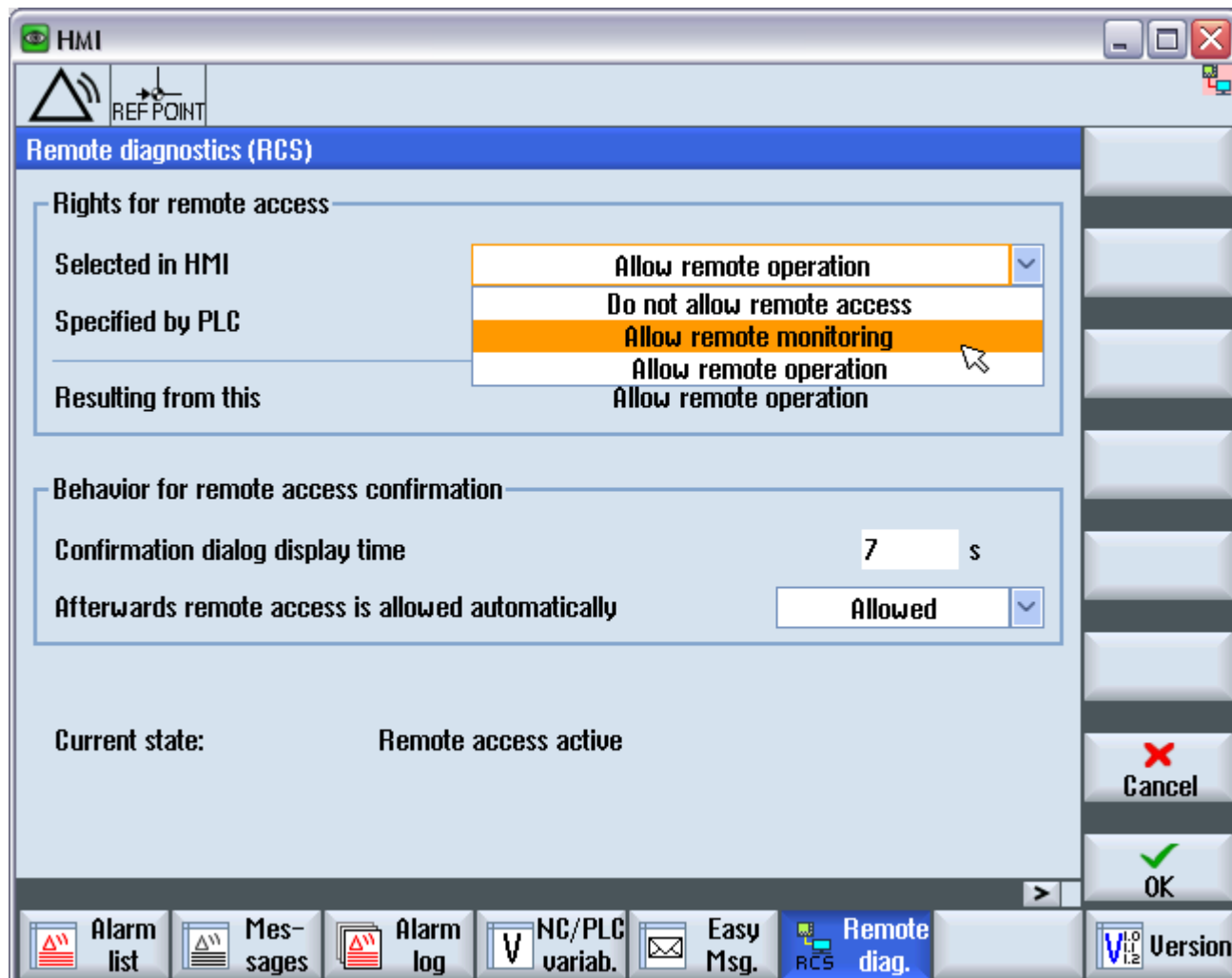


Figure 6-2 Observing "remote diagnostics" on the HMI

3. Choose the appropriate remote access function in the selection box.

Operating sequence for an 808D control

1. Press the "remote diag" softkey to make the settings.
2. The following settings can be made:
 - Remote access rights
 - Procedure for confirming remote access

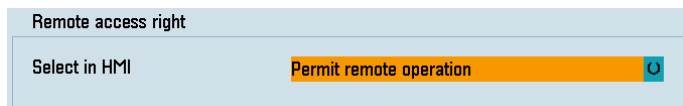


Figure 6-3 Enable remote control of 808D

6.1 Remote control of the control system

3. Confirm the selected setting with the "Select" softkey to enable remote access.
4. Confirm the settings made with the "Activate" softkey.

6.1.2.2 Approving remote control via the control system

Operating sequence

1. If remote control is used to connect a PC with the control, the following dialog opens on the HMI:

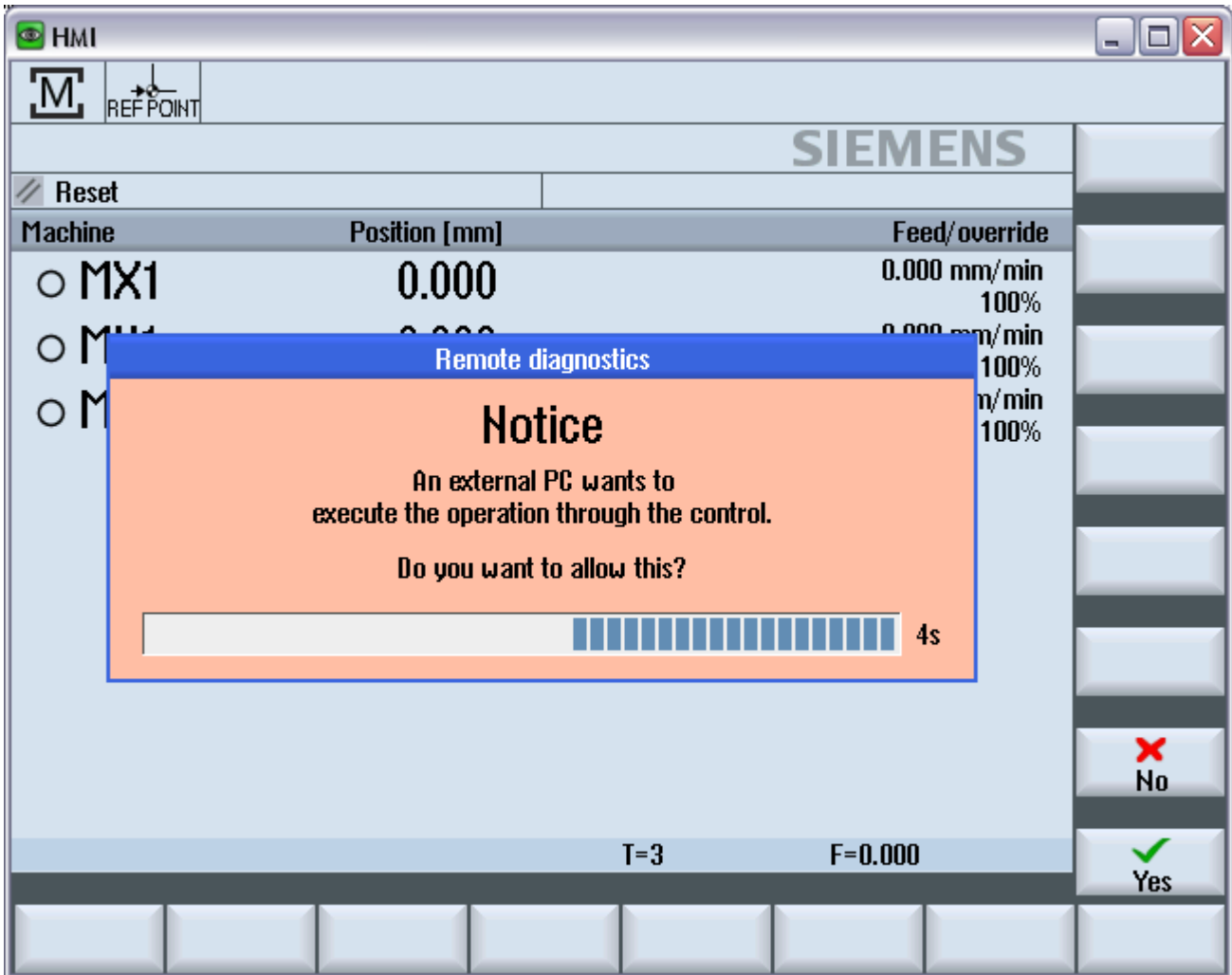


Figure 6-4 Allowing remote control

2. You can refuse ("No") or permit ("Yes") control from the external PC. If you fail to provide any acknowledgement, the dialog closes automatically after a defined period of time. Depending on the setting, remote control can be refused or permitted automatically (see Approving remote control on the HMI (Page 78)).

Note

Automatic connection should not be permitted for security reasons.

A more secure method involves an on-site operator pressing the "Yes" softkey on the control to allow remote control.

Where permission has been granted, the control can be operated and monitored remotely.

6.1.2.3 Further documentation

Further information

You can find further information on this topic in the following SINUMERIK manuals:

- Commissioning Manual SINUMERIK Operate
- Commissioning Manual 808D
- Operating manuals Turning, milling, and grinding

SINUMERIK support documentation (<http://support.automation.siemens.com/WW/view/de/10805517/130000>)

6.1.3 Functional scope of the remote control

NOTICE
Insecure use of the function to transfer files The VNC protocol used for remote control provides an option as standard for the transfer of files. This function is not activated per default in the control for security reasons and therefore cannot be used in AMM. In contrast to the VNC function, the file transfer in AMM uses the SSH protocol with secure data encryption. Use the appropriate function in AMM for the file transfer to and from the control. This applies in particular when the remote control is via networks.

6.1.3.1 Starting/ending remote control

Operating sequence

1. Establish a connection to a SINUMERIK solution line control (see "Establishing a connection to the control" (Page 21)).
2. To start/end the "remote control", click "Remote control" in the main window menu or click the "Remote control"  button in the toolbar.

3. Once remote control has been started, a new window opens showing the screen contents of the connected control.

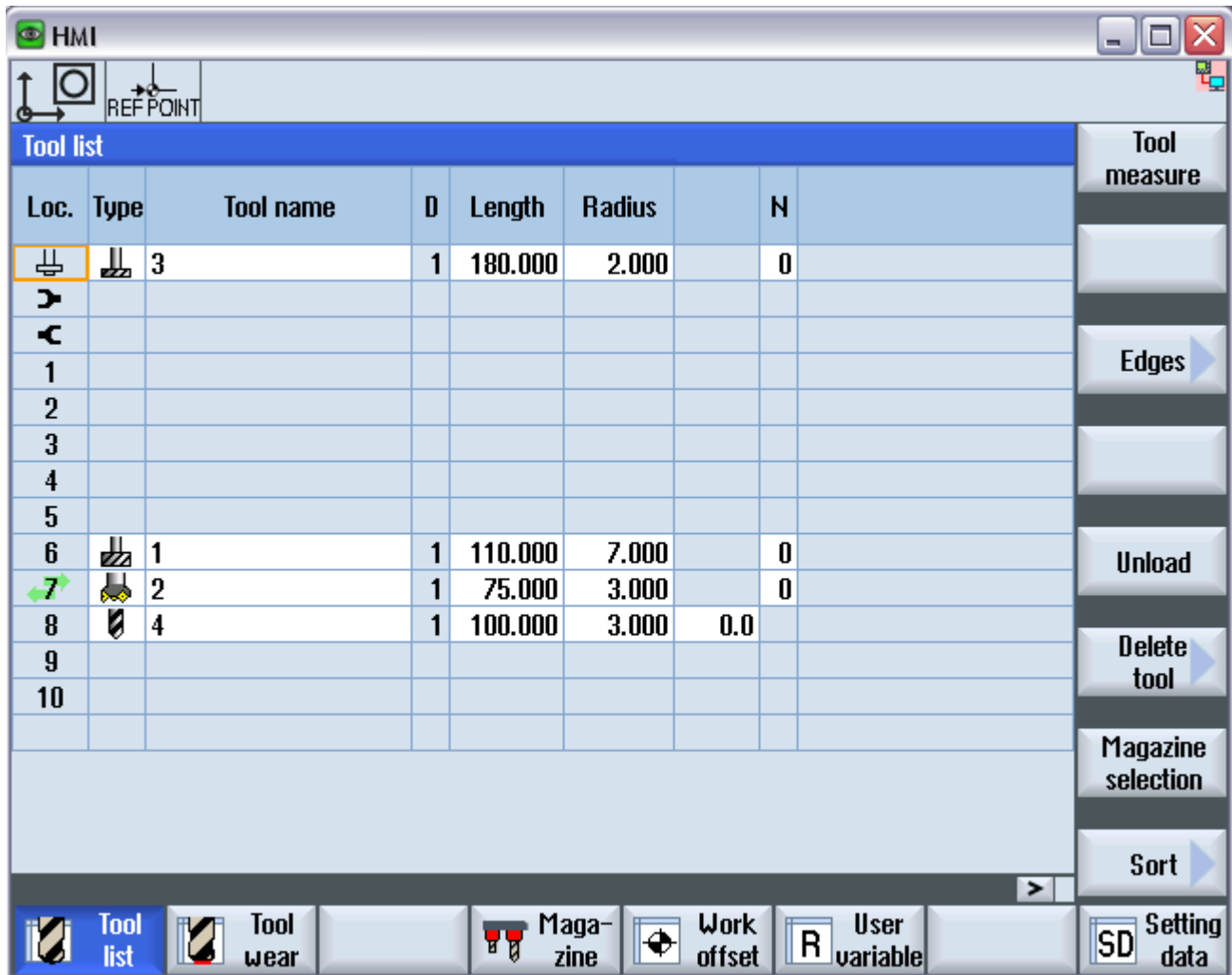


Figure 6-5 Remote control of the control

4. While the remote control function is open, you can continue operating AMM as usual.

6.1 Remote control of the control system

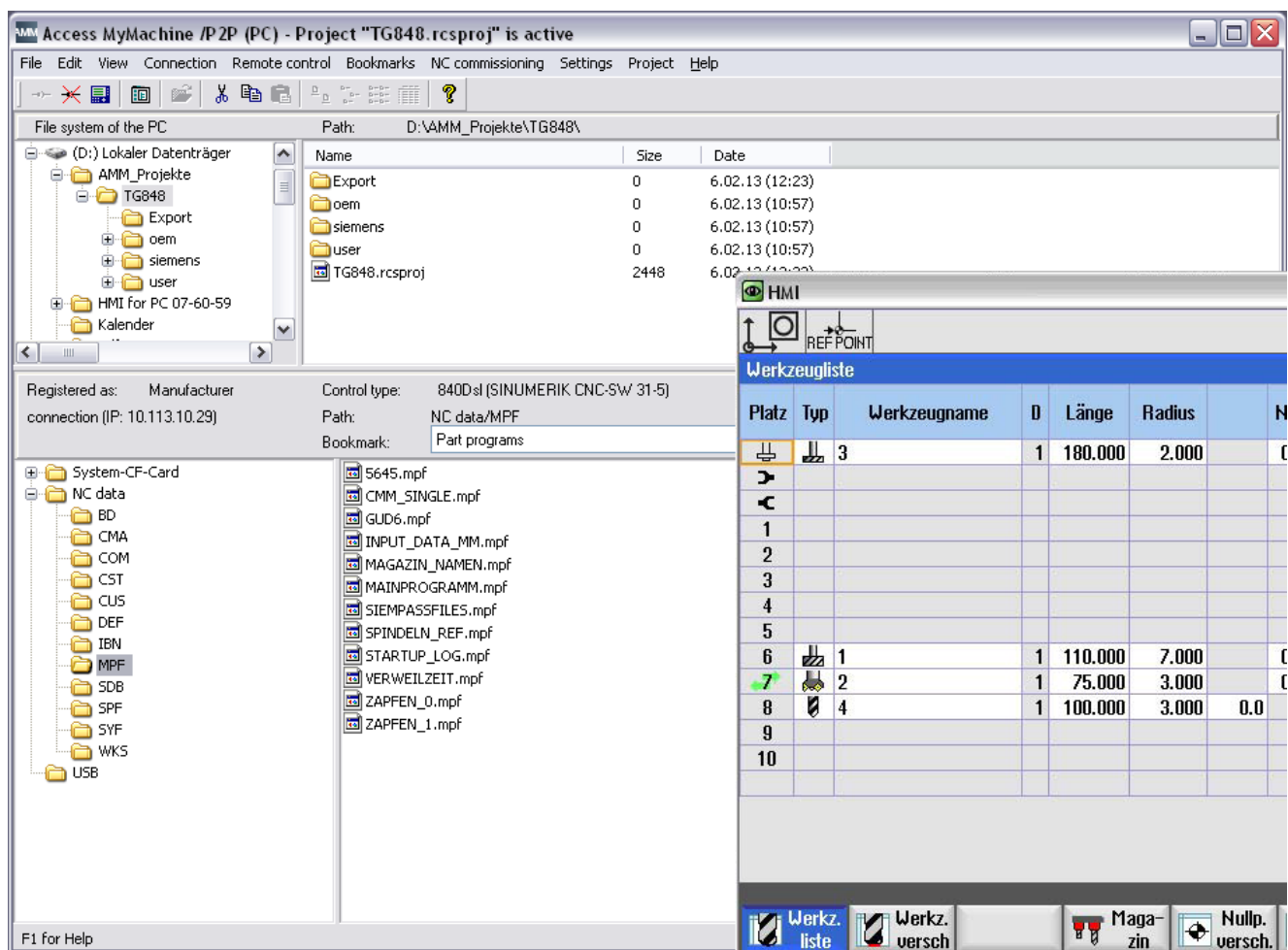


Figure 6-6 AMM and remote-controlled control on the PG/PC

See also

Establishing a connection to the control system: An overview (Page 21)

Overview of remote control (Page 77)

6.1.3.2 Operation

Using remote control to operate the control system's user interface

If you have used "remote control" to connect to the control system, you will have the following options for operating the user interface from the PG/PC:

1. Mouse
2. Keyboard

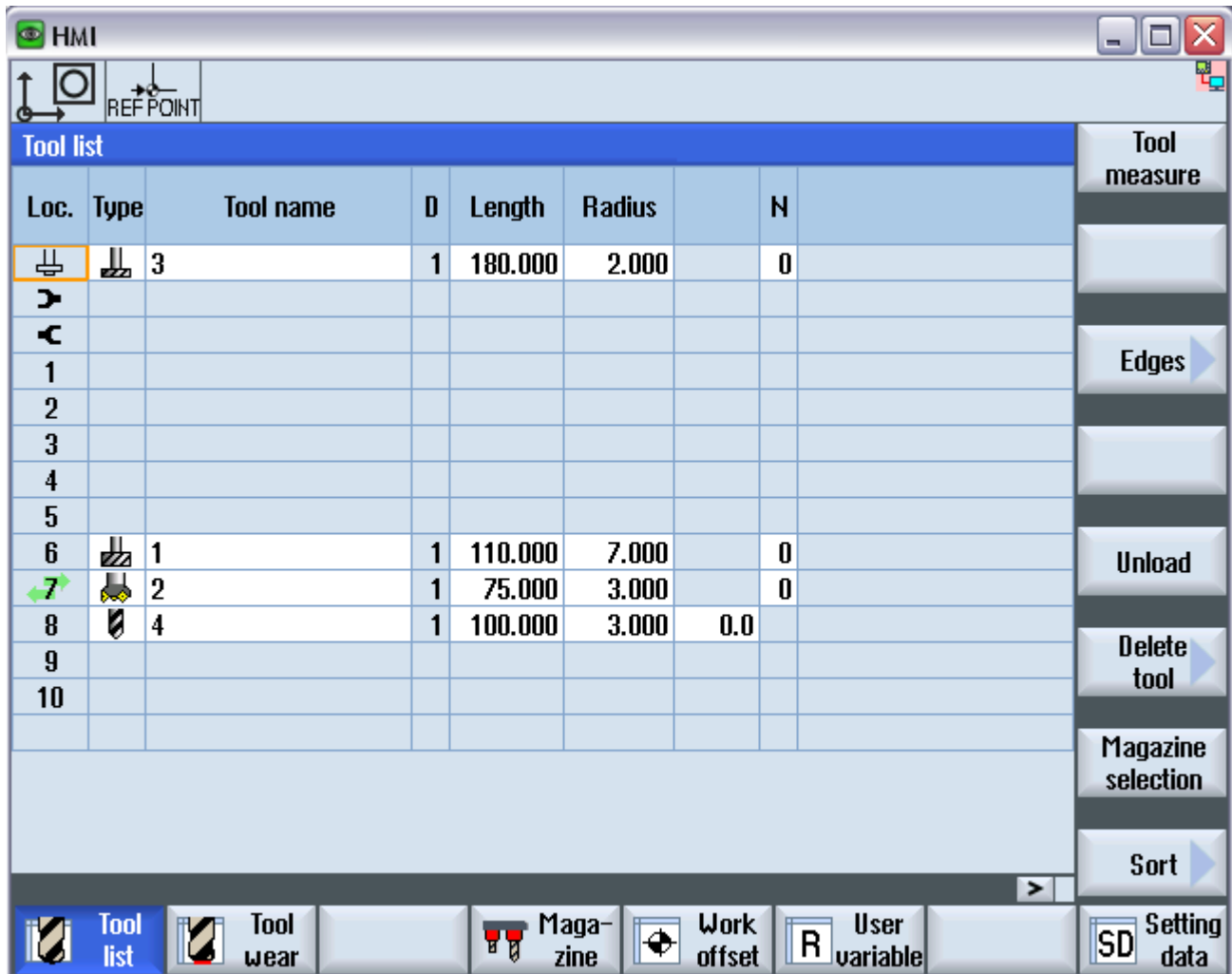


Figure 6-7 Remote control of the control system

Mouse operation

- You can click the softkeys to operate them.
- The symbol for the operating areas is displayed in the top-left corner of the user interface.
- With SINUMERIK ONE, 840D sl and 828D click the symbol to display the operating areas on the horizontal softkey bar.

Keyboard operation

- Press F1 to F8 on the keyboard to operate the horizontal softkeys.
- Press Shift+F1 to Shift+F8 on the keyboard to operate the vertical softkeys.
- With SINUMERIK ONE, 840D sl and 828D press F10 on the keyboard to display the operating areas on the horizontal softkey bar.
- With SINUMERIK 808D, press Alt+X to Alt+N on the keyboard to switch between the operating areas.

6.1.3.3 Using remote control to generate the screen of the control system's HMI user interface

Operating sequence

1. Establish a connection to a SINUMERIK solution line control (see "Establishing a connection to the control" (Page 21)).
2. To start "remote control", click "Remote control" in the main window menu or use the "Remote control"  button in the toolbar.

A window opens showing the HMI user interface on the PG/PC.

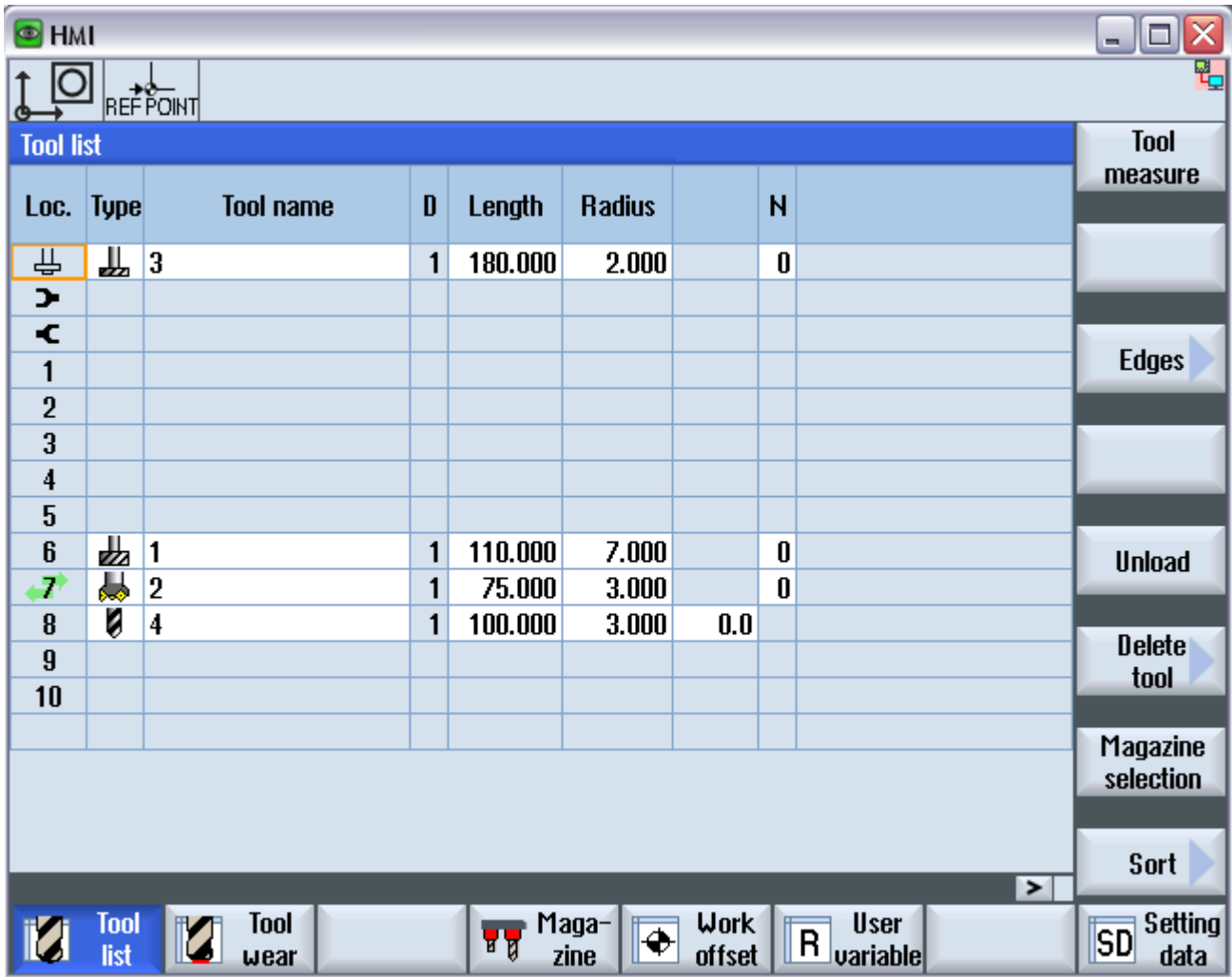


Figure 6-8 Remote control of the control

3. Click "Remote control" -> "Save as screen dump" in the main window menu.
4. You can save the current image of the control's HMI user interface to the PG/PC as a png or bmp file.

See also

Establishing a connection to the control system: An overview (Page 21)

Overview of remote control (Page 77)

6.2 Project

6.2.1 Project overview

Functionality

You can edit various user files of a control configuration offline with the aid of a project. In this way, you can bring together logically related files of a control (e.g. for machine-specific administration of the user data for commissioning on the manufacturer's premises). A project always depends on the type of control.

You can manage a project using the following functions:

- Create a project (OFFLINE)
- Create a project and read the files from the control (ONLINE)
- Open an existing project
- Close a project
- Delete a project

- Create a new language
- Edit individual languages
- Add files
- Delete files
- Edit files:
- Import/export files: Support for translation processes

- Transfer individual files from the project to the control system
- Transfer individual files from the control system to the project

- Delete the files on the control using the project dialog

Structure of a project

A project always basically consists of a *.rcsproj file and an associated directory structure. The associated directories and files stand under each other in a logical relation. A subset of the file system of the control is normally shown in the offline project. You will find those files that are supported by the AMM in chapter Supported files (Page 159).

Note

Damage to the project

Note that manual modification to the directory structure of the project may damage it.

Compatibility

A project has its own version ID. This version ID is used for the compatibility. AMM can always load older projects, but always saves them in the latest project format. Old AMM versions may not be able to load newer projects.

Project information

Select a *.rcsproj file in the file manager of the AMM, and click "Properties" in the shortcut menu. The following project information is displayed:

- Control system type
- Name
- Path
- Version
- Creation date
- Files

See also

Create a project and read the files from the control system (ONLINE) (Page 92)

Opening an existing project (Page 95)

Closing the project (Page 100)

Deleting a project (Page 101)

Creating a new language (Page 102)

Adding a file (Page 105)

Deleting a file (Page 106)

Exporting a file (Page 108)

Import file (Page 110)

Edit file (Page 113)

Transferring individual files from the project to the control system (Page 118)

Transferring individual files from the control to the project (Page 121)

Deleting files on the control using the project dialog (Page 124)

Recommended procedure when translating files (Page 127)

Activating the alarm text files on the control using an HMI restart (Page 129)

6.2.2 Creating a project (OFFLINE)

This function generates a new project on the PG/PC for a specific control type. A freely chosen project name and a file name has to be entered as the storage location on the PG/PC. A newly created project always has at least one target language, in which the HMI texts (alarm texts, tool management texts, etc.) can be edited. Further languages can be added and deleted later.

Operating sequence

1. To create a project, click "File" > "New" > "Project..." in the menu of the main window.

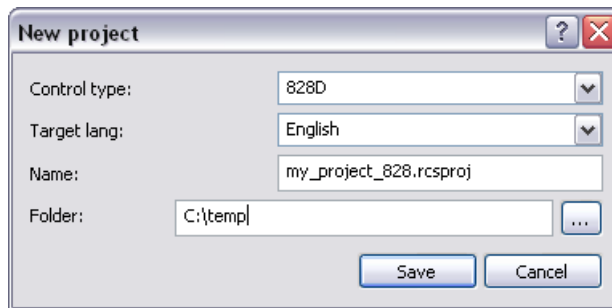


Figure 6-9 New project

2. In the dialog, select the control type for which you want to create a project.
3. Select a target language in which the first user text files are to be created.
4. Enter a name for the project The extension is automatically added, and must be *.rcsproj.

5. Select the storage location of the project on the PC.
6. The project is created and opened in the project dialog with "Save".
If a project already exists, an error message appears.

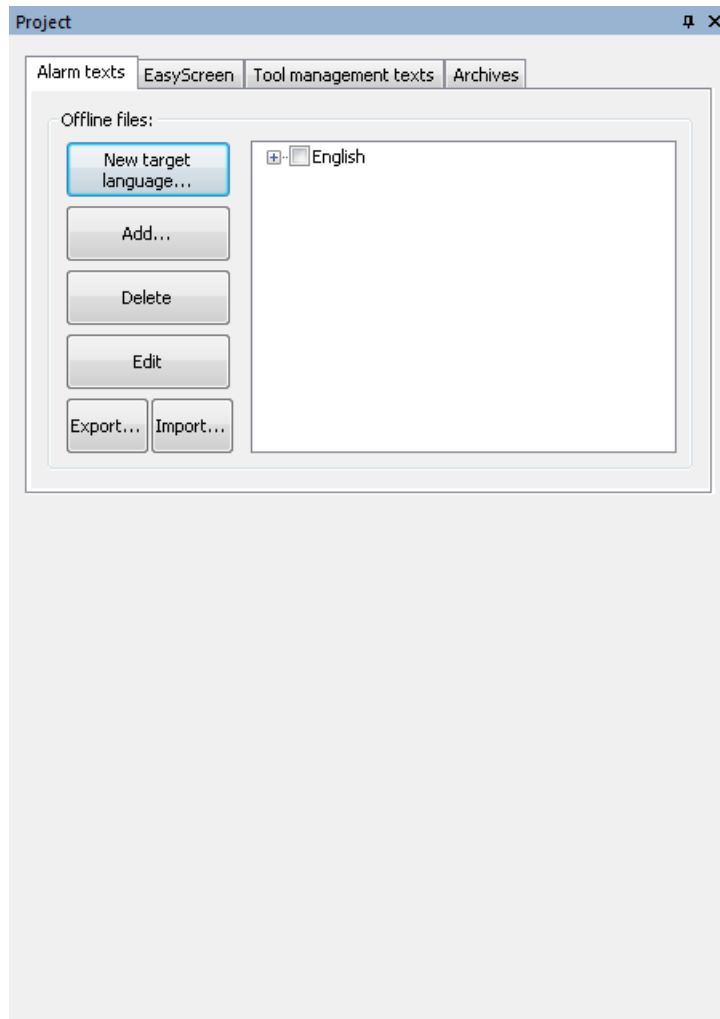


Figure 6-10 Project dialog (OFFLINE)

6.2.3 Create a project and read the files from the control system (ONLINE)

Operating sequence

1. Establish a connection to a control system (see Connection to the control (Page 21)).
2. To create a project from the control, and automatically transfer all relevant files, select "File > New > Read out project from machine" in the menu of the main window (this menu item is only activated if a connection to a control has been established).

3. A dialog opens to create a new project.

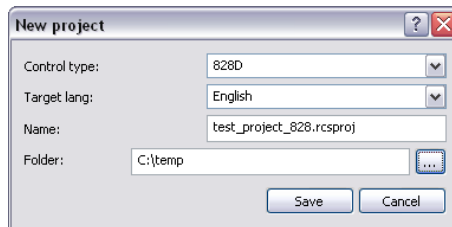


Figure 6-11 New project

4. The control type is automatically preselected and cannot be changed.
5. Select a target language in which the first user text files are to be created. (If available on the control system, they will be automatically overwritten in the project.)
6. Enter a name for the project (the extension is automatically added and must be *.rcsproj).
7. Select the storage location of the project on the PC.

8. The project is created with "Save".
9. The control system is then automatically read-out and the files that are found are transferred into the project.

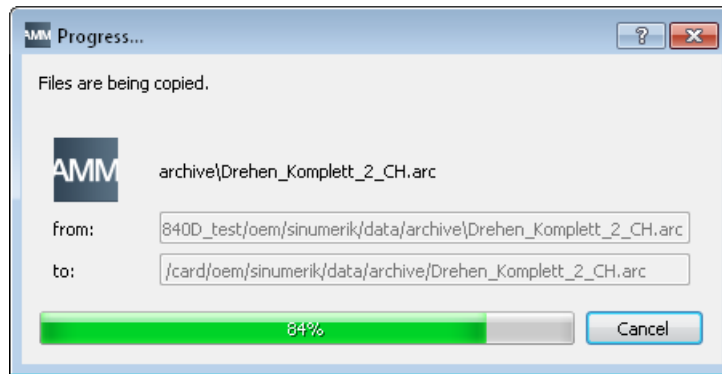


Figure 6-12 Copy

- Once the found files have been copied, then the new project is displayed in the project dialog.
- If a project is already open, a prompt appears to query whether the new project should be opened or the old project retained.

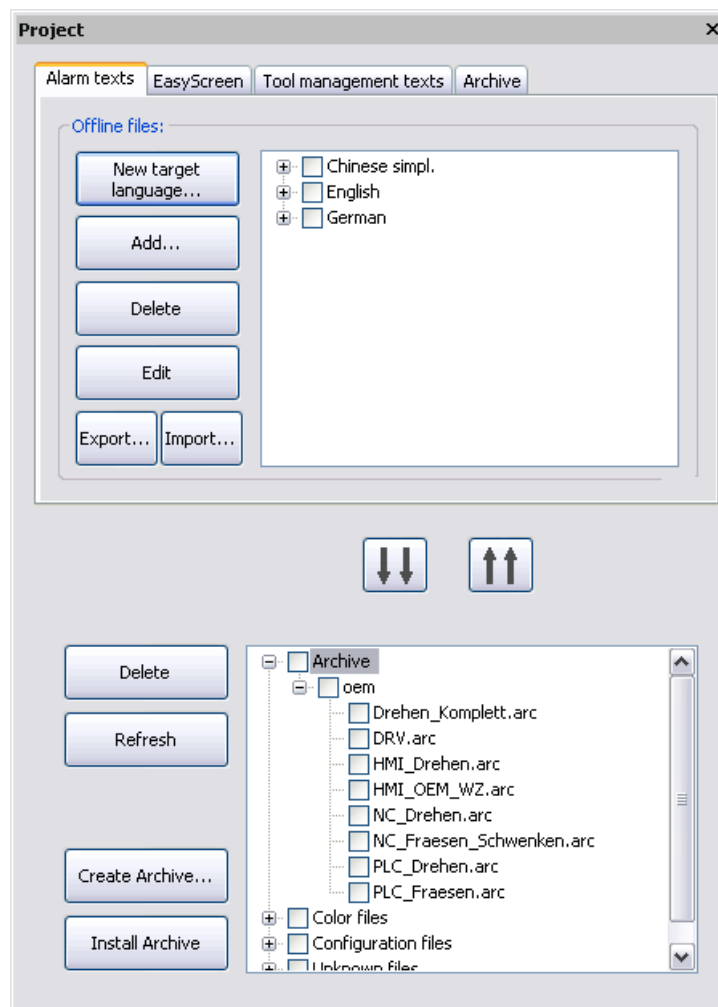


Figure 6-13 Project dialog (ONLINE)

6.2.4 Opening an existing project

Introduction

The following two options are available to open an existing project:

- Using the menu
- With a double-click on the project file

Operating sequence "Using the menu"

1. Select "File > Open project" from the menu.
2. The following dialog appears.

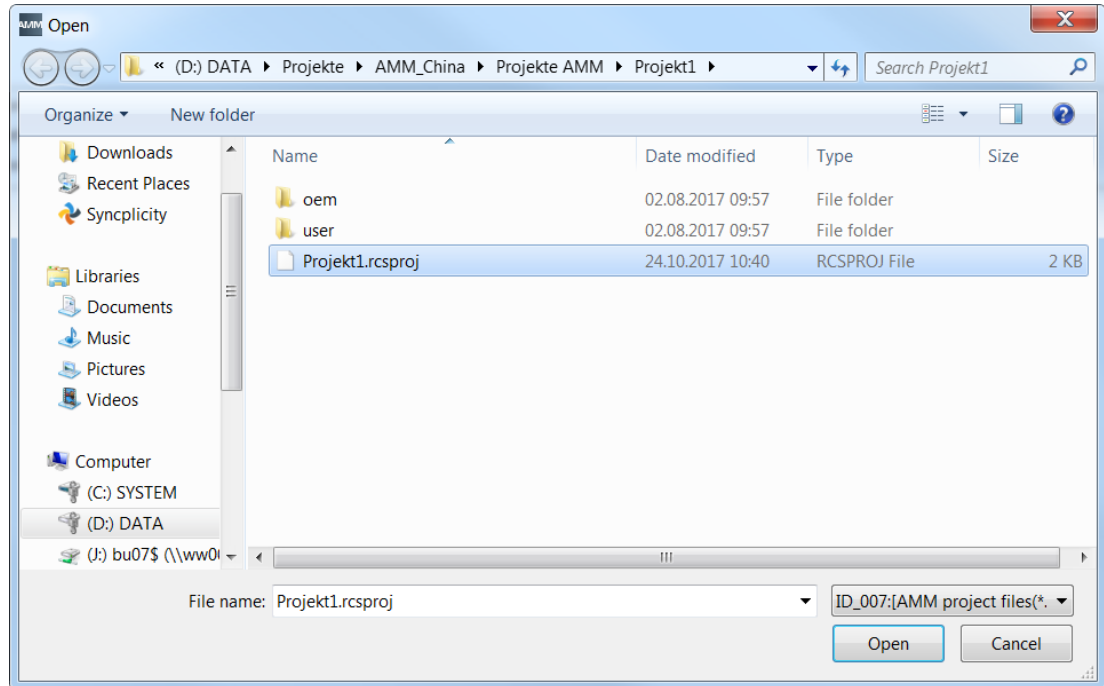


Figure 6-14 Open project

3. Select the project on the PC. Project files with the extension (*.rcsproj) are considered.

4. After the desired project has been selected, it can be opened with "Open".
5. The opened project is then displayed in the project dialog. The name of the active, open project appears at the top, in the title bar of the program.

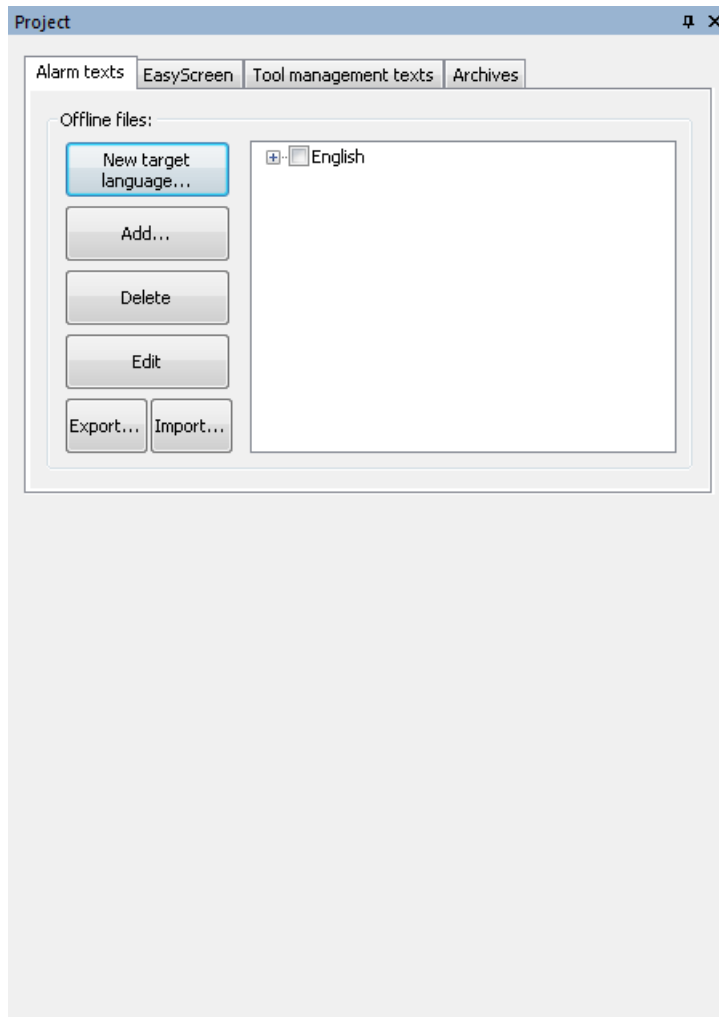


Figure 6-15 Project dialog (OFFLINE)

Operator action "With a double-click on the project file"

1. Navigate in the file display of AMM to the storage location of the project to be opened.

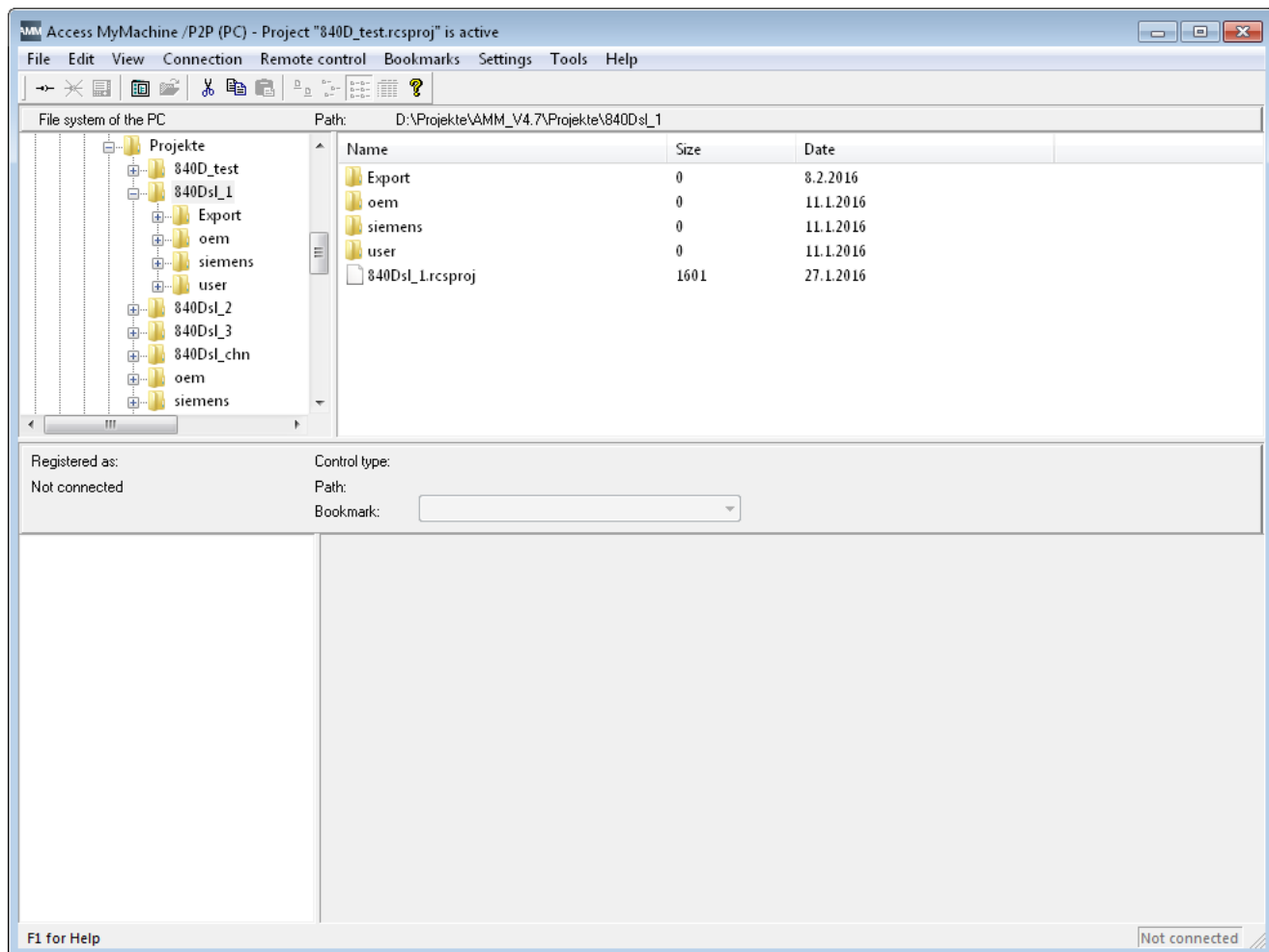


Figure 6-16 AMM (OFFLINE and without project)

2. Open the project with Open from the shortcut menu or by double-clicking the *.rcsproj file.
3. The project is then displayed in the project dialog. The name of the active, open project appears at the top, in the title bar of the program.

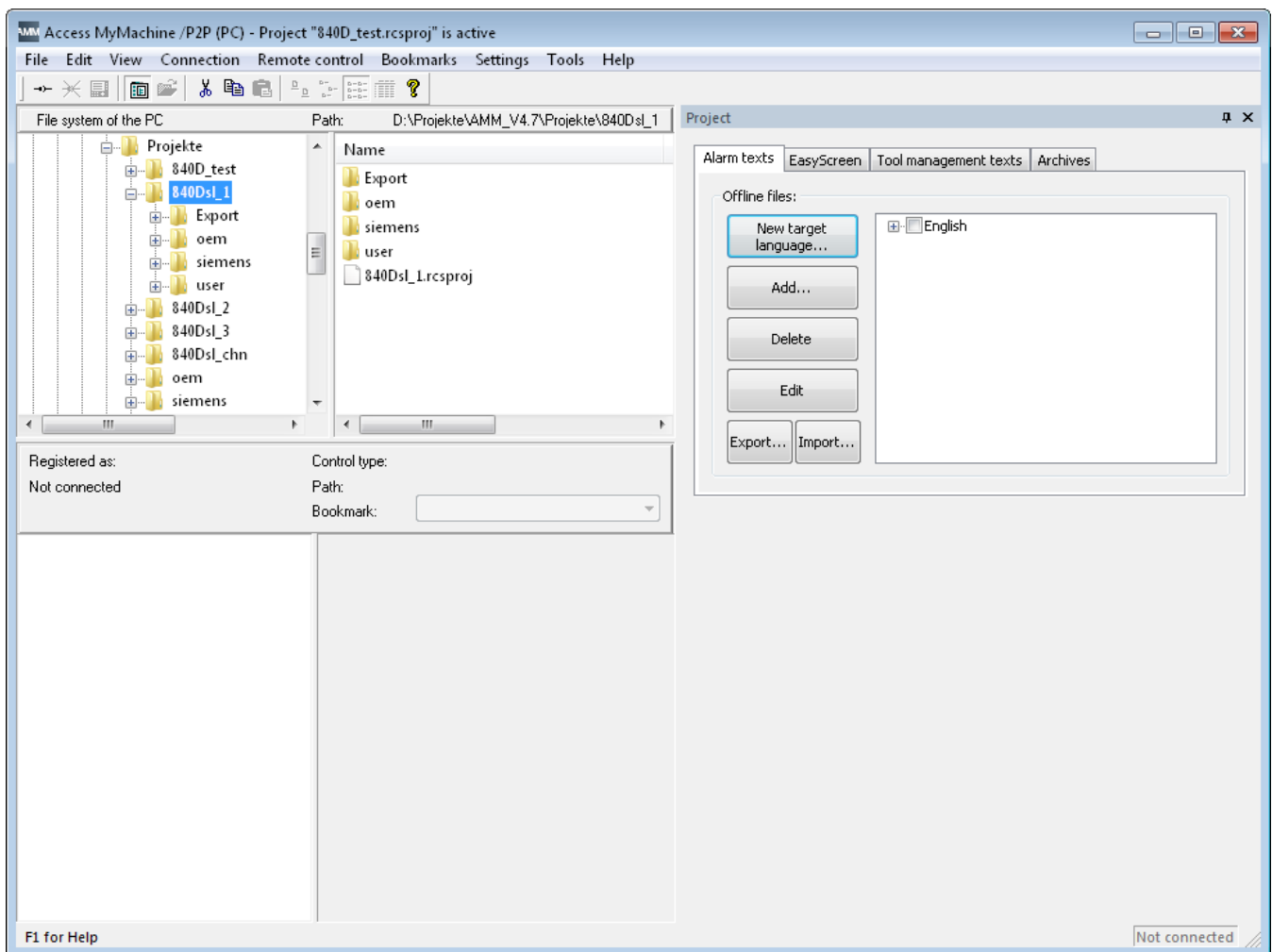


Figure 6-17 AMM with project dialog (OFFLINE)

6.2.5 Open one of the last opened projects

This function can be used to import a project from a list comprising the recently opened projects.

Operating sequence

1. Select "File > Recent project" in the menu.
2. A list of the projects which have been recently opened is displayed in the submenu. This list comprises max. 10 entries.

3. Select a recently opened project.
4. The opened project is then displayed in the project dialog. The name of the active, open project appears at the top, in the title bar of the program.

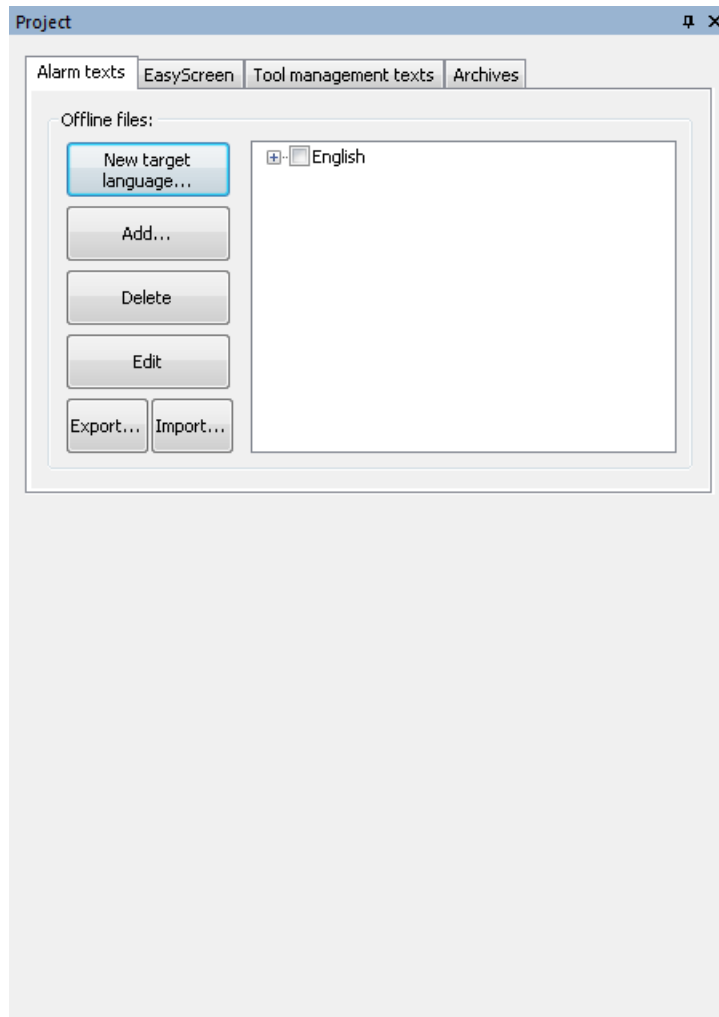


Figure 6-18 Project dialog (OFFLINE)

6.2.6 Closing the project

Operating sequence

1. You can close the open project with "File > Close project" in the main window menu.
2. The project dialog disappears, and "No project active" is displayed in the title bar of AMM. As a consequence, a project is not automatically opened the next time AMM starts.

Note**Show/hide project window**

If you want to hide the project window without closing the project, deactivate the checkbox in the menu "View > Project window". You can show the project window again in the same way.

6.2.7 Deleting a project

Note**Possible data loss**

Note that files which you have copied into the project directory yourself are also deleted by the delete process!

Operating sequence

1. Navigate in the file display of AMM to the storage location of the project to be deleted.

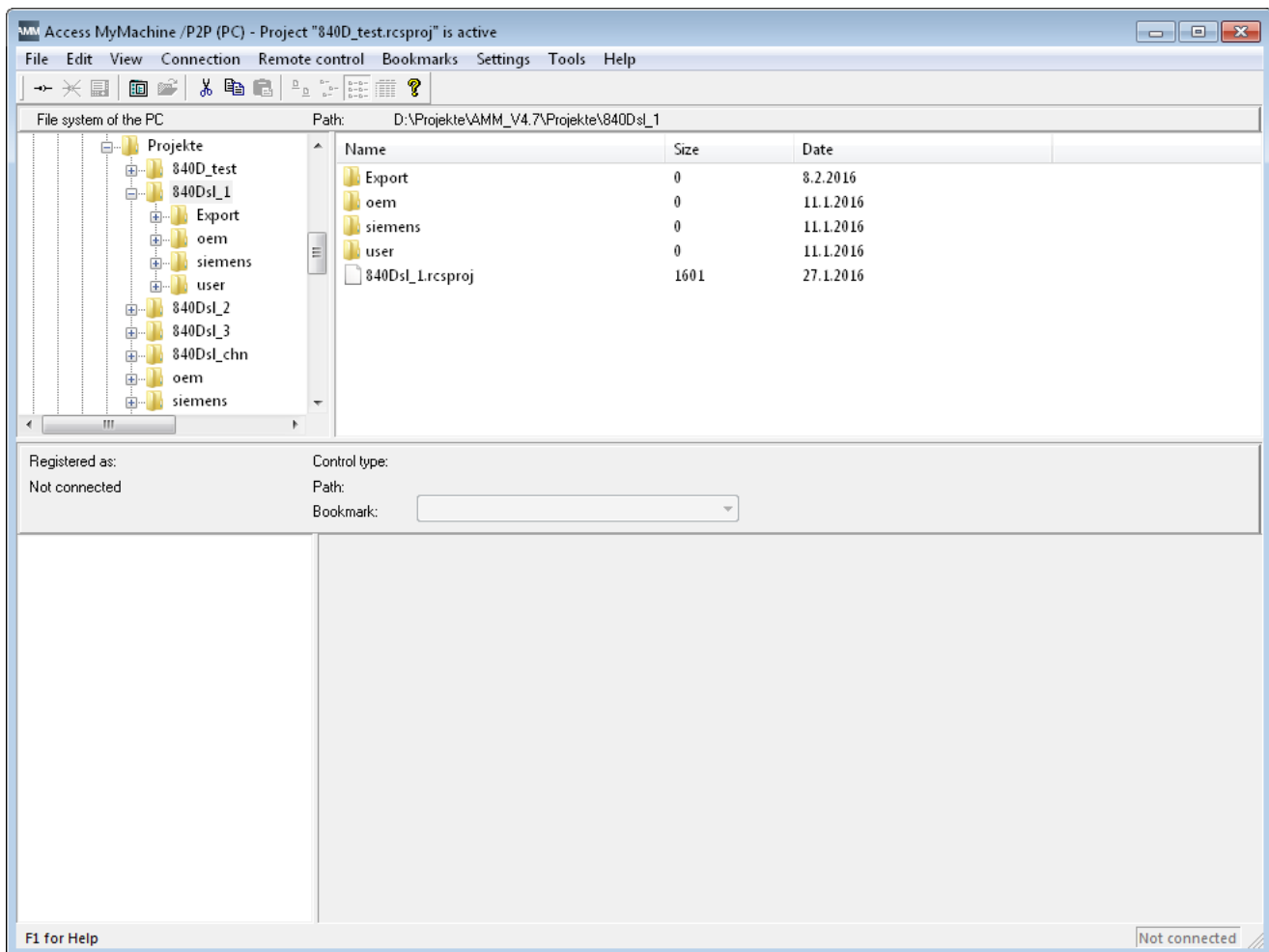


Figure 6-19 AMM (OFFLINE and without project)

The project was created in a directory which has the same name as the project. The project file is located directly below (*.rcsproj).

2. Delete the complete directory with "Del" or with the "Delete" shortcut menu

6.2.8 Creating a new language

This function enables a new (additional) language to be created in the project. New language-specific files are copied into the project. The data they contain is accepted, and can then be translated into the target language.

Note

Different languages are supported, depending on the type of control.

Note

If a source language is not available as a master copy in the project, then the new language is inserted with the aid of templates.

Operating sequence

1. Open a project.

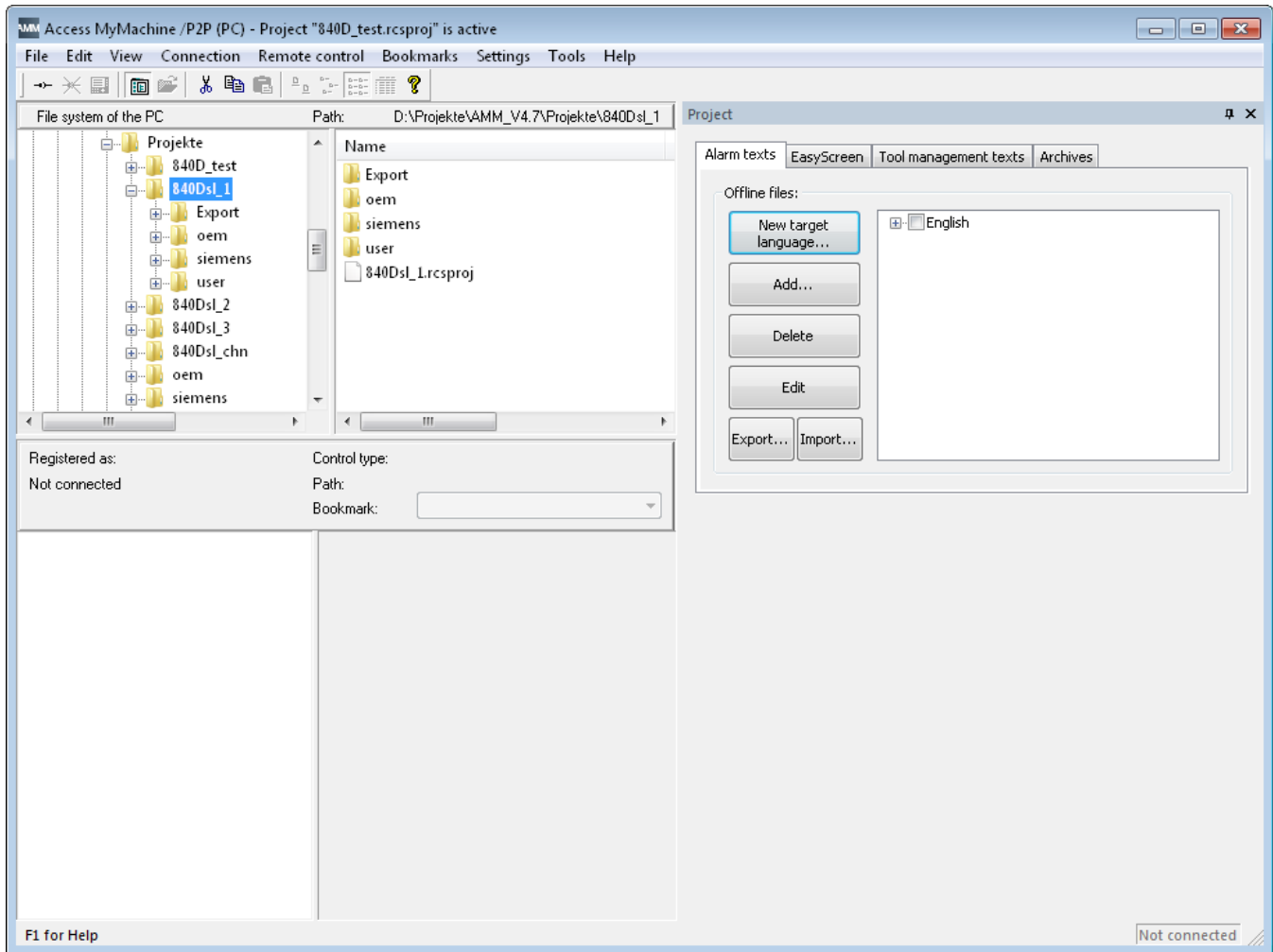


Figure 6-20 AMM with project dialog (OFFLINE)

2. From the tree topology in the project dialog, select the file type (alarm texts, EasyScreen, etc.) that you want to create in a new language.
3. Click the "New target language..." button.

4. The "New Language" dialog opens.

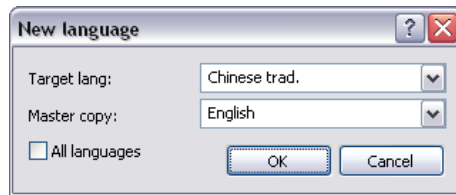


Figure 6-21 New language

5. Here, select the target language in which the files are to be created. Only those languages are listed here, which are not yet included in the project. By default, initially only the standard languages are listed. Additional languages are listed for selection by setting the check mark for "All languages".
6. Select the master copy. The languages that are already available in the project are listed here.
7. With "OK", the files are created in the selected target language.
8. The newly generated files are displayed in the project dialog.

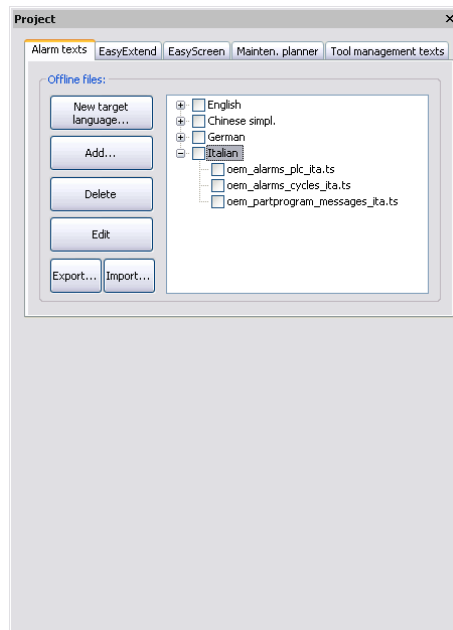


Figure 6-22 Project dialog (OFFLINE) - languages

9. This function is available for all supported files (Alarm texts, Easy Screen, etc.).

6.2.9 Adding a file

You can add one or more existing files to the project with this function. The AMM copies these files to the project structure.

Note

Note the central security information in Section Security information on the product (Page 15).

Operating sequence

1. Open a project.

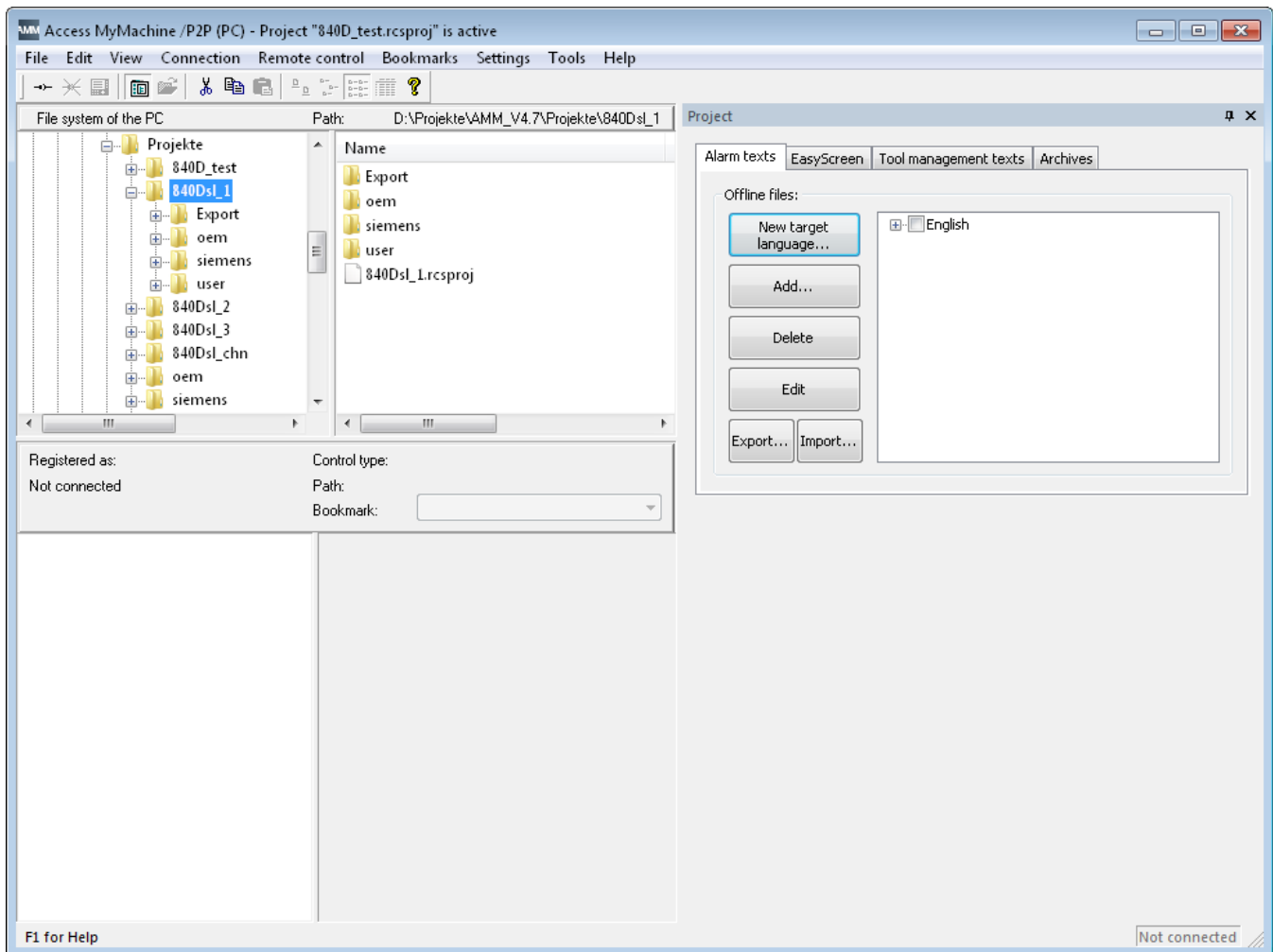


Figure 6-23 AMM with project dialog (OFFLINE)

2. From the tabs in the project dialog, select the file type (alarm texts, EasyScreen, tool management texts or archives) to which you want to add a file.
3. Click the "Add..." button.

4. A dialog opens with which you can search for the relevant files in the file system.
The default setting of the filter is that only those files are displayed that correspond to the selected file type (in the case of alarm texts, that means only oem_alarms_plc_<language>.ts, oem_alarms_cycles_<language>.ts and oem_partprogram_messages_<language>.ts files).
"<language>" designates a valid language identifier (e.g. deu -> German, eng -> English, etc.).
5. Select one or more files and click "Open".
6. The selected files are then copied to the project. If a file already exists, a confirmation prompt is displayed.
7. The new files are then displayed in the project dialog.

6.2.10 Deleting a file

You can delete the selected files from the project with this function.

Operating sequence

1. Open a project.

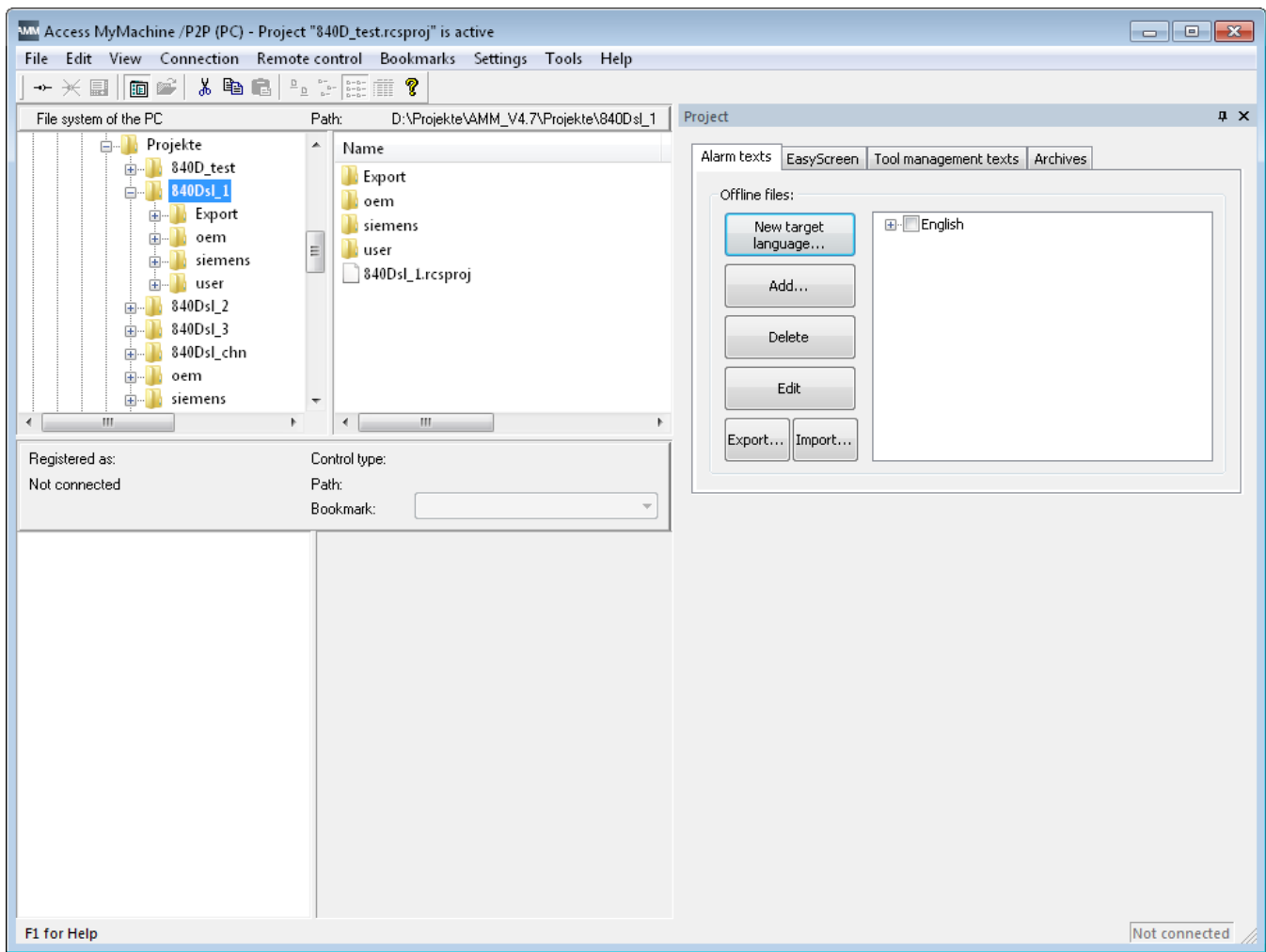


Figure 6-24 AMM with project dialog (OFFLINE)

2. From the tabs in the project dialog, select the file type (alarm texts, EasyScreen, tool management texts, archives) from which you want to delete a file.
3. Activate the checkbox for the files you want to delete.

Note

If you activate a checkbox for a language folder, the checkboxes for all underlying files are activated automatically. This allows a quick and simple deletion of a language.

Note

This function always acts on just one tab! Not on all. This means that if you select a language directory under Alarm texts, then only the alarm texts are deleted, but not files of a different type.

4. The files are deleted immediately without any additional confirmation. The files are removed from the project and physically deleted from the hard disk.

6.2.11 Exporting a file

This function enables text files that are to be translated into a foreign language to be exported in a generally familiar format. The standardized CSV format used here is supported by various tools.

Operating sequence

1. Open a project.

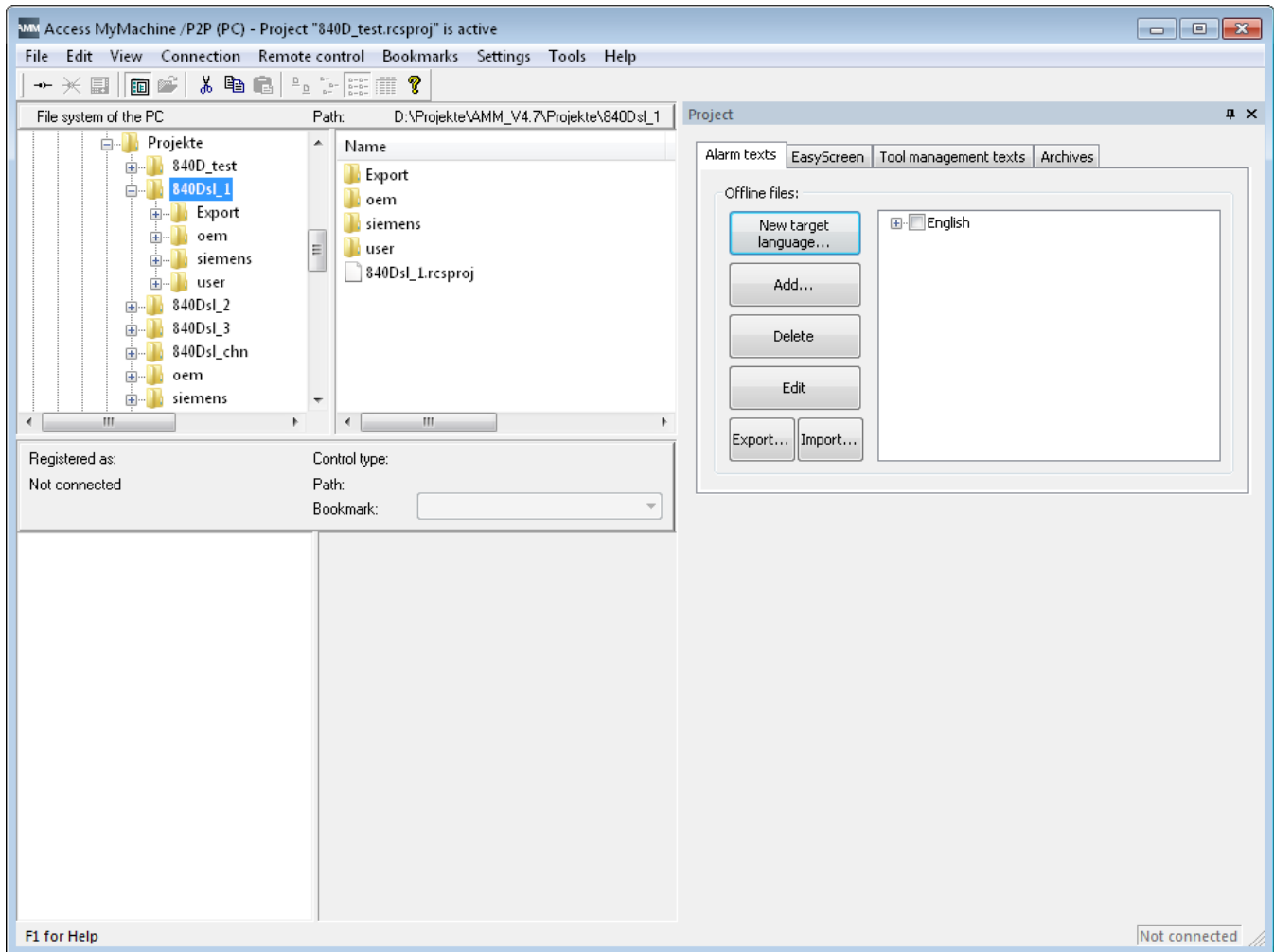


Figure 6-25 AMM with project dialog (OFFLINE)

2. From the tree topology in the project dialog, select the file type (alarm texts, EasyScreen, etc.) from which you want to export files.

3. Activate the checkbox for the files you want to export.

Note

If you activate a checkbox for a language folder, the checkboxes for all underlying files are activated automatically. This allows a quick and simple export of a language.

Note

This function always acts on just one tab! Not on all. This means that if you select a language directory under Alarm texts, then only the alarm texts are exported, but not files of a different type.

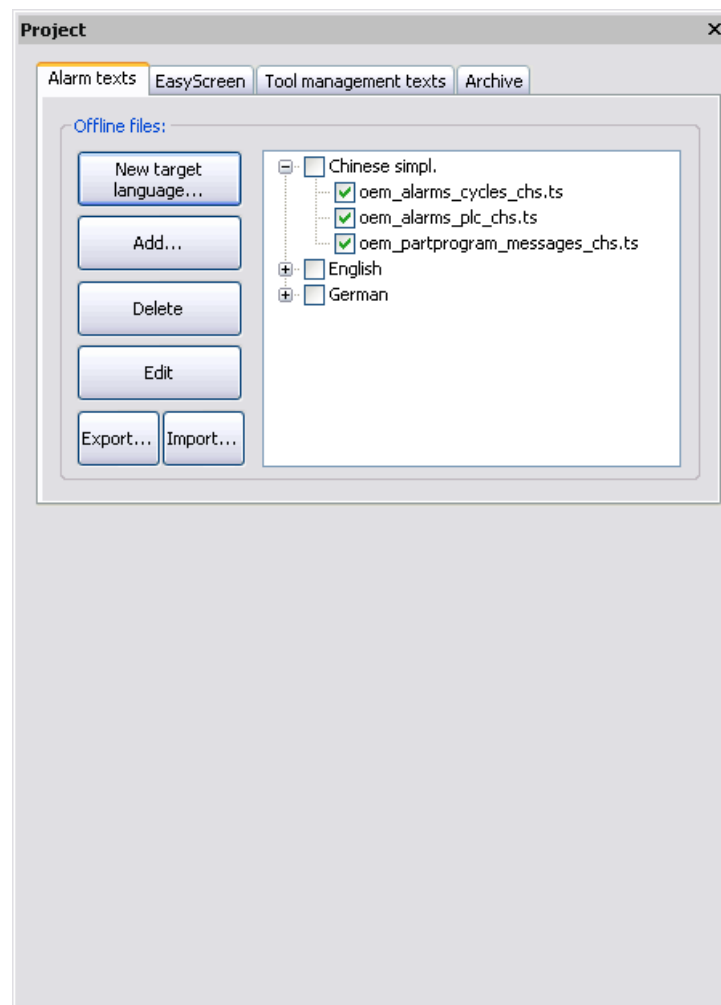


Figure 6-26 Configured dialog (OFFLINE) - languages with activated checkbox

4. Click "Export" to open a dialog in which the storage location of the exported files must be selected.

5. Select a folder and click "OK".
6. The files are then converted into CSV format and placed in the selected folder. In this case, the *.csv extension is added to the file name.

Note

The generated name should not be changed with the exception of the language code, as otherwise the import no longer functions and errors can occur in the file structure.

Note

The texts in the exported files can now be translated into other languages. The language extension of the file can then be changed to the new language and subsequently imported. In this way, existing texts can be converted into a new language.

See also

Recommended procedure when translating files (Page 127)

6.2.12 Import file

Previously exported CSV files can be imported back into the project with this function. The default CSV file is not changed. A corresponding file is generated from the CSV file, and inserted into the project structure.

Operating sequence

1. Open a project.

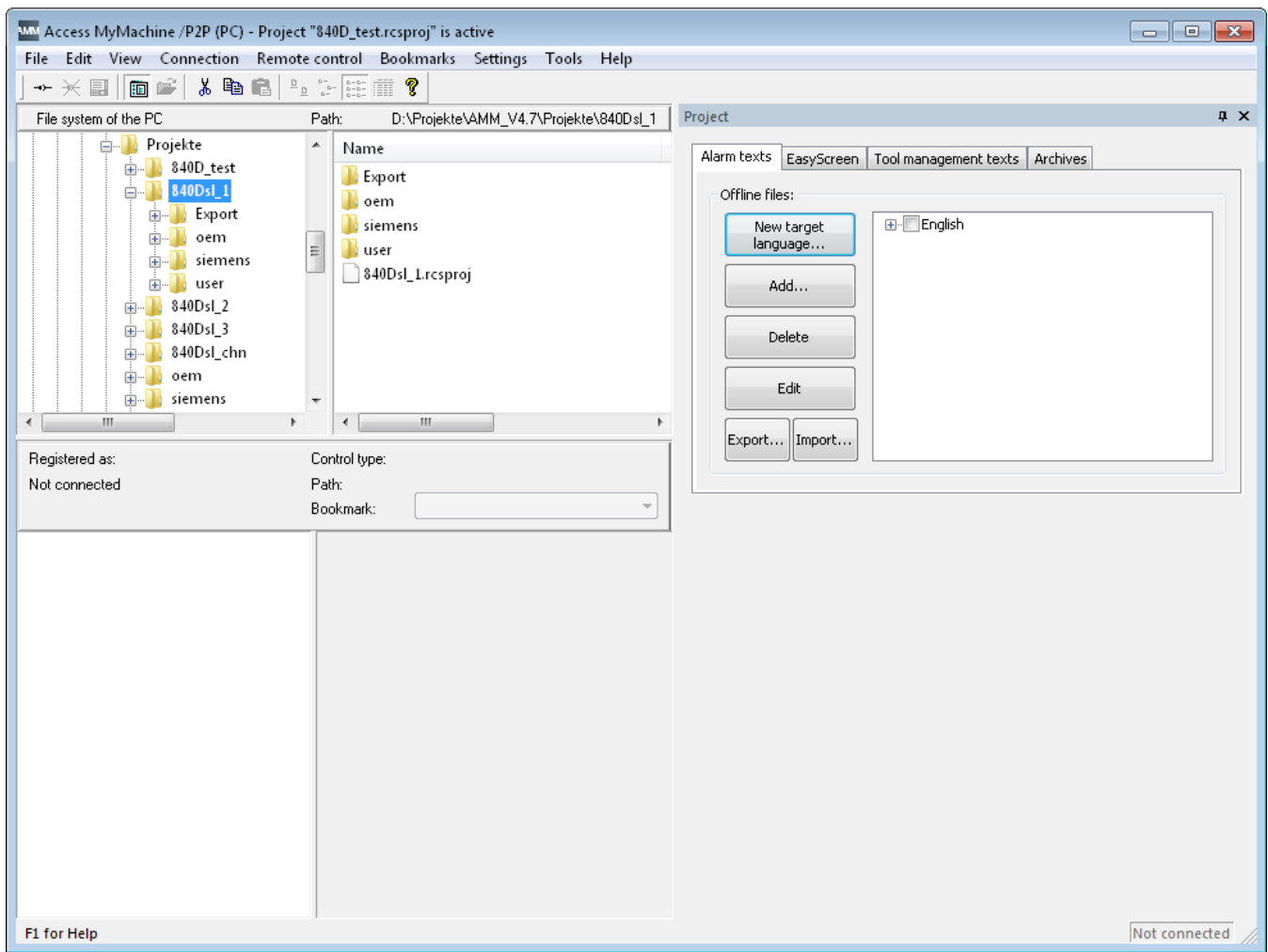


Figure 6-27 AMM with project dialog (OFFLINE)

2. Under the tree topology in the project dialog, select the file type (Alarm texts, EasyScreen, etc.) to which you want to import files.
3. Click "Import" to open a dialog in which you can select the files to be imported. In the default setting, the filter is set so that only the files are displayed that correspond to the selected alarm type (i.e. for alarm texts only oem_alarms_plc_<language>.ts, oem_alarms_cycles_<language>.ts and oem_partprogram_messages_<language>.ts files). "<language>" designates a valid language identifier (e.g. deu -> German, eng -> English, etc.). You will find a list of all supported language identifiers in chapter Languages supported by SINUMERIK Operate (Page 161).
4. Select one or more exported files and click "Open".
5. The selected files are then converted into the correct alarm text format and copied to the project. If a file already exists, a confirmation prompt is displayed.
6. The imported files are then displayed in the project dialog.

Problems during the import?

If problems occur when importing the CSV files, proceed as follows:

1. Check which list separator is used in your CSV file. To this end, open the CSV file in an editor.
2. Check whether the list separator used corresponds to the list separator set under Windows.
3. To do this, select "Regions and language" in the Windows Control Panel.
4. Under the "Format" tab, select "Further settings".

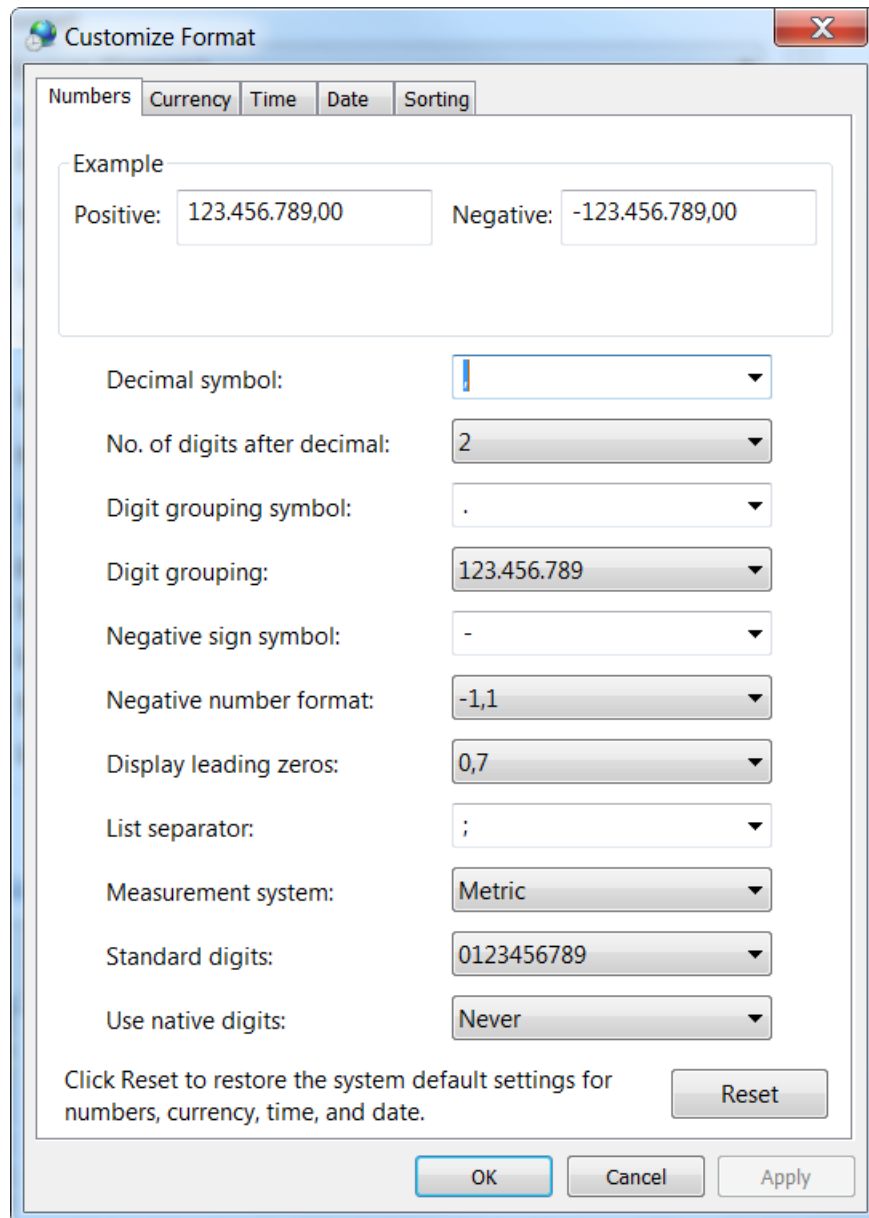


Figure 6-28 List separator

5. The list separator set in Windows is provided under "List separator".

6. If the list separator of the CSV file deviates from the list separator set in Windows, change the language region in the “Format” tab such that both separators match.
7. Restart the computer.
8. Try to import again.

See also

Recommended procedure when translating files (Page 127)

6.2.13 Edit file

Files contained in the project can be opened and edited with this function. Several files can be opened simultaneously.

Operating sequence

1. Open a project.

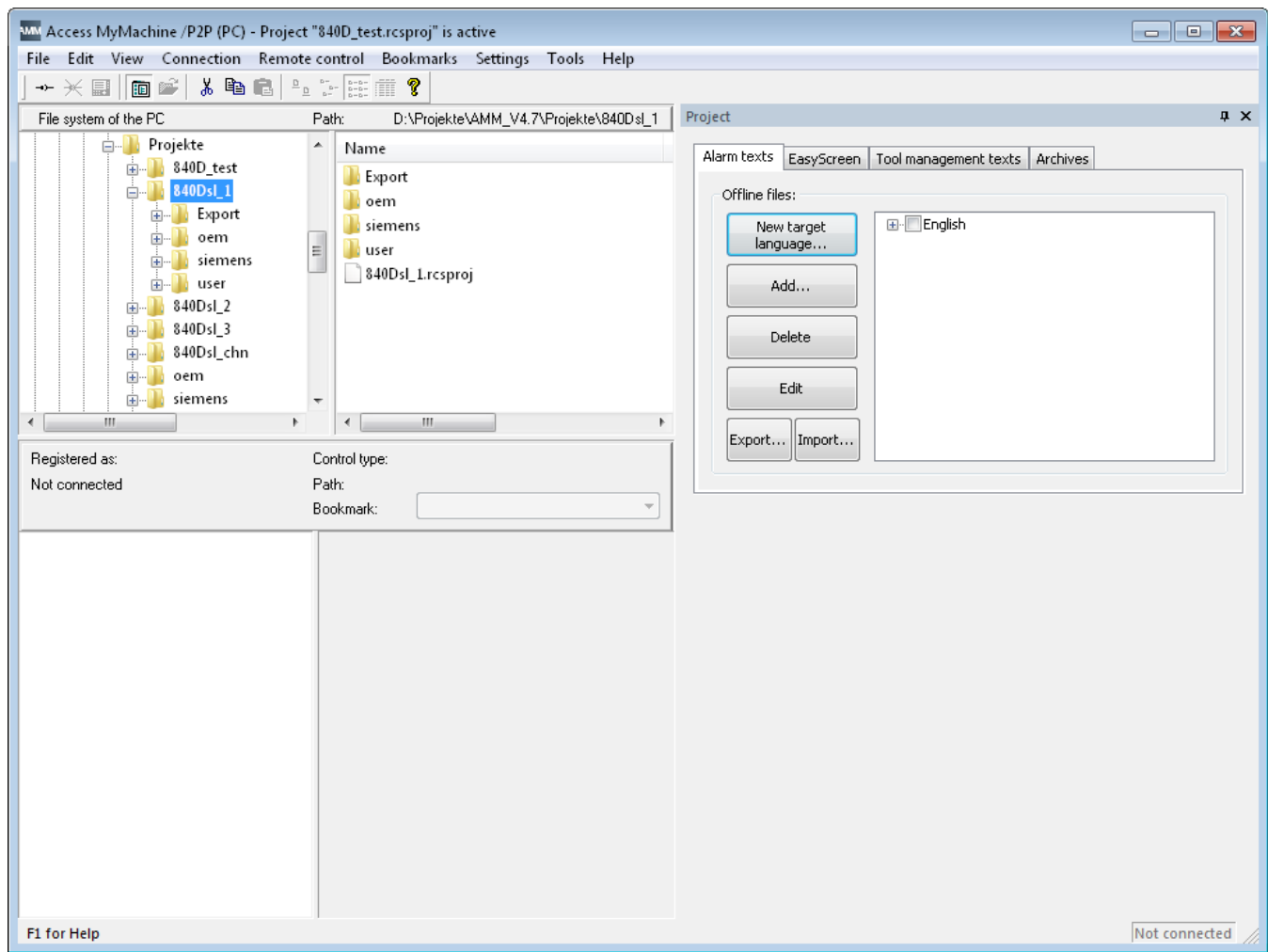


Figure 6-29 AMM with project dialog (OFFLINE)

2. From the tabs in the project dialog (alarm texts, EasyScreen, tool management texts, archives), select the type of file you want to edit.

3. Open a language folder. Select the file you want to edit.

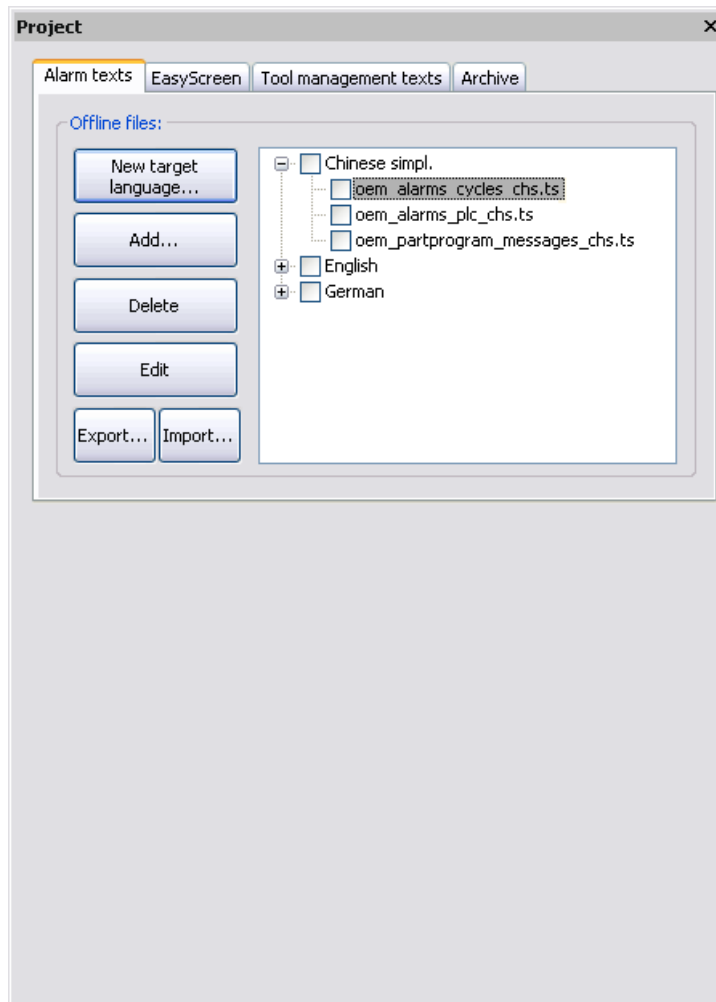


Figure 6-30 Project dialog (OFFLINE) - languages with selected file

4. Click "Edit" or double-click the file you want to edit.
5. The file is then opened in an editor and can now be edited.

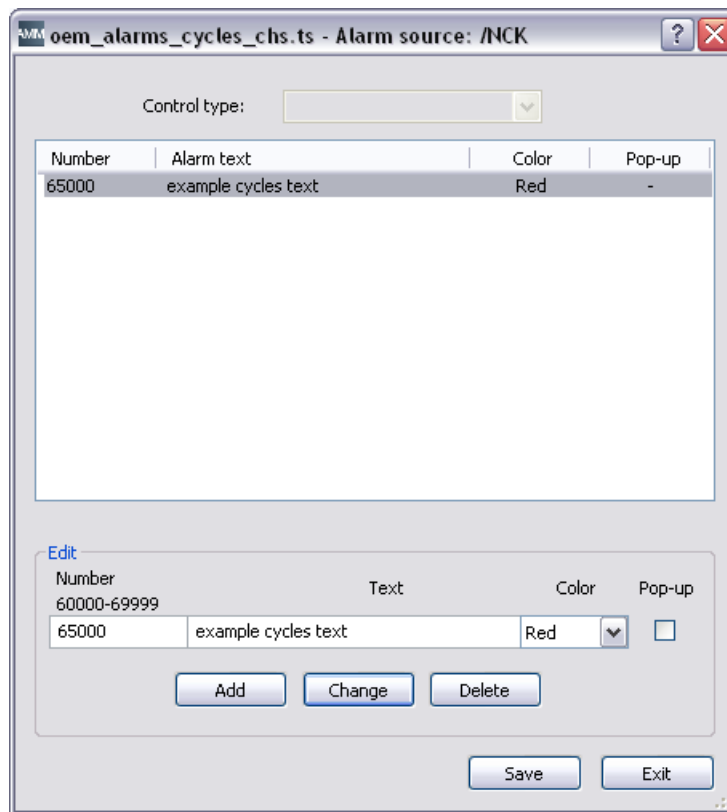


Figure 6-31 AMM editor

The archives are opened and can be edited in the already installed "Create MyConfig - Diff" software. You will find **further information** about the functionality of "Create MyConfig - Diff" in the associated Online Help.

6.2.14 Compare archives

The contents of multiple archives contained in the project can be compared with this function. This is done with "Create MyConfig - Diff" software.

Operating sequence

1. Open a project.

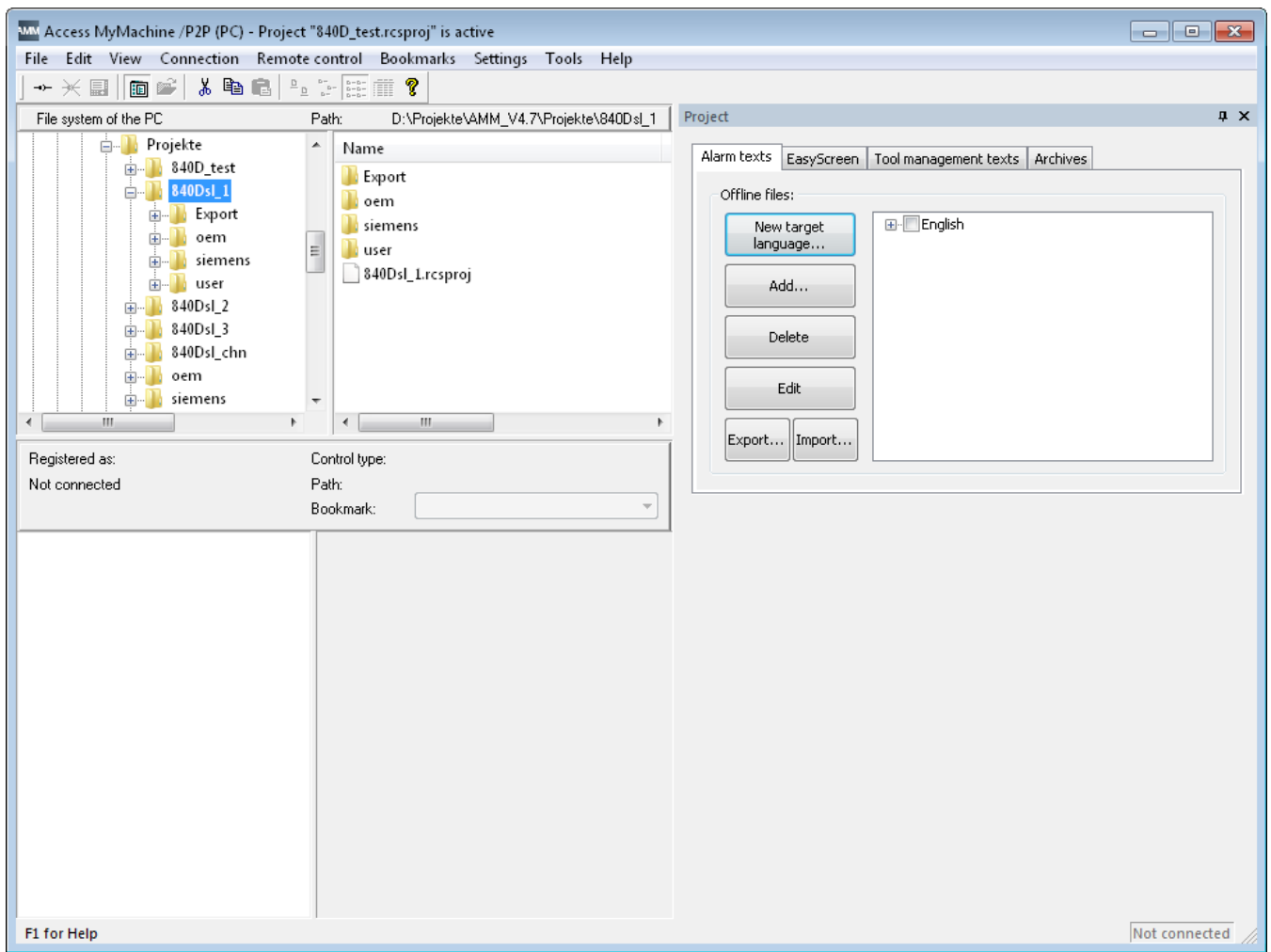


Figure 6-32 AMM with project dialog (OFFLINE)

2. Select the "Archives" file type from the tab In the Project dialog.

3. Open an archive directory, and select at least two files you want to compare.

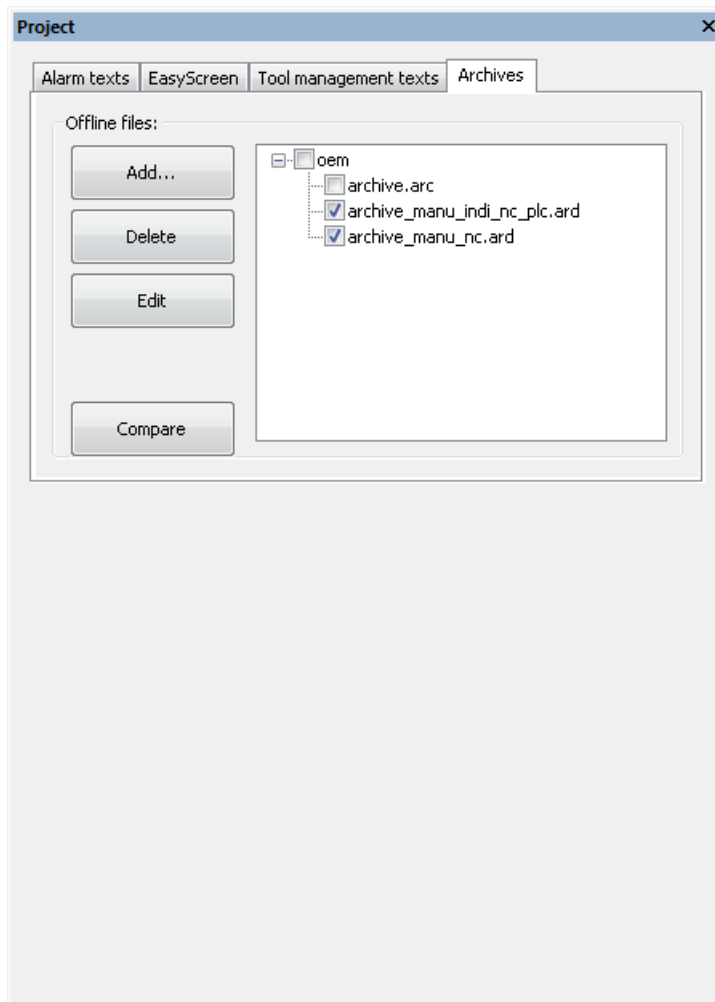


Figure 6-33 Project dialog (OFFLINE) - selected archives

4. Now click "Compare".
5. The archives are then opened and can be compared in the already installed "Create MyConfig - Diff" software. You will find further information about the functionality of "Create MyConfig - Diff" in the associated Online Help.

6.2.15 Transferring individual files from the project to the control system

Single or multiple files contained in the project are transferred to the connected control with this function.

Note

This function applies to all files with a check mark **from all tabs**. This means that all files with a check mark from all tabs are transferred to the control.

Note

Note the central security information in Section Security information on the product (Page 15).

Operating sequence

1. Connect yourself to a control.
2. Open a project.

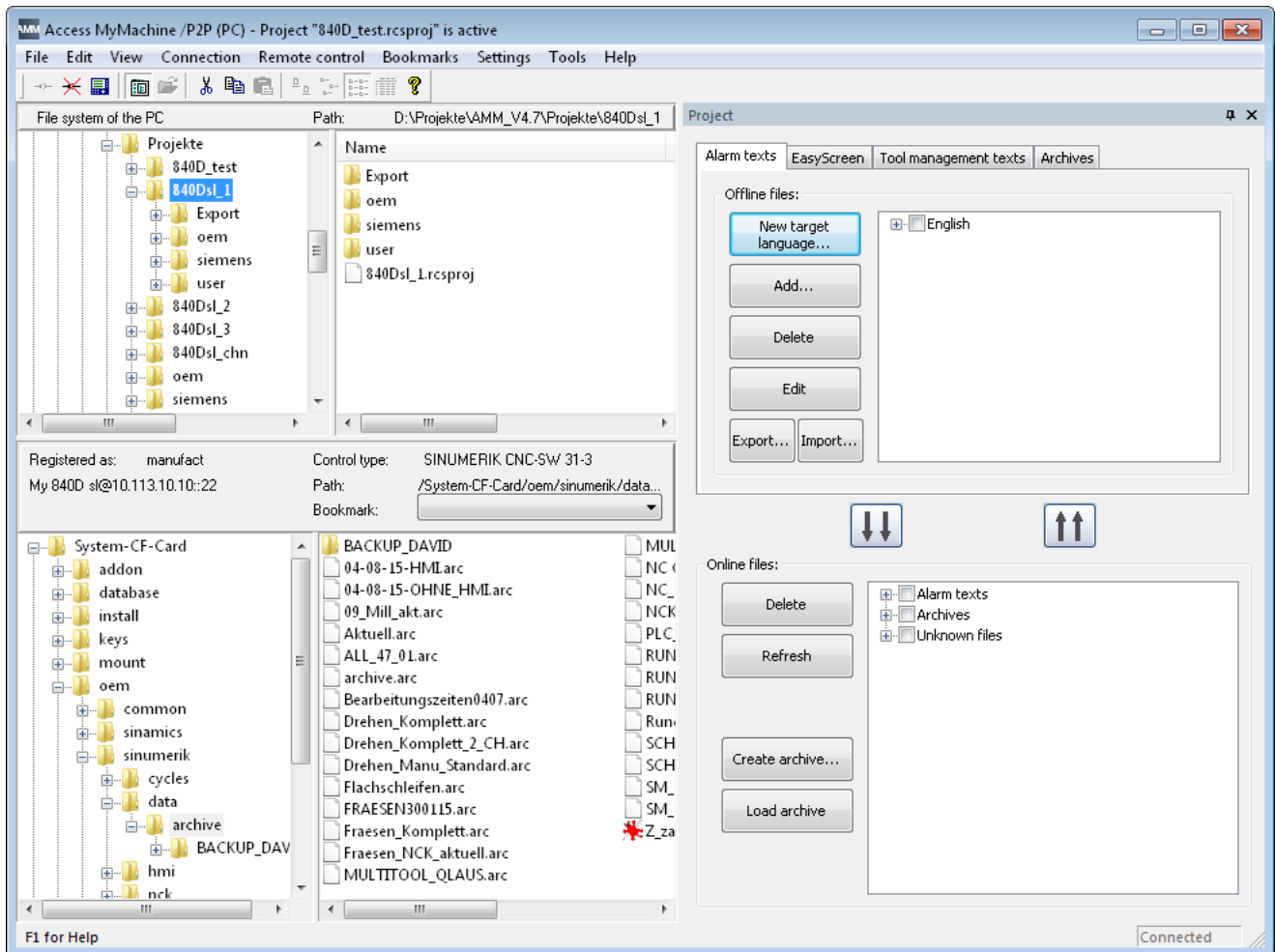


Figure 6-34 AMM with project dialog (ONLINE)

3. In the project dialog, in each substructure (Alarm texts, EasyScreen, etc.), activate the checkbox for the files that you want to copy to the control.

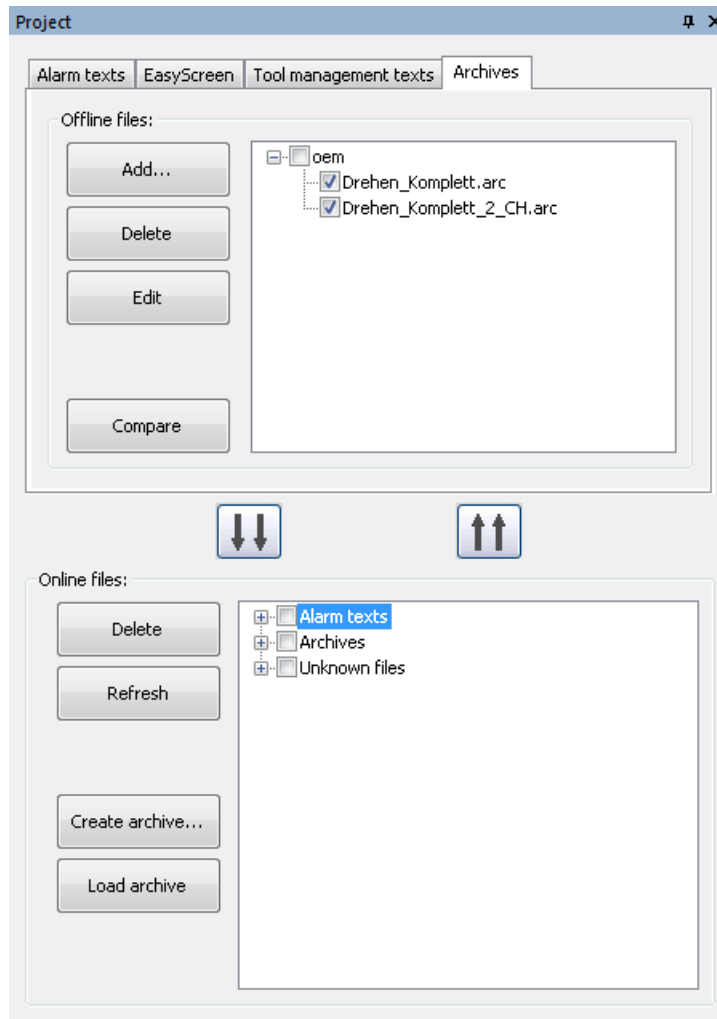


Figure 6-35 Project dialog (ONLINE)

4. Then click the "Transfer to control" button.



Note

As it does not make sense to copy files to the control if the control type is different to that in the project, in such a case a corresponding error message is output.

5. If the control types match, then you are prompted as to whether color and configuration files should also be copied. Select "Yes" if the files should also be copied, otherwise select "No".

6. If the file(s) is/are already on the control, then the "Prepare to copy" dialog opens. You are prompted as to whether you want to overwrite the file. If you select "Yes", the file is overwritten. If you select "Yes, all", all duplicate files are overwritten. If you select "No", the file is not overwritten.

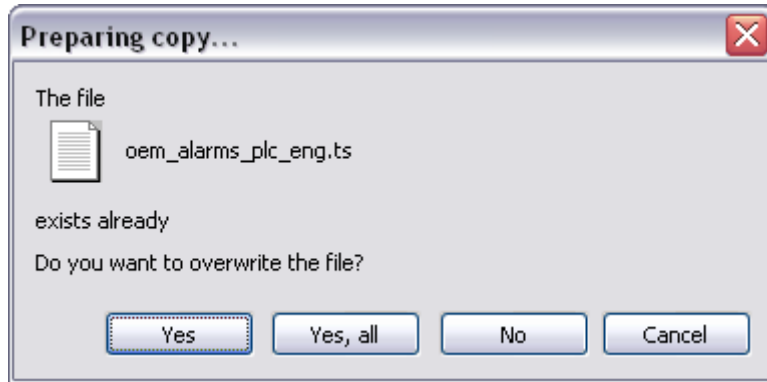


Figure 6-36 Prepare copying

7. After these queries have been clarified, the copy dialog opens. The selected files are now transferred to the control.

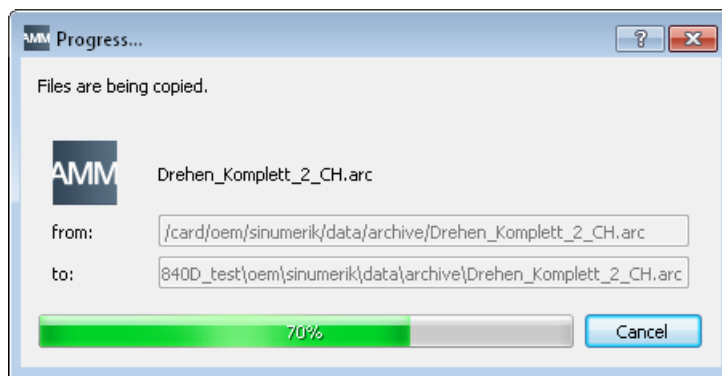


Figure 6-37 Copy

8. After the files have been successfully transferred to the control, they are displayed in the lower area of the project dialog.

See also

Activating the alarm text files on the control using an HMI restart (Page 129)

6.2.16 Transferring individual files from the control to the project

Single or multiple files in the connected control are transferred to the project with this function.

Note

All files with an activated checkbox are transferred to the project.

Note

Note the central security information in Section Security information on the product (Page 15).

Operating sequence

1. Connect yourself to a control.
2. Open a project.

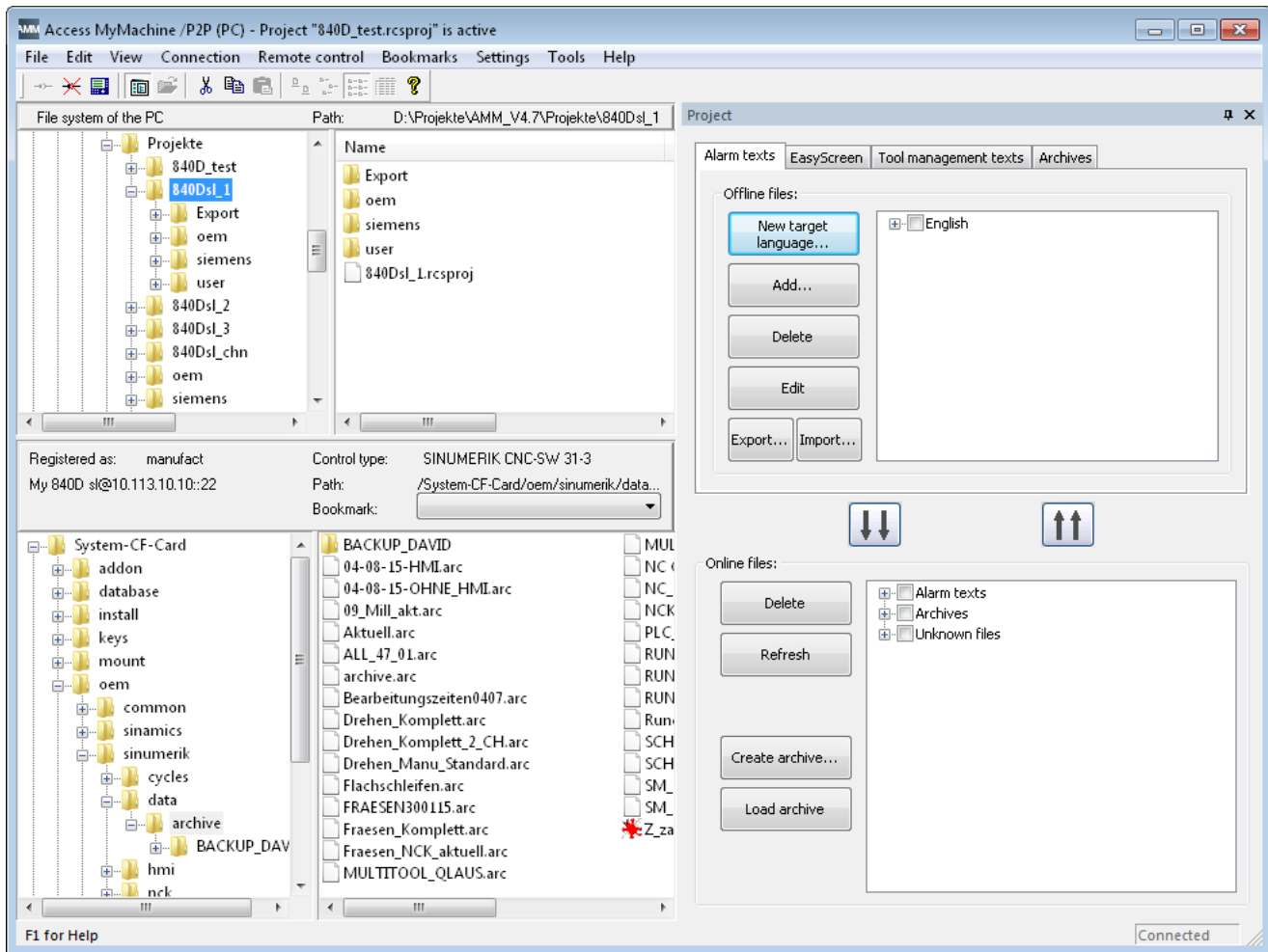


Figure 6-38 AMM with project dialog (ONLINE)

3. In the lower window of the project dialog, all files are displayed that are on the control.

- For the files that you want to transfer to the project, activate the checkbox in the appropriate window. In contrast to the display in the upper area of the project dialog, the color and configuration files are also displayed.

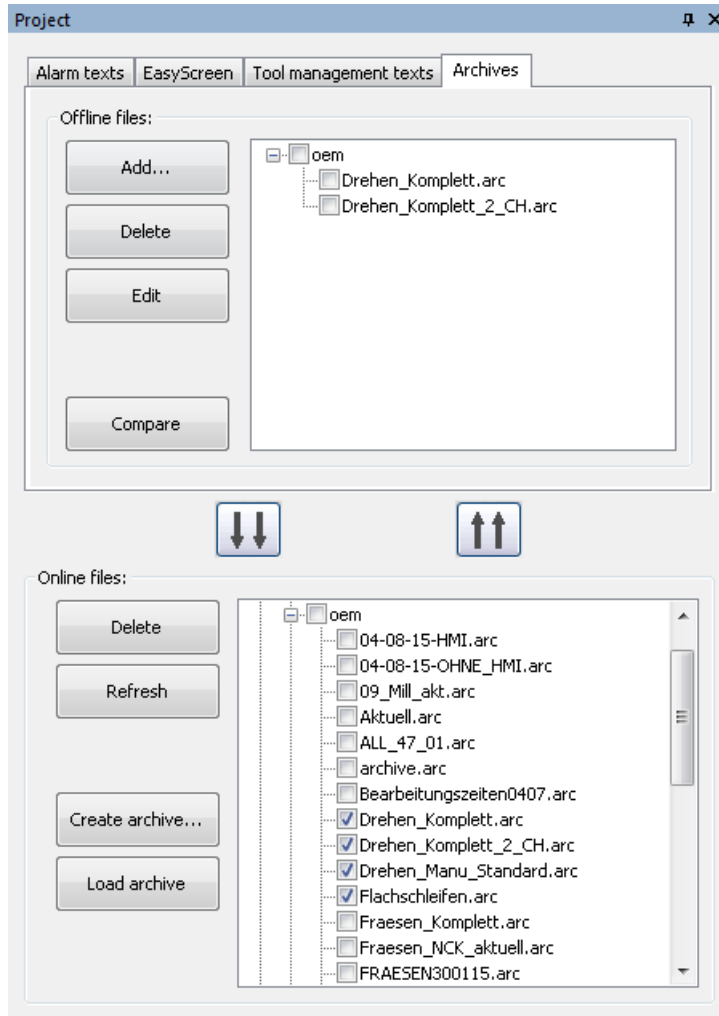


Figure 6-39 Project dialog (ONLINE) - with activated checkbox for the files

Note

If you activate the checkbox in one of the higher-level elements, the checkboxes for all underlying elements are also activated. This means that if you want to transfer all alarm texts, it suffices to activate the checkbox for "Alarm texts".

Note

If you want to edit colors, then you should also transfer these files; otherwise, the standard template files from the project are used for this purpose. If colors have already been edited on the control, then this information is lost if these files are not transferred.

- Then click the "Transfer to PC" button.

Note

As it does not make sense to copy files to the project if the control type between the control and project is different, then a corresponding error message is output.

- The files are copied if the control types match.
- The dialog to overwrite the files is displayed if the files already exist in the project.

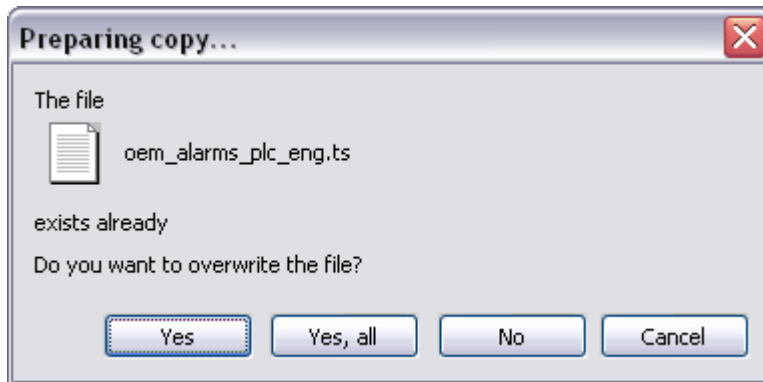


Figure 6-40 Prepare copying

- After these queries have been clarified, the copy dialog opens. The selected files are now transferred to the project.

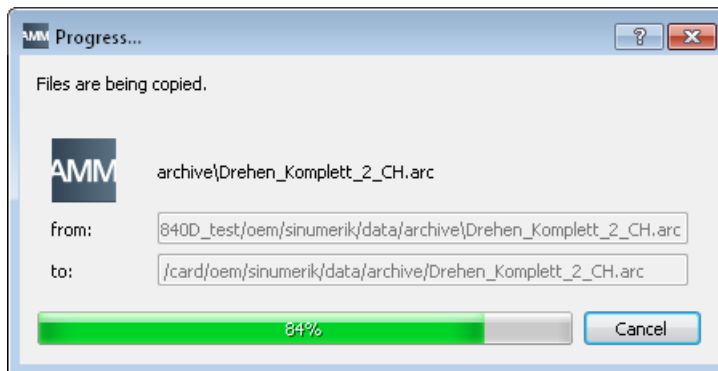


Figure 6-41 Copy

- After the files have been successfully transferred to the project, they are displayed in the upper area of the project dialog in the individual tabs (Alarm texts, EasyScreen, etc.).

6.2.17 Deleting files on the control using the project dialog

You can delete selected files on the connected control with this function.

Operating sequence

1. Connect to a control system.
2. Open a project.

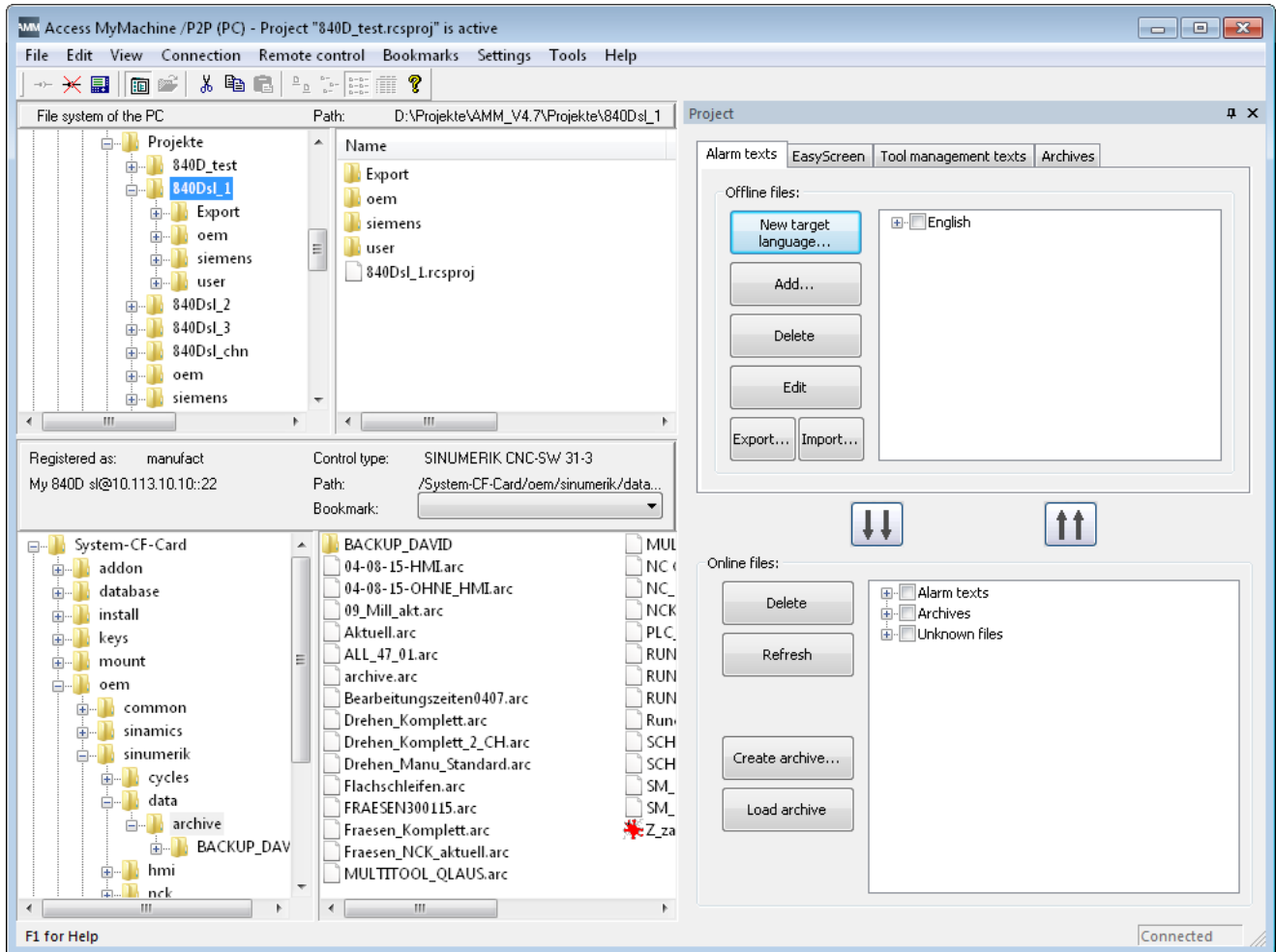


Figure 6-42 AMM with project dialog (ONLINE)

3. In the lower window of the project dialog, all files (Alarm texts, EasyScreen, etc.) are displayed that are in the control system.

4. Activate the checkboxes alongside the files in the window you want to delete.

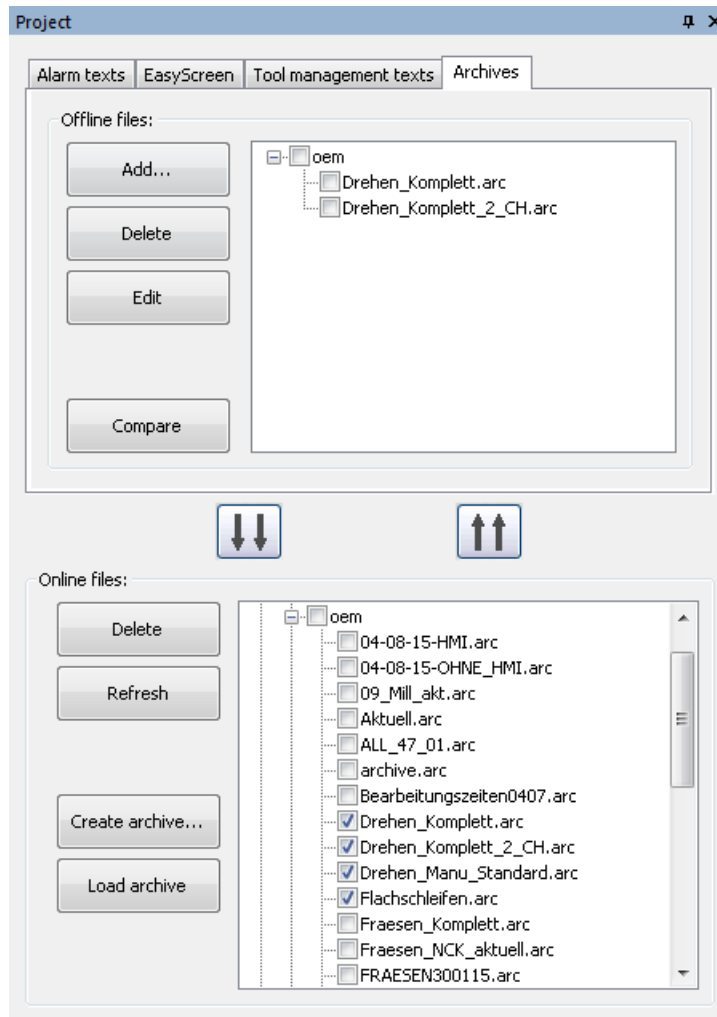


Figure 6-43 Project dialog (ONLINE) - with activated checkbox for the files

Note

If you activate the checkbox in one of the higher-level elements, the checkboxes for all underlying elements are also activated. This means that if you wish to delete all alarm texts, it suffices to activate the checkbox for "Alarm texts".

5. Click the "Delete" button. A confirmation prompt is displayed as to whether you really want to delete the files. If you confirm this with "Yes", then the selected files are deleted in the control system.
6. After the files have been successfully deleted in the control system, the display in the project dialog is updated.

6.2.18 Recommended procedure when translating files

The AMM project supports processes for translating the text files it contains into various languages. The AMM offers an export and import function into the standardized CSV format. This makes it possible to pass the exported languages to a translator, and import them back in after translation.

The following procedure is recommended:

Operating sequence

1. Create (Page 92) a project or open (Page 95) an existing project.
2. Create and edit the corresponding alarm text files in the desired source language (e.g. English).
3. Create a copy of the source files with "Creating a new language (Page 102)". Select the desired target language (e.g. Chinese) and the source language as the copy template (e.g. English).

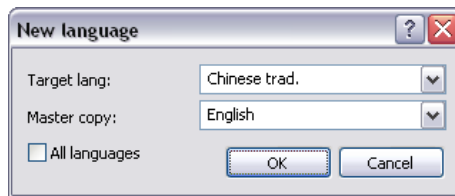


Figure 6-44 New language

4. Activate the checkbox alongside the newly created (Chinese) files, and export (Page 108) the files.



Figure 6-45 Project dialog (OFFLINE) - languages with check mark

5. Give the generated CSV files to a translator - or translate the texts in the CSV files yourself.

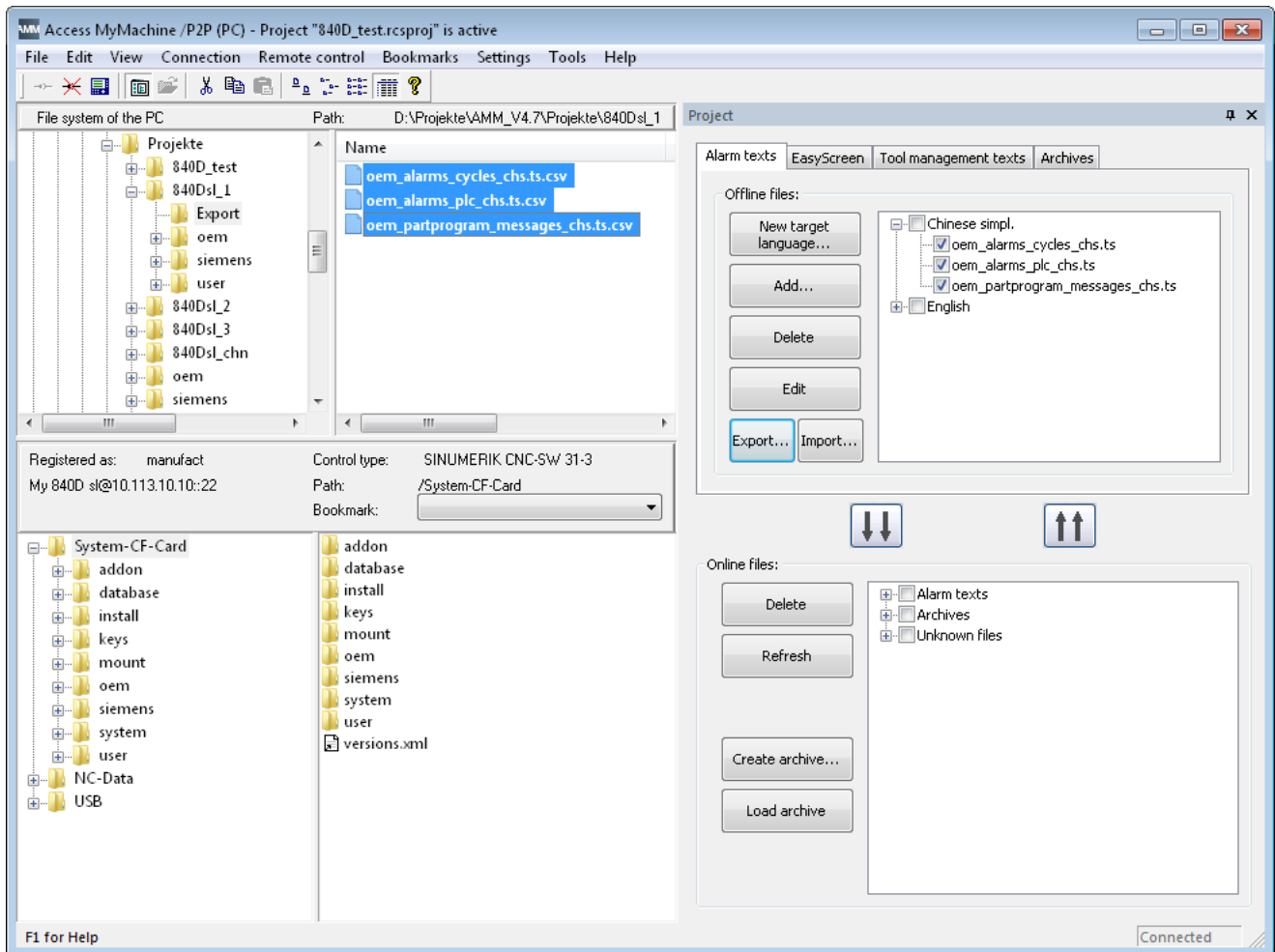


Figure 6-46 AMM - exported files

6. Import the translated files (Chinese) back into the project, thus overwriting the existing Chinese files.
7. You have now translated the English texts into Chinese in the project.

See also

Opening an existing project (Page 95)

Create a project and read the files from the control system (ONLINE) (Page 92)

6.2.19 Activating the alarm text files on the control using an HMI restart

The imported alarm text files must be activated in order to take effect on the control. The files are activated by restarting the HMI.

If a copied-in alarm text file does not become effective, there could be a problem with the time stamp of the file. You can find **further information** in the Commissioning Manual of the relevant control.

Note**Restart for 808D**

It is not possible to trigger an HMI restart via remote control for the SINUMERIK 808D. Trigger the HMI restart locally on your machine with the shortcut <CTRL+R>.

Operating sequence

1. Connect yourself to a control.
2. Create (Page 92) or open (Page 95) a project.
3. Copy (Page 118) the alarm text files from the project to the control.
4. After copying has been successfully completed, start the remote control.

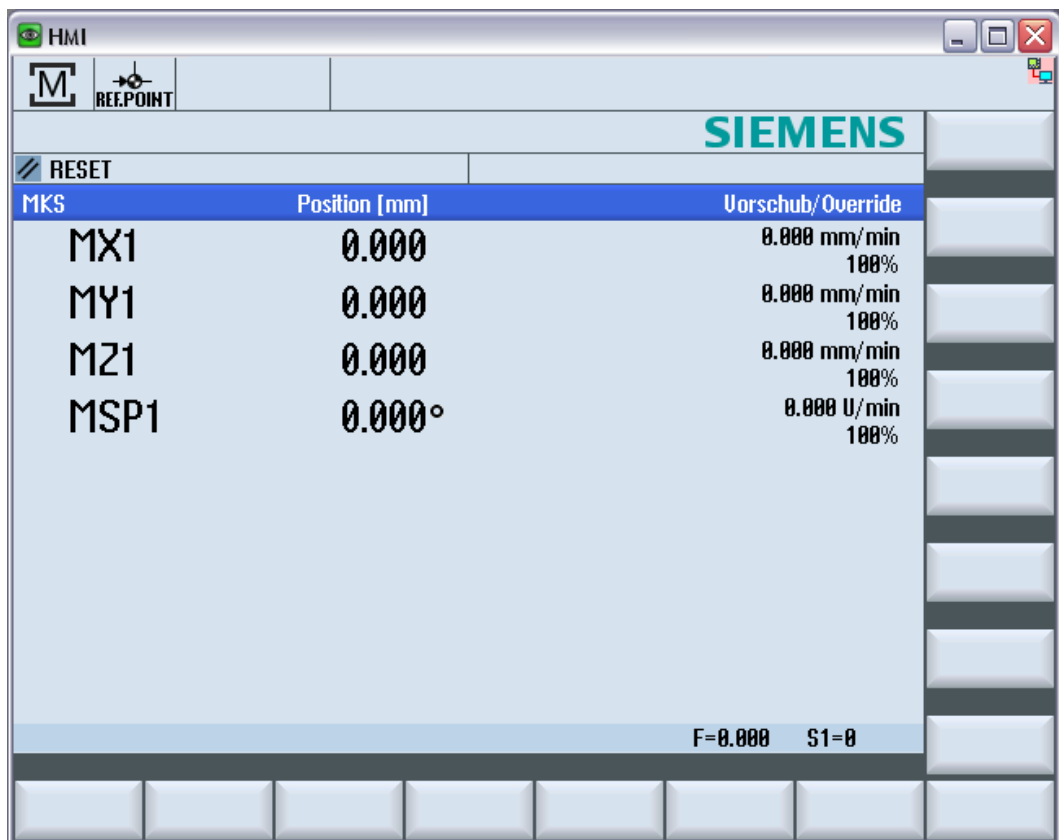


Figure 6-47 Remote control (e.g. SINUMERIK 840D sl / 828D)

5. Click in the upper left-hand corner of the displayed HMI screen or press F10.
The menu is now displayed.

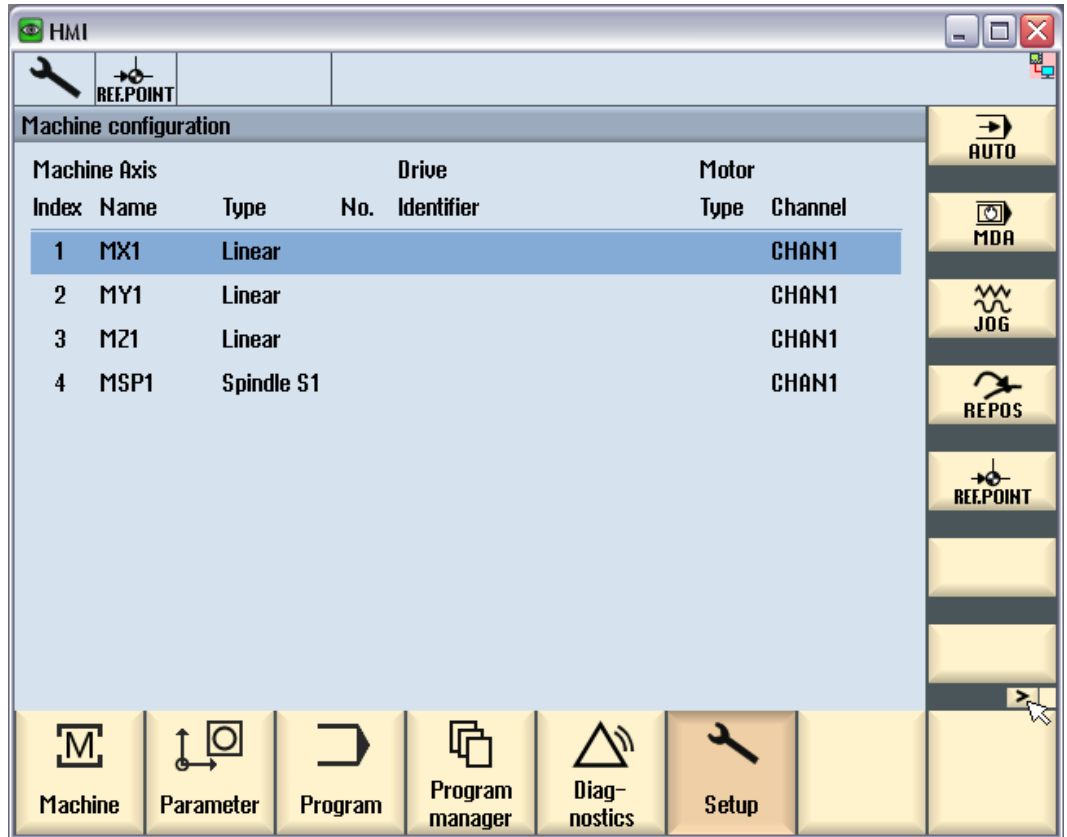


Figure 6-48 Remote control menu (e.g. SINUMERIK ONE/ 840D sl / 828D)

6. Click the arrow pointing to the right.

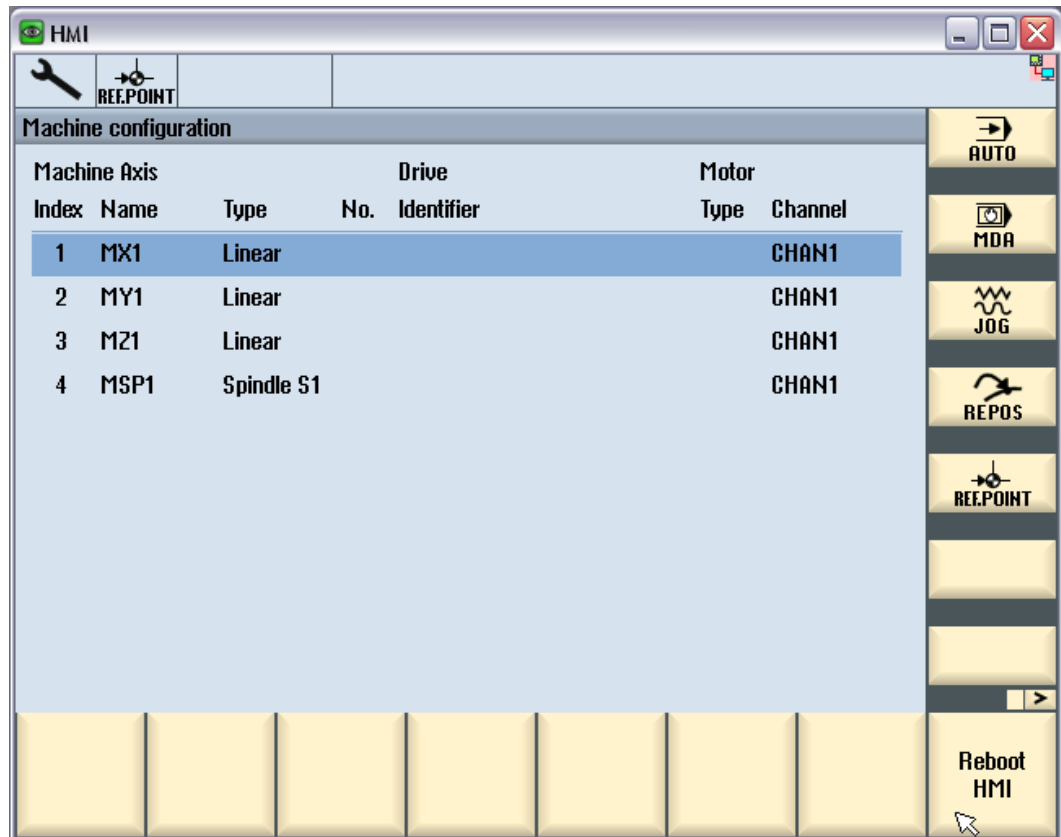


Figure 6-49 HMI restart (e.g. SINUMERIK 840D sl / 828D)

7. Click "HMI restart".
8. Wait until the HMI has rebooted. The new texts then become effective.

See also

Transferring individual files from the project to the control system (Page 118)

Creating a project (OFFLINE) (Page 91)

6.3 Access to NC file system

6.3.1 NC file system of the ONE, 840D sl and 828D controls

AMM can be used to access the NC file system of the ONE, 840D sl and 828D controls.

You can copy, change, or delete part programs, workpiece programs, cycles, etc., in the control system's NC itself.

Operating sequence

1. Select the "NC data" directory in the main window.

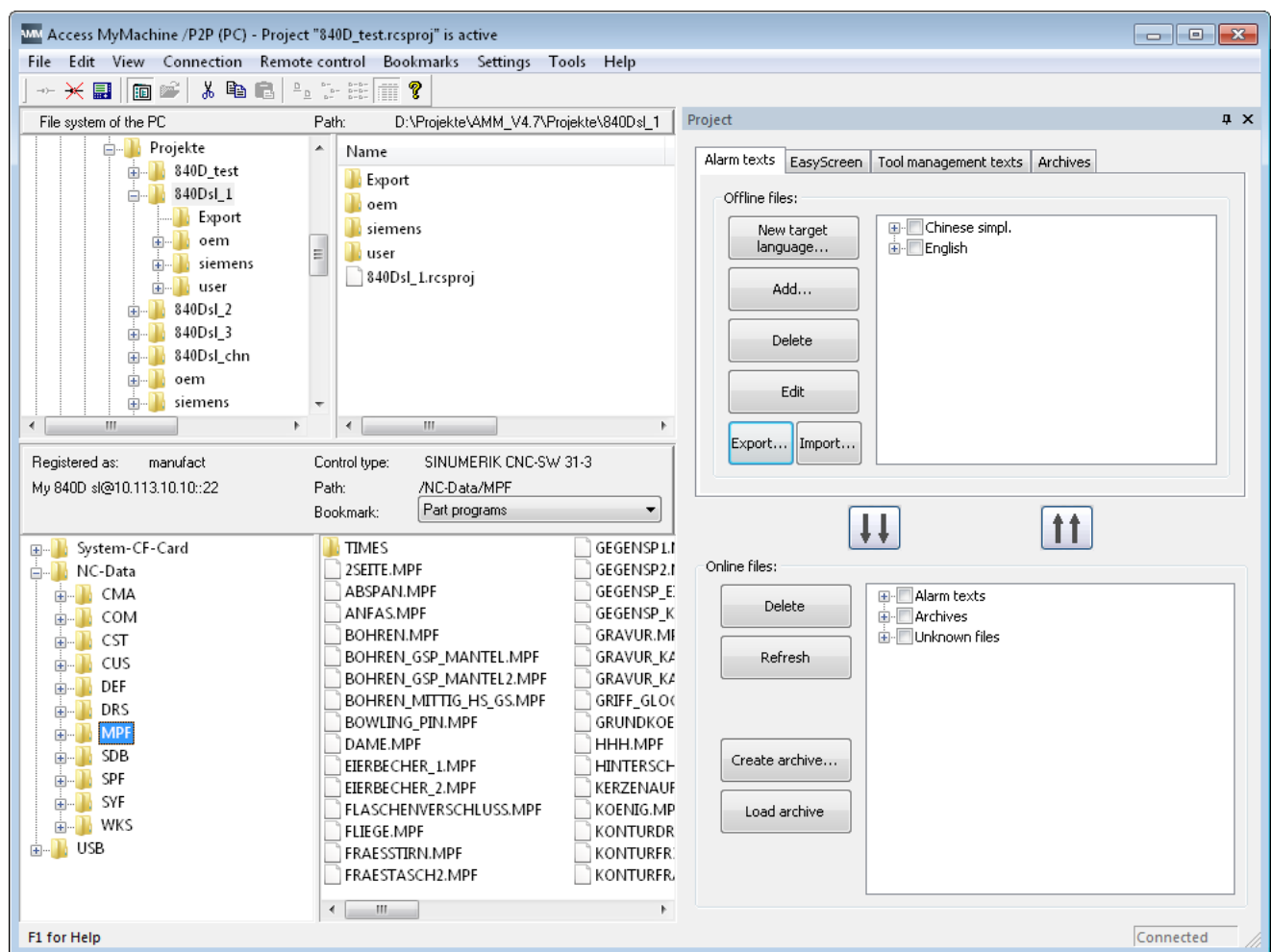


Figure 6-50 NC file system

2. Select the file you want to copy, change, or delete from a subdirectory of the "NC data" directory,

Structure

The "NC data" directory has the following structure:

Table 6-1 "NC data"

/CMA	Manufacturer cycles	Directory for manufacturer cycles
/COM	Comments	Directory for comment files
/CST	Standard cycles	Directory for standard cycles
/CUS	User cycles	Directory for user cycles
/DEF	Definitions	Directory for various definitions (data blocks and macro blocks)
/MPF	Part programs/main programs	Directory for part and machine main programs
/SPF	Global subprograms	Directory for subprograms
/SYF	System files	Directory for system files
/WKS	Workpieces	Directory for workpieces

6.3.2 NC file system of the 808D control

AMM can be used to access the NC file system of the 808D control.

You can copy, change, or delete part programs, workpiece programs, cycles, etc., in the control system's NC itself.

Operating sequence

1. Choose one of the two directories in the main window:
 - "Program"
 - "User cycles"

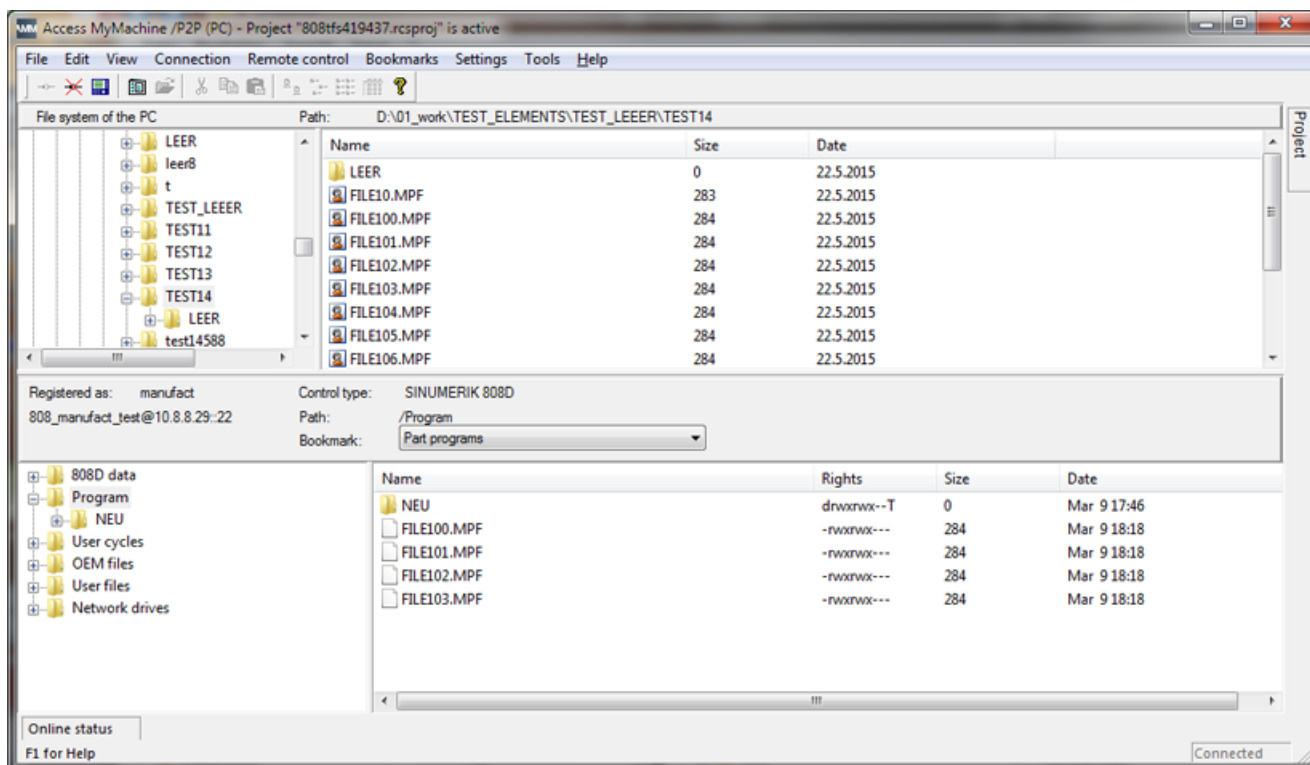


Figure 6-51 NC file system 808D

2. Select the file you want to copy, change, or delete from one of the two directories.

Structure

The "Program" directory has the following structure:

Table 6-2 "Program"

	Part programs/main programs	Directory for part and machine main programs
--	-----------------------------	--

The "User cycles" directory has the following structure:

Table 6-3 "User cycles"

	User cycles	Directory for user cycles
--	-------------	---------------------------

6.4 Encrypting cycle file(s)

You can encrypt the cycle files (*.spf, *.mpf) that are available in readable source code with this function. The generated encrypted cycle files (*.cpf) can then be transferred to the control and used there like unencrypted cycles. However, the content cannot be viewed.



Software option

You require the following option to use encrypted cycles in the control:
"Lock MyCycles" (6FC5800-0AP54-0YB0).

Operating sequence in Windows Explorer

1. Select one or more arbitrary cycle files directly in the Windows file explorer.
2. Right-click to open the context menu and select "Encrypt cycle files".
The "Encrypt cycle file(s)" dialog of AMM opens.

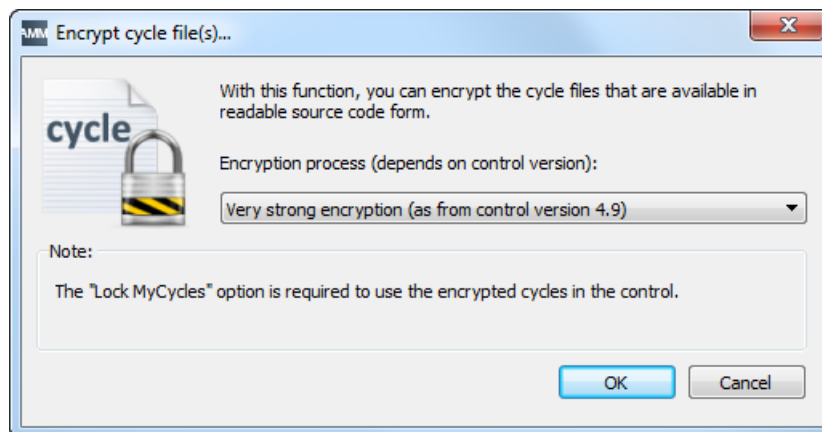


Figure 6-52 Encrypting cycle file(s)

3. Select an encryption method depending on your control version:
 - Compatible encryption (up to control version < V4.6)
 - Strong encryption (from control version V4.6)
 - Very strong encryption (from control version V4.9)
4. Select "OK".

Alternative operating sequence in AMM

1. Select one or more arbitrary cycle files in the file display area of the offline file browser.
2. Right-click to open the context menu and select "Encrypt cycle file(s)". Alternatively select the function via the main menu: "File > Encrypt cycle file(s)" or "Tools > Encrypt cycle file(s)". The "Encrypt cycle file(s)" dialog opens.

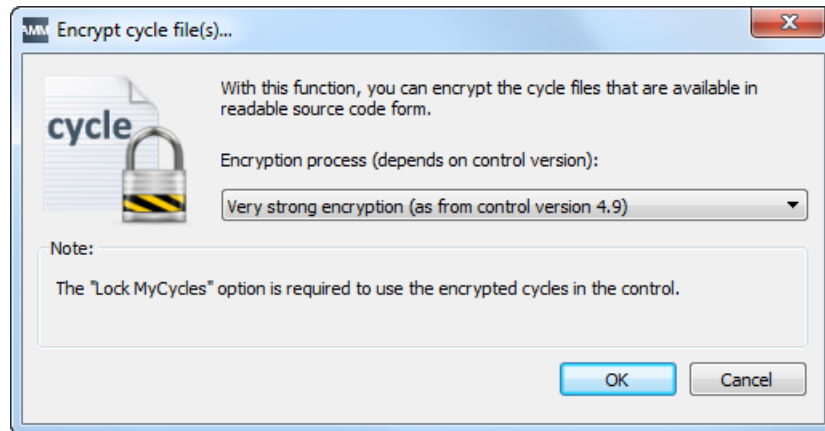


Figure 6-53 Encrypting cycle file(s)

3. Select an encryption method depending on your control version:
 - Compatible encryption (up to control version < V4.6)
 - Strong encryption (from control version V4.6)
 - Very strong encryption (from control version V4.9)
4. Select "OK".

Result

The encryption of the cycle file(s) is started. The name of the new created file is: <Original file name>.cpf

6.5 Backing up/restoring a CompactFlash Card

6.5.1 Overview of backing up/restoring a CompactFlash Card

It is recommended that you create an image of your CompactFlash card so that your control settings can be restored, and to back up your data.

You have the following options for control data:

- Generating an image from the CompactFlash Card/USB-FlashDrive (Page 138)
- Writing an image to the CompactFlash Card/USB-FlashDrive (Page 140)
- Writing a SINUMERIK 828D boot system (Page 141)

6.5.2 Generating an image from the CompactFlash Card/USB-FlashDrive

Note

Note the central security information in Section Security information on the product (Page 15).

Operating sequence

1. To create a data storage medium image of the CompactFlash card / USB flash drive, click "Tools" > "Create CF card image" in the main window menu.



Figure 6-54 Generate image

2. Select the card reader of the PC where the CompactFlash card or USB flash drive is located.

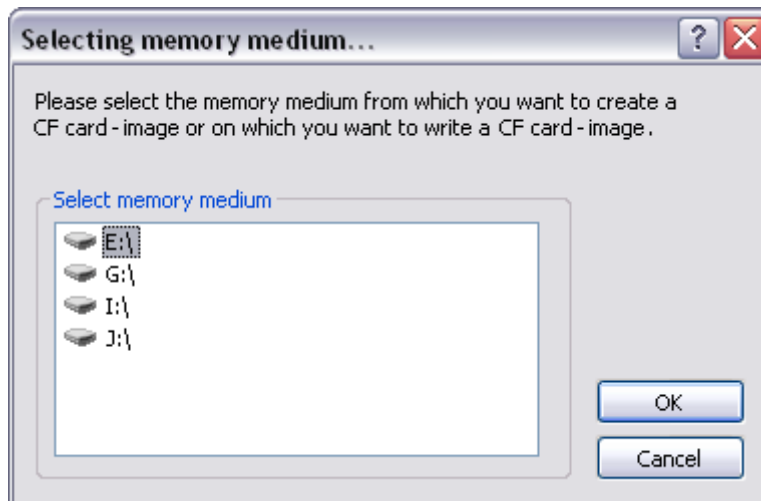


Figure 6-55 Select storage medium

3. Click "OK" and specify the file in which the image is to be created.
4. The file is created.

Note

CompactFlash card readers integrated into a directory, rather than into the PG/PC as a drive, are neither offered for selection nor supported.

The CompactFlash card reader must be integrated into Windows as a drive with drive letters.

Note

Commissioning data must be backed up separately

The created image does not contain any commissioning data.

Back up the current commissioning data before restoring an image. For further information, see Section Backing up commissioning data on the control (Page 191).

See also

Overview of backing up/restoring a CompactFlash Card (Page 138)

6.5.3 Writing an image to the CompactFlash Card/USB-FlashDrive

Operating sequence

1. To write a CompactFlash card image to the CompactFlash card / USB flash drive, click "Tools" > "Write image to CF card" in the main window menu.

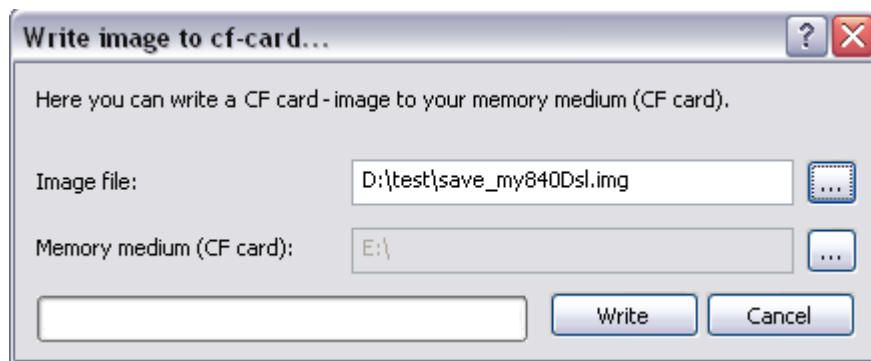


Figure 6-56 Writing a CompactFlash card image

2. Select the CompactFlash card image.

3. Select the CompactFlash card in the card reader for the PC or the USB flash drive to which the CompactFlash card image should be written.

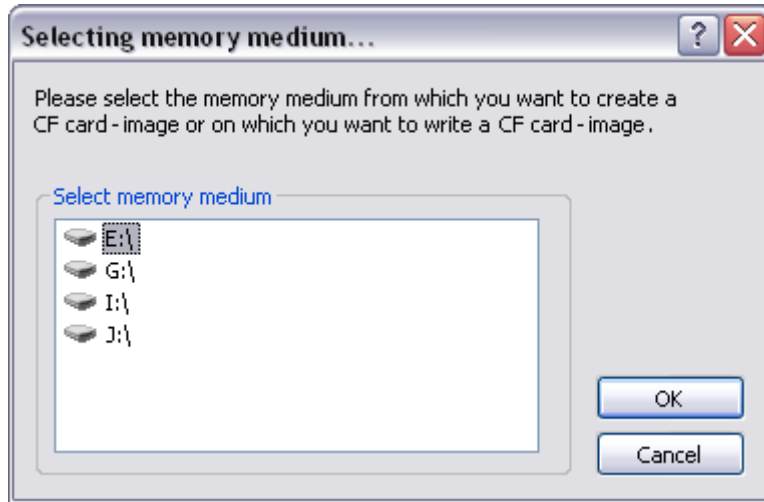


Figure 6-57 Select storage medium

4. Write the file CompactFlash card image to the CompactFlash card in the PC's card reader or to the USB flash drive.

Note

CompactFlash card readers integrated into a directory, rather than into the PG/PC as a drive, are neither offered for selection nor supported.

The CompactFlash card reader must be integrated into Windows as a drive with drive letters.

Note**Commissioning data is reset**

The commissioning data is deleted when restoring a backup.

Back up the current commissioning data before restoring: For further information, see Section Backing up commissioning data on the control (Page 191).

See also

Overview of backing up/restoring a CompactFlash Card (Page 138)

6.5.4 Writing a SINUMERIK 828D boot system

Note

The function for writing a SINUMERIK 828D boot system card is exclusive to SINUMERIK 828D, and is offered only if you have installed at least one SINUMERIK 828D toolbox on the PG/PC.

To restore a defective card or for writing a minimal SINUMERIK 828D system, proceed as follows:

Operating sequence

1. Select "Tools" > "Write SINUMERIK 828D boot system" in the menu. (This menu item appears only if a SINUMERIK 828D toolbox has been installed on your PC.)
2. If more than one SINUMERIK 828D toolbox has been installed on your PC, a compulsory selection dialog opens prompting you to select the appropriate version.

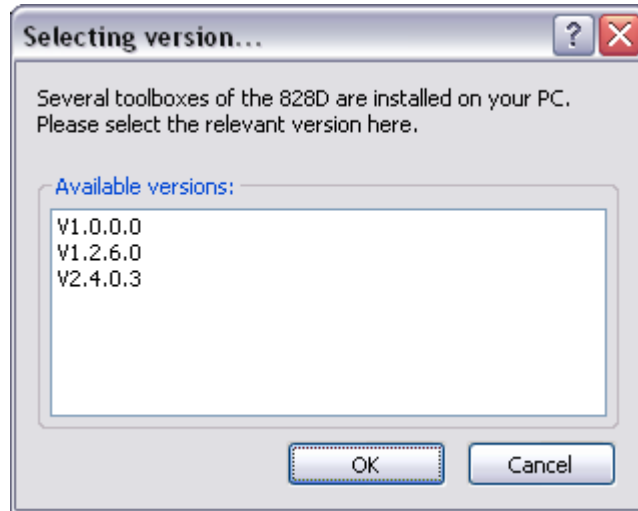


Figure 6-58 Select a toolbox version

3. Once you have selected the toolbox version, or if you have only installed one SINUMERIK 828D toolbox, the dialog for writing the system card opens.

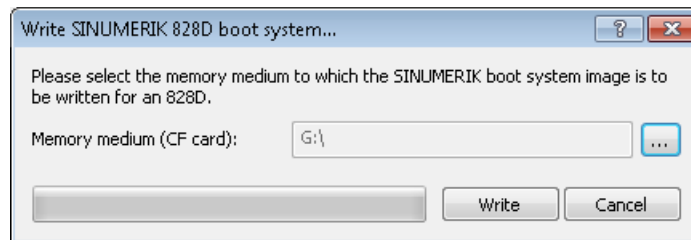


Figure 6-59 Writing a SINUMERIK 828D boot system

4. This dialog requires you to select the storage medium (CompactFlash card) to which the boot system image is to be written.

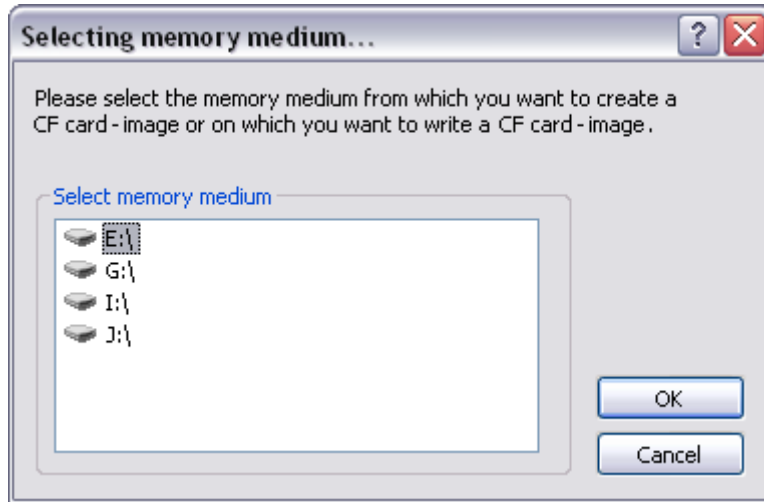


Figure 6-60 Select a medium

5. Select "Write" to begin the writing process.

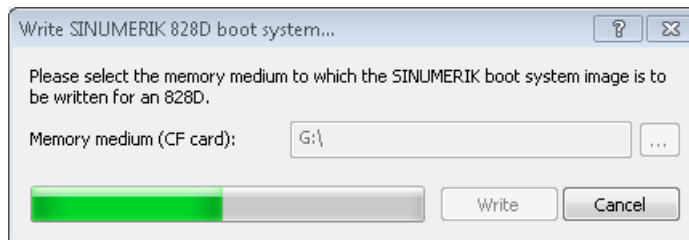


Figure 6-61 Writing the SINUMERIK 828D boot system

Note

If your card on the SINUMERIK 828D should become defective and you have already created a tgz archive of your card, you can import this archive to the newly generated boot system card via the SINUMERIK 828D power-up menu.

Note

CompactFlash card readers integrated into a directory, rather than into the PG/PC as a drive, are neither offered for selection nor supported.

The CompactFlash card reader must be integrated into Windows as a drive with drive letters.

See also

Overview of backing up/restoring a CompactFlash Card (Page 138)

6.6 CNC Lock function

6.6.1 CNC lock function overview

Field of application

The machine manufacturer decides to sell a machine using the leasing business model with CNC lock function and licenses this function for the appropriate control from Siemens with the serial number of the CompactFlash card. This means that the machine manufacturer has the option, using the "SINUMERIK Access MyMachine/ P2P (PC)" commissioning tool, to activate a date in the control as of which the NC start is locked.

This allows, for example, a remaining payment of a machine to be requested or a change of the PLC during the warranty to be prohibited. If the customer makes the agreed remaining payment, the customer can then be provided with a new encrypted file with a new expiry date.



Software option

You require the following option in order to use this function: "CNC lock function 6FC5800-0AP76-0YB0".

Validity of the function

Note that the CNC lock function is currently supported by only the following SINUMERIK controls:

- SINUMERIK 828D
- SINUMERIK 808D

6.6.2 Activating the CNC lock function

Requirement



Software option

You require the following option in order to use this function: "CNC lock function 6FC5800-0AP76-0YB0".

Operating sequence

1. To activate the CNC lock function, click "Tools > CNC lock function" in the main window menu.

Figure 6-62 CNC lock function

The "CNC lock function" dialog opens.

2. Click the "Activate" button at "Select CNC lock function". The button is selected.
3. Select the software version of the control to be locked.
4. Enter the CompactFlash card number for whose control the lock is to be set. The CompactFlash card number must contain at least 4 characters and maximum 20 characters. Spaces, special characters and accented characters are not permitted.
5. Enter the hardware serial number of the control. The hardware serial number must contain at least 1 character and maximum 15 characters. Special characters and spaces are not permitted.
6. Enter an OEM PIN. The OEM PIN must contain at least 8 characters, including at least one uppercase letter, at least one lowercase letter, at least one number and at least one special character.

NOTICE

Do not forward to customers!

Do not forward the PIN to end users! With the PIN the customer can remove the lock.

7. Select a lock date. The lock date specifies when the lock acts. The control remains functional provided the date is not yet reached, after which the control is locked. After a lock, you have to either set a new expiration date (Page 146) or deactivate the lock (Page 149).
8. Click "Create lockset file" to create an encrypted "lockset.clc" lockset file. The content of the comment field is not stored in the lockset file.
9. Import the lockset file into the control. (Page 151) This does not require any special access level.

Note

As the lockset file is encrypted, the file cannot be changed subsequently. To revoke or extend the lock later, a new lockset file must be generated. This means that the same CompactFlash card number, hardware serial number and OEM PIN have to be specified, because the lock can be deactivated or extended only with the same data.

Result

Information on activating the CNC lock function on the control can be found in the following manuals:

- "Basic Functions" Function Manual (<https://support.industry.siemens.com/cs/us/en/view/109481523>), Section "P4: PLC for SINUMERIK 828D > CNC lock function"
- "SINUMERIK 808D, SINUMERIK 808D ADVANCED Commissioning Manual (<https://support.industry.siemens.com/cs/de/de/view/109736343/en>)", Section "Other frequently used functions", "CNC lock function".

Managing data

To manage the data, you can save the entered data in a dedicated file on the PC.

Click the "Save data" button to save the entered data in a "user_lockset.ulcs" file on the PC. To retain clarity when a large number of files are involved, information such as which customer has installed which CompactFlash card in which machine can be entered in the comment field.

NOTICE
Do not forward to customers!
Do not forward this file to end users! The file contains the PIN in plain text. With the PIN the customer can remove the lock.

Click the "Load data" button to load the "user_lockset.ulcs" file and read the information stored there.

6.6.3 Extending the CNC lock function

The CNC lock function can also be extended, i.e. the expiration date is updated.

Requirement



Software option

You require the following option in order to use this function: "CNC lock function 6FC5800-0AP76-0YB0".

Operating sequence

1. To extend the CNC lock function, click "Tools > CNC lock function" in the main window menu.

Figure 6-63 Extending the CNC lock function

The "CNC lock function" dialog opens.

1. Click the "Extend" button at "Select CNC lock function". The button is selected.
2. Select the software version of the control to be locked.
3. Enter the CompactFlash card number for whose control the lock is to be set. This must agree with the CompactFlash card number specified for activating the CNC lock function. The CF card number must contain at least 4 characters and maximum 20 characters. Spaces, special characters and accented characters are not permitted.
4. Enter the hardware serial number of the control. The hardware serial number must contain at least 1 character and maximum 15 characters. Special characters and spaces are not permitted.

5. Enter an OEM PIN. The OEM PIN must contain at least 8 characters, including at least one uppercase letter, at least one lowercase letter, at least one number and at least one special character. The OEM PIN must match the pin specified for activating the CNC lock function.

NOTICE
Do not forward to customers!
Do not forward the PIN to end users! With the PIN, the customer can remove the lock.

6. Select a new lock date. The lock date specifies when the lock takes effect. The control remains functional provided the date is not yet reached, after which the control is locked. After the lock, you must either extend the CNC lock function or deactivate the lock (Page 149).
7. Click "Create lockset file" to create an encrypted "lockset.clc" lockset file. The content of the comment field is not stored in the lockset file.
8. Import the lockset file into the control (Page 151). This does not require any special access level.

Note

As the lockset file is encrypted, the file cannot be changed subsequently.

9. Send the newly generated lockset file to the customer. The customer can now independently import the lockset file into the control (Page 151). This does not require any special access level. After the successful activation, the new lock date is compared with the internal date calculation of the CNC lock function.

Result

Information on activating the CNC lock function on the control can be found in the following manuals:

- "Basic Functions" Function Manual (<https://support.industry.siemens.com/cs/us/en/view/109481523>), Section "P4: PLC for SINUMERIK 828D > CNC lock function"
- "SINUMERIK 808D, SINUMERIK 808D ADVANCED Commissioning Manual (<https://support.industry.siemens.com/cs/de/de/view/109736343/en>)", Section "Other frequently used functions", "CNC lock function".

Managing data

To manage the data, you can save the entered data in a dedicated file on the PC.

Click the "Save data" button to save the entered data in a "user_lockset.ulcs" file on the PC. To retain clarity when a large number of files are involved, information such as which customer has installed which CompactFlash card in which machine can be entered in the comment field.

NOTICE**Do not forward to customers!**

Do not forward this file to end users! The file contains the PIN in plain text. With the PIN, the customer can remove the lock.

Click the "Load data" button to load the "user_lockset.ulcs" file and read the information stored there.

6.6.4 Deactivating the CNC lock function

Requirement

**Software option**

You require the following option in order to use this function: "CNC lock function 6FC5800-0AP76-0YB0".

Operating sequence

1. To deactivate the CNC lock function, click "Tools > CNC lock function" in the main window menu.

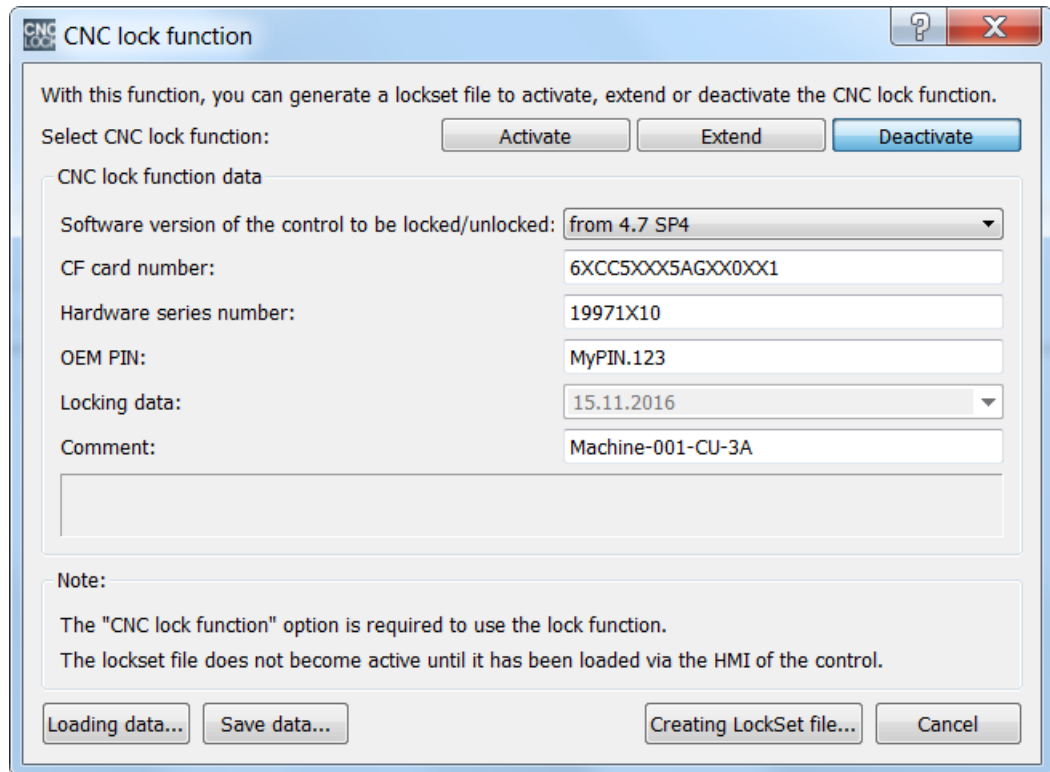


Figure 6-64 Deactivating the CNC lock function

The "CNC lock function" dialog opens.

2. Click the "Deactivate" button at "Select CNC lock function". The button is selected.
3. Select the software version of the control to be unlocked.
4. Enter the CompactFlash card number for whose control the lock is to be revoked.
5. Enter the hardware serial number of the control. The hardware serial number must contain at least 1 character and maximum 15 characters. Special characters and spaces are not permitted.
6. Enter an OEM PIN with which an expiration date has previously been created.

NOTICE

Do not forward to customers!

Do not forward the PIN to end users! With the PIN the customer can remove the lock.

7. Click "Create lockset file" to create an encrypted "lockset.clc" lockset file. The content of the comment field is not stored in the lockset file.
8. The customer can now independently import the lockset file into the control (Page 151). This does not require any special access level.

Result

You can find **further information** on deactivating the CNC lock function on the control in the following manuals:

- Function Manual PLC 828D
- "SINUMERIK 808D, SINUMERIK 808D ADVANCED Commissioning Manual (<https://support.industry.siemens.com/cs/de/de/view/109736343/en>)"

Managing data

To manage the data, you can save the entered data in a dedicated file on the PC.

Click the "Save data" button to save the entered data in a "user_lockset.ulcs" file on the PC. To retain clarity when a large number of files are involved, information such as which customer has installed which CompactFlash card in which machine can be entered in the comment field.

NOTICE
Do not forward to customers!
Do not forward this file to end users! The file contains the PIN in plain text. With the PIN the customer can remove the lock.

Click the "Load data" button to load the "user_lockset.ulcs" file and read the information stored there.

See also

Function Manual, Basic Functions (<https://support.industry.siemens.com/cs/us/en/view/109481523>)

6.6.5 Reading in Lockset file

Requirement

Note

Setting the time in the control

Before the lockset file is read-in for the first time, the clock in the control must be set correctly because the clock at the point in time of the activation of the CNC lock function is saved as the start value for monitoring.



Software option

You require the following option in order to use this function: "CNC lock function 6FC5800-0AP76-0YB0".

828D operating sequence:

1. Copy the lockset file to a USB stick or to the CompactFlash card of the control.
2. Select the "Commissioning" operating area. Press the menu forward key.
3. Press the "Licenses" softkey. The "Licensing" window opens.
4. Press the "Read in license key" softkey.
5. Click "OK" to open the appropriate storage location (e.g. USB).
The associated lockset file is detected and read-in automatically. This does not require any special access level.

Note

Exporting the commissioning archive

We recommend that a complete commissioning archive is exported after the successful commissioning of the machine and the activation of the CNC lock function! This ensures data consistency for the CNC lock function.

If necessary, this commissioning archive can be used to recommission the control without requiring a service call to reactivate the CNC lock function.

808D operating sequence:

1. Select the shortcut <ALT+N> at remote control. Press the arrow pointing to the right and select the "Version" softkey. Then select the "License key" softkey.
2. Enter the license key.
3. Restart the control (cold restart).
4. Store the lockset file in at least one of the following directories:
 - /oem/sinumerik/hmi/files
 - /user/sinumerik/hmi/files
5. Select the shortcut <ALT+N> at remote control. Press the arrow pointing to the right and select the "Version" softkey. Then select the "License key" softkey and select "Import file".

See also

Function Manual, Basic Functions (<https://support.industry.siemens.com/cs/us/en/view/109481523>)

6.6.6 Further information

You can find **further information** on setting up the CNC Lock function on the control in the following manual:

- **Function Manual 828D "PLC"**

FAQs

The Function Manual "PLC" includes answers to important FAQs on the following subjects:

- What happens when defective control hardware (PPU) is replaced?
- What happens when a defective CompactFlash card is replaced?
- What can I do if I have forgotten the OEM PEN?
- What protection against manipulation does the CNC Lock function offer?
- How can I reset the advance warning time?

See also

Function Manual, Basic Functions (<https://support.industry.siemens.com/cs/us/en/view/109481523>)

6.7 SINUMERIK OPC UA Server Tools

The SINUMERIK OPC UA server tools of SINUMERIK Access MyMachine /P2P offer workflow support for the CSOM functionality of the SINUMERIK OPC UA server. A **Customer Specific Object Model (CSOM)** allows a specific view of the OPC UA server to meet the requirements in a customer-specific project. You can export the address space of the SINUMERIK OPC UA server as an xml file. This xml file can then be modeled in SiOME or any other modeling software to create a customer specific object model. Finally the customer specific object model needs to be converted to a binary format that can be read by the SINUMERIK OPC UA server.



Software option

You require the following option to read the address space of the SINUMERIK OPC UA server and to import the modeled binary file in the control:

"SINUMERIK Access MyMachine /OPA UA" (6FC5800-0AP67-0YB0).

Opcua Server Model Export

1. Click on "Tools > Sinumerik Opcua Server Tools > Opcua Server Model Export". The following dialog appears:

Figure 6-65 Opcua Server Model Export

2. Please Enter the IP address and the port of the OPC UA server as well as the username and password to access the server. Then specify where the output file should be saved to.
3. Click the "Start" button to generate the xml file.
The generated xml file is saved to the specified location. The generated xml file can then be imported into SiOME tool.

Model Binary Converter

1. Click "Tools > Sinumerik Opcua Server Tools > Model Binary Converter". The following dialog appears:

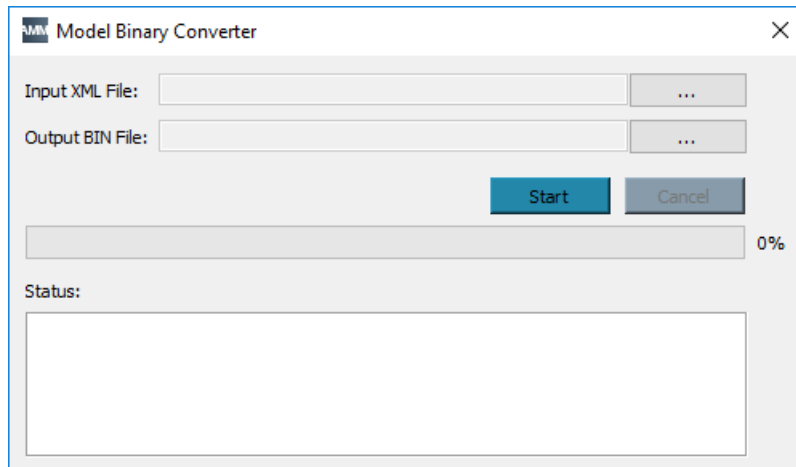


Figure 6-66 Model Binary Converter

2. Select the location of the XML file under "Input XML File" and specify the location to save the binary file under "Output BIN File".
3. Click the "Start" button to generate the binary file. The generated binary file will be saved to the specified location.
4. Copy the binary file either to a USB stick or transfer the file via AMM directly to the control (addon\sinumerik\hmi\opcua\models).

Note

Note, if models folder is not present, then create a folder named "models".

For acting and activating the customer specific object model in OPC UA, please refer to Configuration Manual SINUMERIK Access MyMachine /OPC UA (<https://support.industry.siemens.com/cs/de/de/view/109762876>).

6.8 Command line call

6.8.1 Connection parameters

You can call AMM via command line. This has the advantage that AMM automatically connects with the transferred connection data of a control immediately after the start. The Connection dialog does not have to be called. Existing connection data is not changed.

The following options are available to specify the connection parameters:

- Specify the connection parameters directly in the command line
- Specify the connection parameters via the start file in the command line

Specifying the connection parameters directly

1. Open the input request in the Start menu of Windows.
2. Start AMM via command line ([Installation directory]\AccessMachinery.exe) and transfer the following required connection parameters:

```
-ip <IP address to which the connection is to be made>  
-l <login to be used for the connection> [optional]  
-key <path to the key file to be used during the login> [optional]  
-remote <IP address for the remote control> [optional]
```
3. Enter the password to start AMM if you have not saved it in AMM.
4. Enter the password for the connection.

Example

Call with command line parameters

```
AccessMyMachine.exe -ip 192.168.1.16 -l manufact -key "d:\ssh_key_file.openssh"
```

Specifying the connection parameters via the start file

1. Create a start file in an arbitrary text editor according to the following template:

```
[connection]  
IP-Address <IP address to which the connection is to be made>  
Login <login to be used for the connection> [optional]  
Key-File <path to the key file to be used during the login>  
[optional]  
Remote-IP-Address <IP address for the remote control> [optional]
```
2. Save the start file with a unique extension (e.g. *.rcscmd).
3. Call the start file with the following command via command line: `AccessMyMachine.exe <file path and name of the AMM start file used>`
4. Enter the password to start AMM if you have not saved it in AMM.
5. Enter the password for the connection.

Note**Starting the start file by double-clicking**

You can start the start file with a double-click:

- To do this, save the start file with a unique extension (e.g. *.rcscmd) and link this file type in the system to AMM. Set AMM for this file type as standard program in the operating system.
-

Examples**Complete call of the start file in the command line**

```
AccessMyMachine.exe "d:\data\machine01\MyMachineOne.rcscmd"
```

Example of a complete start file

```
[connection]
IP-Address=192.168.1.16
Login=manufact
Key-File="d:\ssh_key_file.openssh"
Remote-IP-Address=192.168.1.16
```


Reference

7.1 Supported files

Supported files

The following file types are supported in the AMM project:

Files	ONE	840D sl	828D	808D	Type	Path	Editable in AMM
Alarm texts							
oem_alarms_cycles_<lng>.ts	x	x	x	-	xml	oem	x
oem_alarms_plc_<lng>.ts	x	x	x	-	xml	oem	x
oem_partprogram_messages_<lng>.ts	x	x	x	-	xml	oem	x
Color attribute files							
alarmtexteditor_db_oem_alarms_cycles.xml	x	x	x	-	xml	oem	x ¹⁾
alarmtexteditor_db_oem_alarms_plc.xml	x	x	x	-	xml	oem	x ¹⁾
alarmtexteditor_db_oem_partprogram_messages.xml	x	x	x	-	xml	oem	x ¹⁾
Configuration files							
slaesvcconf.xml	x	x	x	-	xml	oem	- ²⁾
slaesvcadapconf.xml	x	x	x	-	xml	oem	- ²⁾
Alarm texts							
alc_<lng>.txt	-	-	-	x	txt	oem ³⁾	x
alcu_<lng>.txt	-	-	-	x	txt	oem ³⁾	x
EasyExtend							
oem_aggregate_<lng>.ts	-	-	x	-	xml	oem	x
EasyScreen							
almc_<lng>.txt	x	x	x	-	txt	oem	x
alsc_<lng>.txt	x	x	x	-	txt	oem	x
aluc_<lng>.txt	x	x	x	-	txt	oem	x
Maintenance planner							
oem_maintenance_<lng>.ts	-	-	x	-	xml	oem	x
Tool management							
slstepforms_<lng>.ts	x	x	x	-	xml	oem	x
sltmlistdialog_<lng>.ts	x	x	x	-	xml	oem	x

7.1 Supported files

Files	ONE	840D sl	828D	808D	Type	Path	Editable in AMM
Maintenance planner							
svc_task_<lng>.txt	-	-	-	x	txt	oem ³⁾	x
Other							
almc_<lng>.txt	-	-	-	x	txt	oem ³⁾	x
md_descr_<lng>.txt	-	-	-	x	txt	oem ³⁾	x
rparam_name_<lng>.txt	-	-	-	x	txt	oem ³⁾	x
Archives							
Any names (*.arc and *.ard)	x	x	x	x	Binary	oem + user	x

- ¹⁾ Direct editing of files is not supported. The files are automatically edited via the project when the alarm texts are edited. The color and popup information are saved in these files.
- ²⁾ Direct editing of the files is not supported. The above-mentioned files are registered in these configuration files by default.
- ³⁾ These files are also present in a separate language directory <lng>.

7.2 Languages supported by SINUMERIK Operate

Table 7-1 Supported languages

Language	Language code	Standard languages
Chinese (simplified)	chs	X
Chinese (traditional)	cht	
Danish	dan	
German	deu	X
English	eng	X
Finnish	fin	
French	fra	X
Indonesian	ind	
Italian	ita	X
Japanese	jpn	
Korean	kor	
Malaysian	msl	
Dutch	nld	
Polish	plk	
Portuguese	ptb	
Romanian	rom	
Russian	rus	
Swedish	sve	
Slovenian	slv	
Slovakian	sky	
Spanish	esp	X
Thai	tha	
Czech	csy	
Turkish	trk	
Hungarian	hun	
Vietnamese	vit	

7.3 Toolbar

The table below describes the functions of the toolbar buttons.

Symbol	Function
	Connect Establish a connection to the control
	Disconnect Disconnect a connection established to the control
	Remote control Operate the control from the PC and display the HMI screens at the PC
	Show or hide the project window Showing or hiding of the "Project" window
	Open Open or execute the selected file
	Cut Cut and copy to the Windows clipboard
	Copy Copy to the Windows clipboard
	Paste Paste from the Windows clipboard
	Large symbols Display of the files in compact form with large symbols (several files in one line)
	Small symbols Display of the files in compact form with small symbols (several files in one line)
	List Display of the files in a list
	Details Display of the files in a list with size and date
	Calling up the online help

7.4 View overview

Using the "View" menu, you can show and hide windows and menus, and specify the directory view.

The following submenus are available for this:

- Toolbar
- Status bar
- Project window
- Info window
- Large symbols
- Small symbols
- List
- Details

Functions

Menu	Description		Shortcut menu
Toolbar	Show or hide the toolbar. The toolbar contains symbols, which can be used to call individual menu functions more quickly. The toolbar lies directly below the menu.		
Status bar	Show or hide the status bar. The status bar lies at the lower edge of the screen, and displays information about the status of the program.		
Project window	Show or hide the "Project" window. When the project window is hidden, the active project remains open.		
Info window	Show or hide the "Info window" window. The online status states the current status of the connection to the control. The status window has a tabular structure and contains the following columns		• Copy The "Copy" function copies the selected status message to the clipboard. • Delete all All pending status messages are deleted.
	Col- umn	Description	
	Icon	 Message type Information	
		 Message type Error message	
		 Message type Warning	
	Information	Time of the text of the message to	
	Date	Date of message	
	Time	Time of message	
Large symbols	Adaptation of the directory view The contents of the directory can be displayed as "Large symbols", "Small symbols", or as a "List" or detailed view. The function always relates to the window that is currently active.		
Small symbols			
List			
Details			

7.5 Lock MyCycles - cycle protection

7.5.1 Function overview

Use

With cycle protection, cycles can be encrypted and then stored, protected in the control. The processing of cycles with cycle protection in the NC is possible without restrictions.



Software option

You require the following software option in order to use this function:
"Lock MyCycles" (6FC5800-0AP54-0YB0).

Note

This type of encryption is in compliance with export restrictions and embargo regulations.

In order to protect the manufacturer's know-how, any type of view is inhibited for cycles with cycle protection. If service is required, the machine manufacturer must provide the unencrypted cycle.

Note

End user

When using encrypted cycles of a machine manufacturer, if problems occur, then only the service department of the machine manufacturer should be contacted.

Machine manufacturer

When using encrypted cycles, the machine manufacturer must ensure that original, unencrypted cycles are archived with the appropriate version management.

Encryption

When calling the program, the encrypted NC cycle is generated in the same directory as the original:

- In order to use the more sophisticated encryption, when calling the program, enter option "-e2".
- In order to use encryption compatible with older software versions, when calling the program, enter option "-e1".

The OEM loads the encrypted NC cycle into the control, and activates it using "Reset (po)".

NOTICE

Compatibility of the encryption

Siemens cycles that are supplied always match the software release.

- Cycles encrypted with "-e1" and "-e2" can be mixed.
- We do not recommend loading encrypted cycles into older software versions using option "-e2".

Handling encrypted cycles

Encrypted cycles are handled just like _SPF and _MPF files:

- **Backing up:** All the encrypted _CPF files are also backed-up when an archive is generated.
- **Copying:** An encrypted cycle can be copied and can therefore be used at other machines.
 - **Using encrypted cycles at only one machine**
 If the cycle must not be used at another machine, then it can be permanently linked to a particular machine. The machine data MD18030 \$MN_HW_SERIAL_NUMBER can be used for this purpose.
 When the control boots, the unique hardware serial number of the CompactFlash card is saved in this machine data. If a cycle is to be permanently linked to a machine, then in the call of the cycle, the serial number of the CompactFlash card must be queried (MD18030 \$MN_HW_SERIAL_NUMBER). If the cycle identifies a serial number that does not match, then an alarm can be output in the cycle and so prevents further processing. As the code of the cycle is encrypted, there is always a fixed link to a defined hardware.
 - **Using encrypted cycles on several machines**
 If a cycle is to be permanently linked to several, defined machines, it must be entered into the associated hardware serial number. The cycle must be re-encrypted with these hardware serial numbers.
- **Delete, unload:** A _CPF file can be deleted or unloaded just like an _SPF or _MPF file.
- **General conditions when executing:**
 - An encrypted cycle cannot be directly selected for processing. It can only be called from a part program - or directly in MDI.
 - An encrypted cycle cannot be processed with the "Process external" function.

References

Application example (<https://support.industry.siemens.com/cs/document/109474775>)

7.5.2 Preprocessing

File extensions

The cycle to be protected is encrypted on an external PC using the protector.exe program. The encrypted cycle has the extension `_CPF` (Coded Program File).

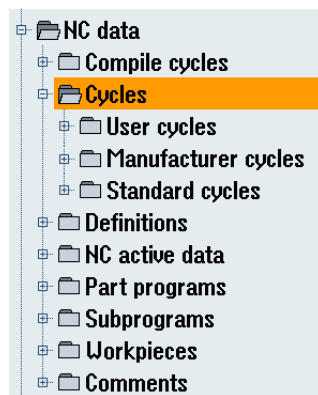
In this context, the following existing extensions are relevant:

- `_MPF` "Main Program File" for unencrypted main programs; ASCII format
- `_SPF` "Sub-Program File" for unencrypted sub-programs; ASCII format
- `_CYC` "Cycle" for pre-compiled file; binary format

The following file extensions are available for encrypted cycles:

- `_CPF` "Coded Program File" for encrypted files in binary format

The `_CPF` files are loaded under NC data to either `/_N_CST_DIR`, `/_N_CMA_DIR` or `/_N_CUS_DIR`. The cycles are visible there and can be processed just like the previous part programs (`_MPF`, `_SPF`).



To execute a `_CPF` file, a power-on reset is required after loading. If no power on reset is performed, the processing of a `_CPF` file causes the following alarm: **15176** "Program %3 can be executed only after power on reset".

Note

A machine manufacturer cycle can be called from a main program using the cycle name and an extension, for example `_SPF`. This is possible in the `CALL`, `PCALL` command or also directly with the name.

If this machine manufacturer cycle is loaded encrypted as `_CPF`, all sub-program calls with extension must be changed to `_CPF`.

Preprocessing

Encrypted data can be processed the same as `_SPF` files. To activate preprocessing, machine data MD10700 \$MN_PREPROCESSING_LEVEL must be set. Pre-processing is always recommended for runtime reasons.

For pre-processing, an NC program (_MPF) or cycle (_SPF) must be converted from the ASCII format into the binary format (compiled). The following NC alarm is issued if, at the time of execution, the compilation is older than the encrypted cycle file: **15176** "Program %3 can be executed only after power on reset".

7.5.3 Call as sub-program

Sub-program calls without extensions

A directory can include an encrypted file file _CPF and also an unencrypted file _SPF with the same name, e.g. CYCLE1. If the unencrypted _SPF file is pre-processed, then the following are located in directory:

- CYCLE1.SPF ; unencrypted cycle
- CYCLE1.CYC ; unencrypted cycle in the binary format (compilation)
- CYCLE1.CPF ; encrypted cycle

For a call in the part program without extension, e.g. N5 CYCLE1(1.2) the call is made with the following priority:

- CYCLE1.CYC
- CYCLE1.SPF
- CYCLE1.CPF

If only the encrypted file (*.CPF) is in a directory, for a call without extension, nothing has to be changed. The encrypted file or its compilation is called. In the case of service, an unencrypted file (*.SPF) is loaded. As this file has a higher priority, for the same call without extension, this file is called.

Note

An unencrypted file and its compilation have a higher priority than an encrypted file.

Sub-program calls with extensions

Sub-program calls with extension are:

- Direct call N5 CYCLE1_SPF
- Indirect sub-program call (CALL) N5 CALL "CYCLE1_SPF"
- Sub-program call with path data (PCALL) N5 PCALL /_N_CMA_DIR /_N_CYCLE1_SPF

The following extensions are possible:

- N3_MPF; calls the unencrypted file.
- N5 _SPF ; calls the unencrypted cycle.
- N10 _CYC ; calls the compilation of the unencrypted cycle.
- N15 _CPF ; calls the encrypted cycle or its compilation.

If a previous unencrypted cycle CYCLE1 is called with _SPF and this is now only loaded encrypted as _CPF, then all of the calls must be adapted.

NC language commands with absolute path data

Using the following commands, files can be accessed in the passive file system from the part program. In this case, absolute path data with extensions are used.

- WRITE: Data cannot be attached to a _CPF file, return 4 "incorrect file type".
- READ: Lines cannot be read from a _CPF file, return 4 "incorrect file type".
- DELETE: _CPF files can be deleted.
- ISFILE: A check can be made as to whether a _CPF file is available.
- FILEDATE
- FILETIME
- FILESIZE
- FILESTAT
- FILEINFO

All commands can also be called for _CPF files. The commands then supply the corresponding information.

7.5.4 Processing the program

Actual block display

If an encrypted cycle is executed, then DISPLOF is always active, independent of the programmed PROC attributes. DISPLOF and DISPLON in the block have no effect. If an alarm occurs in the cycle, when programming ACTBLOCNO, the block number is not output in the alarm line, but always just the line number.

Basic block display

If a _CPF cycle is executed, for an active basis block display, the absolute end of block is still displayed. In the single block, this information corresponds to the display of the actual axis values and can also be entered there.

Version display

If a version is entered in the header of an encrypted _CPF cycle, then this version is displayed in the contents screen of a cycle directory, just the same as for unencrypted cycles.

Simulation

The absolute end values are displayed during the processing of a _CPF file in the simulation.

7.6 Data structure on the CompactFlash Card system

7.6.1 Data structure on the CompactFlash card (SINUMERIK 840D sl / 828D)

With SINUMERIK Operate, all files are stored on the system CompactFlash card. At the topmost level, the file system consists of the following four relevant directories:

- "Siemens"
- "Add_on"
- "OEM"
- "User"

These directories have essentially an identical structure.

The files in the "Siemens" directory represent the original status and cannot be modified!

To modify files, copy an original file from the "/Siemens/sinumerik/hmi/template" directory and paste it into the appropriate place in the "OEM" or "User" directory.

There are also sample files in the "Siemens" directory that you can copy and use as user-specific files.

Structure

The section of the directory structure on the system CompactFlash card that is relevant for SINUMERIK Operate is shown below:

Table 7-2 "/Siemens/sinumerik" structure

Path		Meaning
/Siemens/sinumerik		
	/hmi	
	/appl.cfs	Applications (operating areas)
	/base.cfs	Basic system
	/cfg	All config files for runtime
	/data/	Version data of the software and hardware
	/hlps/hlp_std.cfs	Online help of the applications for standard languages
	/hlps/hlp_xxx	Online help of the applications for special languages
	/ico/ico640	Icons in resolution 640 x 480
	/ico/ico800	Icons in resolution 800 x 600
	/ico/ico1024	Icons in resolution 1024 x 768
	/ico/ico1280	Icons in resolution 1280 x 1024
	/lngs/baselng_std.cfs	Texts of the basic system (standard languages)
	/lngs/baselng_ex1.cfs	Texts of the basic system (special languages 1)
	...	Texts of the basic system in additional languages
	/lngs/appllng_std.cfs	Texts of the applications (standard languages)
	/lngs/appllng_ex1.cfs	Texts of the applications (special languages 1)

7.6 Data structure on the CompactFlash Card system

Path		Meaning
	...	Texts of the applications in additional languages
	...	Online help of the applications for additional languages
	/osal/qt.cfs	Qt
	/osal/ace.cfs	ACE/TAO
	/hlp	Online help for runtime
	/deu	Online help in German
	/hmi	Directory for HMI online help in German
	/hmi.xml	
	...	Directories for additional books
	/eng	Online help in English
	/hmi	Directory for HMI online help in English
	/hmi.xml	
	...	Directories for additional help books
	hlps.	Directories for additional languages
	/squish	Directories for squish components for test

Remarks:

At runtime, the config files are linked from base.cfs and appl.cfs to /cfg.

At runtime, the files are linked with the language-dependent texts to /lng.

At runtime, the files of the online help are linked to /hlp.

Table 7-3 "/Add_on/sinumerik" structure

Path		Meaning
/Add_on/sinumerik		
	/hmi	
	/addon1.cfs	Addon1 (everything except texts and online help)
	/addon2.cfs	Addon2 (everything except texts and online help)
	...	Additional add-ons
	/lngs/addon1lng_std.cfs	Language-dependent texts Addon1
	/lngs/addon2lng_std.cfs	Language-dependent texts Addon2
	...	Language-dependent texts of other add-ons
	/hlps/addon1hlp_std.cfs	Online help Addon1
	/hlps/addon2hlp_std.cfs	Online help Addon2
	...	Online help additional add-ons
	/ico/ico640	Icons in resolution 640 x 480
	/ico/ico800	Icons in resolution 800 x 600
	/ico/ico1024	Icons in resolution 1024 x 768
	/ico/ico1280	Icons in resolution 1280 x 1024
	/appl	Binaries for runtime
	/cfg	Config files for runtime

7.6 Data structure on the CompactFlash Card system

Path	Meaning
/lng	Language-dependent texts for runtime
/hlp	Online help for runtime (see above)

Remarks:

At runtime, the binaries from addon1.cfs, addon2.cfs are linked to /appl.

At runtime, the config files are linked from addon1.cfs and addon2.cfs to /cfg.

At runtime, the files are linked with the language-dependent texts to /lng.

At runtime, the files of the online help are linked to /hlp.

Table 7-4 "/OEM/sinumerik" structure

Path	Meaning
/OEM/sinumerik	
/hmi	
/oem1.cfs	OEM1 (everything except texts and online help)
/oem2.cfs	OEM2 (everything except texts and online help)
...	Additional OEMs
/lngs/oemlng_std.cfs	Language-dependent texts OEM1
/lngs/oem2lng_std.cfs	Language-dependent texts OEM2
...	Language-dependent texts of other OEMs
/hlps/oem1hlp_std.cfs	Online help OEM1
/hlps/oem2hlp_std.cfs	Online help OEM2
...	Online help additional OEMs
/ico/ico640	Icons in resolution 640 x 480
/ico/ico800	Icons in resolution 800 x 600
/ico/ico1024	Icons in resolution 1024 x 768
/ico/ico1280	Icons in resolution 1280 x 1024
/appl	Binaries for runtime
/cfg	Config files for runtime
/lng	Language-dependent texts for runtime
/hlp	Online help for runtime (see above)
/data	
/archive	Manufacturer archives
/cc	Compile cycles

"OEM_I" additional data structure for SINUMERIK 828D

SINUMERIK 828D still has a data structure with the Individual (I) data class.

This data class covers data concerning a particular machine and is also created during commissioning by the OEM, or later by the dealer. It is referred to as OEM_I.

7.6 Data structure on the CompactFlash Card system

The structure is the same as the "/OEM/sinumerik" structure. It begins, however, in the "/OEM_I/sinumerik" path.

Table 7-5 "/User/sinumerik" structure

Path		Meaning
/User/sinumerik		
	/hmi	
	/dh	
	user	User (everything except texts and online help)
	/ico/ico640	Icons in resolution 640 x 480
	/ico/ico800	Icons in resolution 800 x 600
	/ico/ico1024	Icons in resolution 1024 x 768
	/ico/ico1280	Icons in resolution 1280 x 1024
	/appl	Binaries for runtime
	/cfg	Config files for runtime
	/lng	Language-dependent texts for runtime
	/hlp	Online help for runtime (see above)
	/data	
	/data	User memory on CompactFlash card
	/archive	Manufacturer archives
	/prog	
	/wks.dir/*.wpd	
	/mpf.dir	
	/spf.dir	
	/*.dir	

7.6.2 Data structure on the system CompactFlash card (SINUMERIK 808D)

The files are stored on the system CompactFlash card. The top level of the file system consists of the following directories:

- "HMI root"
- "Program"
- "Manufacturer cycles"
- "OEM files"
- "User files"

Structure

The following shows the structure of important directories:

Table 7-6 "HMI root/siemens/sinumerik" structure

Path		Meaning
/hmi		
	/cfg	All config files for runtime
	/hlp/[LANG]	Online help for runtime in various languages
	/ico/ico640	Icons in resolution 640 x 480
	/lang/[LANG]	Basic system texts in various special languages

Table 7-7 "HMI root/OEM/sinumerik" structure

Path		Meaning
/hmi		
	/ico/ico640	Icons in resolution 640 x 480
	/lng/[LANG]	System texts in various special languages
	/files	Corresponds to the OEM files directory
	/hlp	Online help for runtime
/data		
	/archive	Manufacturer archives

Table 7-8 "HMI root/user/sinumerik" structure

Path		Meaning
/hmi		
	/ico/ico640	Icons in resolution 640 x 480
	/files	Corresponds to the user files directory

7.6.3 Editing a file externally

Use a text editor such as "TextPad" to create or edit an XML file on an external PG/PC with Windows, but without AMM. The "TextPad" text editor supports the "UTF-8" encoding required for the XML file.

Saving the XML file in UTF-8 coding

1. Select the "Save As" dialog box.
2. Set the character set to "UTF-8".

Entering comments in an XML file

If you are entering comments to explain a program, you must keep the following in mind:

- A comment always begins with the sequence: <!--
- A comment ends with the sequence -->

Example

```
<!-- Work offset: -->
```

Note

In the comment itself, you can never use two minus signs one after the other!

Entering comments in an ini file

If you enter a comment in an ini file, start the comment line with a semicolon.

Copying a file with AMM

Use AMM to copy the file from an external computer to the NCU via a network connection.

7.7 Open source software / licenses

This "SINUMERIK Access MyMachine /P2P (PC)" software uses open source software.

- "This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit (OpenSSL (<http://www.openssl.org>))."
- "This product includes cryptographic software written by Eric Young (Cryptsoft Eric Young (<mailto:eay@cryptsoft.com>))."
- "This product includes software written by Tim Hudson (Cryptsoft Tim Hudson (<mailto:tjh@cryptsoft.com>))."
- "This product includes software developed by Bodo Möller."

For further information, refer to the "License.txt" file in the Access MyMachine /P2P(PC) installation folder

License conditions for the product

This "SINUMERIK Access MyMachine /P2P (PC)" software is subject to the Siemens license conditions and third-party license conditions.

For further information, refer to the "LiesMich_OSS.html" or the "ReadMe_OSS.html" file on the installation data storage medium.

Troubleshooting/FAQs

8.1 Password forgotten

If you have forgotten your password, you can reset your password with the "Reset password" function. This function is available in the "Enter password" dialog and in the "Change password" dialog.

Operating sequence

1. Click the "Reset password" button.

The "Assign password..." dialog in which you can assign a new password, opens when you reset the password.

NOTICE
Loss of the saved connection data
If you reset your password via the "Reset password" button, the previously saved connection data is lost.

8.2 Trace files for error correction

For problems or errors in AMM, contact the Siemens FAQ (<https://support.industry.siemens.com/cs/de/en/ps/faq>) at any time. The hotline will provide you with a trace file for the error correction in AMM. This is a comprehensive log for the error analysis. If required, you obtain more information on the precise functionality from the hotline.

Note

Note the central security information in Section Security information on the product (Page 15).

8.3 Problems connecting to the control

The connection to the control cannot be established. What could the causes be?

1. Check the cabling.
2. Check whether the connection parameters for a direct or network connection (e.g. IP address, authentication data) have been entered correctly.
3. If the connection to the control fails despite these measures, one possible cause could be a disabled port.
 You need access to port 22 to assign parameters to a connection from the AMM to the control. You also need access to port 5900 to assign parameters to a connection from the AMM via remote control.
 As from specific software versions of the controls, these ports are disabled by default for security reasons.

Control	Software version
SINUMERIK ONE	V06.12 HF1
SINUMERIK 840D sl	V4.7 SP1
SINUMERIK 828D	V4.7 SP1
SINUMERIK 808D	V4.7 HF1 V4.6 SP2

4. Check the software version to see whether your control might be affected by the port disable.
5. If your control is affected, enable the requisite port 22 and/or 5900 once again manually (Page 22).

Note

The above-mentioned manual enable of the ports is not required for older CNC software versions of the above-mentioned controls.

See also

Assigning the connection parameters (Page 22)

8.4 Setting up series machines

How can I set up series machines?

This function is not supported. You need to use the SINUMERIK "Create MyConfig" tool instead.

8.5 840D sl: Activate remote control for the VNC Viewer.

You can use the VNC Viewer to connect yourself by remote control to 840D sl controls that have an active VNC server, e.g. PCU or NCU.

The factory settings only enable you to monitor a system (e.g. PCU) via an external VNC Viewer.

To operate the system from another station, the system in question must grant permission. You make the necessary settings in the **tcu.ini** in Section [VNCViewer].

Requirements

Note

Note that only a single connection can be established from a VNC Viewer to a control. If a VNC connection to the control already exists on a PC, no further VNC connection to this control can be established with AMM.

Note

Note the central security information in Section Security information on the product (Page 15).

Operating sequence

Open the "tcu.ini" file, and edit the parameters listed below.

You will find a list of the directories in the "tcu.ini" file in the "Operating components and networking (IM5)" Manual.

Parameters in the tcu.ini file

Parameters in the tcu.ini file	Description
ExternalViewerMaxConnections	Maximum number of external VNC Viewers. A maximum of two are permissible.
ExternalViewerSecurityPolicy	User rights of the VNC Viewer: • 0: No external viewers permitted • 1: Guest mode (only monitoring permitted) • 2: Administrator mode (full access)
X127RemoteAccessIP	IP address with which you would like to connect yourself

Factory settings for access to the PCU

- To access the PCU by remote access, you require a password. The factory setting of the password in the VNC server on the PCU 50.5 is "password". Modify this password during commissioning in the settings of the VNC server to avoid security risks.
- To be able to access a PCU via the enterprise network with the VNC Viewer, port 5900 must be enabled at "Control Panel > Windows Firewall > Exceptions." This port does not have to be enabled to access the PCU 50.5 via the plant network.

Further information

Operator Components and Networking Manual

Options for the VNC Viewer

Note
Do not change the factory settings!
To ensure that the VNC Viewer works properly, the following options must not be changed.

After starting the VNC Viewer, the following dialog opens:

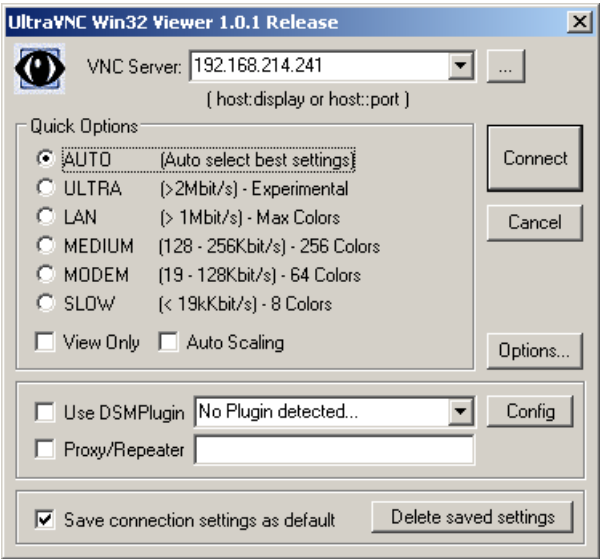


Figure 8-1 VNC Viewer - Factory Settings

After selecting the "Options ..." button, the following dialog opens:

8.5 840D sl: Activate remote control for the VNC Viewer.

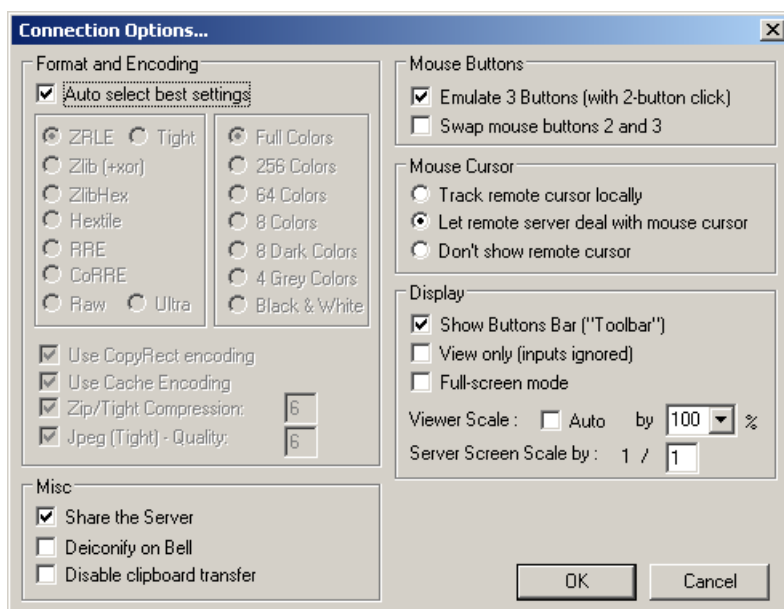


Figure 8-2 VNC Viewer > Options - Factory Settings

8.6 CNC Lock function

You can find **further information** on setting up the CNC Lock function on the control in the following manual:

- **Function Manual 828D "PLC"**

FAQs

The Function Manual "PLC" includes answers to important FAQs on the following subjects:

- What happens when defective control hardware (PPU) is replaced?
- What happens when a defective CompactFlash card is replaced?
- What can I do if I have forgotten the OEM PEN?
- What protection against manipulation does the CNC Lock function offer?
- How can I reset the advance warning time?

See also

Function Manual, Basic Functions (<https://support.industry.siemens.com/cs/us/en/view/109481523>)

8.7 Activating the alarm text files on the control using an HMI restart

The imported alarm text files must be activated in order to take effect on the control. The files are activated by restarting the HMI.

If a copied-in alarm text file does not become effective, there could be a problem with the time stamp of the file. You can find **further information** in the Commissioning Manual of the relevant control.

Note

Restart for 808D

It is not possible to trigger an HMI restart via remote control for the SINUMERIK 808D. Trigger the HMI restart locally on your machine with the shortcut <CTRL+R>.

Operating sequence

1. Connect (Page 21) yourself to a control.
2. Create (Page 91) or open (Page 95) a project.
3. Copy (Page 118) the alarm text files from the project to the control.
4. After copying has been successfully completed, start the remote control (Page 81).

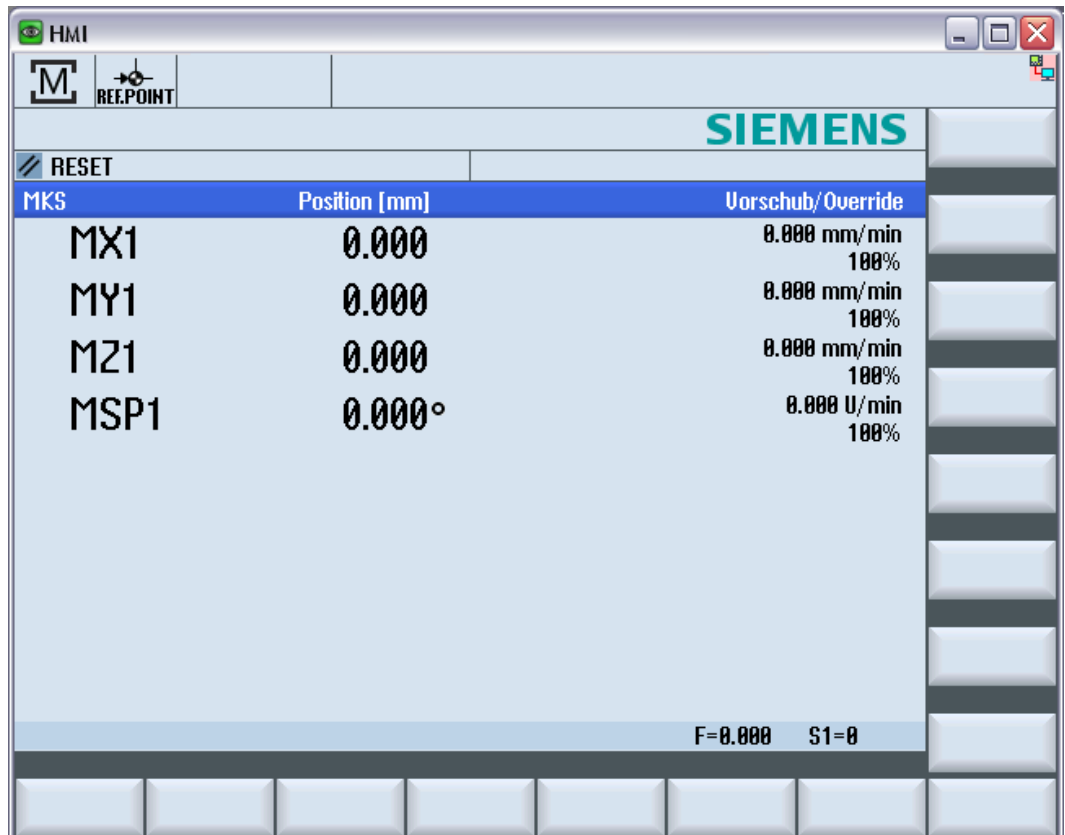


Figure 8-3 Remote control (e.g. SINUMERIK 840D sl / 828D)

8.7 Activating the alarm text files on the control using an HMI restart

- 5. Click in the upper left-hand corner of the displayed HMI screen or press F10. The menu is now displayed.

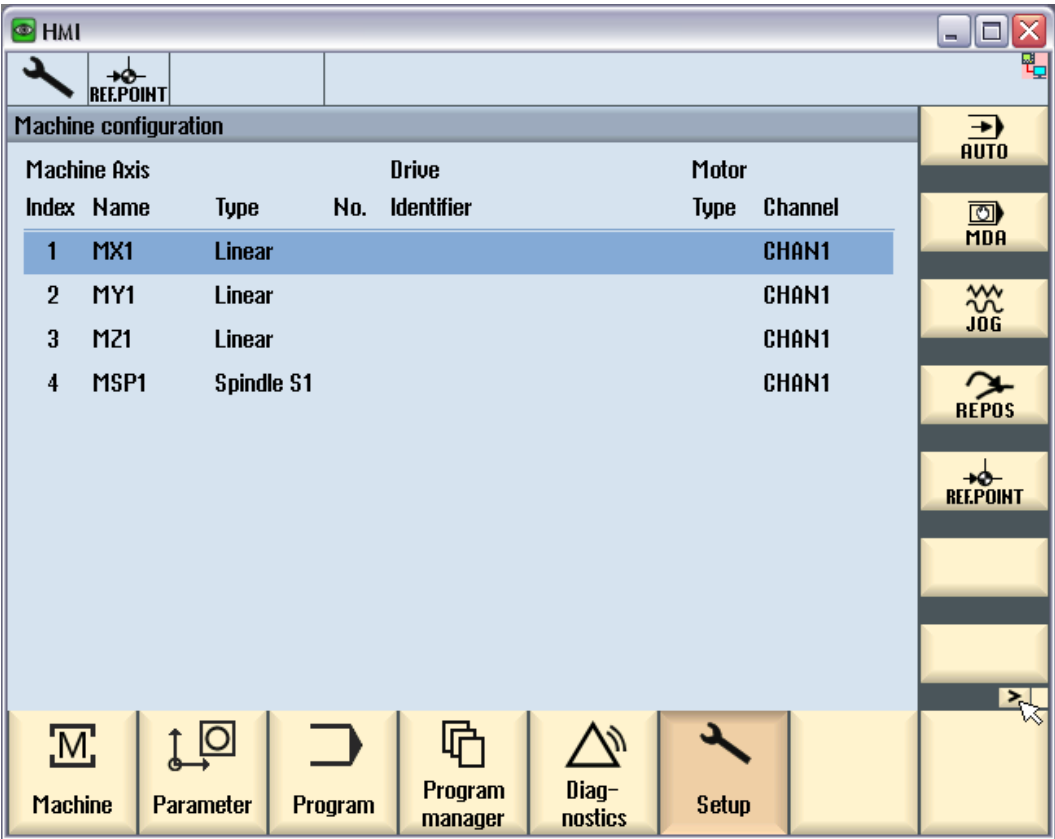


Figure 8-4 Remote control menu (e.g. SINUMERIK ONE/ 840D sl / 828D)

8.7 Activating the alarm text files on the control using an HMI restart

6. Click the arrow pointing to the right.

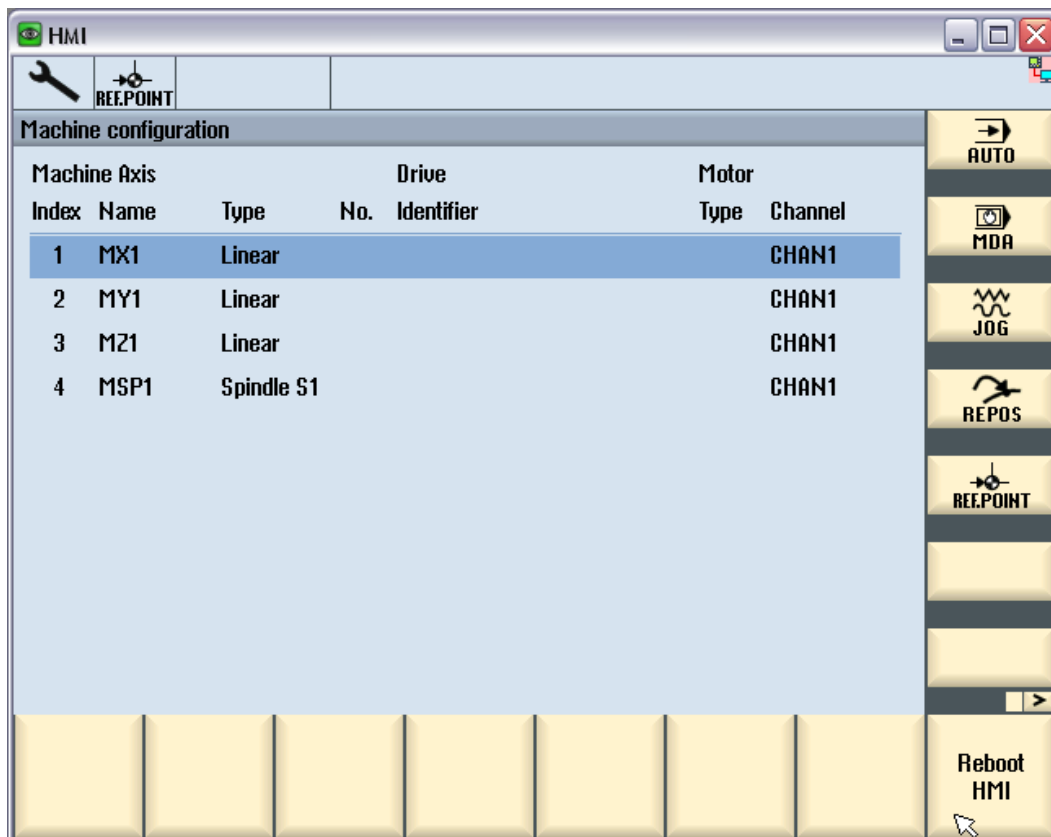


Figure 8-5 HMI restart (e.g. SINUMERIK 840D sl / 828D)

7. Click "HMI restart".
8. Wait until the HMI has rebooted. The new texts then become effective.

See also

- Transferring individual files from the project to the control system (Page 118)
- Approving remote control via the control system (Page 81)

8.8 Recommended procedure when translating files

The AMM project supports processes for translating the text files it contains into various languages. The AMM offers an export and import function into the standardized CSV format. This makes it possible to pass the exported languages to a translator, and import them back in after translation.

The following procedure is recommended:

Operating sequence

1. Create (Page 92) a project or open (Page 95) an existing project.
2. Create and edit the corresponding alarm text files in the desired source language (e.g. English).
3. Create a copy of the source files with "Creating a new language (Page 102)". Select the desired target language (e.g. Chinese) and the source language as the copy template (e.g. English).

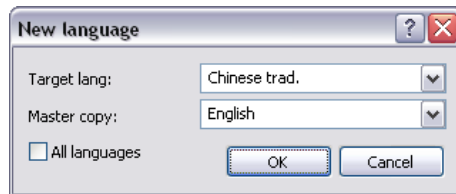


Figure 8-6 New language

4. Activate the checkbox alongside the newly created (Chinese) files, and export (Page 108) the files.



Figure 8-7 Project dialog (OFFLINE) - languages with check mark

8.8 Recommended procedure when translating files

5. Give the generated CSV files to a translator - or translate the texts in the CSV files yourself.

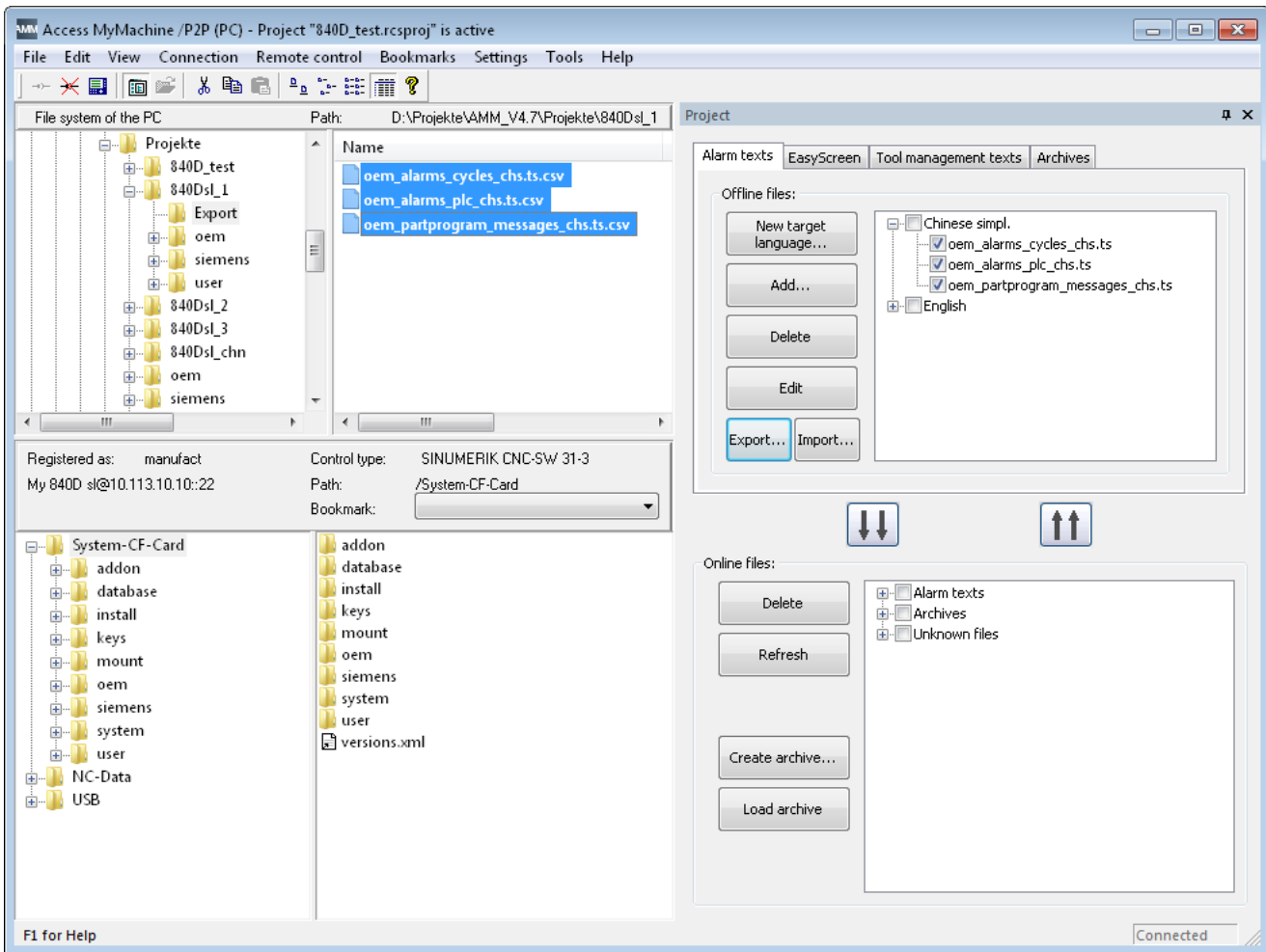


Figure 8-8 AMM - exported files

6. Import the translated files (Chinese) back into the project, thus overwriting the existing Chinese files.
7. You have now translated the English texts into Chinese in the project.

See also

- Create a project and read the files from the control system (ONLINE) (Page 92)
- Opening an existing project (Page 95)

8.9 Backing up commissioning data on the control

Before restoring an image, back up the current commissioning data as follows:

Backing up the commissioning data: 840D sl

There are various ways of creating and reloading archives via the SINUMERIK Operate user interface.

To back up and restore data, select the "Commissioning" operating area:

- Specific files in the data tree can be selected and backed up with the "System data" softkey (Select data > Select 1st softkey (vertical softkeys) "Archive")
- The "Commissioning archives" softkey offers the following selection:
 - Create and read-in a commissioning archive
 - PLC hardware upgrade archive (create only SDBs)
 - Create and read-in an archive of original state

Backing up the commissioning data: 828D

There are various ways of creating and reloading archives via the SINUMERIK Operate user interface.

To back up and restore data, select the "Commissioning" operating area:

- "Back up data" softkey for an internal data backup of the entire memory.
- "Commissioning archives" softkey to create a commissioning archive or read-in a commissioning archive

Backing up the commissioning data: 808D

To back up and restore data, select the "SYSTEM" operating area:

- "Back up data" softkey for an internal data backup of the entire memory.
- "Archive" softkey to create a series commissioning archive.

A.1 Documentation overview ONE

Comprehensive documentation about the functions provided in SINUMERIK ONE Version 6.13 and higher is provided in the Documentation overview SINUMERIK ONE (<https://support.industry.siemens.com/cs/ww/en/view/109768483>).



You can display documents or download them in PDF and HTML5 format.

The documentation is divided into the following categories:

- User: Operating
- User: Programming
- Manufacturer/Service: Configuring
- Manufacturer/Service: Commissioning
- Manufacturer/Service: Functions
- Safety Integrated
- SINUMERIK Integrate / MindApp
- Information and training

A.2 840D sl documentation overview

You will find extensive documentation on the functions of SINUMERIK 840D sl from version 4.8 SP4 at 840D sl documentation overview (<https://support.industry.siemens.com/cs/ww/en/view/109766213>).



You can display the documents or download them in PDF or HTML5 format.

The documentation is divided into the following categories:

- User: Operating
- User: Programming
- Manufacturer/Service: Configure
- Manufacturer/Service: Commissioning
- Manufacturer/Service: Functions
- Safety Integrated
- SINUMERIK Integrate / MindApp
- Information and training

A.3 828D documentation overview

Comprehensive documentation about the functions provided in SINUMERIK 828D Version 4.8 SP4 and higher is provided in the 828D documentation overview (<https://support.industry.siemens.com/cs/ww/en/view/109766724>).



You can display documents or download them in PDF and HTML5 format.

The documentation is divided into the following categories:

- User: Operating
- User: Programming
- Manufacturer/Service: Configuring
- Manufacturer/Service: Commissioning
- Manufacturer/Service: Functions
- Safety Integrated
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