

SINUMERIK

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

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

Operating Manual

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Valid for: AMM software version 4.9

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.
--

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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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Introduction

1.1 About SINUMERIK

From simple, standardized CNC machines to premium modular machine designs – the SINUMERIK CNCs offer the right solution for all machine concepts. Whether for individual parts or mass production, simple or complex workpieces – SINUMERIK is the highly dynamic automation solution, integrated for all areas of production. From prototype construction and tool design to mold making, all the way to large-scale series production.

Visit our website for more information SINUMERIK (<https://www.siemens.com/sinumerik>).

1.2 About this documentation

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 131):
 - 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.
- Comparing archives with the aid of the SINUMERIK "Create MyConfig – Diff" software.

- Managing the OEM files mentioned above with the following options (Page 54):
 - 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.
- Getting diagnostic data from the remote control

Supported SINUMERIK controls

The following SINUMERIK controls are supported:

- SINUMERIK ONE (as of AMM version 4.8 and SINUMERIK Operate as of version 6.13)
- SINUMERIK 840D sl (SINUMERIK Operate as of version 2.6)
- SINUMERIK 828D (SINUMERIK Operate as of version 4.5)
- SINUMERIK 808D (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:

- Peer-to-peer Ethernet
- Ethernet network

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.

Standard scope

This documentation only describes the functionality of the standard version. This may differ from the scope of the functionality of the system that is actually supplied. Please refer to the ordering documentation only for the functionality of the supplied drive system.

It may be possible to execute other functions in the system which are not described in this documentation. This does not, however, represent an obligation to supply such functions with a new control or when servicing.

For reasons of clarity, this documentation cannot include all of the detailed information on all product types. Further, this documentation cannot take into consideration every conceivable type of installation, operation and service/maintenance.

The machine manufacturer must document any additions or modifications they make to the product themselves.

Websites of third-party companies

This document may contain hyperlinks to third-party websites. Siemens is not responsible for and shall not be liable for these websites and their content. Siemens has no control over the information which appears on these websites and is not responsible for the content and information provided there. The user bears the risk for their use.

1.3 Documentation on the internet

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: Functions
- Manufacturer/Service: Hardware
- Manufacturer/Service: Configuration/Setup
- Manufacturer/Service: Safety Integrated
- Information and training
- Manufacturer/Service: SINAMICS

Comprehensive documentation about the functions provided in SINUMERIK 840D sl Version 4.8 SP4 and higher is provided in the Documentation overview SINUMERIK 840D sl (<https://support.industry.siemens.com/cs/ww/en/view/109766213>).



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

The documentation is divided into the following categories:

- User: Operating
- User: Programming
- Manufacturer/Service: Functions
- Manufacturer/Service: Hardware
- Manufacturer/Service: Configuration/Setup
- Manufacturer/Service: Safety Integrated
- Manufacturer/Service: SINUMERIK Integrate/MindApp
- Information and training
- Manufacturer/Service: SINAMICS

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
- Manufacturer/Service: Safety Integrated
- SINUMERIK Integrate/MindApp
- Info & Training

Comprehensive documentation about the functions provided in SINUMERIK 808D Version 4.91 and higher is provided in the Documentation overview SINUMERIK 808D (<https://support.industry.siemens.com/cs/ww/en/view/109780845>).



You can display documents or download them in PDF format.

The documentation is divided into the following categories:

- User: Operating
- Manufacturer/Service: Configuring/Commissioning

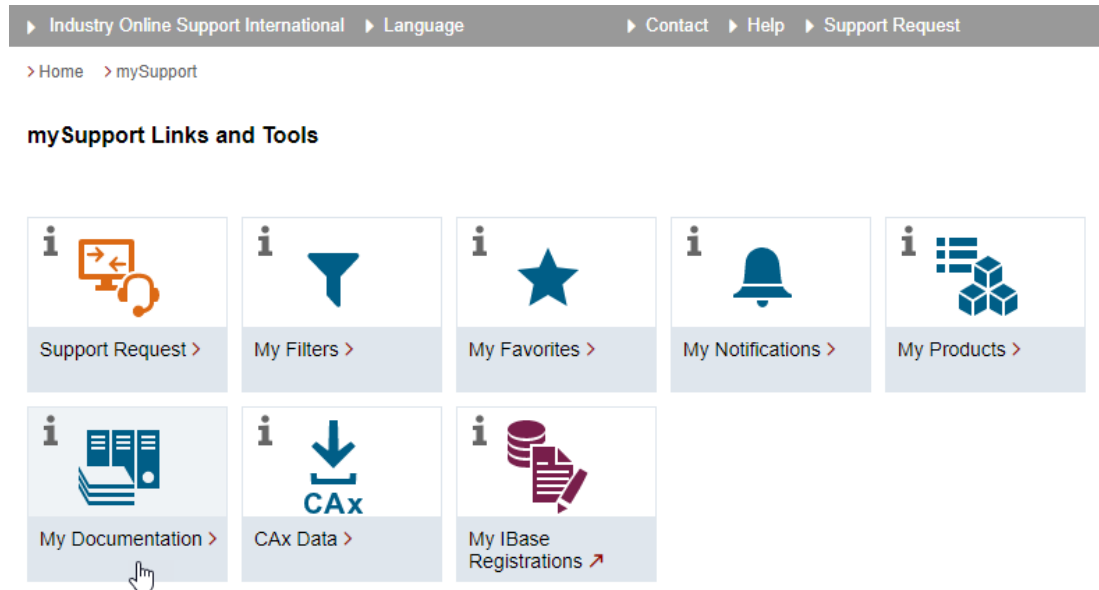
1.4 Feedback on the technical documentation

If you have any questions, suggestions or corrections regarding the technical documentation which is published in the Siemens Industry Online Support, use the link "Provide feedback" which appears at the end of the entry.

1.5 mySupport documentation

With the "mySupport documentation" web-based system you can compile your own individual documentation based on Siemens content, and adapt it for your own machine documentation.

To start the application, click on the "My Documentation" tile on the mySupport homepage (<https://support.industry.siemens.com/cs/ww/en/my>):



The configured manual can be exported in RTF, PDF or XML format.

Note

Siemens content that supports the mySupport documentation application can be identified by the presence of the "Configure" link.

1.6 Service and Support

Product support

You can find more information about products on the internet:

Product support (<https://support.industry.siemens.com/cs/ww/en/>)

The following is provided at this address:

- Up-to-date product information (product announcements)
- FAQs
- Manuals
- Downloads
- Newsletters with the latest information about your products
- Global forum for information and best practice sharing between users and specialists
- Local contact persons via our Contacts at Siemens database (→ "Contact")
- Information about field services, repairs, spare parts, and much more (→ "Field Service")

Technical support

Country-specific telephone numbers for technical support are provided on the internet at address (<https://support.industry.siemens.com/cs/ww/en/sc/4868>) in the "Contact" area.

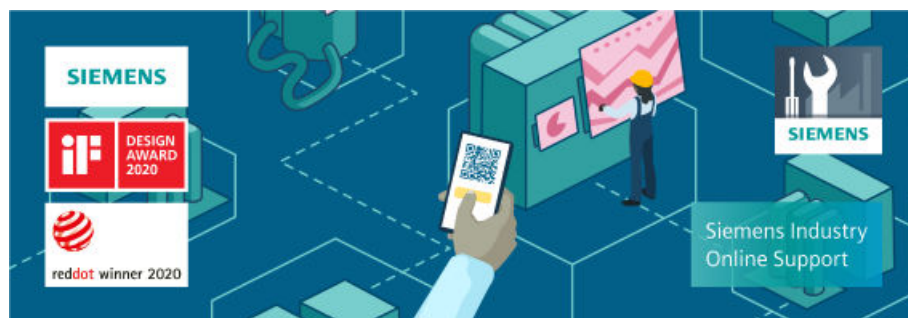
If you have any technical questions, please use the online form in the "Support Request" area.

Training

You can find information on SITRAIN at the following address (<https://www.siemens.com/sitrain>).

SITRAIN offers training courses for automation and drives products, systems and solutions from Siemens.

Siemens support on the go





With the award-winning "Siemens Industry Online Support" app, you can access more than 300,000 documents for Siemens Industry products – any time and from anywhere. The app can support you in areas including:

- Resolving problems when implementing a project
- Troubleshooting when faults develop
- Expanding a system or planning a new system

Furthermore, you have access to the Technical Forum and other articles from our experts:

- FAQs
- Application examples
- Manuals
- Certificates
- Product announcements and much more

The "Siemens Industry Online Support" app is available for Apple iOS and Android.

Data matrix code on the nameplate

The data matrix code on the nameplate contains the specific device data. This code can be read with a smartphone and technical information about the device displayed via the "Industry Online Support" mobile app.

1.7 General Data Protection Regulation (GDPR)

Siemens observes standard data protection principles, in particular the data minimization rules (privacy by design).

For this product, this means:

The product does not process or store any personal data, only technical function data (e.g. time stamps). If the user links this data with other data (e.g. shift plans) or if he/she stores person-related data on the same data medium (e.g. hard disk), thus personalizing this data, he/she must ensure compliance with the applicable data protection stipulations.

Safety notes

2.1 Fundamental safety instructions

2.1.1 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.

2.1.2 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.

2.1.3 Security information

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

2.1 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/cert> (<https://www.siemens.com/cert>).

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.

2.2 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 (i.e. access restrictions, logins).

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>).

Note

Secure terminal device

The AMM terminal devices used in industrial environments (PCs, notebooks and mobile devices) must meet the generally applicable security requirements (i.e. up-to-date operating system, patching, active firewall, active virus scanner, access management (login), etc.).

Further information on all security measures that must be taken can be found at Industrial Security Configuration Manual (<https://support.industry.siemens.com/cs/us/en/view/108862708>).

Note

Secure data transport

Any data which is imported/exported from AMM (projects, trace files) should be securely transported:

- Always encrypt your emails if you send confidential and/or security-relevant data by email.
- If you wish to transport confidential and/or security-relevant data on a data storage medium (USB flash drive, hard disk, etc.), carefully investigate as to which data storage media are considered secure. A regular virus check must be carried out for these data storage media. Always save your data on local data storage media so that the data is encrypted.

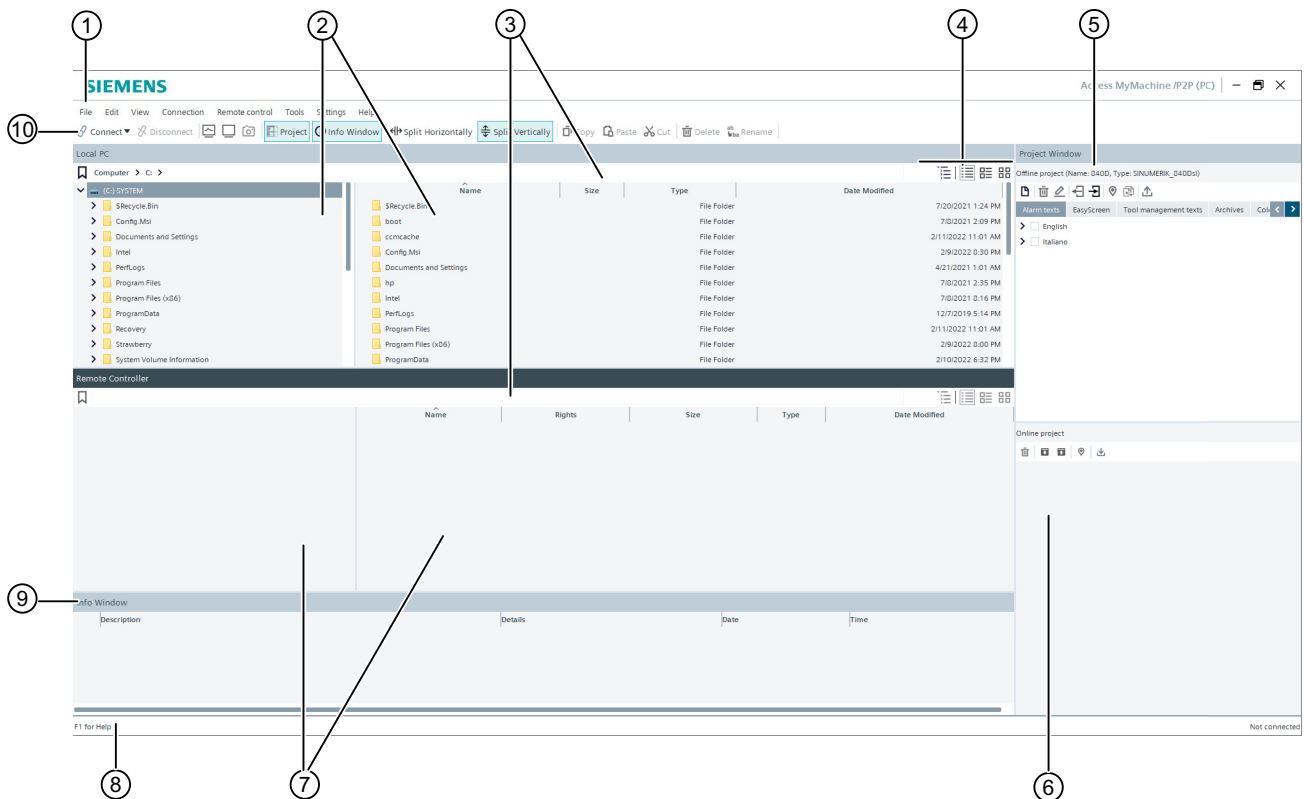
Further information on secure data transport can be found at Industrial Security Configuration Manual (<https://support.industry.siemens.com/cs/us/en/view/108862708>).

Description

3.1 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 local computer file system (local file system)
- ③ Address bar of local PC and connected control and bookmarks
- ④ File system view mode
- ⑤ Offline project view
- ⑥ Online project view
- ⑦ View of the file system of the connected control (remote file system)
- ⑧ Status bar
- ⑨ Status window for messages concerning the connection and actions in the control (e.g. copy).
- ⑩ Toolbar

Figure 3-1 User interface

Navigation with the address bar

The address bar of AMM is text sensitive and supports you with navigation in the file system of your local PC and your connected control:

- To jump to a selected folder, you can click on selected folder elements in the address bar path.
- To open up a list of subfolders on each path section, you can click on the underlying arrows in the address bar.
- You can insert a path manually or copy from plain text.
- You can insert a file path and open it with AMM.
- You can copy a file/folder from windows and paste it in the address bar.

Note

Exception for remote control

When remote control is activated however, the following functions are NOT supported:

- You can insert a path manually or copy from plain text.
- You can insert a file path and open it with AMM.
- You can copy a file/folder from windows and paste it in the address bar.

Working with bookmarks

AMM offers the possibility to add bookmarks, of paths on your local PC or your connected controls that you visit often and like to save.

- You can add new bookmarks by selecting a folder, opening up the context menu and clicking "Add bookmark...".
- If you click on the flag symbol in the address bar, you can open up a list of your saved bookmarks. Choose a saved bookmark and the corresponding path will be opened.
- If you like to delete or change your saved bookmarks, you can click on "Settings > Edit bookmark.." in the main menu.
- The bookmark list contains frequently used paths as a default setting for the connected control and the local PC.

File system view mode

Symbol	Description	Remarks
	You can hide or pop up the tree view of the file explorer with this button.	
	With the "Details" view you can see all relevant details of the files in the directory.	These 3 buttons mutually exclude each other. Only 1 of the 3 buttons can be activated.
	With the "List" view you can see the files in the directory listed without details.	
	With the "Icons" view you can see the files in the folder as a small icon.	

3.2 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. You must find a secure password, until all restrictions are marked as checked. Only secure passwords are allowed.

Assign password

The connection data are stored securely in an encrypted file. A password is required for encryption and decryption. This password should be as complex as possible.

At least the following characters should be included:

- 1 lower case letter[a-z]
- 1 upper case letter[A-Z]
- 1 special character
- 1 number[0-9]
- At least 8 characters

You should continue to treat the password confidentially.

Assign password

New password:

Repeat password:

Do you want to save the password on this PC, and in future let it be set automatically when the AMM is started?

☐ Save password

OK Cancel

Figure 3-2 Enter password

- With the password, the file with the connection data of AMM is encrypted.
- The password can be subsequently changed at any time.

3.2 First start

- 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.

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

Connection to the control

4.1 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.

See also

Assigning parameters for direct connection (peer-to-peer Ethernet) (Page 33)

Assigning parameters for network connection (Page 35)

Establishing a direct connection (peer-to-peer Ethernet) (Page 39)

Establishing a network connection (Page 40)

4.2 Assigning the connection parameters

4.2.1 Enable control ports

4.2.1.1 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 30)
- Otherwise: Enable ports via basesys.ini (Page 32)
- Otherwise: Enabling ports via the service shell (Page 33)

Note

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

4.2.1.2 Enabling ports from the HMI

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

1. Open the "Commissioning > Network" menu on your control.
2. Open the "Company network" menu on your control.
3. The "Company network settings" window opens.

4. Press the "Change" softkey.

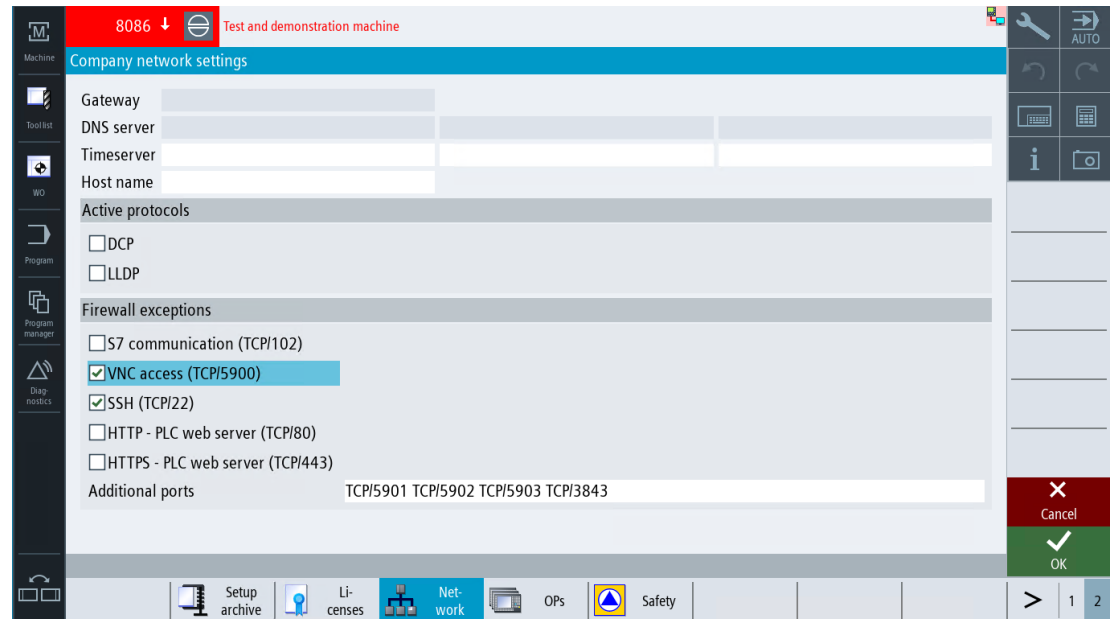


Figure 4-1 Settings of the 840 sl workplace network

5. 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.

6. Select "OK" to save the changes.

7. 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".

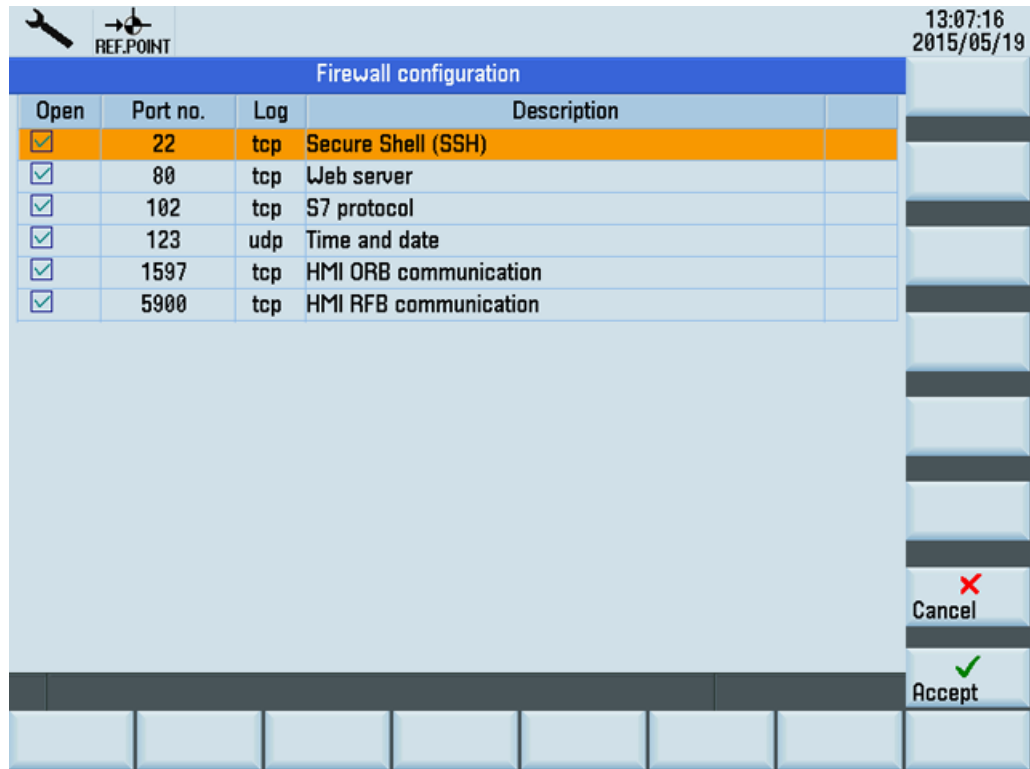


Figure 4-2 Firewall settings for the 808D

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.

4.2.1.3 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.

4.2.1.4 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.

4.2.2 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 30).

Operating sequence

1. Press the "Connection" icon.

 Connect ▼

- OR -

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

The following dialog appears:

Connection Configuration

Saved Connections	Connection Details
▼ Direct Connections  SINUMERIK 840Dsl@10.113.21.125  SINUMERIKONE@10.113.60.105 ▼ Network Connections  MySINUMERIKONE@10.113.60.105  Add New(Double Click)	Name of connection: SINUMERIKONE File Transfer IP/Host name: 10.113.60.105 Port: 22 User name: manufact Authentication ☒ with password ☐ with key file Key file:  Password: Remote Control IP/Host name: 10.113.60.105 Port: 5900 Password: Transmission rate: ☐ high ☒ low Save Connect Close

Figure 4-3 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 37).

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 29)

4.2.3 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 30).

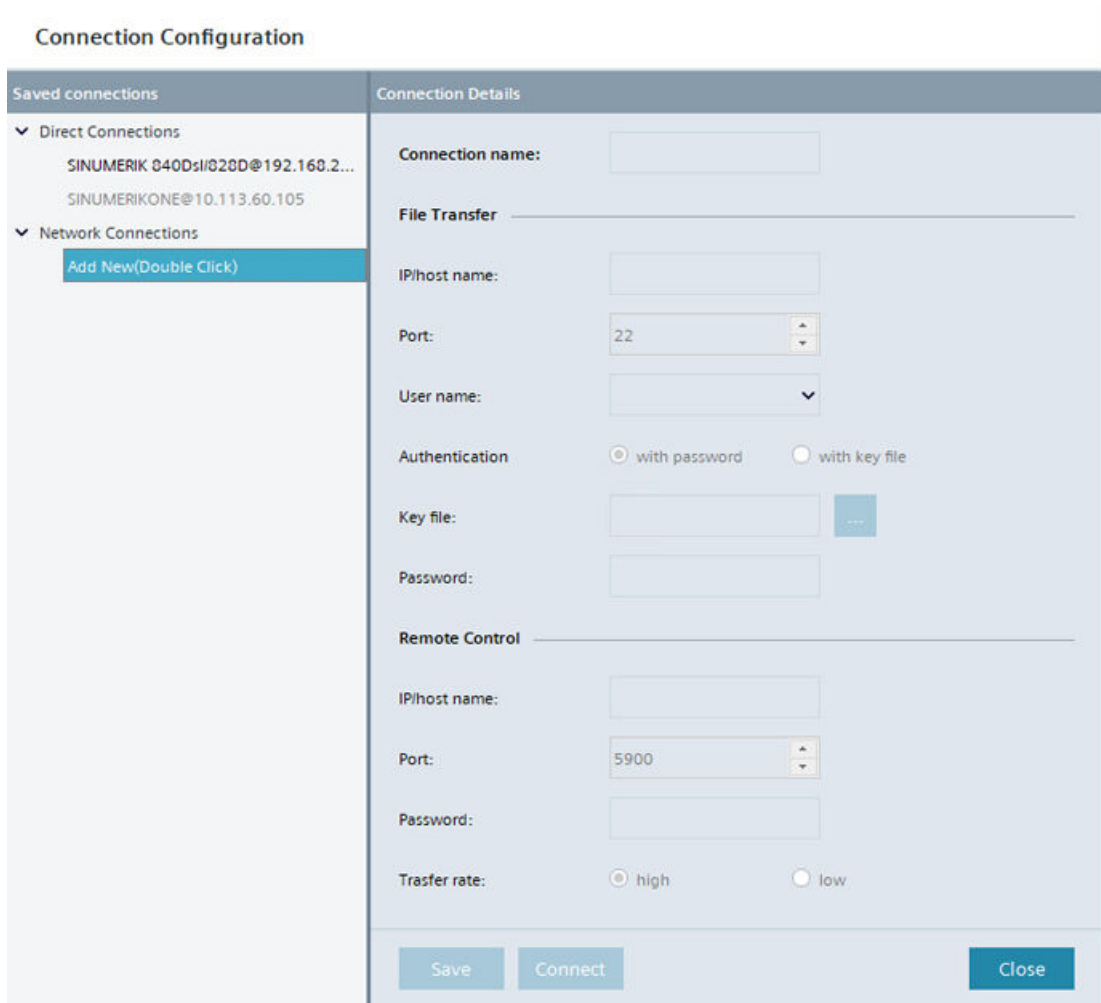
Operating sequence

1. Press the button "Connect".

 Connect ▼

- OR -

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



The dialog box is titled "Connection Configuration" and is divided into two main sections: "Saved connections" on the left and "Connection Details" on the right.

Saved connections: This section lists existing connections under two categories: "Direct Connections" and "Network Connections". Under "Direct Connections", there are two entries: "SINUMERIK 040DsII/020D@192.160.2..." and "SINUMERIKONE@10.113.60.105". Under "Network Connections", there is a button labeled "Add New(Double Click)".

Connection Details: This section contains fields for configuring a new connection. It is divided into two sub-sections: "File Transfer" and "Remote Control".

File Transfer section:

- Connection name:** A text input field.
- IP/host name:** A text input field.
- Port:** A numeric input field with a spinner, currently set to 22.
- User name:** A dropdown menu.
- Authentication:** Two radio buttons: "with password" (selected) and "with key file".
- Key file:** A text input field with a browse button (three dots) to the right.
- Password:** A text input field.

Remote Control section:

- IP/host name:** A text input field.
- Port:** A numeric input field with a spinner, currently set to 5900.
- Password:** A text input field.
- Transfer rate:** Two radio buttons: "high" (selected) and "low".

At the bottom of the dialog, there are three buttons: "Save", "Connect", and "Close".

Figure 4-4 Network connection

2. Double-click "Add New" 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 37).

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 transfer rate.

Note

Select the transfer 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 29)

4.2.4 Converting an SSH private key file

From software version V4.7, the private 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 or above:

Note

Note the central security information in Section Security information on the product (Page 23).

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 private key".

Note

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

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 private key file with password protection for authentication in AMM.

4.3 Establishing the connection

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

Operating sequence

1. There are two ways of establishing a "direct connection":
 - Press the "Connection" button  **Connect** 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.

Connection Configuration

Saved Connections	Connection Details
▼ Direct Connections  SINUMERIK 840Dsl@10.113.21.125  SINUMERIKONE@10.113.60.105 ▼ Network Connections  MySINUMERIKONE@10.113.60.105 + Add New(Double Click)	Name of connection: SINUMERIKONE File Transfer IP/Host name: 10.113.60.105 Port: 22 User name: manufact Authentication ☒ with password ☐ with key file Key file: ... Password: Remote Control IP/Host name: 10.113.60.105 Port: 5900 Password: Transmission rate: ☐ high ☒ low Save Connect Close

Figure 4-5 Connect direct connection

2. Press the "Connection" button.
3. If the authentication data for the direct connection has already been saved, a connection to the control is set up immediately.

4.3 Establishing the connection

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 29)

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

4.3.2 Establishing a network connection

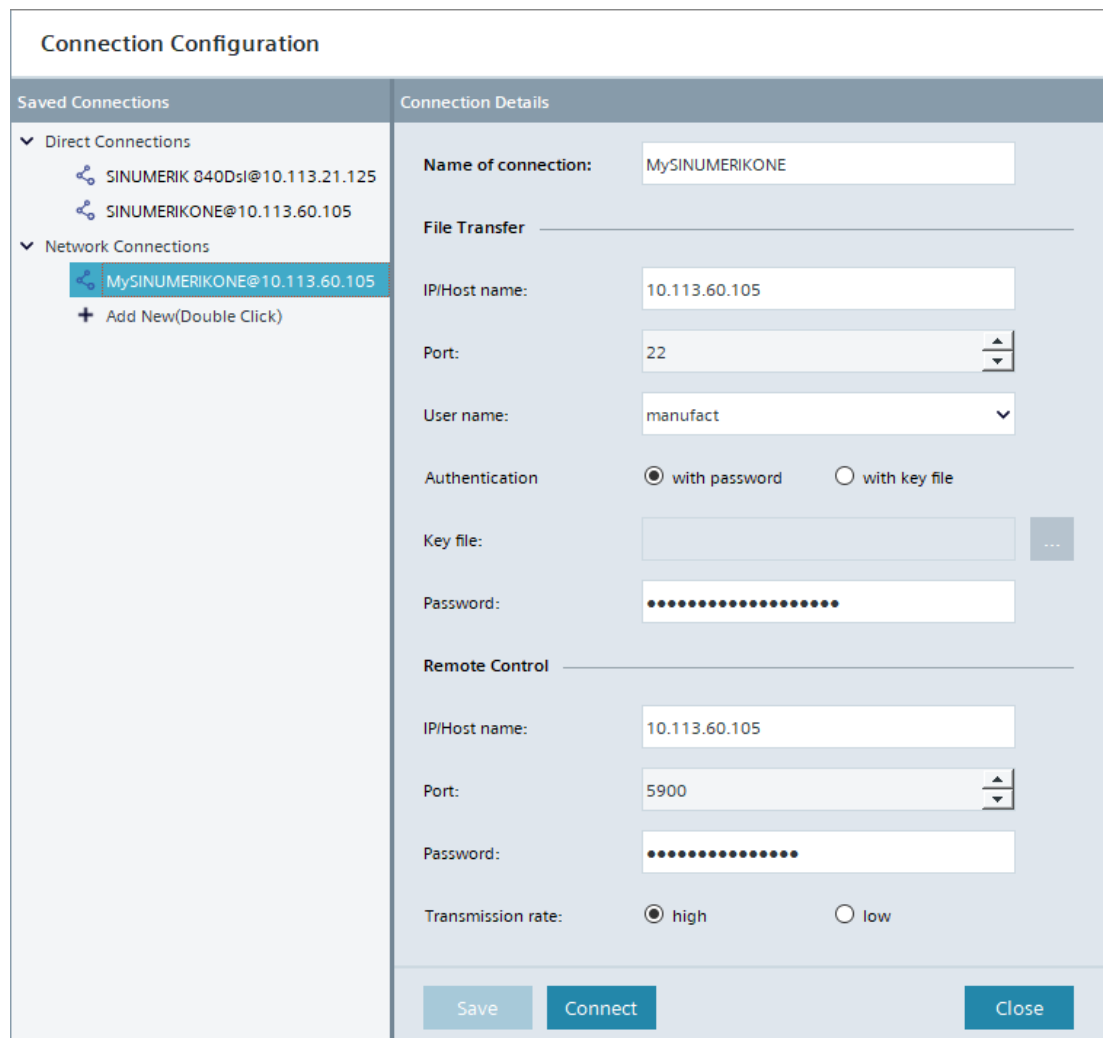
Requirement

Note

Note the central security information in Section Security information on the product (Page 23).

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"  **Connect** ▼ 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.



Connection Configuration

Saved Connections	Connection Details
▼ Direct Connections - SINUMERIK 840Dsl@10.113.21.125 - SINUMERIKONE@10.113.60.105 ▼ Network Connections MySINUMERIKONE@10.113.60.105 + Add New(Double Click)	Name of connection: MySINUMERIKONE File Transfer IP/Host name: 10.113.60.105 Port: 22 User name: manufact Authentication: ☒ with password ☐ with key file Key file: ... Password: Remote Control IP/Host name: 10.113.60.105 Port: 5900 Password: Transmission rate: ☒ high ☐ low Buttons: Save Connect Close

Figure 4-6 Network connections

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

4.3 Establishing the connection

connections. Parameters have to be assigned to them in advance. Proceed as described in Section Assigning parameters for network connection (Page 35).

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 29)

4.4 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"  Disconnect button in the toolbar.
 - Select "Connection > Disconnect" in the main window menu.

Operator control (software)

5.1 Parallel copy functionality

Overview of parallel copy functionality

With the "parallel copy" functionality you can:

- Perform other operations during copy operation
- Perform 5 parallel copy tasks in parallel

5.2 Remote control of the control system

5.2.1 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 50)

Using remote control to generate the screen of the control system's HMI user interface (Page 53)

5.2.2 Approving remote control of the control system on the HMI

5.2.2.1 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.

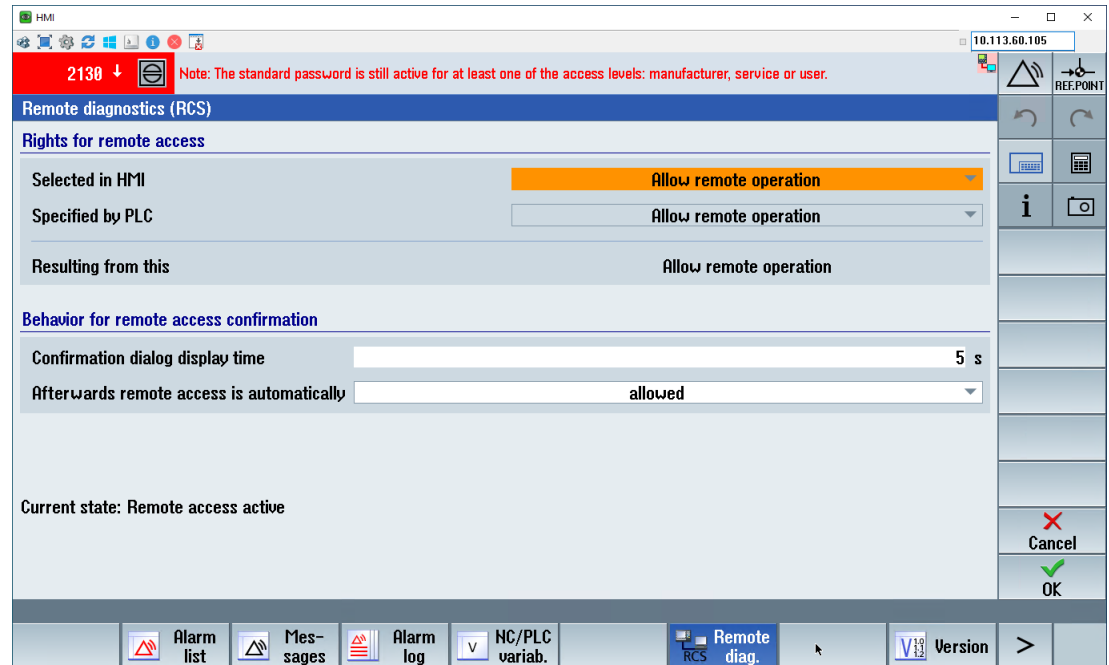


Figure 5-1 "Remote diagnostics" on the HMI

2. The following settings can be made:
 - Remote access rights
 - Procedure for confirming remote access

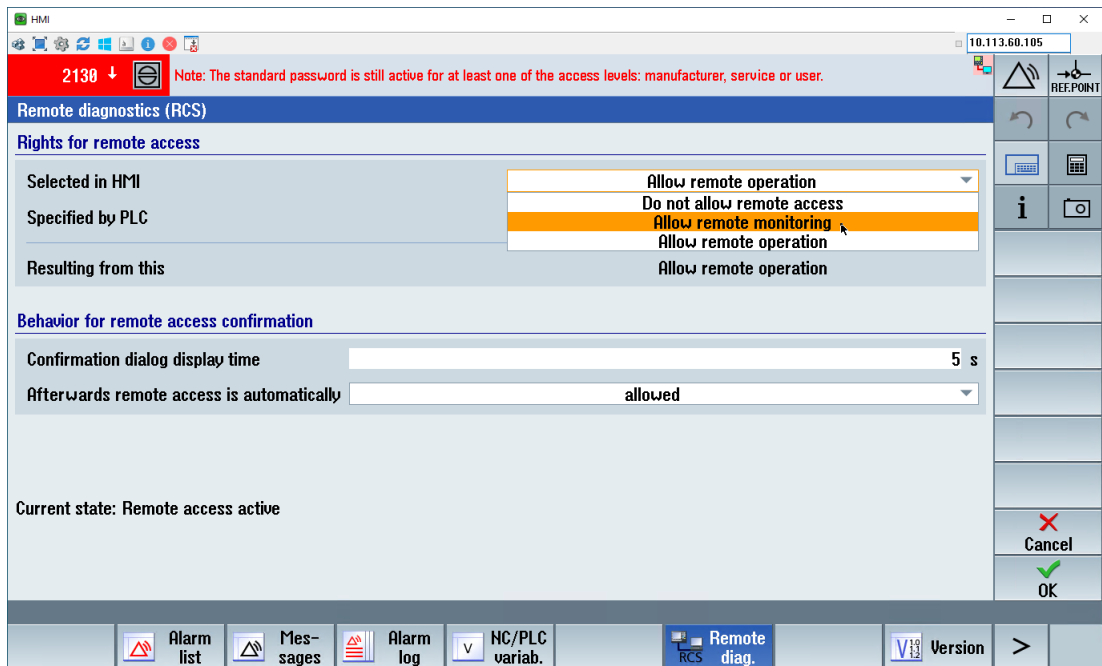


Figure 5-2 Observing "remote diagnostics" on the HMI

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

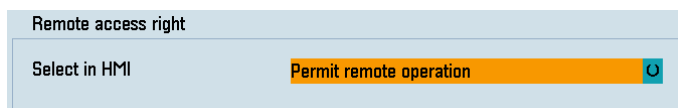


Figure 5-3 Enable remote control of 808D

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

5.2.2.2 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:

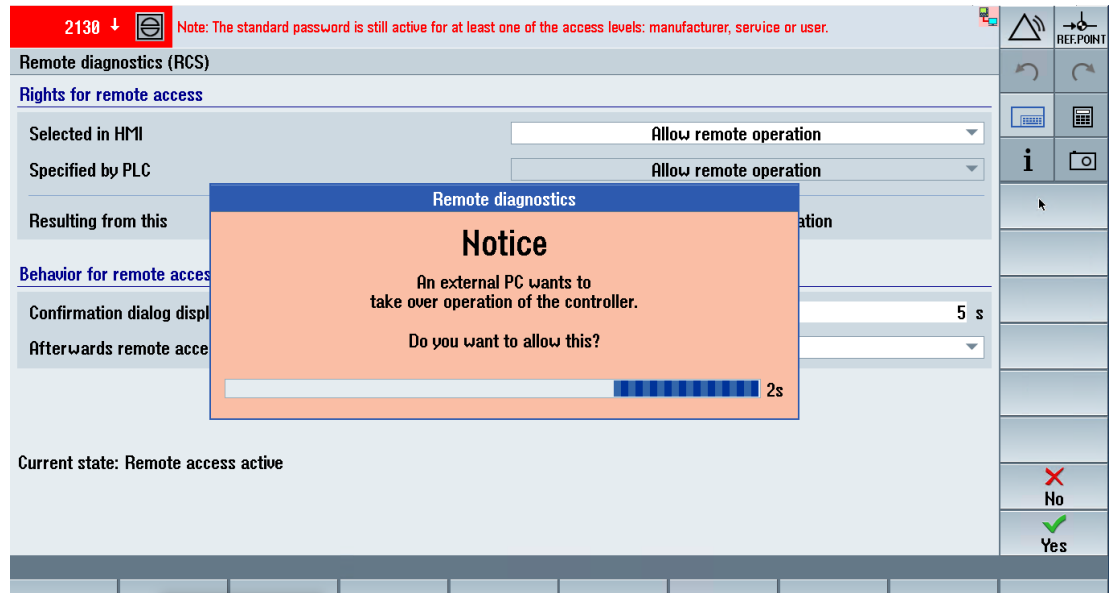


Figure 5-4 Allowing remote control

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 47)).

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.

5.2.2.3 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>)

5.2.3 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.

5.2.3.1 Starting/ending remote control

Operating sequence

1. Establish a connection to a SINUMERIK solution line control (see "Establishing a connection to the control" (Page 29)).
2. To start the remote control, click "Remote control > Start" in the main window menu or click the "Start 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.

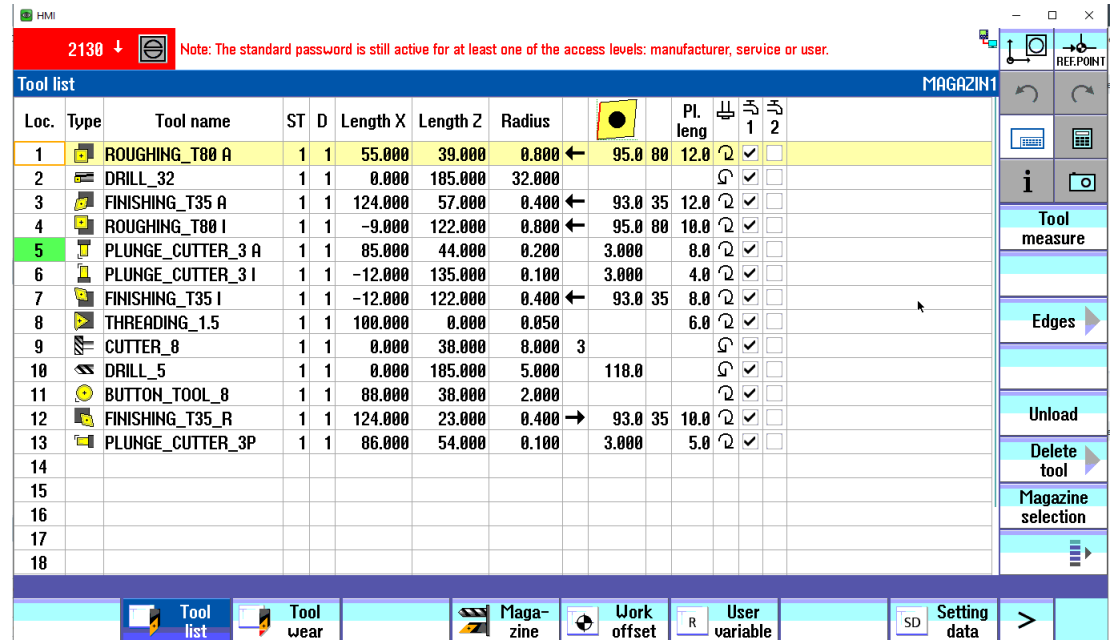


Figure 5-5 Remote control of the control

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

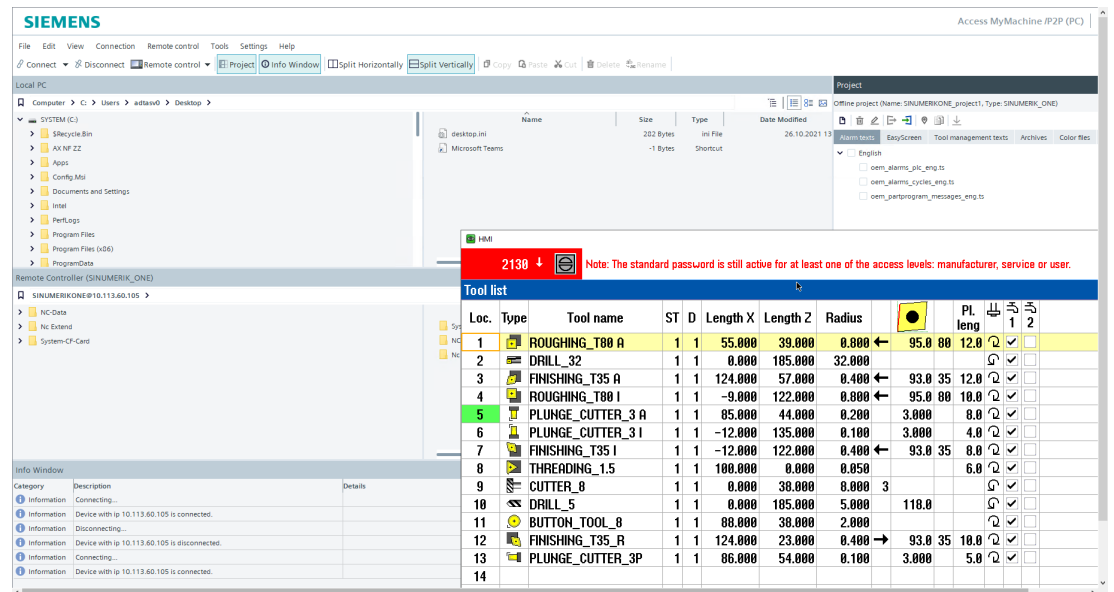


Figure 5-6 AMM and remote-controlled control on the PG/PC

5. To end remote control, click "Remote control > Stop" in the main window menu or click the "Stop remote control" button in the toolbar.

See also

Establishing a connection to the control system: An overview (Page 29)

Overview of remote control (Page 46)

5.2.3.2 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

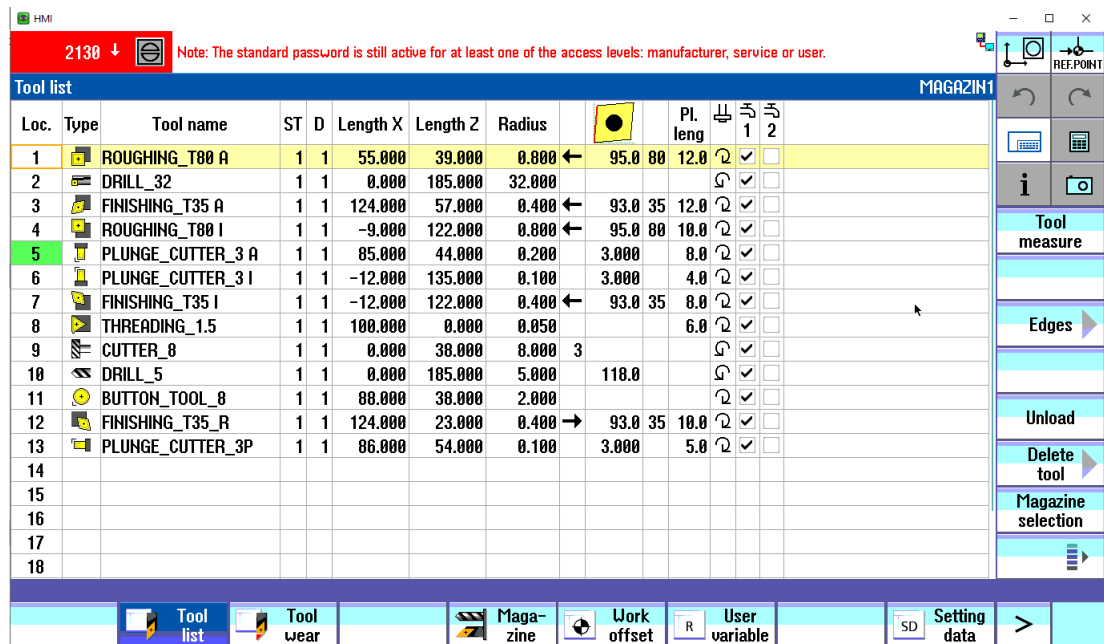


Figure 5-7 Remote control of the control system

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.

5.2.3.3 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 29)).
2. To start remote control, click "Remote control > Start" in the main window menu or click the "Start remote control"  button in the toolbar.

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

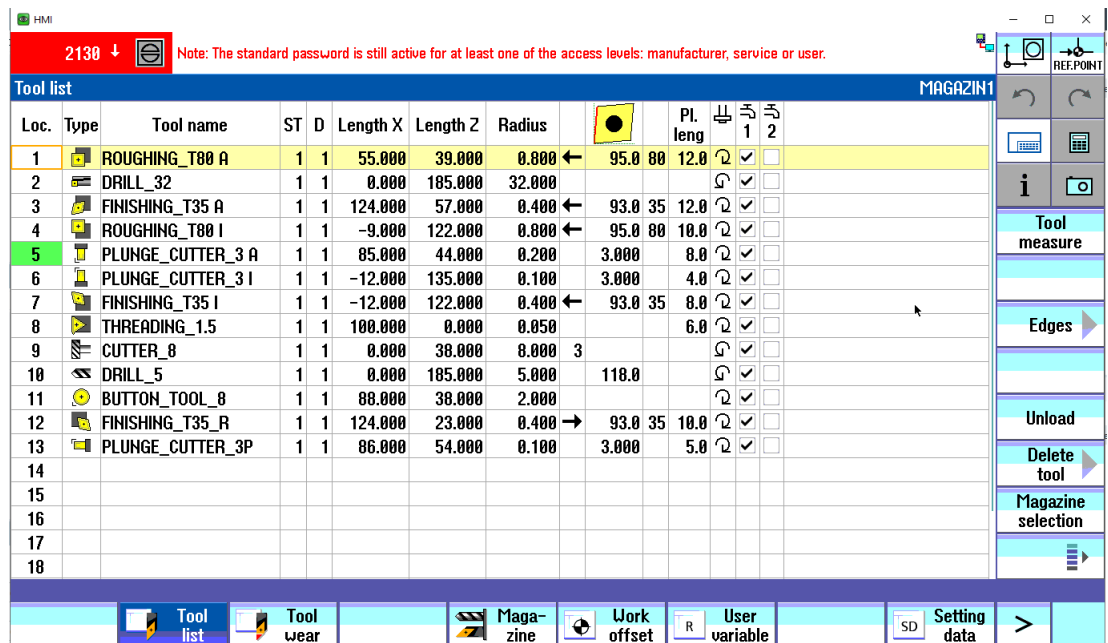


Figure 5-8 Remote control of the control

3. Click "Remote control > Save as screen dump" in the main window menu or click the "Save as screen dump"  button in the toolbar.
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 29)

Overview of remote control (Page 46)

5.3 Project

5.3.1 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/Import files
- Open file location
- 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 131).

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 57)

Opening an existing project (Page 61)

Closing the project (Page 64)

Deleting a project (Page 65)

Creating a new language (Page 66)

Adding a file (Page 68)

Deleting a file (Page 69)

Exporting a file (Page 70)

Import file (Page 73)

Edit file (Page 75)

Transferring individual files from the project to the control system (Page 79)

Transferring individual files from the control to the project (Page 82)

Deleting files on the control using the project dialog (Page 85)

Recommended procedure when translating files (Page 87)

Activating the alarm text files on the control using an HMI restart (Page 89)

5.3.2 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.

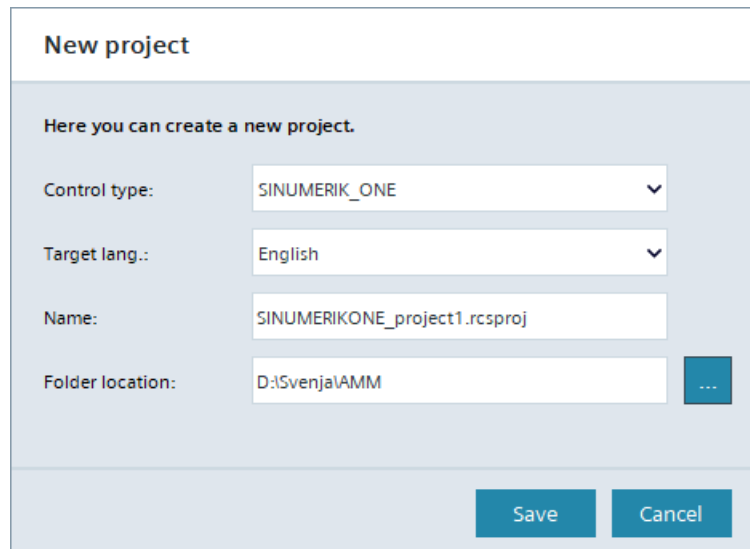


Figure 5-9 New project

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.

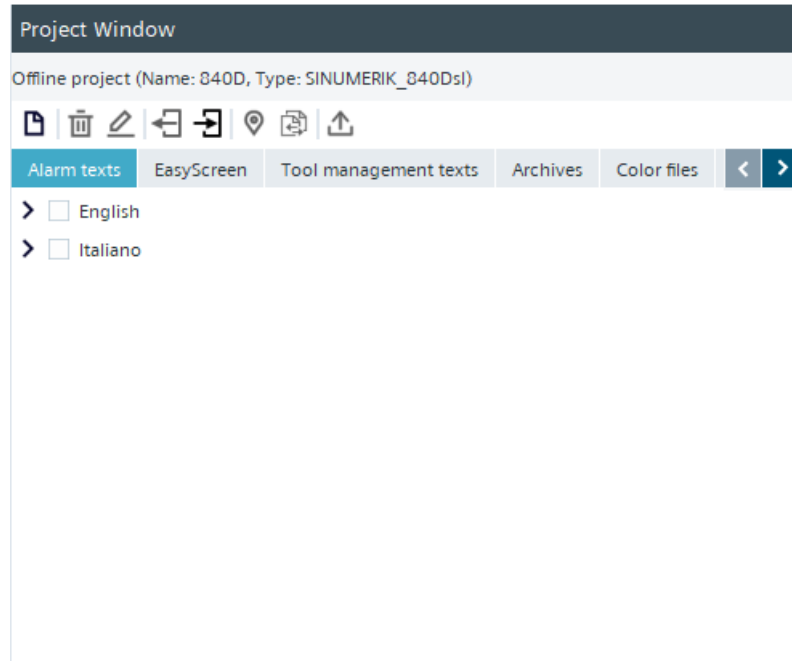


Figure 5-10 Project dialog (OFFLINE)

5.3.3 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 29)).
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.

New project

Here you can create a new project.

Control type: SINUMERIK_ONE ▼

Target lang.: English ▼

Name: SINUMERIKONE_project1.rcsproj

Folder location: D:\Svenja\AMM ...

Save Cancel

Figure 5-11 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.
 - 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.

5.3 Project

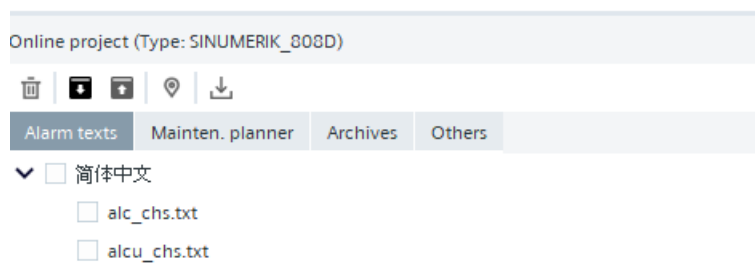
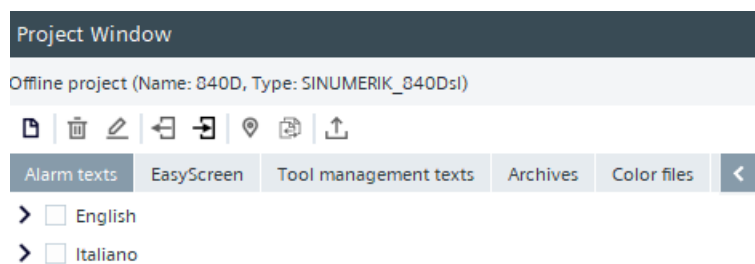


Figure 5-12 Project dialog (ONLINE)

5.3.4 Opening an existing project

Introduction

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

- Using the menu
- With a double-click on the project file in AMM
- With a double-click on the project file in Windows.

Operating sequence "Using the menu"

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

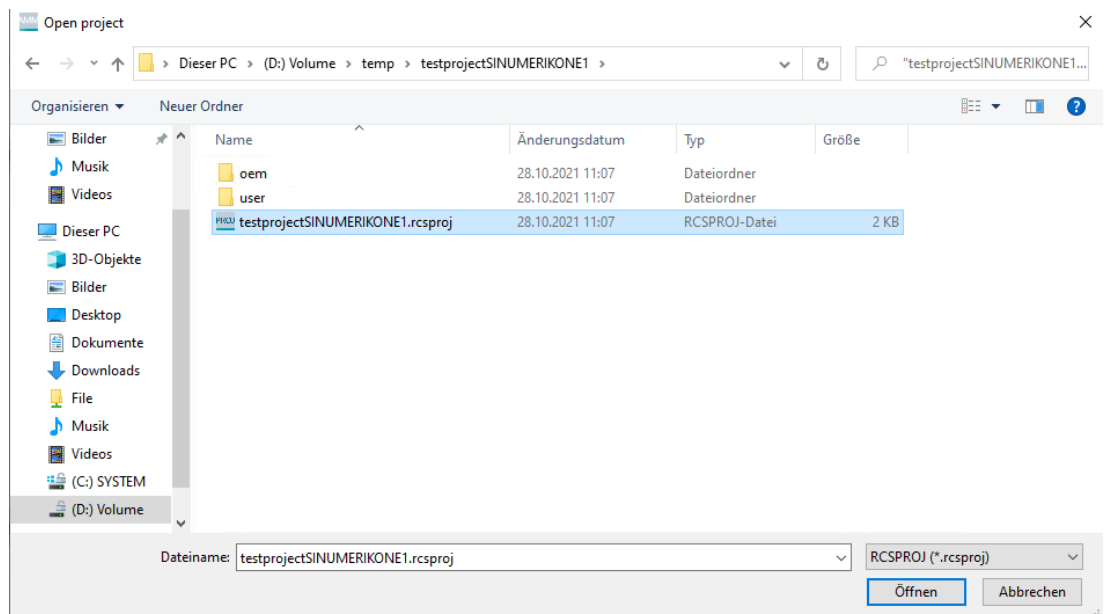


Figure 5-13 Open project

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.

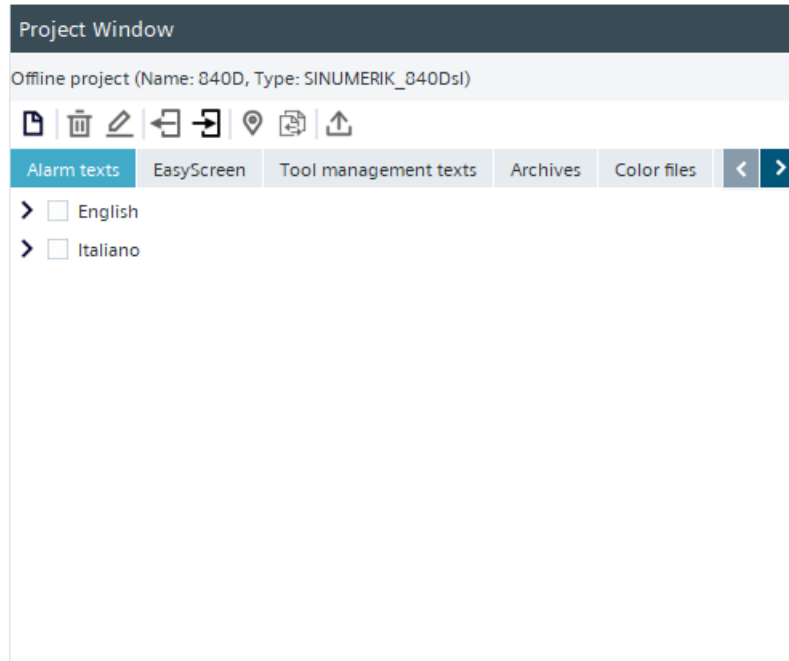


Figure 5-14 Project dialog (OFFLINE)

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.

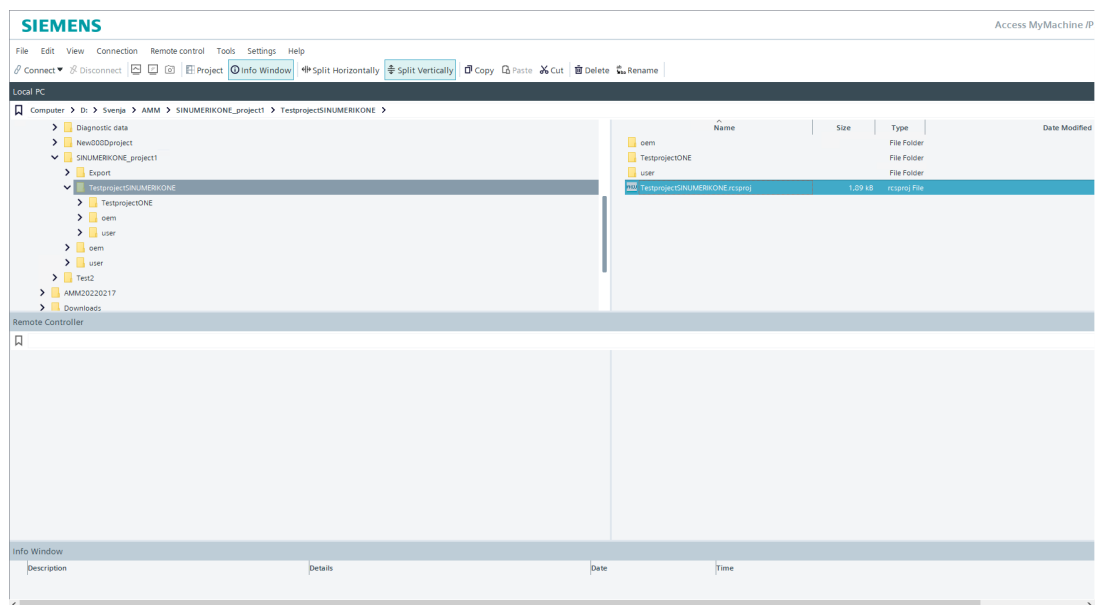


Figure 5-15 AMM (OFFLINE and without project)

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 project.

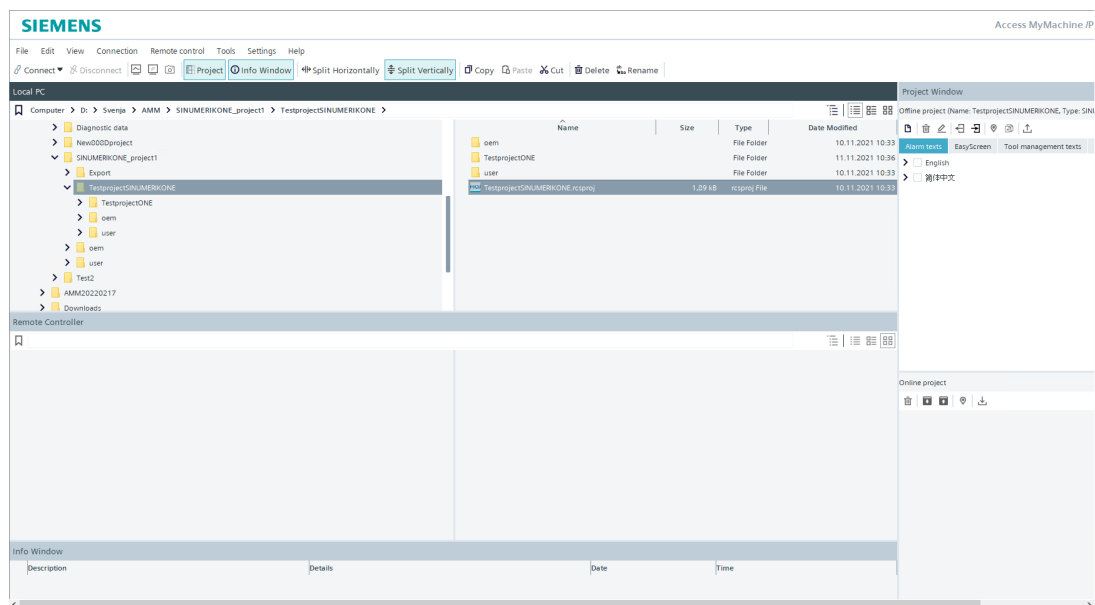


Figure 5-16 AMM with project dialog (OFFLINE)

5.3.5 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. If you do a mouseover on the project name, the full project path is visible.

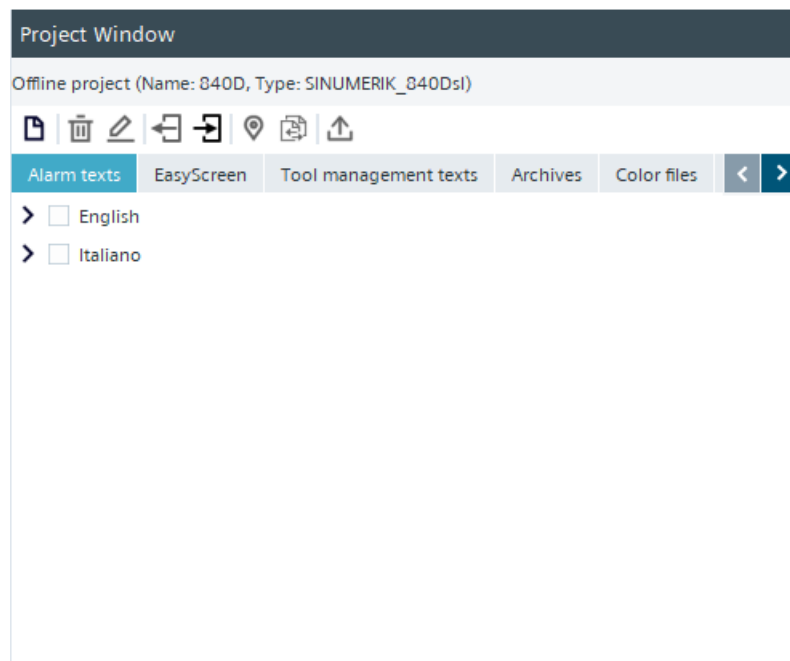


Figure 5-17 Project dialog (OFFLINE)

5.3.6 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.
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.

5.3.7 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.

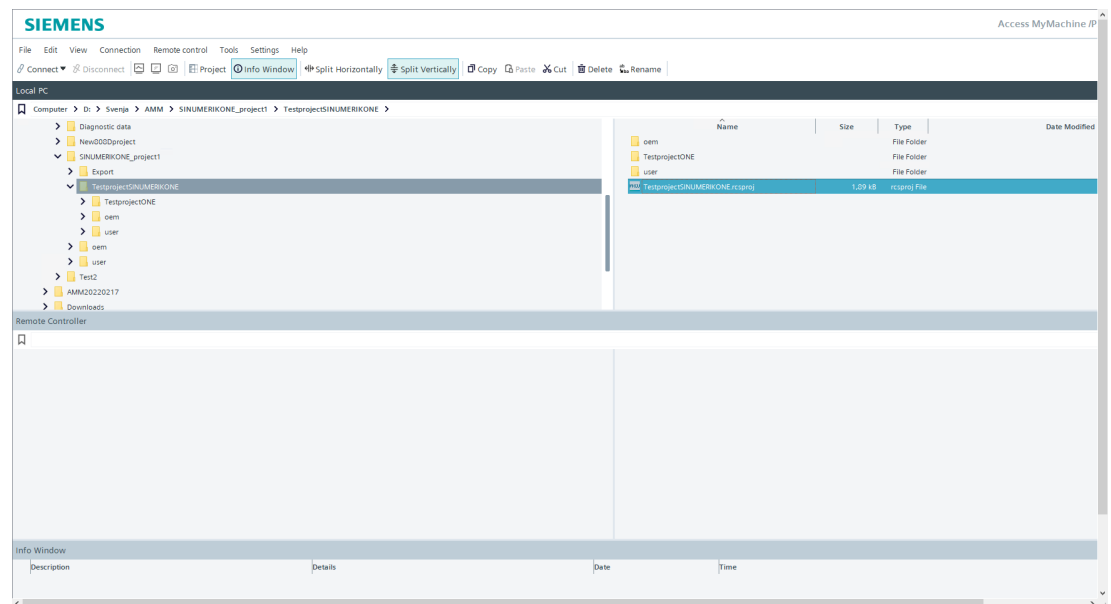


Figure 5-18 AMM (OFFLINE and without project)

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

5.3.8 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.

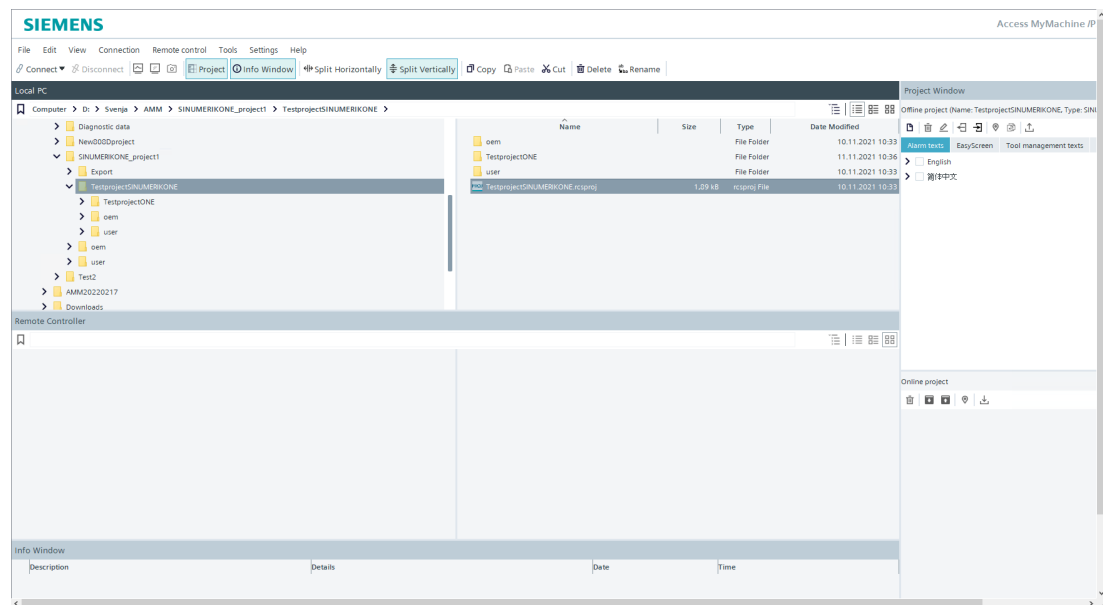


Figure 5-19 AMM with project dialog (OFFLINE)

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 target language" dialog opens.

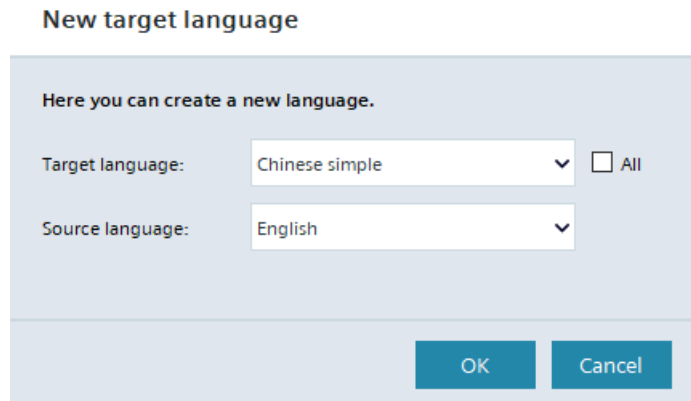


Figure 5-20 New language

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.

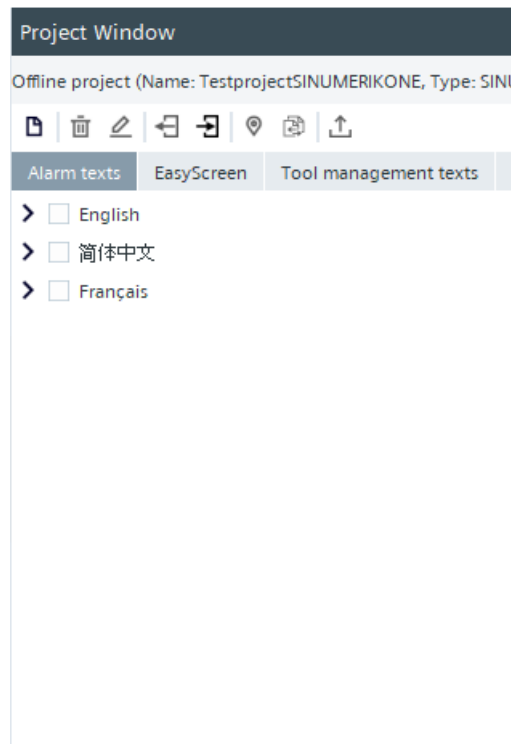


Figure 5-21 Project dialog (OFFLINE) - languages

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

5.3.9 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 23).

Operating sequence

1. Open a project.

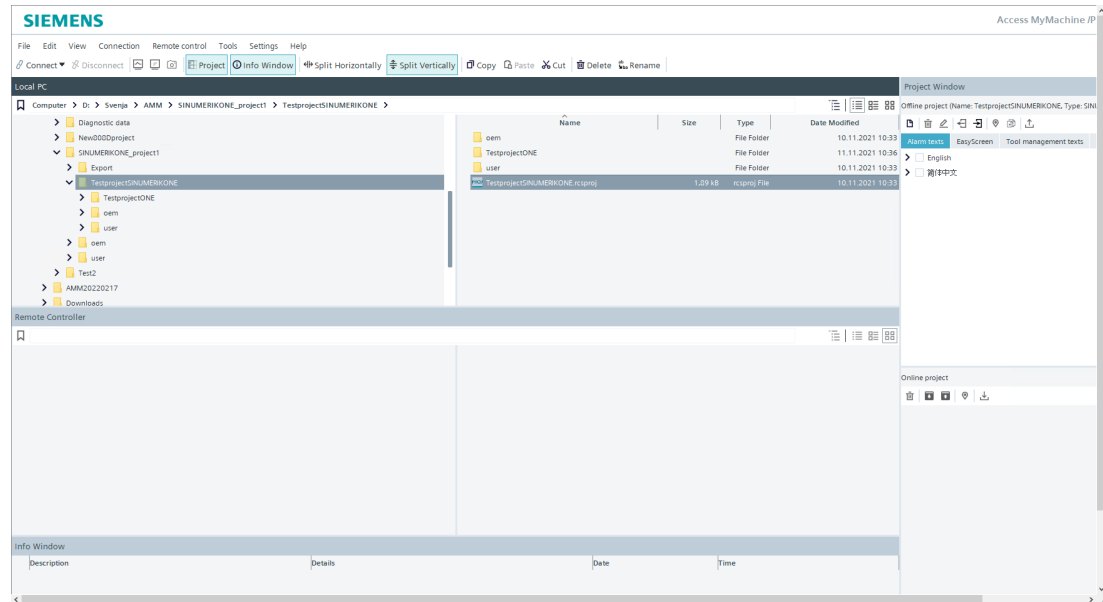


Figure 5-22 AMM with project dialog (OFFLINE)

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 "Import"  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.

5.3.10 Open file location

You can open the file location of any selected files of a OFFLINE or ONLINE project .

Operating sequence

1. Open a project.

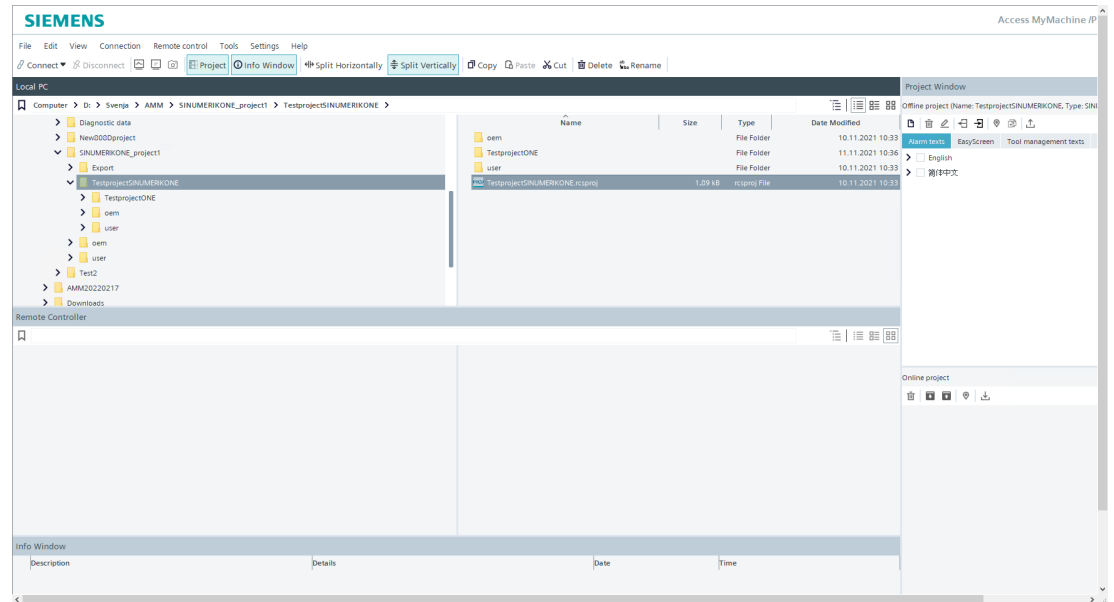


Figure 5-23 AMM with project dialog (OFFLINE)

2. Select one file of the OFFLINE or ONLINE project.
3. Press the "Open file location"  button.
4. The cursor jumps to the file location in the file explorer.

5.3.11 Deleting a file

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

Operating sequence

1. Open a project.

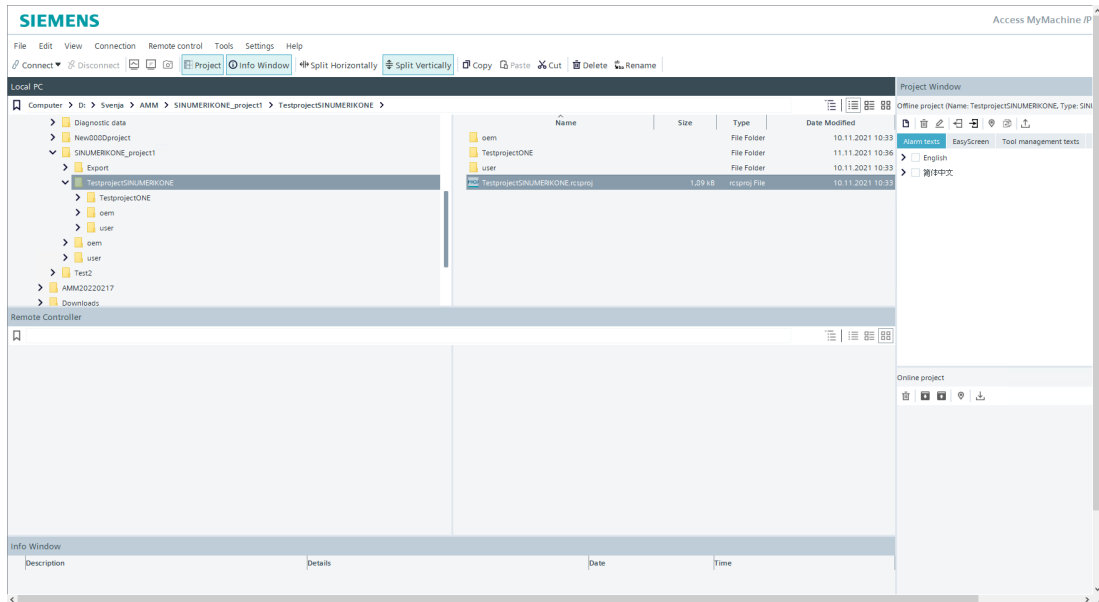


Figure 5-24 AMM with project dialog (OFFLINE)

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. Press the "Delete"  button.
5. The files are deleted immediately without any additional confirmation. The files are removed from the project and physically deleted from the hard disk.

5.3.12 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.

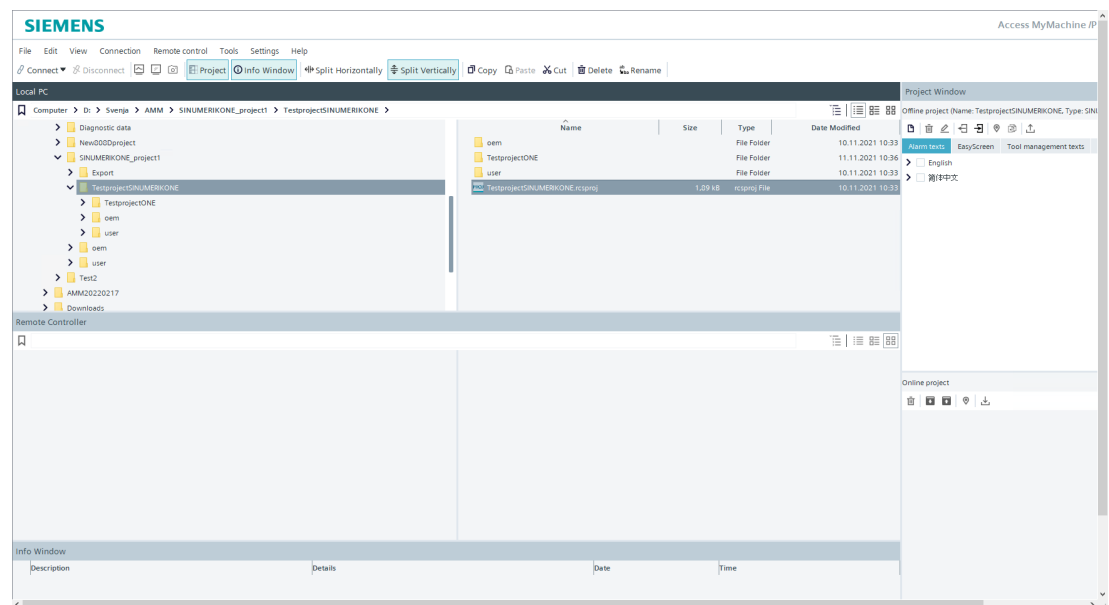


Figure 5-25 AMM with project dialog (OFFLINE)

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.

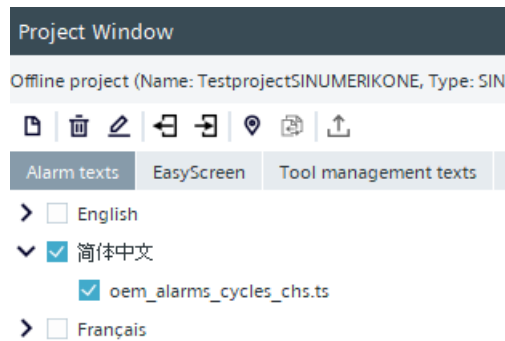


Figure 5-26 Configured dialog (OFFLINE) - languages with activated checkbox

4. Click "Export" button 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 87)

5.3.13 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.

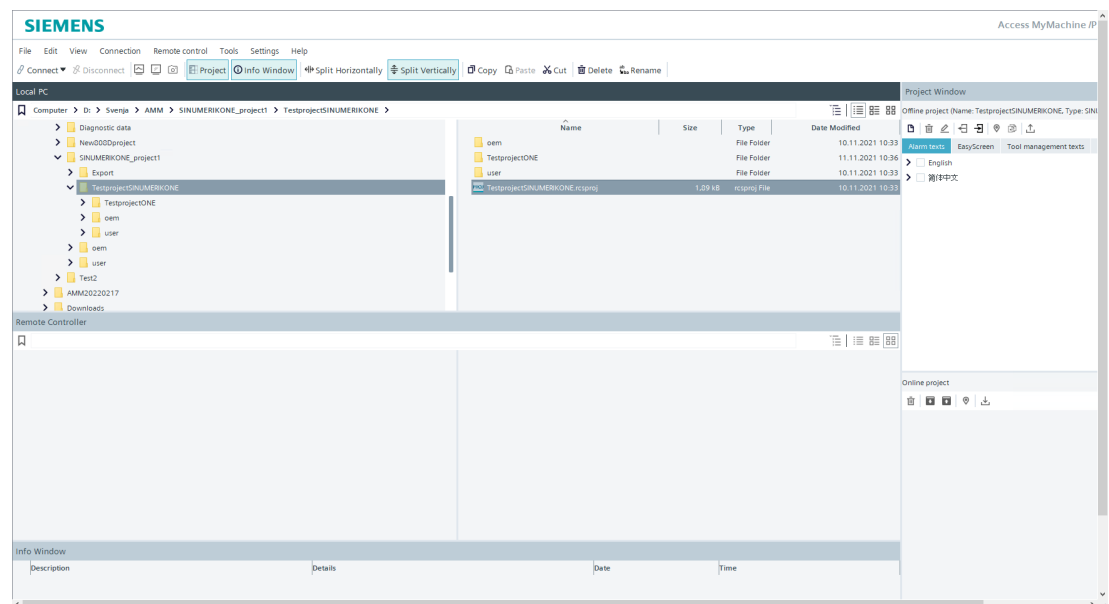


Figure 5-27 AMM with project dialog (OFFLINE)

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"  button 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 133).
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".

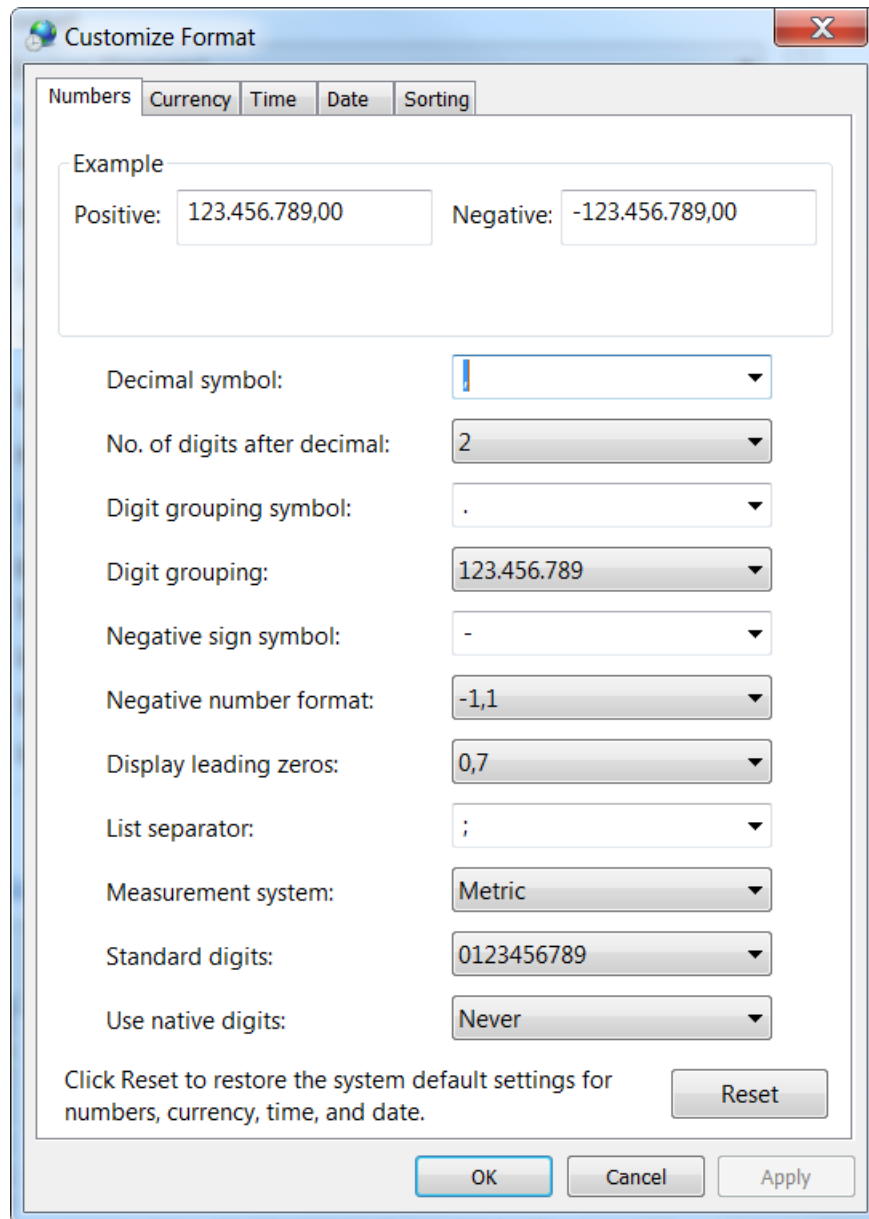


Figure 5-28 List separator

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 87)

5.3.14 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.

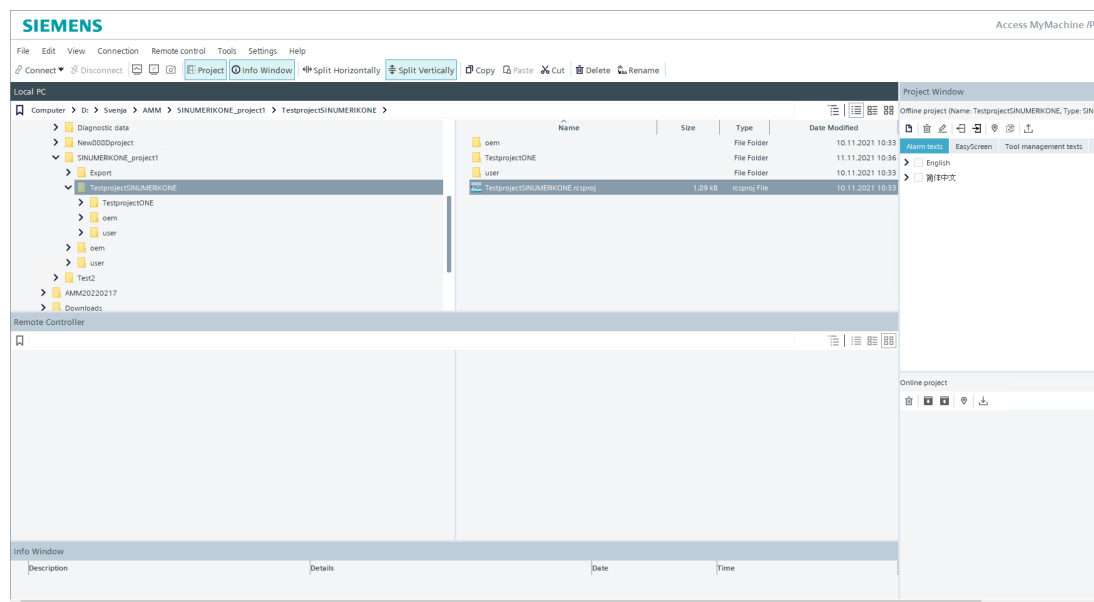


Figure 5-29 AMM with project dialog (OFFLINE)

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.

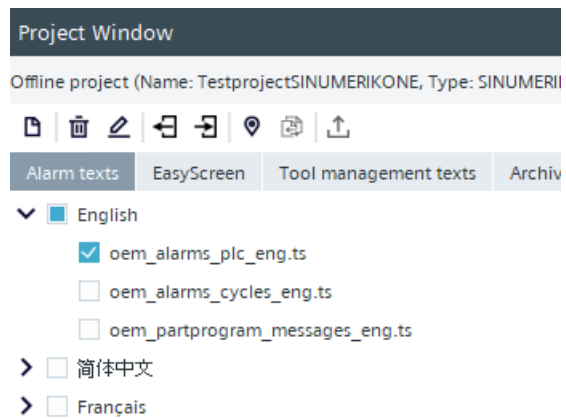
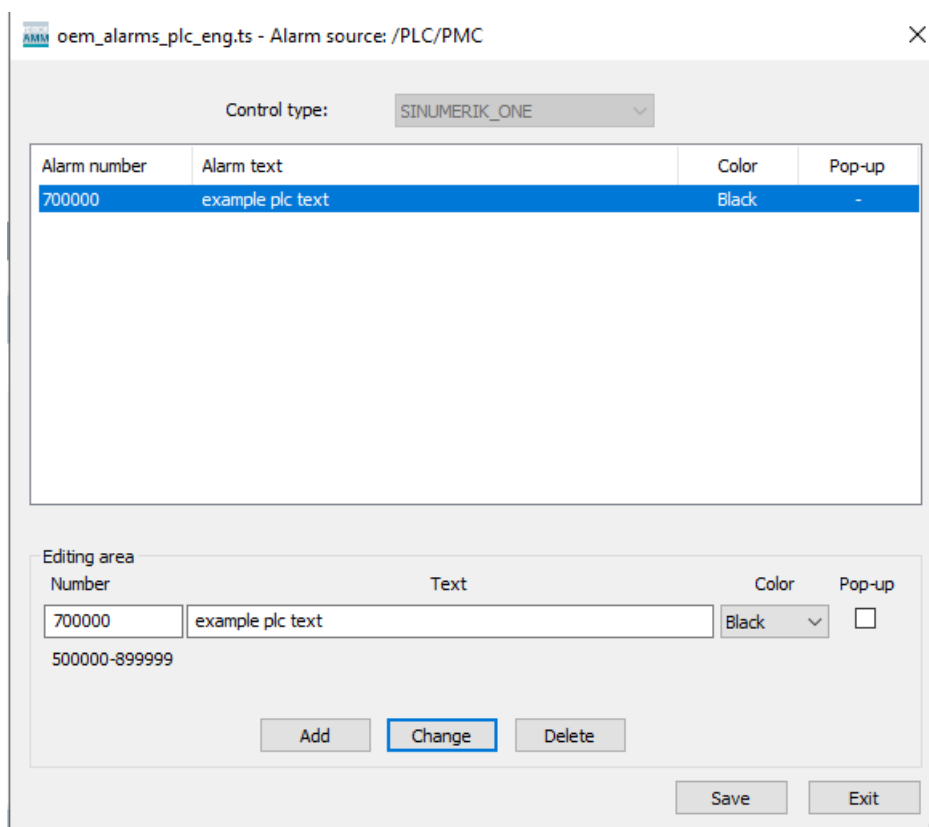


Figure 5-30 Project dialog (OFFLINE) - languages with selected file

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



The screenshot shows the 'oem_alarms_plc_eng.ts - Alarm source: /PLC/PMC' window. At the top, 'Control type' is set to 'SINUMERIK_ONE'. Below is a table with columns 'Alarm number', 'Alarm text', 'Color', and 'Pop-up'. The first row contains '700000', 'example plc text', 'Black', and '-'. Below the table is an 'Editing area' with input fields for 'Number' (700000), 'Text' (example plc text), 'Color' (Black), and 'Pop-up' (checkbox). A range '500000-899999' is shown below the 'Number' field. At the bottom are buttons for 'Add', 'Change', 'Delete', 'Save', and 'Exit'.

Alarm number	Alarm text	Color	Pop-up
700000	example plc text	Black	-

Editing area

Number: 700000
500000-899999

Text: example plc text

Color: Black

Pop-up: ☐

Buttons: Add, Change, Delete, Save, Exit

Figure 5-31 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.

5.3.15 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.

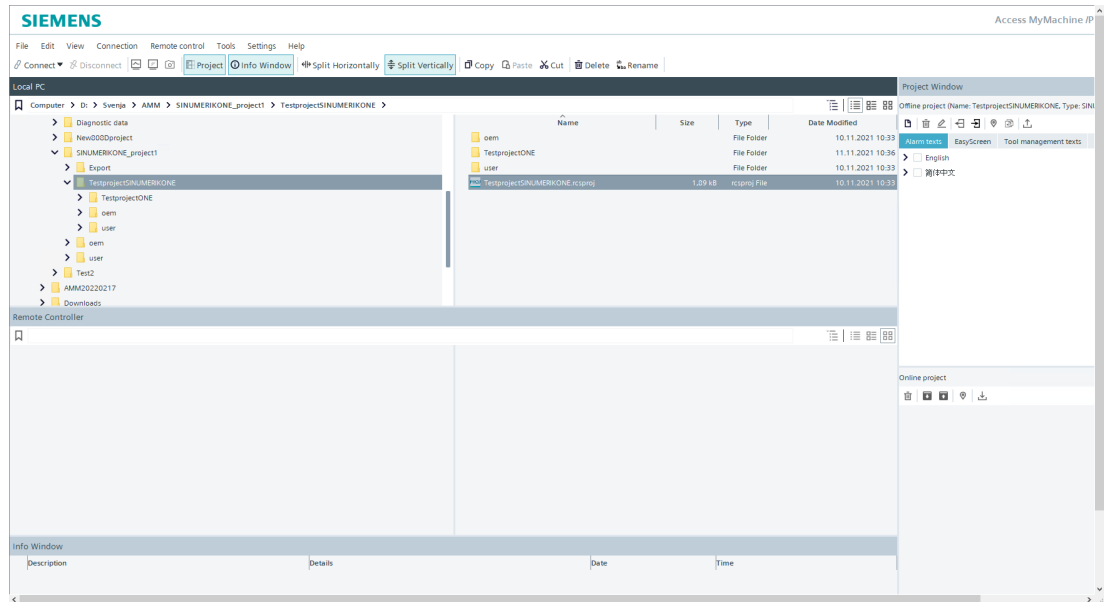


Figure 5-32 AMM with project dialog (OFFLINE)

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.

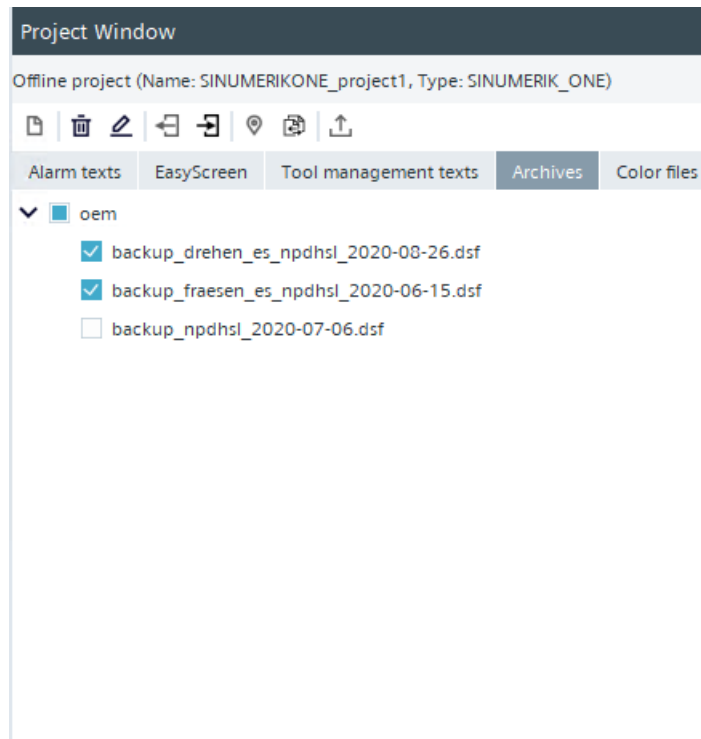


Figure 5-33 Project dialog (OFFLINE) - selected archives

4. Now click "Compare Archive"  button.
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.

5.3.16 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 the current tab**. This means that all files with a check mark from the current tab are transferred to the control.

Note

Note the central security information in Section Security information on the product (Page 23).

Operating sequence

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

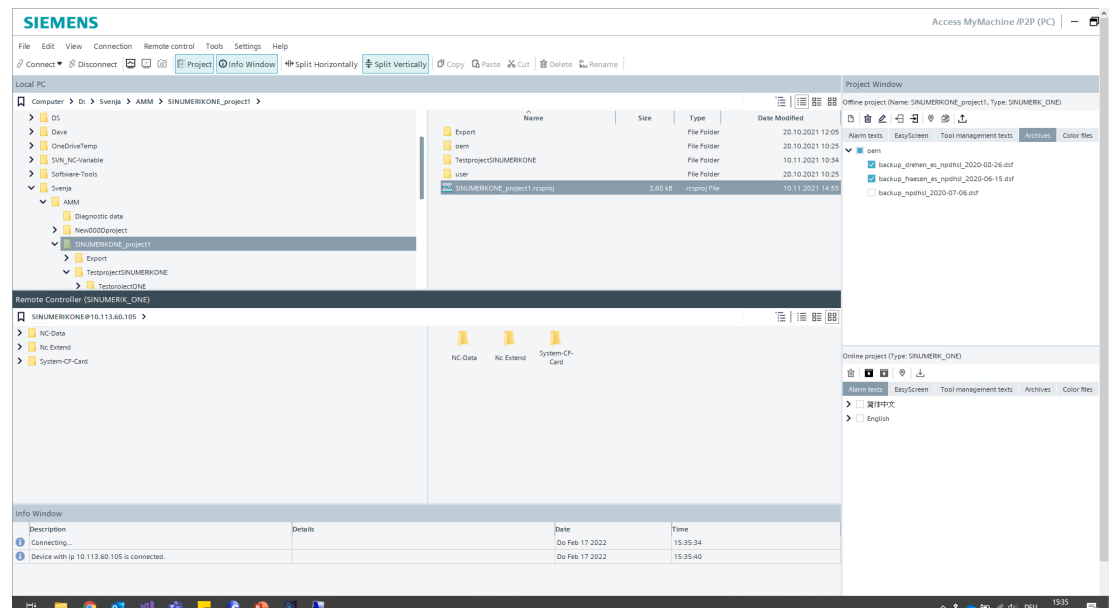


Figure 5-34 AMM with project dialog (ONLINE)

5.3 Project

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.

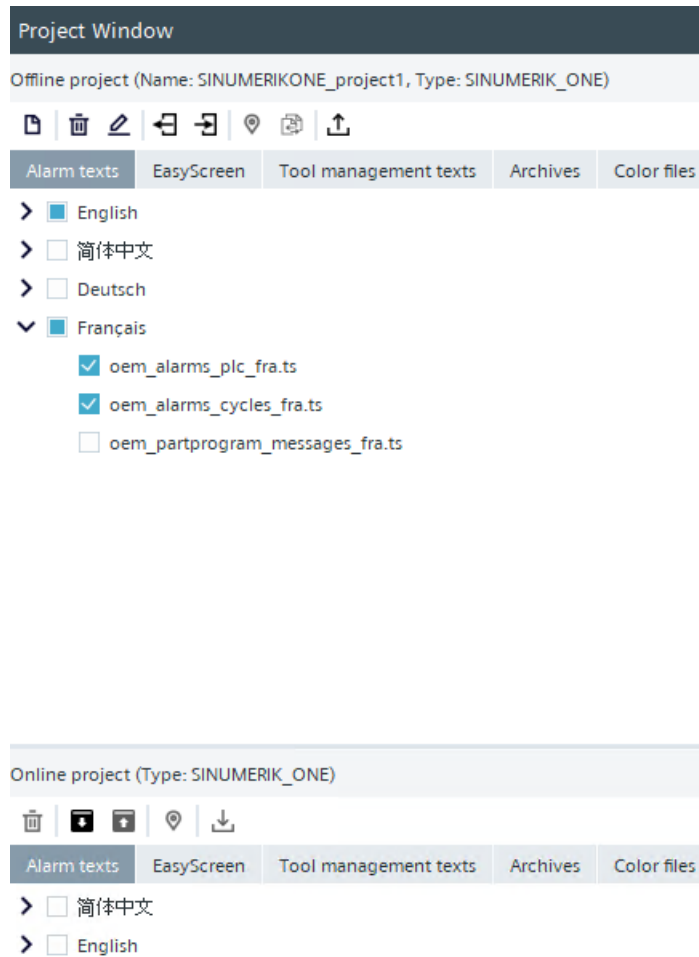


Figure 5-35 Project dialog (ONLINE)

4. Then click the "Transfer to online project"  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, the button is disabled with a tooltip to indicate the reason.

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 "Copy Actions" dialog opens. You are prompted as to whether you want to overwrite the file. If you select "Let me decide for each file", the file is overwritten. If you select "Replace all", all duplicate files are overwritten. If you select "Skip these files", the file is not overwritten.

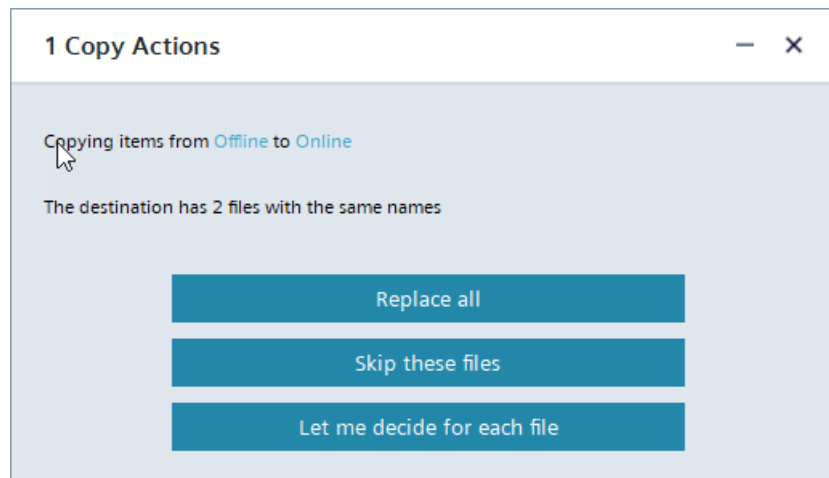


Figure 5-36 Prepare copying

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

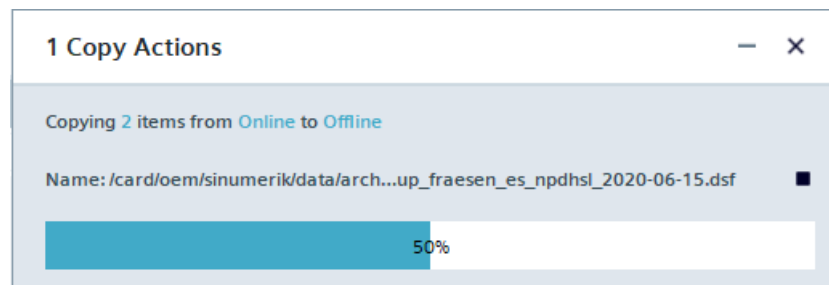


Figure 5-37 Copy

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 89)

5.3.17 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

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

Note

Note the central security information in Section Security information on the product (Page 23).

Operating sequence

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

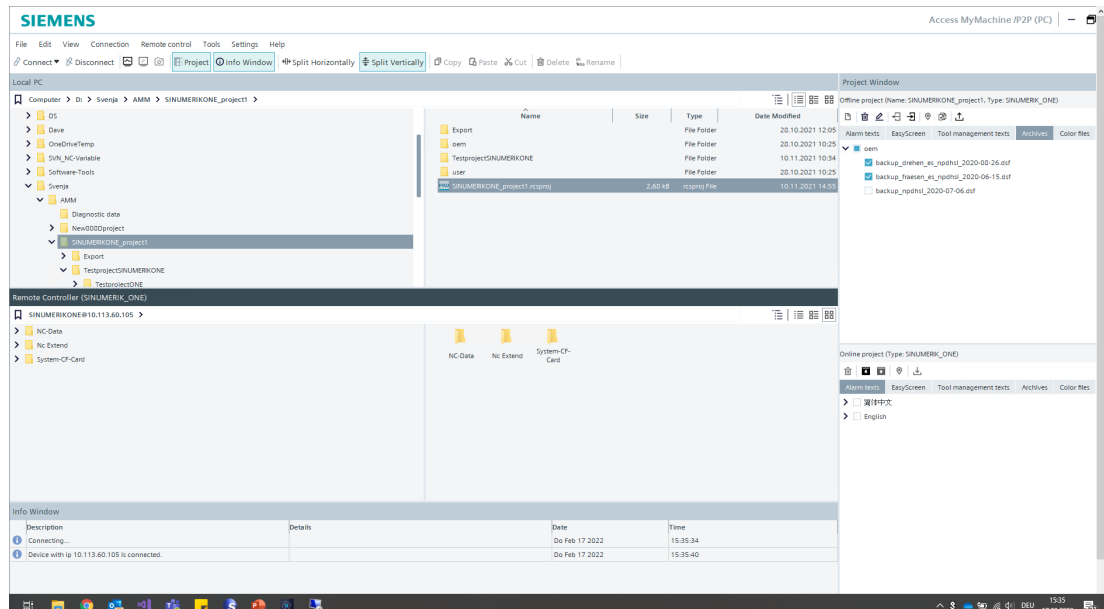


Figure 5-38 AMM with project dialog (ONLINE)

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

4. 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.

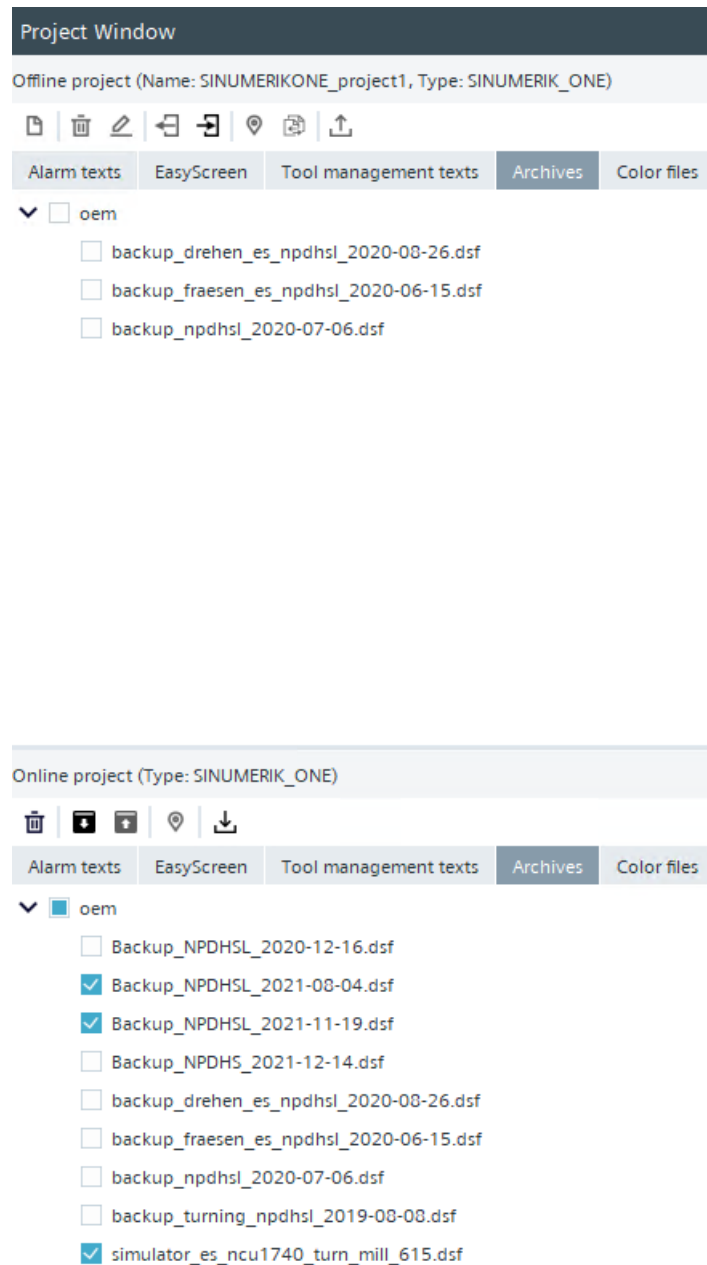


Figure 5-39 Project dialog (ONLINE) - with activated checkbox for the files

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 of a language, it suffices to activate the checkbox for this language.

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.

5. Then click the "Transfer to offline project"  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, the button is disabled with a tooltip to indicate the reason.

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

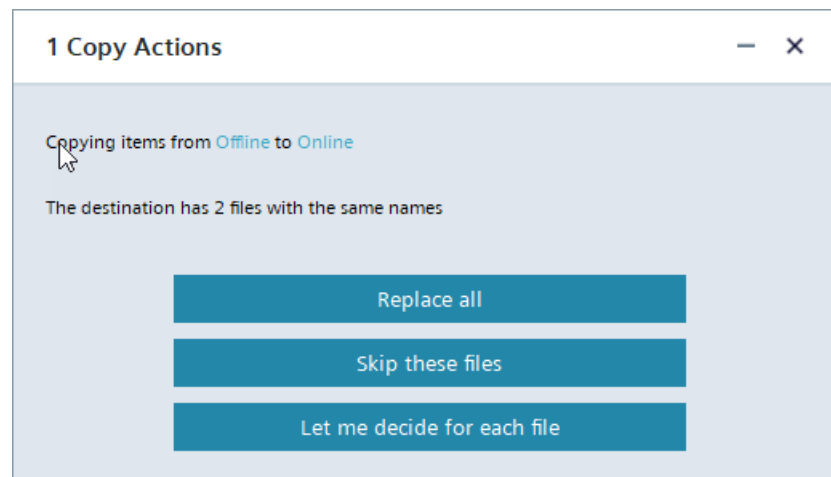


Figure 5-40 Prepare copying

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

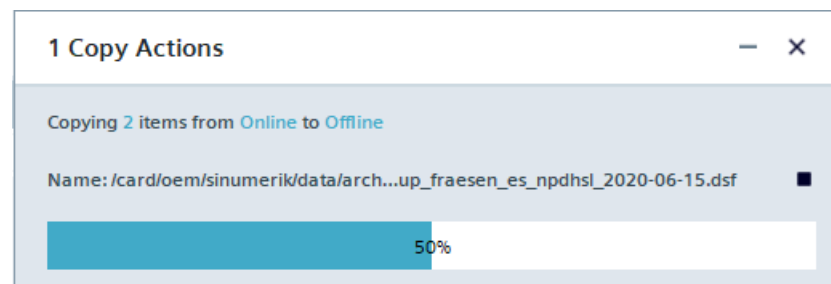


Figure 5-41 Copy

9. 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.).

5.3.18 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.

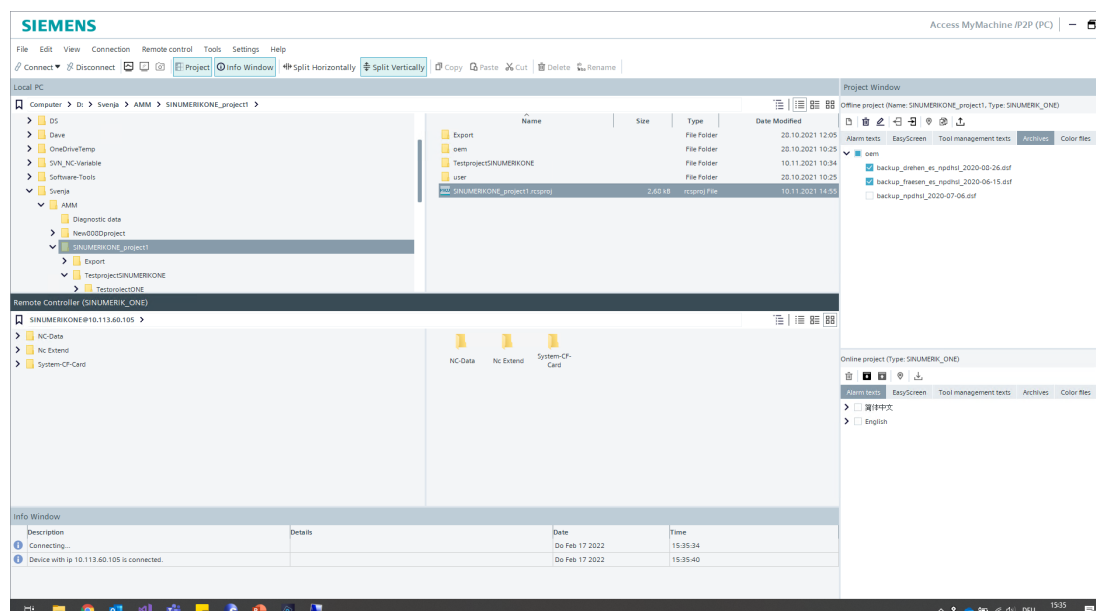


Figure 5-42 AMM with project dialog (ONLINE)

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.

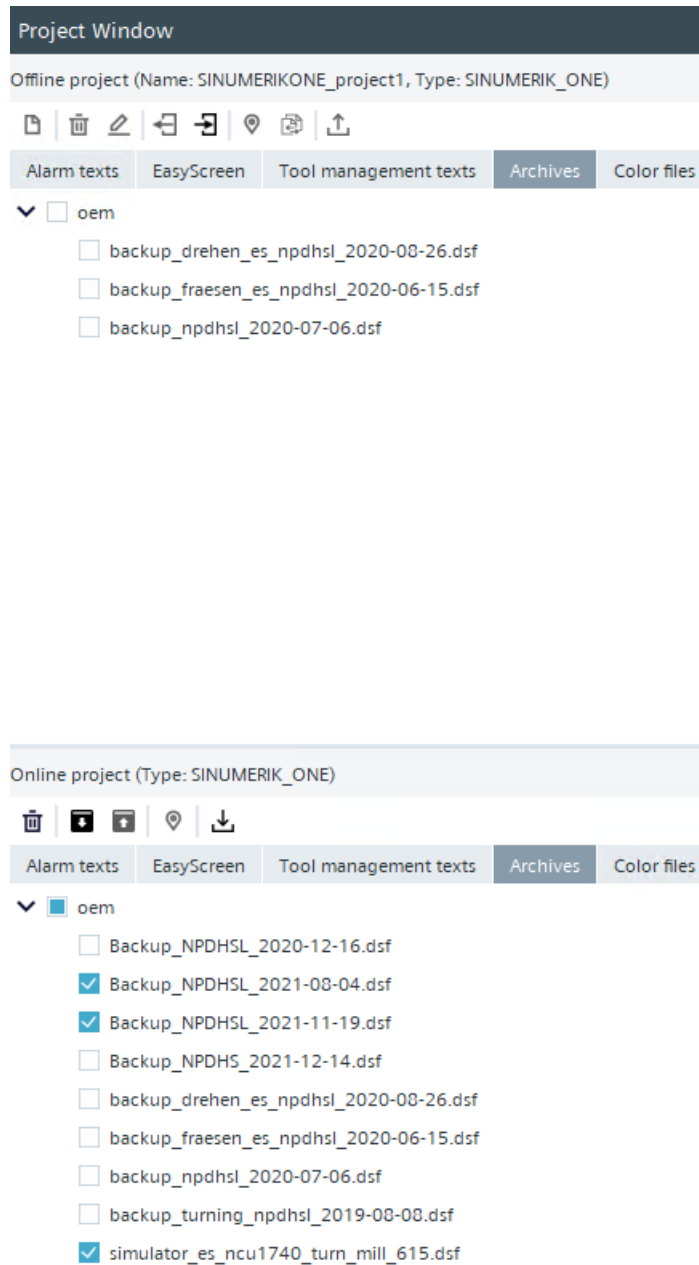


Figure 5-43 Project dialog (ONLINE) - with activated checkbox for the files

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 of a language, it suffices to activate the checkbox for this language.

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.

5.3.19 Recommended procedure when translating files

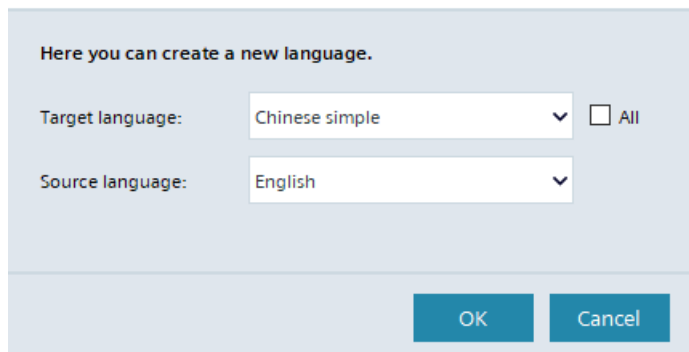
The AMM project supports processes for translating the text files it contains into various languages. The AMM offers an export and import function into the standardized CSV format. This makes it possible to pass the exported languages to a translator, and import them back in after translation.

The following procedure is recommended:

Operating sequence

1. Create (Page 57) a project or open (Page 61) 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 66)". Select the desired target language (e.g. Chinese) and the source language as the copy template (e.g. English).

New target language



Here you can create a new language.

Target language: Chinese simple ☐ All

Source language: English

OK Cancel

Figure 5-44 New language

5.3 Project

4. Activate the checkbox alongside the newly created (Chinese) files, and export (Page 70) the files.

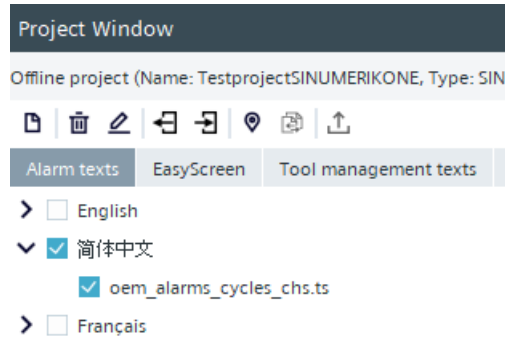


Figure 5-45 Project dialog (OFFLINE) - languages with check mark

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

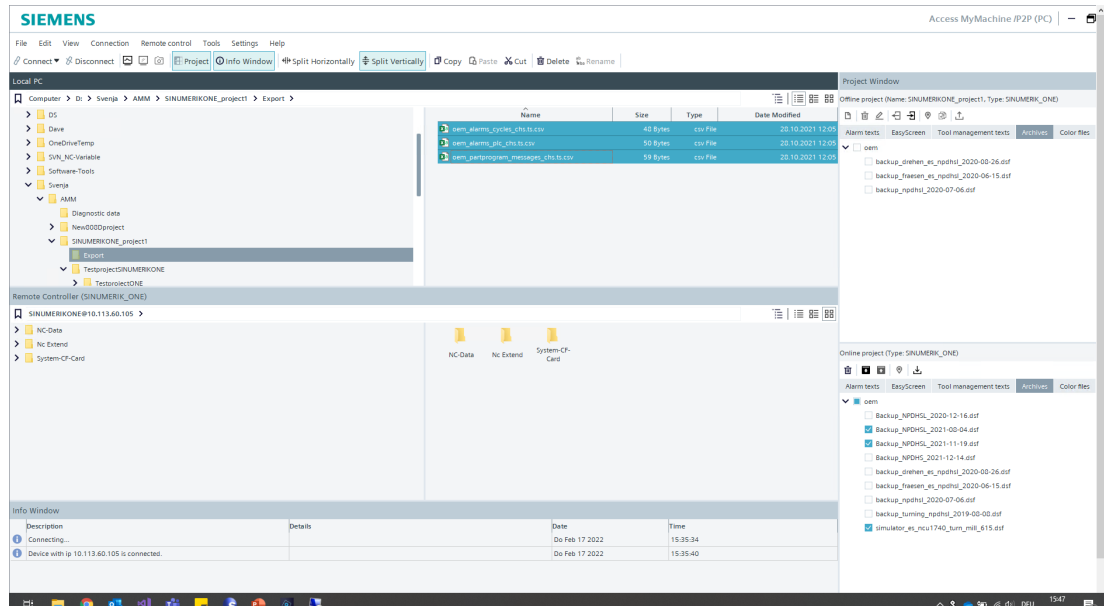


Figure 5-46 AMM - exported files

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 61)

Create a project and read the files from the control system (ONLINE) (Page 57)

5.3.20 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 57) or open (Page 61) a project.
3. Copy (Page 79) the alarm text files from the project to the control.
4. After copying has been successfully completed, start the remote control.

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

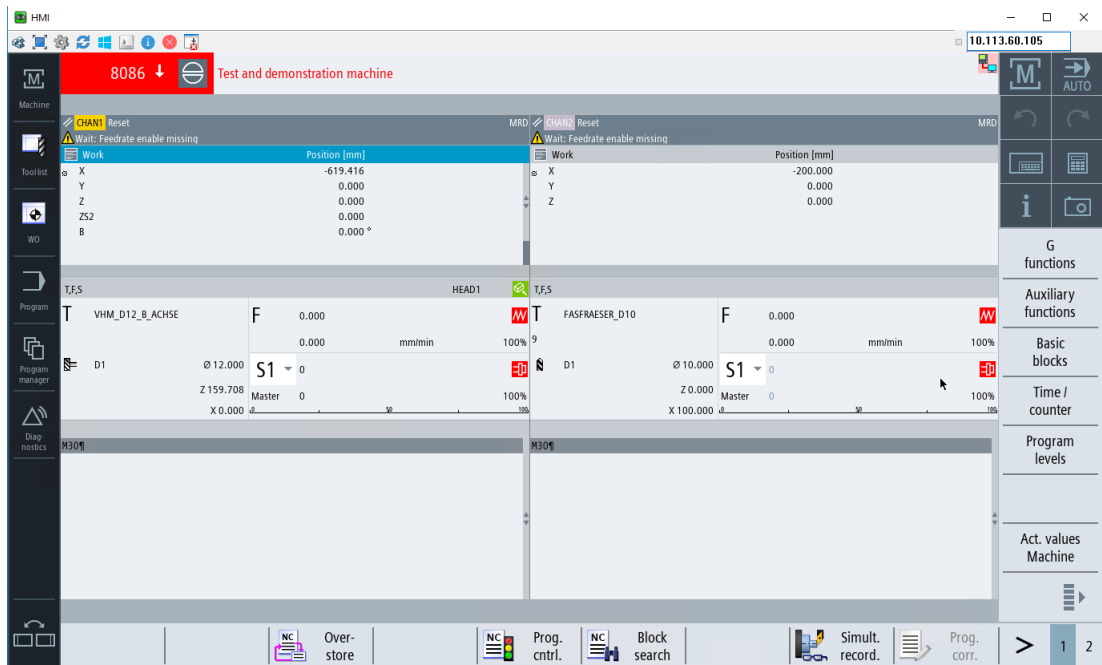


Figure 5-47 Remote control menu (e.g. SINUMERIK ONE/ 840D sl / 828D)

- Click the arrow pointing to the right.

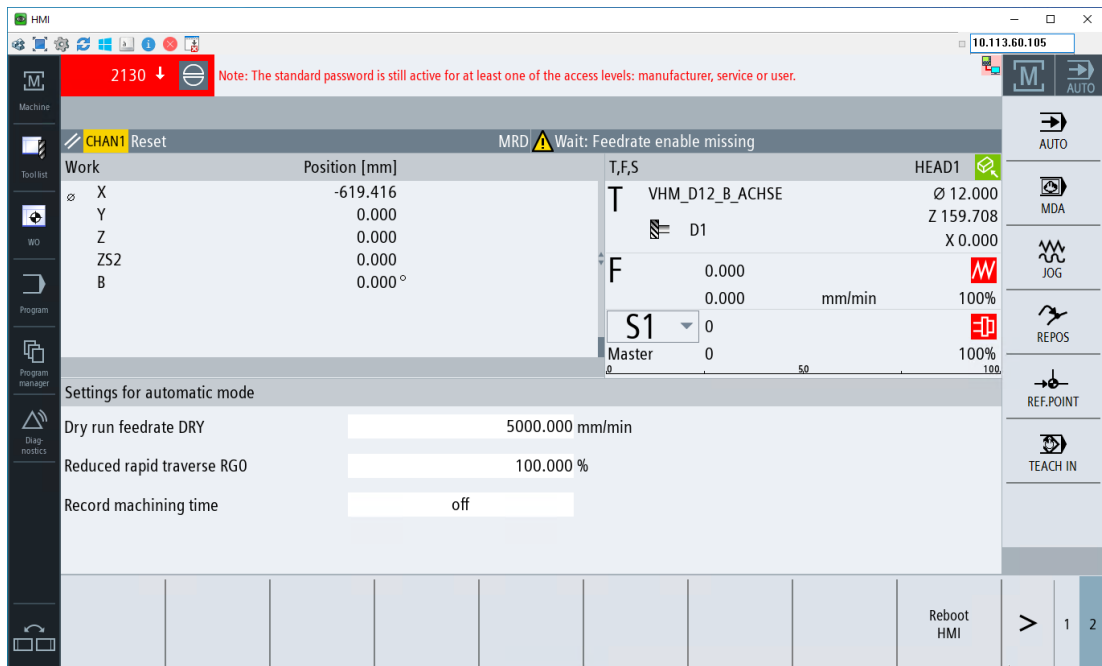


Figure 5-48 HMI restart (e.g. SINUMERIK ONE/ 840D sl / 828D)

- Click "Reboot HMI".
- 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 79)

Creating a project (OFFLINE) (Page 56)

5.4 Access to NC file system

5.4.1 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.

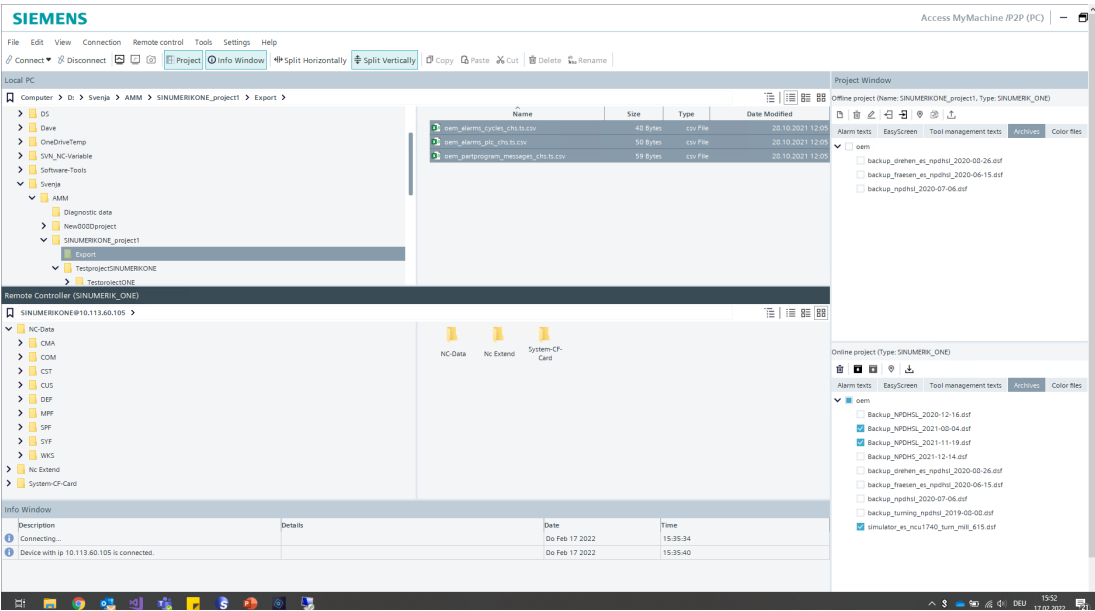


Figure 5-49 NC file system

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 5-1 "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

5.4.2 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"

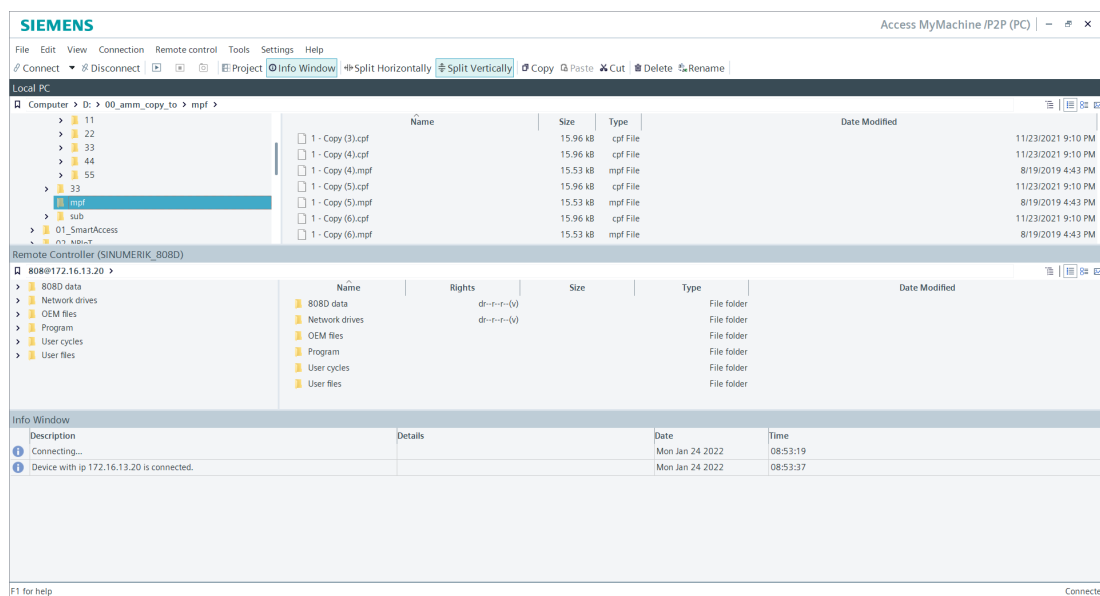


Figure 5-50 NC file system 808D

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 5-2 "Program"

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

The "User cycles" directory has the following structure:

Table 5-3 "User cycles"

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

5.5 Encryption of Cycles

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 "Encrypting cycle files".
The "Encryption of Cycles" dialog of AMM opens.

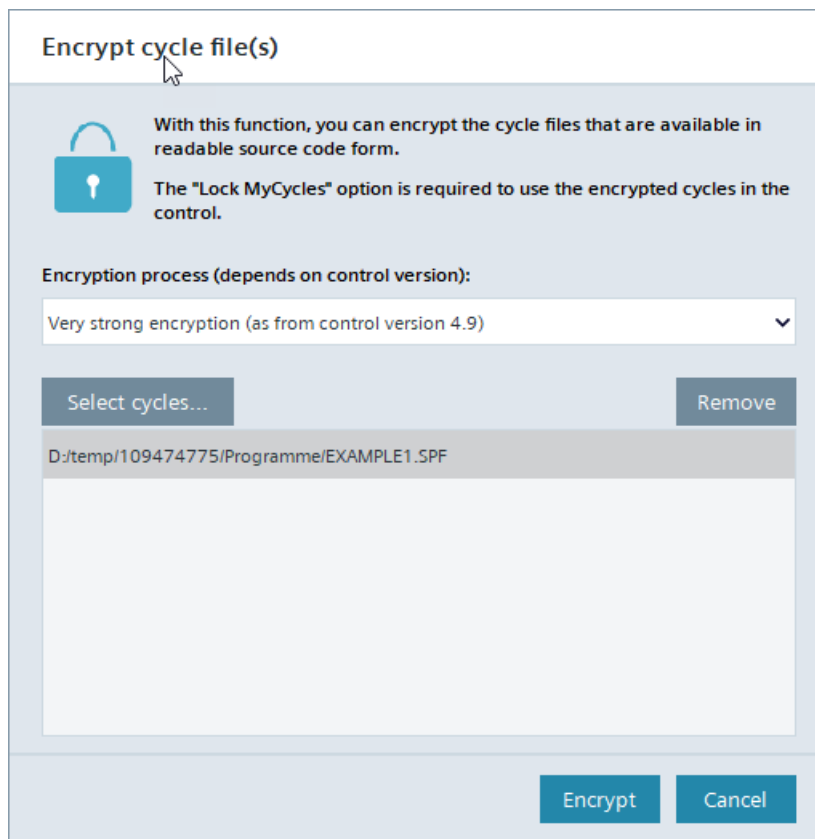


Figure 5-51 Encrypting cycle file(s)

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

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 "Encrypting cycle files". Alternatively select the function via the main menu: "Tools > Encrypting cycle files".

The "Encryption of Cycles" dialog opens.

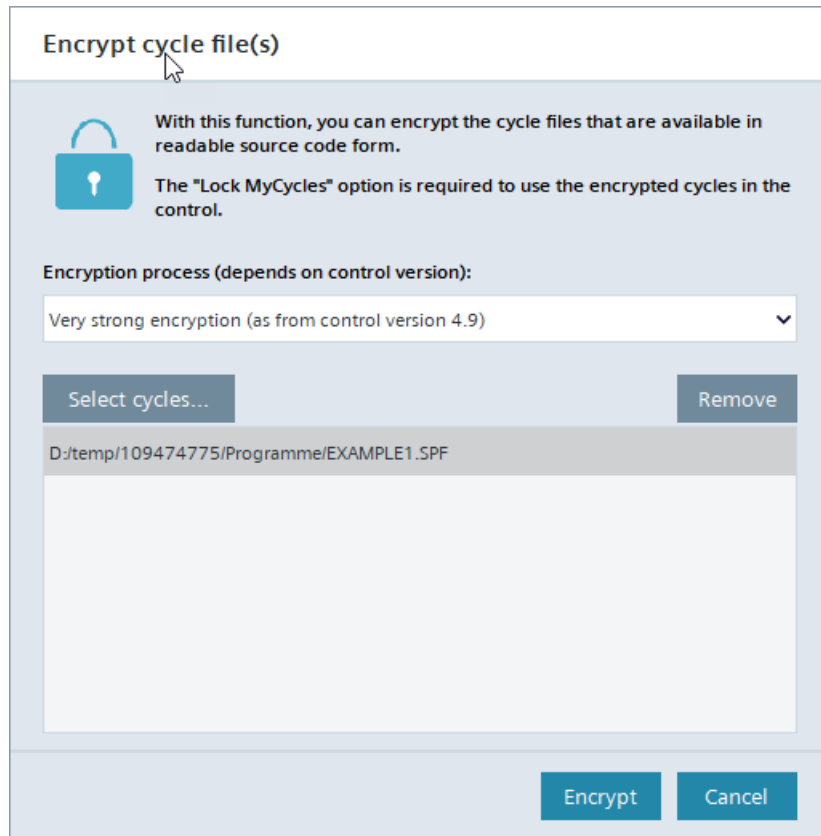


Figure 5-52 Encrypting cycle file(s)

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

Result

The encryption of the cycle file(s) is started. The name of the new created file is: <Original file name>.cpf. The path of the new file remains the same as the prior selected cycle files.

5.6 Backing up/restoring a CompactFlash Card

5.6.1 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 97)
- Writing an image to the CompactFlash Card/USB-FlashDrive (Page 99)
- Writing a SINUMERIK 828D boot system (Page 101)

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

Note

Note the central security information in Section Security information on the product (Page 23).

Operating sequence

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

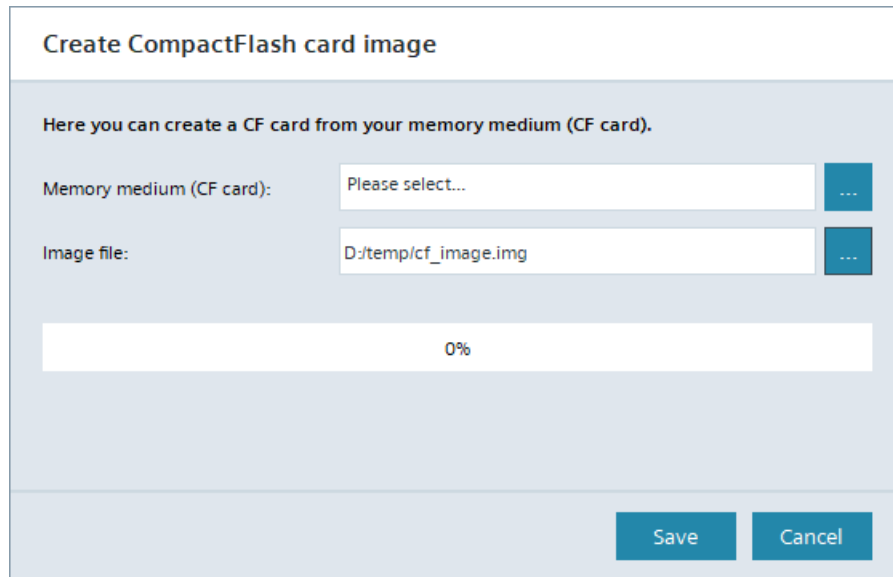


Figure 5-53 Generate image

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

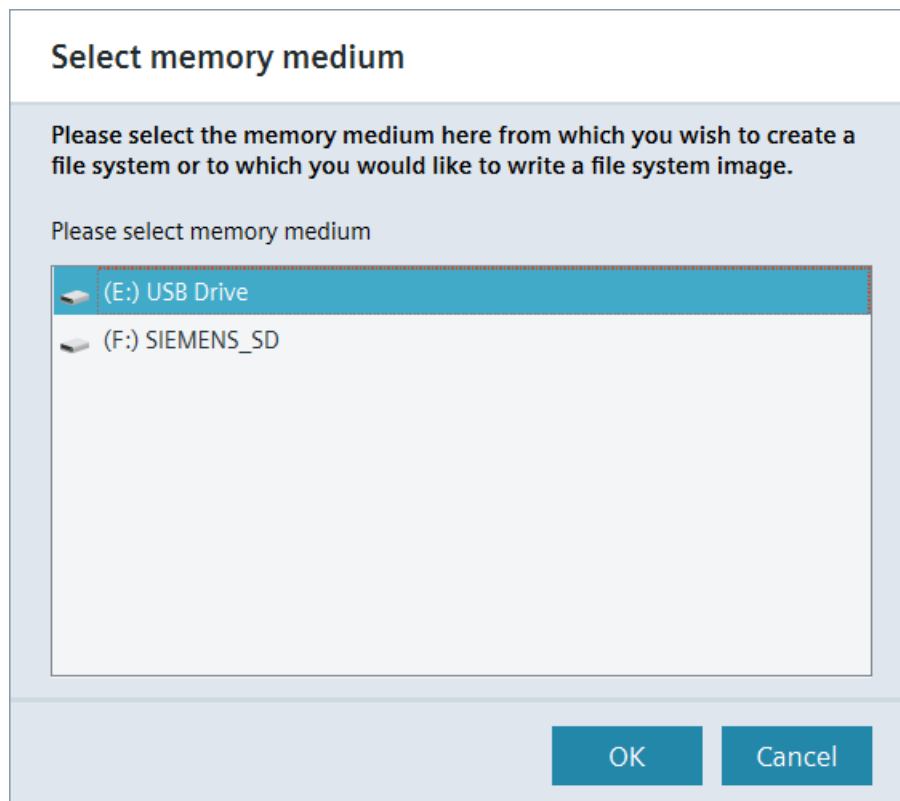


Figure 5-54 Select storage medium

3. Click "OK" and specify the file in which the image is to be created.
4. Click "Save" and 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 161).

See also

Overview of backing up/restoring a CompactFlash Card (Page 97)

5.6.3 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 > Card image > Write image on card" in the main window menu.

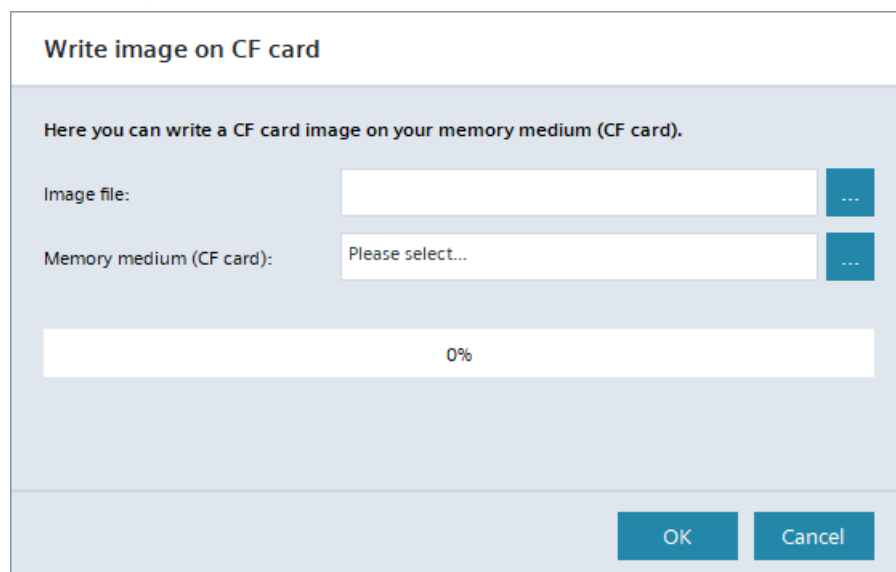


Figure 5-55 Writing a CompactFlash card image

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.

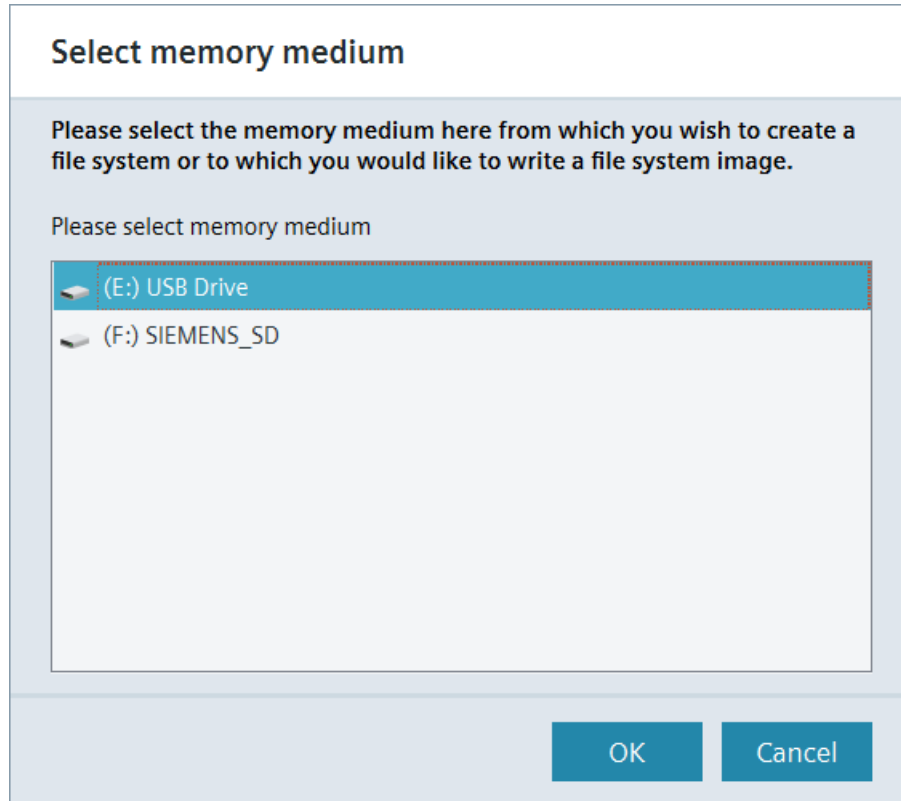


Figure 5-56 Select storage medium

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 161).

See also

Overview of backing up/restoring a CompactFlash Card (Page 97)

5.6.4 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 > Card Image > 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. The dialog for writing the SINUMERIK 828D boot system opens. Click on the three dots behind "Image file from toolbox" to select the toolbox version.

Write SINUMERIK 828D boot system

Please select the memory medium to which the SINUMERIK boot system image is to be written for an 828D.

Image file from toolbox

Memory medium (CF card):

0%

Write **Cancel**

Figure 5-57 Writing a SINUMERIK 828D boot system

3. If more than one SINUMERIK 828D toolbox has been installed on your PC, select the appropriate version and click "OK".

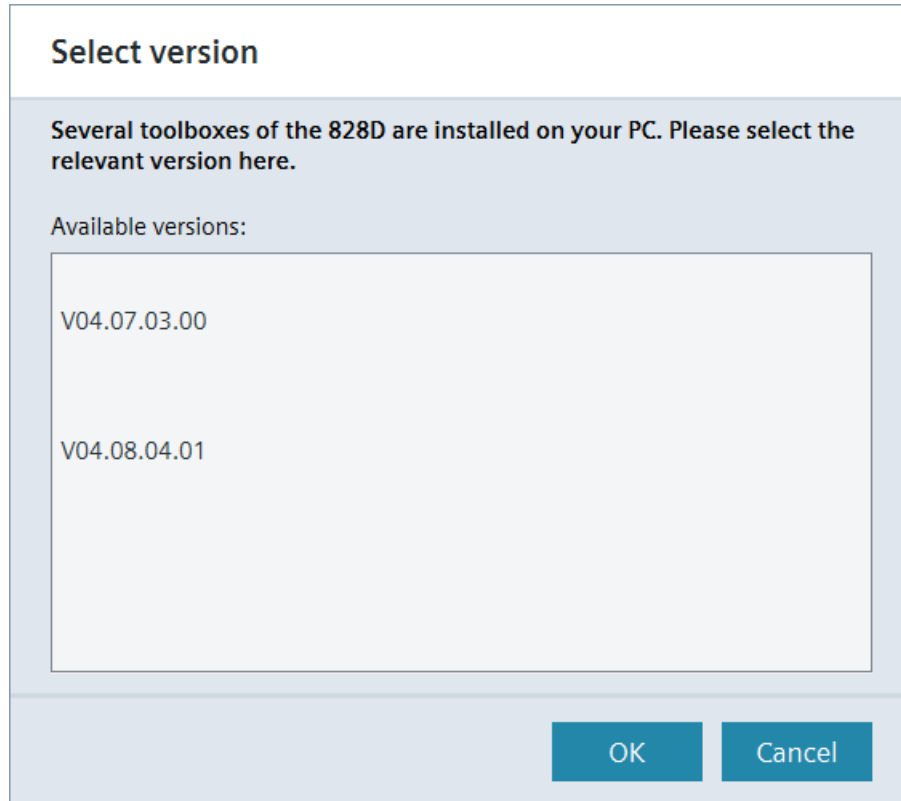


Figure 5-58 Select a toolbox version

4. Click on the three dots behind "Memory medium (CF card)" to select the memory medium. This dialog requires you to select the storage medium (CompactFlash card) to which the boot system image is to be written.

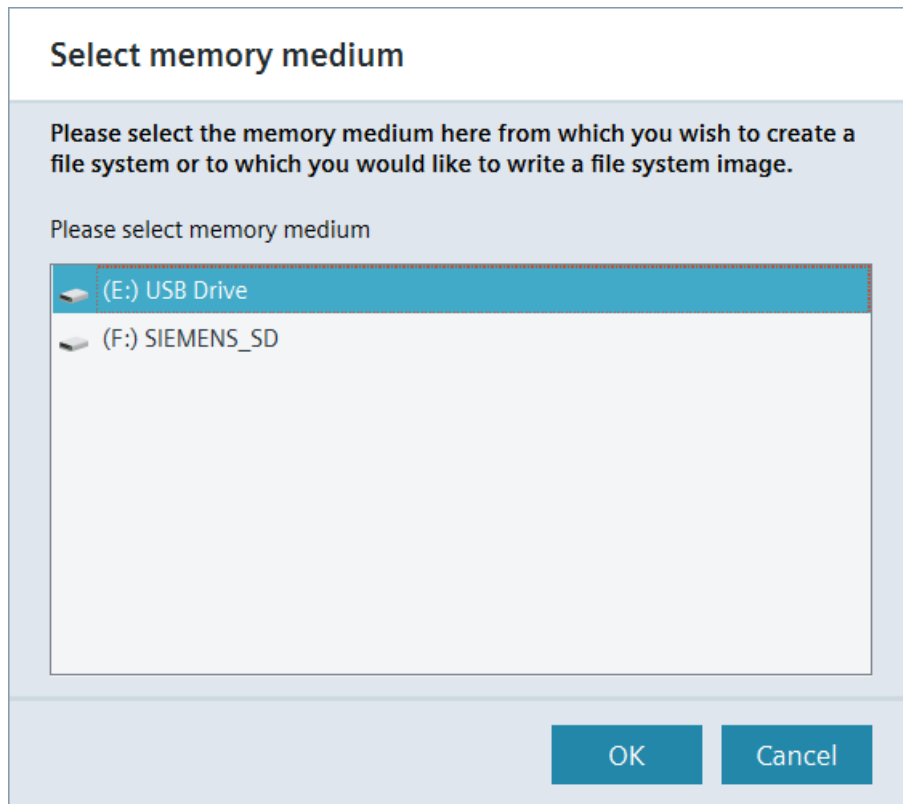


Figure 5-59 Select a medium

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

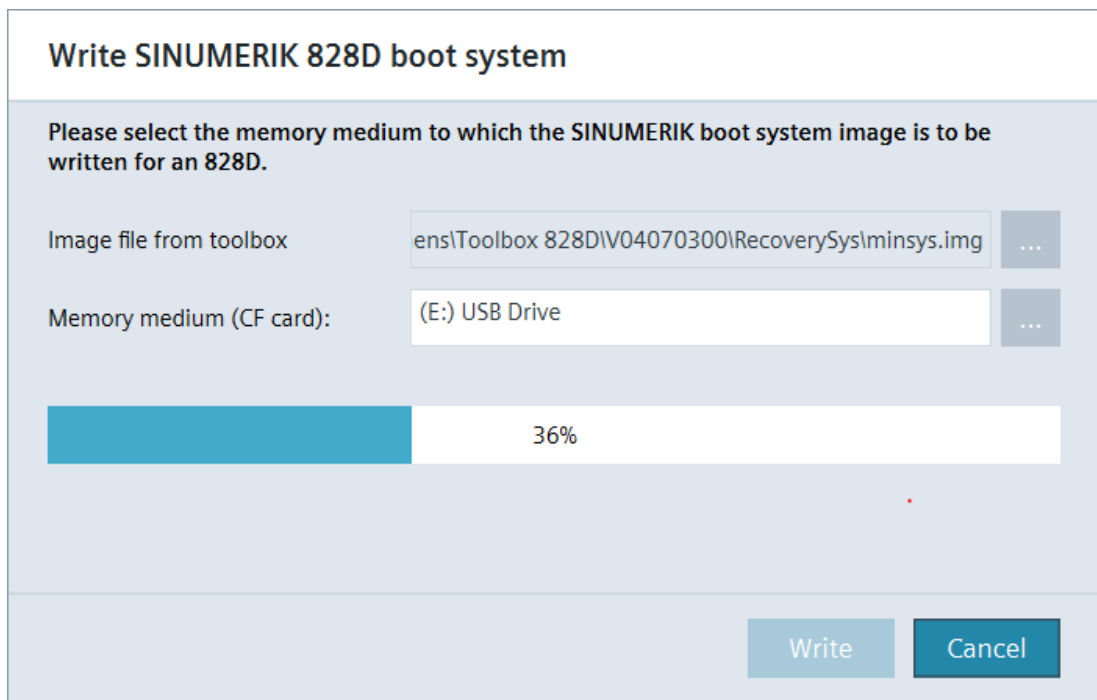


Figure 5-60 Writing the SINUMERIK 828D boot system

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 97)

5.7 CNC Lock function

5.7.1 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

5.7.2 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.

CNC lock function

With this function, you can generate a lockset file to activate, extend or deactivate the CNC-Lock function.

Select CNC lock function:

☒ Activate ☐ Extend ☐ Deactivate

CNC-Lock function data

You can load data or input it manually. Loading data...

Software version of the control: since 4.8 SP3

CF card number: ? ✗

Hardware series number: ? ✗

OEM PIN: ? ✗

Repeat OEM-PIN: ✗

Expiration date (mm/dd/yyyy): 3/23/2022

Comment:

You can save the data on PC and load it next time. Save data...

Note:

- Please don't forget the OEM-PIN.
- The CNC-Lock runtime option is required to use this function.
- The lockset file does not become active until it has been loaded via the HMI of the control.

Generate LockSet file... Cancel

Figure 5-61 CNC lock function

The "CNC lock function" dialog opens.

2. Click the "Activate" radio button.
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. Use the mouseover information to get to know the relevant restrictions.

5. Enter the hardware serial number of the control. Use the mouseover information to get to know the relevant restrictions.
6. Enter an OEM PIN. Use the mouseover information to get to know the relevant restrictions.

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 an expiration date. The expiration 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 110) or deactivate the lock (Page 115).
8. Enter a comment on your data optionally.

9. You have the possibility of saving the CNC-lock function data on your PC and by clicking "Save data". You can retrieve the saved data by clicking "Loading data" and giving the correct password.
 - If you click "Save data", the dialog "Set password for CNC-lock function data" opens.

Set password for CNC-Lock function data

The CNC-Lock function data are stored securely in an encrypted file. A password is required for encryption and decryption. This password should be as complex as possible.

At least the following characters should be included:

- ✓ - 1 lower case letter[a-z]
- ✓ - 1 upper case letter[A-Z]
- ✓ - 1 special character
- ✓ - 1 number[0-9]
- ✓ - At least 8 characters

You should continue to treat the password confidentially.

Password:

Repeat password:

Do you want to save the password on this PC, and in future let it be set automatically when the AMM is started?

☐ Save password on this PC

OK Cancel

Figure 5-62 Set password for CNC-lock function data

The CNC-lock function data is stored securely in an encrypted file then. A password is required for encryption and decryption. This password should be as complex as possible. Set a password according to the given requirements and repeat the password.

- The password for CNC-lock function data can also be saved on our PC. If you click the checkbox "Save password on this PC", a dialog for confirmation opens.

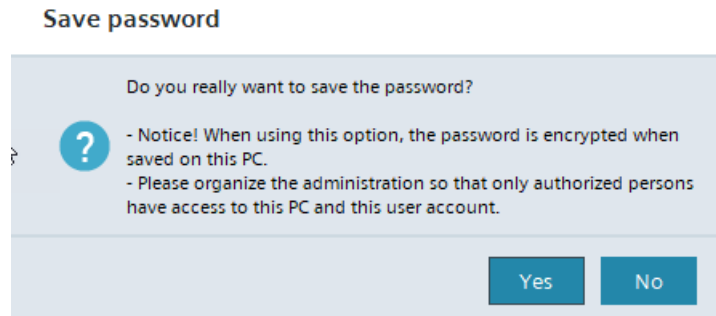


Figure 5-63 Save CNC-lock function data password

If you press "No", the CNC-lock function data password is not saved on your PC and you have to provide the password every time AMM is started. If you confirm with "Yes" and press "OK", you can specify the name of the file and the location to save the file in a windows dialog. The CNC-lock function data password (*.ucle) is saved in an encrypted format on your local PC.

Note

Clear or change CNC-lock function data password

If you want to clear or change the CNC-lock function data password, press "Settings > Password settings > CNC-lock function data password..." in the main menu.

10. Click "Generate LockSet file" to create an encrypted "lockset.clc" lockset file. The content of the comment field is not stored in the lockset file.
11. Import the lockset file into the control. (Page 120) 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:

- SINUMERIK 828D PLC (<https://support.industry.siemens.com/cs/us/en/view/109803073>)
- "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" or "user_lockset.ule" 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" or "user_lockset.ule" file and read the information stored there.

5.7.3 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.

CNC lock function

With this function, you can generate a lockset file to activate, extend or deactivate the CNC-Lock function.

Select CNC lock function:

☐ Activate ☒ Extend ☐ Deactivate

CNC-Lock function data

You can load data or input it manually. Loading data...

Software version of the control: since 4.8 SP3

CF card number: ? ✗

Hardware series number: ? ✗

OEM PIN: ? ✗

Repeat OEM-PIN: ✗

Expiration date (mm/dd/yyyy): 3/23/2022

Comment:

You can save the data on PC and load it next time. Save data...

Note:

- Please don't forget the OEM-PIN.
- The CNC-Lock runtime option is required to use this function.
- The lockset file does not become active until it has been loaded via the HMI of the control.

Generate LockSet file... Cancel

Figure 5-64 Extending the CNC lock function

The "CNC lock function" dialog opens.

1. Click the "Extend" radio button.
2. Select the software version of the control to be locked.

5.7 CNC Lock function

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. Use the mouseover information to get to know the relevant restrictions.
4. Enter the hardware serial number of the control. Use the mouseover information to get to know the relevant restrictions.
5. Enter an OEM PIN. Use the mouseover information to get to know the relevant restrictions.

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 expiration date. The expiration 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 115).
7. Enter a comment on your data optionally.

8. You have the possibility of saving the CNC-lock function data on your PC and by clicking "Save data". You can retrieve the saved data by clicking "Loading data" and giving the correct password.
 - If you click "Save data", the dialog "Set password for CNC-lock function data" opens.

Set password for CNC-Lock function data

The CNC-Lock function data are stored securely in an encrypted file. A password is required for encryption and decryption. This password should be as complex as possible.

At least the following characters should be included:

- ✓ - 1 lower case letter[a-z]
- ✓ - 1 upper case letter[A-Z]
- ✓ - 1 special character
- ✓ - 1 number[0-9]
- ✓ - At least 8 characters

You should continue to treat the password confidentially.

Password:

Repeat password:

Do you want to save the password on this PC, and in future let it be set automatically when the AMM is started?

☐ Save password on this PC

OK Cancel

Figure 5-65 Set password for CNC-lock function data

The CNC-lock function data is stored securely in an encrypted file then. A password is required for encryption and decryption. This password should be as complex as possible. Set a password according to the given requirements and repeat the password.

- The password for CNC-lock function data can also be saved on our PC. If you click the checkbox "Save password on this PC", a dialog for confirmation opens.

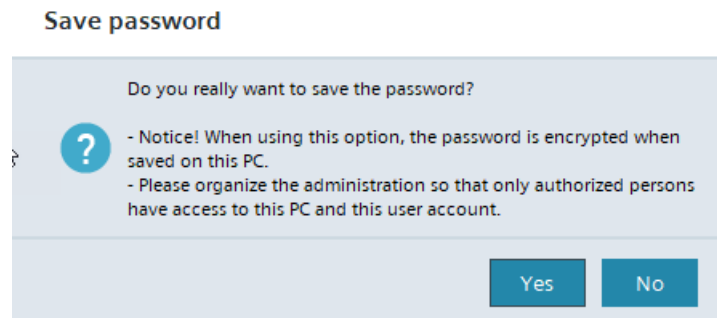


Figure 5-66 Save CNC-lock function data password

If you press "No", the CNC-lock function data password is not saved on your PC and you have to provide the password every time AMM is started. If you confirm with "Yes" and press "OK", you can specify the name of the file and the location to save the file in a windows dialog. The CNC-lock function data password (*.ucle) is saved in an encrypted format on your local PC.

Note

Clear or change CNC-lock function data password

If you want to clear or change the CNC-lock function data password, press "Settings > Password settings > CNC-lock function data password..." in the main menu.

9. Click "Generate LockSet file" to create an encrypted "lockset.clc" lockset file. The content of the comment field is not stored in the lockset file.
10. Import the lockset file into the control (Page 120). This does not require any special access level.

Note

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

11. Send the newly generated lockset file to the customer. The customer can now independently import the lockset file into the control (Page 120). 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:

- SINUMERIK 828D PLC (<https://support.industry.siemens.com/cs/us/en/view/109803073>)
- "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 or "user_lockset.ule" 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 or "user_lockset.ule" and read the information stored there.

5.7.4 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.

CNC lock function

With this function, you can generate a lockset file to activate, extend or deactivate the CNC-Lock function.

Select CNC lock function:

☐ Activate ☐ Extend ☒ Deactivate

CNC-Lock function data

You can load data or input it manually. Loading data...

Software version of the control: since 4.8 SP3

CF card number: ? ✗

Hardware series number: ? ✗

OEM PIN: ? ✗

Repeat OEM-PIN: ✗

Expiration date (mm/dd/yyyy): 3/23/2022

Comment:

You can save the data on PC and load it next time. Save data...

Note:

- Please don't forget the OEM-PIN.
- The CNC-Lock runtime option is required to use this function.
- The lockset file does not become active until it has been loaded via the HMI of the control.

Generate LockSet file... Cancel

Figure 5-67 Deactivating the CNC lock function

The "CNC lock function" dialog opens.

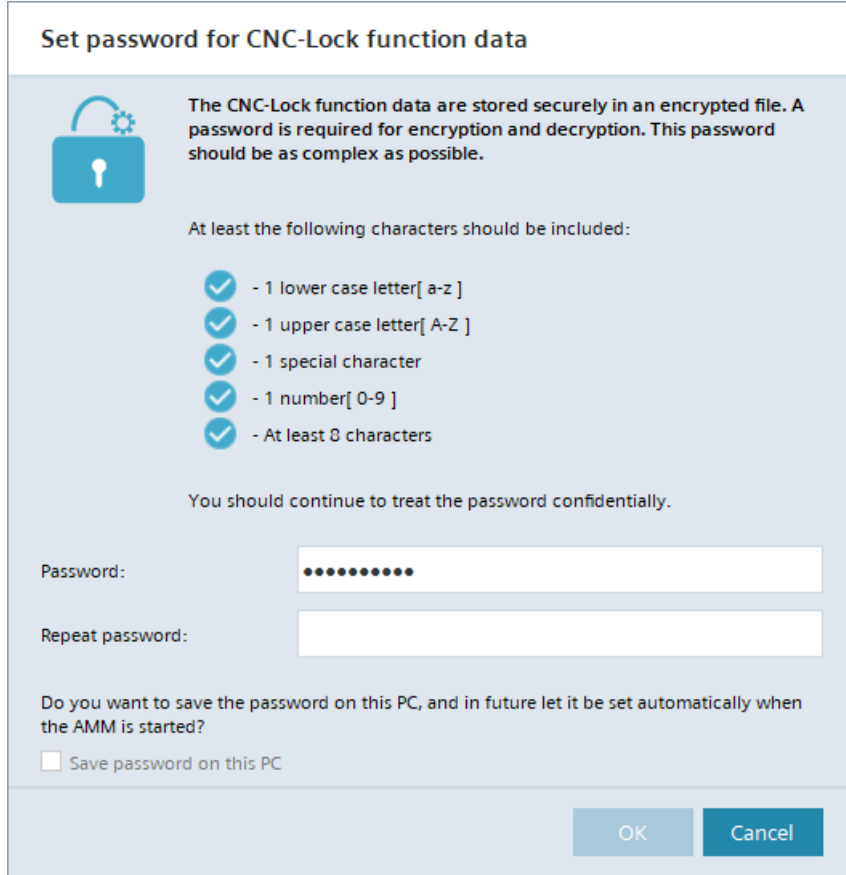
2. Click the "Deactivate" radio button.
3. Select the software version of the control to be unlocked.
4. Enter the CompactFlash card number for whose control the lock is to be revoked.

5. Enter the hardware serial number of the control. Use the mouseover information to get to know the relevant restrictions.
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. Enter a comment on your data optionally.

8. You have the possibility of saving the CNC-lock function data on your PC and by clicking "Save data". You can retrieve the saved data by clicking "Loading data" and giving the correct password.
 - If you click "Save data", the dialog "Set password for CNC-lock function data" opens.



Set password for CNC-Lock function data

The CNC-Lock function data are stored securely in an encrypted file. A password is required for encryption and decryption. This password should be as complex as possible.

At least the following characters should be included:

- ✓ - 1 lower case letter[a-z]
- ✓ - 1 upper case letter[A-Z]
- ✓ - 1 special character
- ✓ - 1 number[0-9]
- ✓ - At least 8 characters

You should continue to treat the password confidentially.

Password:

Repeat password:

Do you want to save the password on this PC, and in future let it be set automatically when the AMM is started?

☐ Save password on this PC

OK Cancel

Figure 5-68 Set password for CNC-lock function data

The CNC-lock function data is stored securely in an encrypted file then. A password is required for encryption and decryption. This password should be as complex as possible. Set a password according to the given requirements and repeat the password.

- The password for CNC-lock function data can also be saved on our PC. If you click the checkbox "Save password on this PC", a dialog for confirmation opens.

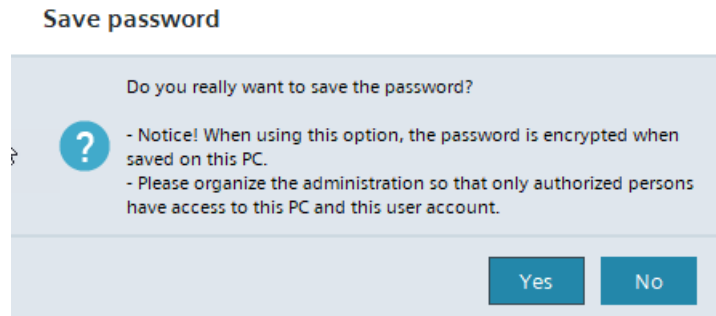


Figure 5-69 Save CNC-lock function data password

If you press "No", the CNC-lock function data password is not saved on your PC and you have to provide the password every time AMM is started. If you confirm with "Yes" and press "OK", you can specify the name of the file and the location to save the file in a windows dialog. The CNC-lock function data password (*.ucle) is saved in an encrypted format on your local PC.

Note

Clear or change CNC-lock function data password

If you want to clear or change the CNC-lock function data password, press "Settings > Password settings > CNC-lock function data password..." in the main menu.

9. 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.
10. The customer can now independently import the lockset file into the control (Page 120). 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:

- SINUMERIK 828D PLC (<https://support.industry.siemens.com/cs/us/en/view/109803073>)
- "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 or "user_lockset.ucle" 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 or "user_lockset.ucle" and read the information stored there.

5.7.5 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 PLC 828D (<https://support.industry.siemens.com/cs/us/en/view/109803073>)

5.7.6 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"** (<https://support.industry.siemens.com/cs/us/en/view/109803073>)

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?

5.8 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 **C**ustomer **S**pecific **O**bject **M**odel (**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).

Server Model Export

1. Click on "Tools > OPC UA Server Tools > Server Model Export". The following dialog appears:

Server Model Export

Export model file from server to specified folder

Server IP: 141.29.93.194

Server Port: 54840

User name: OpcUaClient

Password:

Output File: ...

☒ Include PLC ?

Status:

0%

Start Stop Cancel

Figure 5-70 Server Model Export

2. Please Enter the server 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 > Opcua Server Tools > Model Binary Converter". The following dialog appears:

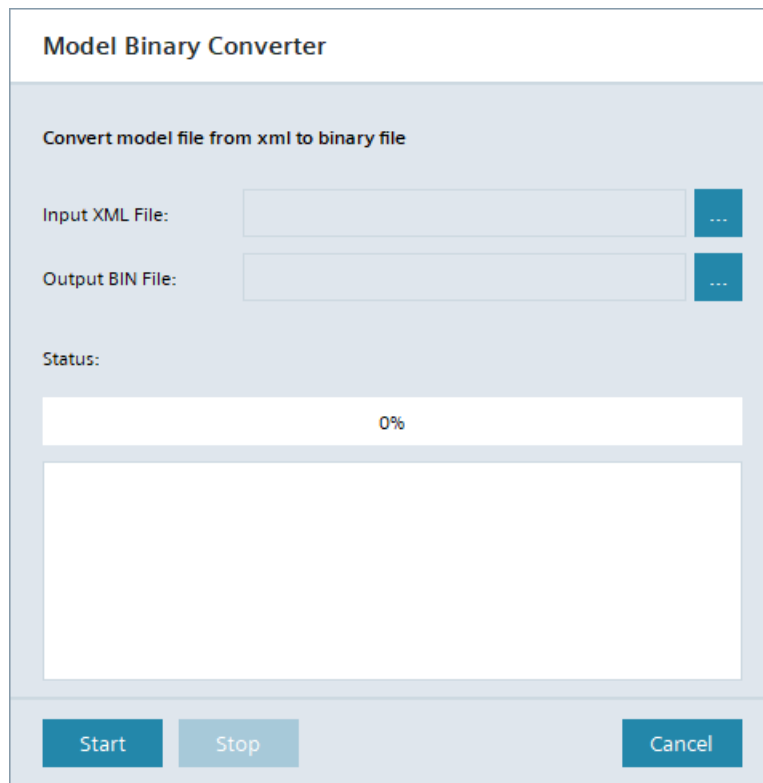


Figure 5-71 Model Binary Converter

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>).

5.9 Getting diagnostic data

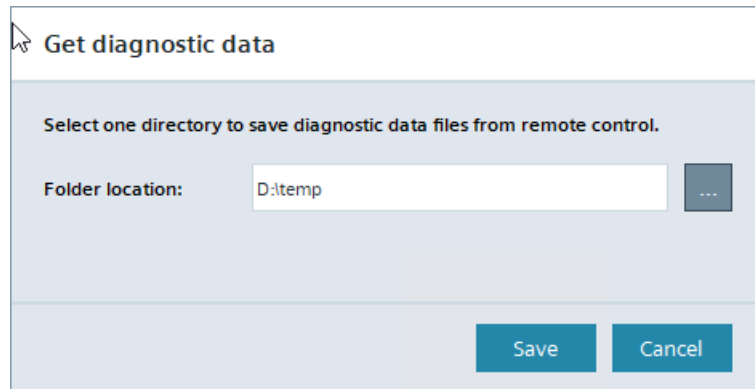


Figure 5-72 Get diagnostic data

This dialog opens when you select "Tools > Get diagnostic data..." in the main window menu.

If you want to export the whole diagnostic data of your connected control, you can open this dialog. This dialog is not available for 808D control.

Specify a folder location to save the diagnostic data files from your remote control.

Select "Save". The diagnostic data files of the connected control will be exported and saved in a *.zip file on your local PC. You can unzip the file and examine your diagnostic data files.

Select "Cancel" to abort the saving of the diagnostic data files.

5.10 Command line call

Parameter usage

List the parameter usage by the following commands:

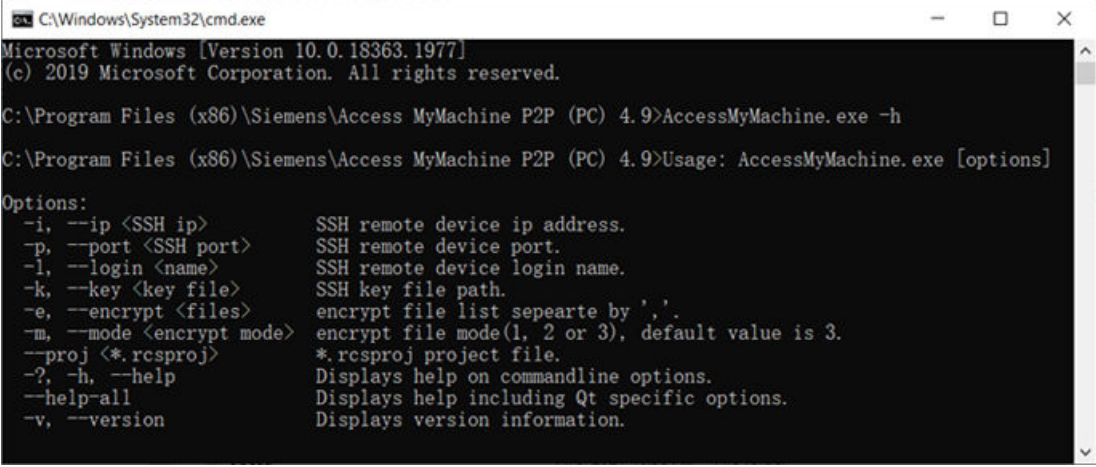
```
C:\Program Files (x86)\Siemens\Access MyMachine P2P (PC)
4.9>AccessMyMachine.exe -h
```

or

```
C:\Program Files (x86)\Siemens\Access MyMachine P2P (PC)
4.9>AccessMyMachine.exe -?
```

or

```
C:\Program Files (x86)\Siemens\Access MyMachine P2P (PC)
4.9>AccessMyMachine.exe --help
```



```
C:\Windows\System32\cmd.exe
Microsoft Windows [Version 10.0.18363.1977]
(c) 2019 Microsoft Corporation. All rights reserved.

C:\Program Files (x86)\Siemens\Access MyMachine P2P (PC) 4.9>AccessMyMachine.exe -h
C:\Program Files (x86)\Siemens\Access MyMachine P2P (PC) 4.9>Usage: AccessMyMachine.exe [options]

Options:
  -i, --ip <SSH ip>           SSH remote device ip address.
  -p, --port <SSH port>       SSH remote device port.
  -l, --login <name>          SSH remote device login name.
  -k, --key <key file>        SSH key file path.
  -e, --encrypt <files>       encrypt file list sepearate by ','.
  -m, --mode <encrypt mode>   encrypt file mode(1, 2 or 3), default value is 3.
  --proj <*.rcsproj>          *.rcsproj project file.
  -?, -h, --help              Displays help on commandline options.
  --help-all                 Displays help including Qt specific options.
  -v, --version               Displays version information.
```

Figure 5-73 Parameters command line call

5.10.1 Open AMM

You can call AMM via command line.

5.10.1.1 Open AMM without remote control connected

Open AMM window with local file system opened in local right view. No parameters.

Example:

```
C:\Program Files (x86)\Siemens\Access MyMachine P2P (PC)
4.9>AccessMyMachine.exe
```

5.10.1.2 Open AMM with remote control connected

Establishing a connection to the control system, open the control file system in right view.

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:
 - i, --ip <SSH ip> SSH remote device ip address.
 - p, --port <SSH port> SSH remote device port.
 - l, --login <name> SSH remote device login name.
 - k, --key <key file> SSH key file path.
3. Enter the password to start AMM if you have not saved it in AMM.
4. Enter the password for the connection.

Example

```
C:\Program Files (x86)\Siemens\Access MyMachine P2P (PC)
4.9>AccessMyMachine.exe -i 141.29.93.194 -p 22251 -l manufact

C:\Program Files (x86)\Siemens\Access MyMachine P2P (PC)
4.9>AccessMyMachine.exe -i 141.29.93.194 -p 22251 -l manufact -k
"D:\data\test\manufact.OSSHK"
```

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=141.29.93.194
port=22251 // default value is 22
Login=manufact
Key-File="d:\\data\\test\\manufact.OSSHK" // the path format, "\\\"
is mandatory
Remote-IP-Address=192.168.1.16 // default value is same as
'IP_Address'
```
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>`

5.10 Command line call

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.
-

Example

Complete call of the start file in the command line

```
C:\Program Files (x86)\Siemens\Access MyMachine P2P (PC)
4.9>AccessMyMachine.exe "d:\data\test\MyMachineOne.rcscmd"
```

Example of a complete start file

```
[connection]
IP-Address=141.29.93.194
port=22251 // default value is 22
Login=manufact
Key-File="d:\\data\\test\\manufact.OSSHK" // the path format, "\\\"
is mandatory
Remote-IP-Address=192.168.1.16 // default value is same as
'IP_Address'
```

Note

The comments marked with double slash // not be included in the start file.

5.10.1.3 Open AMM with project opened

Please refer to chapter Opening an existing project (Page 61).

1. Open AMM window and open an existing project with the given project name.
-p, --proj <*.rcsproj> *.rcsproj project file

Example:

```
C:\Program Files (x86)\Siemens\Access MyMachine P2P (PC)
4.9>AccessMyMachine.exe -p "D:\data\test\840D\840D.rcsproj"
```

5.10.2 Encrypt cycle files

Please refer to chapter Encryption of Cycles (Page 95).

With this function, you can encrypt the cycle files that are available in readable source code form.

The "Lock MyCycles" option is required to use the encrypted cycles in the control.

`-e, --encrypt <files>`

`-m, --mode, encrypt file mode(1, 2 or 3), default value is 3`

The encrypt file list is separated by ','.

Example:

```
C:\Program Files (x86)\Siemens\Access MyMachine P2P (PC)
4.9>AccessMyMachine.exe -e D:\data\test\prog1\CYCLE60.SPF,D:\data
\test\prog1\CYCLE61.SPF,D:\data\test\prog2\CYCLE63.SPF,D:\data\test
\prog2\CYCLE64.SPF
```


Reference

6.1 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
aluc_<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
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

6.1 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>.

6.2 Languages supported by SINUMERIK Operate

Table 6-1 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	

6.3 Toolbar

The table below describes the functions of the toolbar buttons.

Note

Enhanced copy functionality

- It is possible to perform other operation during copy operation.
- It is possible to perform 5 copy task in parallel

Symbol	Function
 Connect ▼	Connection Establish a connection to the control or open up "Connection configuration" dialog
 Disconnect	Disconnect Disconnect a connection established to the control
	Start remote control Operate the control from the PC and display the HMI screens at the PC
	Stop remote control Stop operating the control from the PC
	Save as screen dump Makes a screen dump from your active HMI screen and saves it on the PC
 Project	Project Showing or hiding of the "Project" window
 Info Window	Info Window Showing or hiding of the Info window
 Split Horizontally	Split Horizontally Split the local and remote file system view horizontally
 Split Vertically	Split Vertically Split the local and remote file system view vertically
 Copy	Copy Copy to the Windows clipboard
 Paste	Paste Paste from the Windows clipboard
 Cut	Cut Cut and copy to the Windows clipboard
 Delete	Delete Deletes from the Windows clipboard
 Rename	Rename Renaming of a file or folder

6.4 View overview

Using the "View" menu, you can show and hide windows and specify the arrangement thereof. The widget properties (i.e. widows size, cloumn width, splitter position, visibility) are saved, when AMM is closed and are reset after restart.

The following submenus are available for this:

- Project
- Info window
- Split Horizontally
- Split Vertically

Functions

Menu	Description		Shortcut menu
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	
Split Horizontally	The windows of "Local PC" and "Remote PC" are arranged side by side, with a vertical separation line. If you have a small screen and also hide the tree view, this view helps to save space. You can also choose the symbol directly.		
Split Vertically	The windows of "Local PC" and "Remote PC" are arranged on the top and the bottom of the screen, with a horizontal separation line. You can also choose the symbol directly.		

6.5 Lock MyCycles - cycle protection

6.5.1 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>)

6.5.2 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).

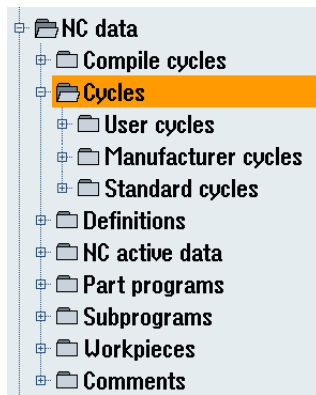
In this context, the following existing extensions are relevant:

- `_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".

6.5.3 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.

6.5.4 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.

6.6 Data structure on the CompactFlash Card system

6.6.1 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 6-2 "/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)

6.6 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 6-3 "/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

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 6-4 "/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.

6.6 Data structure on the CompactFlash Card system

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

Table 6-5 "/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		

6.6.2 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:

- "808D data"
- "Program"
- "User cycles"
- "OEM files"
- "User files"

Structure

The following shows the structure of important directories:

Table 6-6 "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 6-7 "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 6-8 "HMI root/user/sinumerik" structure

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

6.6.3 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.

6.7 Open source software / licenses

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

- Botan, version 2.17.3
- InstallShield{ML}, version 2014
- QT everywhere commercial, version 5.15.6
- Siemens Create MyConfig, version 4.8 SP1
- Siemens SINUMERIK VNC Viewer for PC/PG, version 2.0

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.

See also

OpenSSL (<http://www.openssl.org>)

Cryptsoft Eric Young (<mailto:eay@cryptsoft.com>)

Cryptsoft Tim Hudson (<mailto:tjh@cryptsoft.com>)

Troubleshooting/FAQs

7.1 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 or directly under "Settings > Password settings > Connection password...".

Operating sequence

1. Click the "Reset password" button.

The "Connection 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.

7.2 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 30).

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 30)

7.3 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.

7.4 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 23).

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:

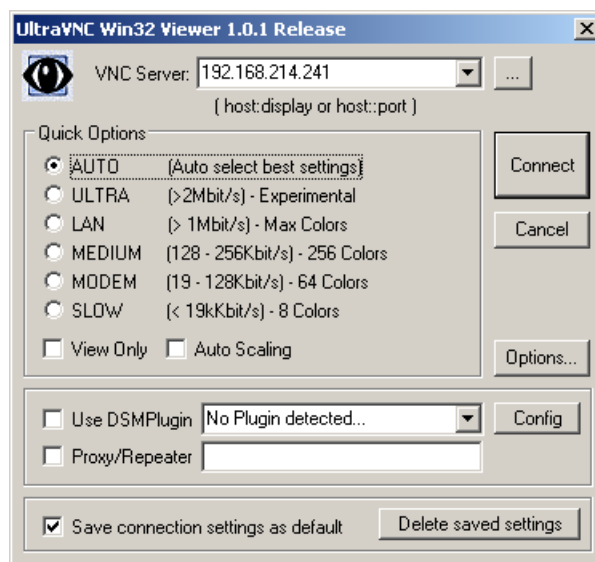


Figure 7-1 VNC Viewer - Factory Settings

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

7.4 840D sl: Activate remote control for the VNC Viewer.

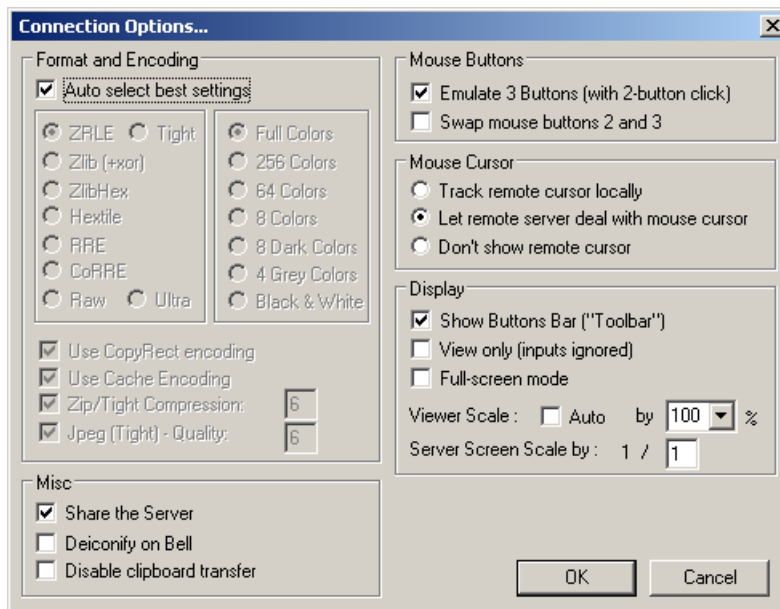


Figure 7-2 VNC Viewer > Options - Factory Settings

7.5 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 PLC 828D (<https://support.industry.siemens.com/cs/us/en/view/109803073>)

7.6 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 29) yourself to a control.
2. Create (Page 56) or open (Page 61) a project.
3. Copy (Page 79) the alarm text files from the project to the control.
4. After copying has been successfully completed, start the remote control (Page 49).
5. Click in the upper left-hand corner of the displayed HMI screen or press F10.
The menu is now displayed.

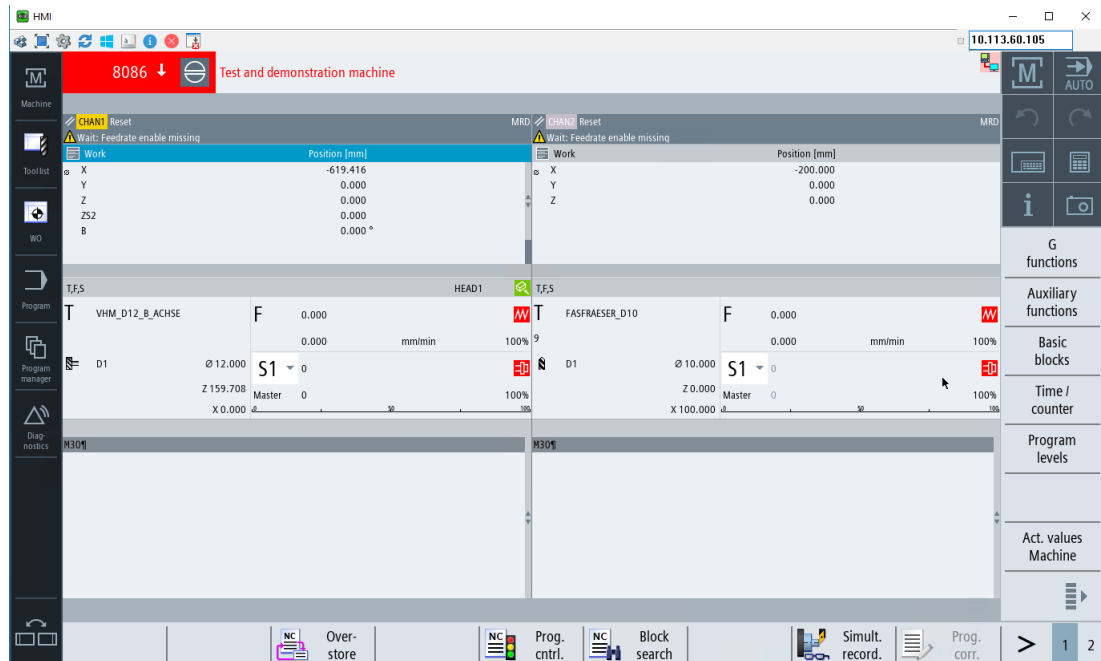


Figure 7-3 Remote control menu (e.g. SINUMERIK ONE/ 840D sl / 828D)

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

6. Click the arrow pointing to the right.

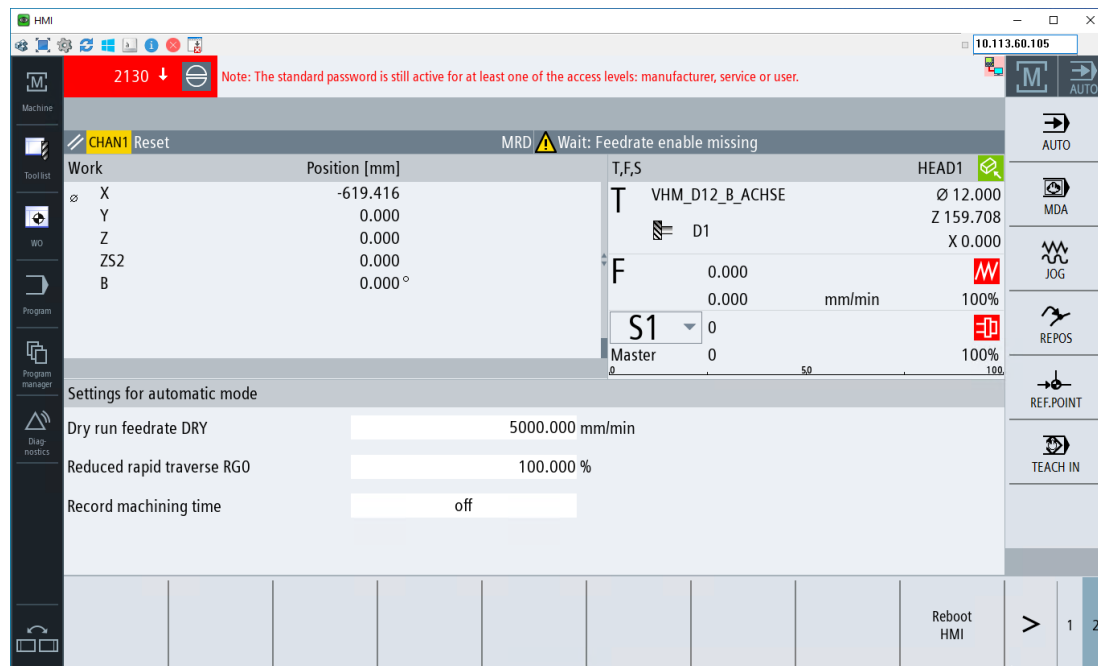


Figure 7-4 HMI restart (e.g. SINUMERIK ONE/ 840D sl / 828D)

7. Click "Reboot HMI".

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 79)

Approving remote control via the control system (Page 49)

7.7 Recommended procedure when translating files

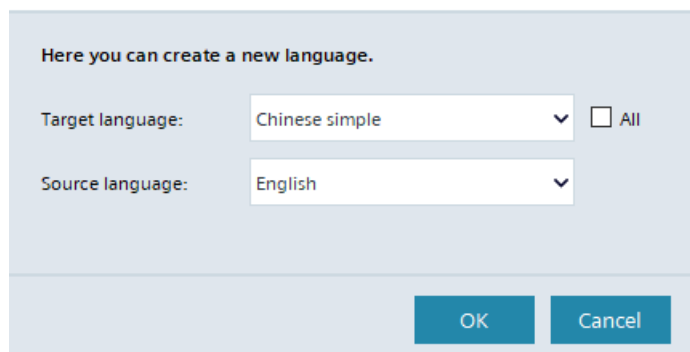
The AMM project supports processes for translating the text files it contains into various languages. The AMM offers an export and import function into the standardized CSV format. This makes it possible to pass the exported languages to a translator, and import them back in after translation.

The following procedure is recommended:

Operating sequence

1. Create (Page 57) a project or open (Page 61) 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 66)". Select the desired target language (e.g. Chinese) and the source language as the copy template (e.g. English).

New target language



Here you can create a new language.

Target language: Chinese simple ☐ All

Source language: English

OK Cancel

Figure 7-5 New language

4. Activate the checkbox alongside the newly created (Chinese) files, and export (Page 70) the files.

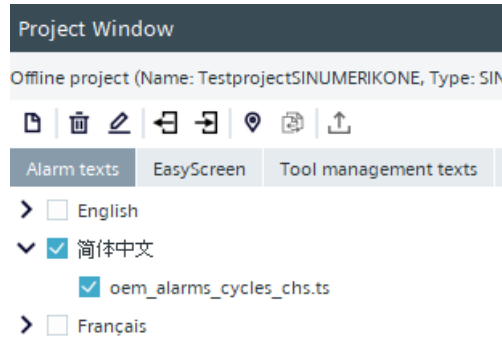


Figure 7-6 Project dialog (OFFLINE) - languages with check mark

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

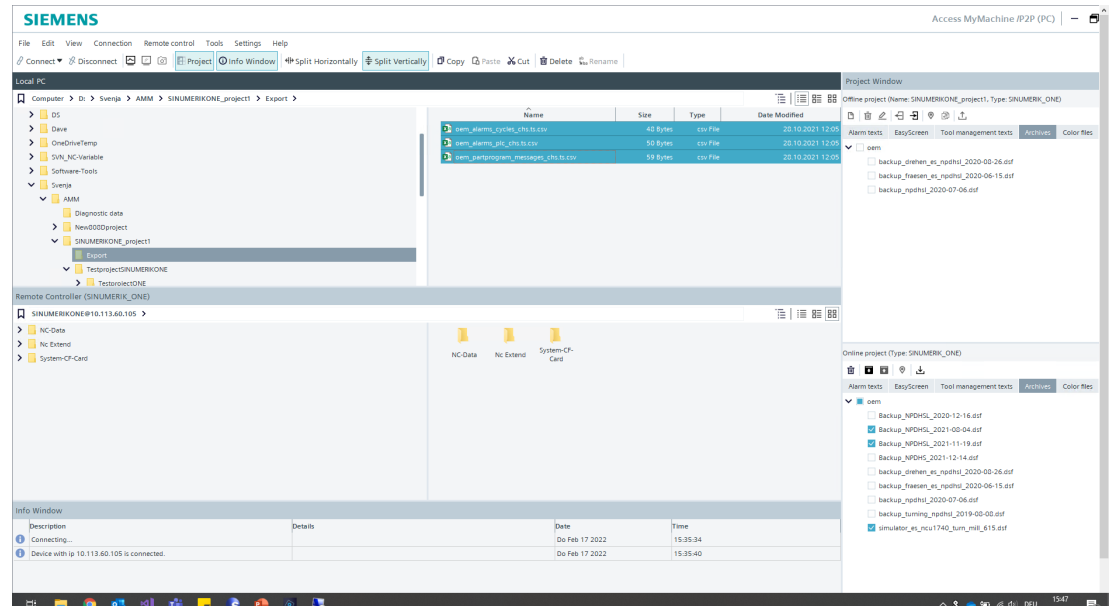


Figure 7-7 AMM - exported files

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 57)

Opening an existing project (Page 61)

7.8 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.

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