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SinuTrain for SINUMERIK Operate

Kompaktbedienanleitung

Ausgabe

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SinuTrain for SINUMERIK Operate Training and Programming

Compact User Manual

Preface

Welcome to the SinuTrain for SINUMERIK Operate - Training and programming at the PC.

The training software SinuTrain for SINUMERIK Operate teaches you how to operate and program the 840D sl control system / 828D.

SinuTrain for SINUMERIK Operate - Training and programming

This documentation supports you step-by-step for the following tasks:

- Installing the training software from DVD
- Transferring the license
- Starting the program
- Selecting the machine tool
- Starting simulation

What groups does SinuTrain for SINUMERIK Operate address?

SinuTrain for SINUMERIK Operate is designed for basic and further training of the following target groups:

- First time users, users changing over from a different system
- Training managers, trainers
- Sales personnel for customer presentations
- CNC programmer for work preparation

Information

Information on the following topics is available at the link <http://www.siemens.com/motioncontrol/docu>:

- Ordering documentation
Here you can find an up-to-date overview of publications.
- Downloading documentation
Links to more information for downloading files from Service & Support.
- (online) research in the documentation
Information on DOConCD and direct access to the publications in DOConWEB.
- Compile customized documentation
My Documentation Manager provides you with a range of features for generating your own machine documentation.
See also <http://www.siemens.com/mdm>
- Training and FAQs
Information on our range of training courses and FAQs (frequently asked questions) is available via the page navigation.

Legal basics

This software (SinuTrain™) is used to generate and simulate NC programs on a PC based on the DIN 66025 programming language as well as the ShopMill, ShopTurn and language commands, type Sinumerik™ 828D and 840D sl. The programs generated with the software must only be used on machine tools for production if the software (SinuTrain/JobShop), on which the generated program should run, has been adapted to Sinumerik.

This adaptation must be professionally performed by authorized personnel, e.g. by Siemens, by machine tool OEMs or by dealers; when carrying out any adaptation work, the specifications of Siemens and the machine tool OEM must always be carefully observed. Otherwise, the machine tool could malfunction.

Otherwise, for customers in Germany, the "Allgemeinen Bedingungen zur Überlassung von Software für Automatisierungs- und Antriebstechnik an Lizenznehmer mit Sitz in Deutschland" applies for the software and for customers outside Germany "General License Conditions for Software Products for Automation and Drives for Customers with a Seat or Registered Office outside of Germany".

Technical Support

If you have any technical questions, please contact our hotline:

	Europe / Africa
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Fax	+49 (0)911 895 7223
0.14 €/min from the German landline; cell phone charges may vary.	
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Note

Country-specific telephone numbers for technical support are provided under the following Internet address:

<https://www.automation.siemens.com/partner>

Questions about the manual

If you have any queries (suggestions, corrections) in relation to this documentation, please fax or e-mail us:

Fax +49 9131- 98 2176

E-mail <mailto:docu.motioncontrol@siemens.com>

Internet address

<http://www.cnc4you.siemens.com>

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1 Overview

The SinuTrain for SINUMERIK Operate training software (called SinuTrain in the following) simulates a SINUMERIK 840D sl with the SINUMERIK Operate user interface on your PC.

Note

License

You require a license to start a machine using the full functional scope.

True to original representation and behavior

As a result of the true to original representation of the operating panel front, machine control panel and user interface, SinuTrain facilitates real operation.

- SinuTrain includes a machine control panel with specific functions of a real control panel (e.g. CYCLE START, operating mode etc.).
- SinuTrain includes an operator panel, with which all of the specific functions of a real operator panel can be used (hotkey etc.).
- The user interface corresponds to the original interface of SINUMERIK Operate.
- The simulation behaves in precisely the same way as a real control.

Saving and printing NC programs

SinuTrain offers the option of saving the NC programs that you have created (G code and machining step programs).

You also have the option of printing out a program which is open in the user interface of SINUMERIK Operate.

2 Licensing using the Automation License Manager

You require a valid license key to start a machine with the full functional scope in SinuTrain. It is an integral part of SinuTrain for SINUMERIK Operate, and is supplied on a USB stick.

A license is not required to use SinuTrain.

All operating areas and functions can be operated.

License

Additional functions are available with a license (Page 55).

Note

Information on the license

More detailed information on licenses is available in the readme.

Transferring the license using the Automation License Manager

Precondition: USB stick with the license to be transferred.

1. Start the Automation License Manager via the icon or from the Start menu.
The Automation License Manager opens.
2. Insert the USB stick.
A "Removable Disk" appears below "Own Computer".
3. Select the entry "Removable Disk" on the lefthand side.
On the right-hand side you can see the available licenses on the USB stick.
4. Transfer the license by dragging and dropping it onto the local hard disk.
- OR -
Select "Transfer" in the shortcut menu of the license.
5. In the window that opens, select where the license should be transferred to (target).
After the license has been transferred, this is shown on the target drive.

3 License model

The usage and scope of functions provided by the various template machines depends on the availability of a license.

DEMO machines

- You do not require any license for the "DEMO turning machine" template machines (1-channel, 3-axis machine with main spindle and driven tool spindle) and "DEMO milling machine" (1-channel, 3-axis machine).
- DEMO machines are preconfigured machines that cannot be changed.
- You can start and operate the machines.
- You can, for example, transfer workpieces and part programs to the machine for program simulation and customization, and then from the machine for further use on CNCs.
- The following functions are not available:
 - Collision avoidance
 - Measuring cycles
 - CAD reader

Template machines / imported machines / machines created from the start-up archive

- You can start and operate all machines. This makes it possible for you to try all SINUMERIK functions.
- All machines have the full functional scope of SINUMERIK Operate.
- License
 - Without license
The transfer of workpieces and part programs to or from the machine is not possible.
 - With license
The transfer of workpieces and part programs to or from the machine is possible.

Note

Importing a license subsequently

If you import a license when the machine has already been started, this causes a restart.

Only then is it possible to use the machine without restrictions.

Exporting and importing machines / printing part programs

You generally require a license for the "Import" and "Export" functions of machines as well as for the printing of part programs.

4 SinuTrain for SINUMERIK Operate

4.1 Installing / uninstalling SinuTrain

4.1.1 System requirements

Hardware

Processor: 1.5 GHz (singlecore)

RAM: 2 GB

Hard disk:

- 3.3 GB for complete installation with all languages
- 1.2 GB for minimal installation (language English)

DVD drive: For installation using DVD data storage medium

Graphic card: Minimum resolution, 640x480 pixels

USB interface

Mouse, keyboard

Operating systems

- Windows 7 (32-bit and 64-bit, Starter, Web Edition and Embedded are not supported)
- Windows 8.1

Software

Adobe Acrobat Reader®

4.1.2 Installing SinuTrain

Precondition

You require a license key to start and work with machines that have been created. This key must be transferred to the PC before starting a machine for the first time. When installing SinuTrain, an additional program is installed for this purpose – the Automation License Manager. The license key is transferred to the PC using the Automation License Manager.

The SinuTrain for SINUMERIK Operate software product comprises various software components that in some cases have their own setup (e.g. Automation License Manager).

General setup

In a general setup, initially the Automation License Manager and SinuTrain are installed. The CAD reader is then optionally installed.

Procedure

1. Double-click the "setup.exe" in the root directory of the DVD.
Under Windows 7, when the user account control is activated, after double-clicking the "setup.exe", a system prompt appears. With this prompt, you agree that setup can make changes to your system (this prompt comes from Windows and is not a component created by Siemens). Confirm this dialog and continue with the installation.
2. Select the setup language and click the "Next >" button.
3. Read the notes on the installation and usage of the program and click the "Next >" button.
4. Click the "Readme" button to read the readme text with the product notes, then close the readme file and click the "Next >" button.
5. Read the license agreement and then activate the checkbox to accept the licensing agreement and the safety instructions and click the "Next >" button.
6. Select the languages in which you wish to install SinuTrain for SINUMERIK Operate .
The selected languages are available in SinuTrain as well as SINUMERIK Operate.
7. In the "Programs" window, activate the required checkbox and click the "Next>" button.
If you want to change the installation path of the individual products, select the specific product, click the "Browse" button and select the required folder.

Note

Before installing SinuTrain, under certain circumstances, system updates are automatically installed, which may make it necessary to restart the computer. Setup is automatically continued after the PC restarts.

The installation of SinuTrain and Automation License Manager then starts.

You receive an appropriate message after completing the installation of SinuTrain.

8. Click the "Exit" button.
SinuTrain and the Automation License Manager are ready.

Note

User account control for Windows 7

When querying the user account control, if "unknown" is specified as the supplier and the upper part of the dialog is not blue-green, but orange-yellow, then respond with No and contact the hotline.

All Siemens products released for Windows 7 have a certificate, where Siemens AG is always specified when querying the supplier.

Note

Click the "Cancel" button to exit the installation.

Note

We recommend that the installation is not started from a network drive. This is because problems can be encountered as a result of possible necessary system updates.

4.1.3 Uninstalling SinuTrain

Procedure

1. In the Windows menu, select **Start > Settings > Control Panel**.
2. Double-click "Programs and functions" in the list of the Control Panel (Windows 7).
The "Change or remove programs" button is active.
3. In the software list, select "SinuTrain for SINUMERIK Operate 4.7" and click the "Remove" button.

4.2 Operating SinuTrain

4.2.1 This is how SinuTrain functions

Precondition

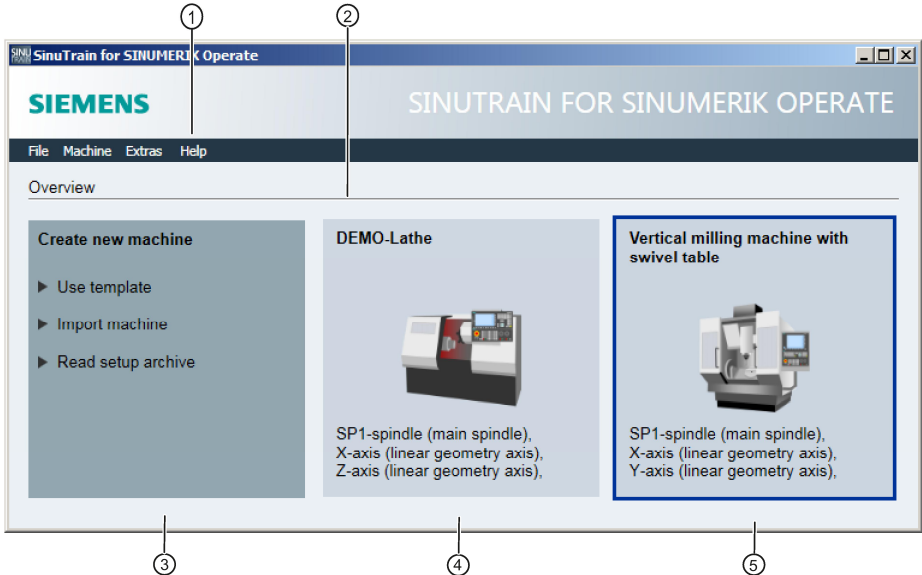
SinuTrain for SINUMERIK Operate has been installed.

General sequence

- **Selecting a language**
Select the required language for SinuTrain and SINUMERIK Operate at the first start.
- **Starting SinuTrain**
After confirming the Terms of Use, SinuTrain opens with the machine overview.
- **Creating a machine**
Create a machine in the machine overview.
First select a machine of the required type using templates.
Then specify the name and brief description of the machine, if required, select your own machine image for the machine overview and specify the resolution and language of the machine simulation in the SINUMERIK Operate user interface.
- **Starting a machine**
The machine simulation opens with operator panel and SINUMERIK Operate user interface, machine control panel with feedrate and spindle override and CNC keyboard.
- **Simulating a machine**
You can now operate the simulated machine just like a real machine and generate programs, for example.

4.2.2 Machine overview

In the machine overview, you create machines and parameterize and manage the machine configurations with which you train.



- ① SinuTrain menu
- ② Machine overview with all created machines
- ③ Functions page with options for the creation of machine configurations
- ④ Created machine configuration with machine name and description
- ⑤ Selected machine configuration

See also

Menu commands (Page 83)

Context menu (Page 86)

Overview (Page 66)

Creating a machine from a template (Page 67)

Copying and configuring a machine (Page 68)

Importing a machine (Page 69)

Creating a machine from the start-up archive (Page 71)

4.2.3 Screen layout of the machine simulation

User interface of SinuTrain



- ① SinuTrain menu
- ② SINUMERIK Operate user interface
- ③ Operator controls of an operator panel
- ④ Machine control panel with feedrate and spindle override

See also

Menu commands (Page 83)

4.2.4 Installing languages

4.2.4.1 Installing additional languages for SinuTrain

Select the required language when installing SinuTrain for SINUMERIK Operate. The user interface of SINUMERIK Operate is also installed with the selected language.

The following standard languages are available for selection during the installation: English, German, French, Italian, Spanish and simplified Chinese.

Subsequent installation of SinuTrain languages

If you have not selected one of the standard languages during the installation of SinuTrain, you can install the required language subsequently by performing the setup (repair installation) again. SINUMERIK Operate is then also available in the language.

4.2.4.2 Installing additional languages for SINUMERIK Operate

You can install further languages for the SINUMERIK Operate user interface.

installing additional languages

Additional language packages are offered for download at the following Internet address:

<http://www.cnc4you.siemens.com> (<http://www.cnc4you.siemens.com>)

Procedure

1. Select the **Tools > Install additional HMI languages...** menu command.
The "Install additional HMI languages" window opens.
2. Click the "... " button and navigate in the "Open" dialog to the storage location of the language packages.
3. Select the required language file (*.slf) and click the "Open" button.
You return to the "Install additional HMI languages" window.
The storage path has been entered. The selected language is displayed and marked with a flag icon. In addition, the version of the SINUMERIK Operate language package and the control type are displayed.
4. Click the "Install" button.
A progress bar shows the installation process.
You receive a message after successful installation.

5. Click the "OK" button to complete the installation.

Note

After the message regarding successful installation, you have the option of disabling future installations of language packages. To do this, activate the "Do not display this note again" checkbox.

Select the **Tools > Options** menu command and activate the "Report completion of the language installation" checkbox in the "Options" window in order to switch the message on again for future installations.

4.2.5 Changing the SinuTrain language

You have the option of changing over the language (German, English, French, Spanish, Italian, Chinese simplified) of the SinuTrain user interface.

All languages installed during the setup or those subsequently installed can be selected.

Note

Subsequent installation of SinuTrain languages

If you have not selected one of the standard languages during the installation of SinuTrain, you can install the required language subsequently by performing the setup (repair installation) again.

Procedure

1. Select the **Tools > Options** menu command.
2. Select the required language in the "Language of the SinuTrain user interface" drop-down list and click "OK".

Note

Changing the language of SINUMERIK Operate

In SINUMERIK Operate you can change the language of the SINUMERIK Operate user interface using the key combination <CTRL + L> or in the "Commissioning" operating area, using the "Change language" softkey.

See also

Installing additional languages for SINUMERIK Operate (Page 63)

4.3 Working with SinuTrain

4.3.1 Starting and exiting SinuTrain

Starting SinuTrain

1. Select the **Programs > SinuTrain for SINUMERIK Operate > SinuTrain** menu command.

- OR -

Double-click the SinuTrain icon on your desktop.



At the first start, the dialog for the selection of the language for the SinuTrain user interface and SINUMERIK Operate opens.

2. Select the required language and click "Next".

Note: The languages are available that you selected during the installation of SinuTrain.

The Terms of Use for SinuTrain for SINUMERIK Operate open.

3. Click "OK" to start the program.

The machine overview opens.



Note

You can deactivate the Terms of Use for future program starts. To do this, activate the "Do not display this note again" checkbox.

Select the **Extras > Options** menu command and activate the "Display Terms of Use at program start" checkbox in the "Options" window in order to switch the message on again for future starts.

Exiting SinuTrain

- Select the **File > Exit** menu command.
SinuTrain closes.

See also

Installing additional languages for Sinutrain (Page 63)

4.3.2 Creating a machine

4.3.2.1 Overview

You have the following options when creating a machine:

- Creating a machine from a template (Page 67)
The standard configurations supplied for lathes and milling machines form the basis.
- Copying and configuring a machine (Page 68)
The basis is a machine configuration that you created, which already exists in the machine overview.
- Importing a machine (Page 69)
The basis is an exported machine configuration, which you import and modify.
- Creating a machine from the start-up archive (Page 71)
The basis is a start-up archive (*.arc).

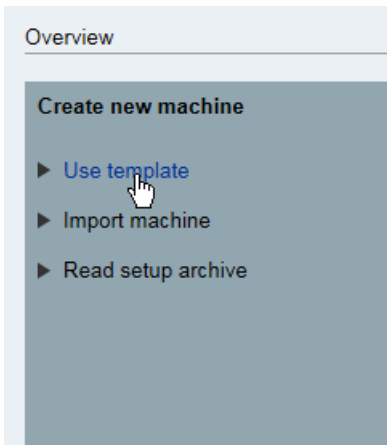
4.3.2.2 Creating a machine from a template

Requirement

SinuTrain has been started and the machine overview is open.

Creating a machine from a template

1. Click the "Use template" option in the "Create new machine" functions page.



- OR -

Select the **File > New > From a template...** menu command.

The "Create new machine - Use template" dialog opens.

Note

Various template machines are available depending on the available SINUMERIK version.

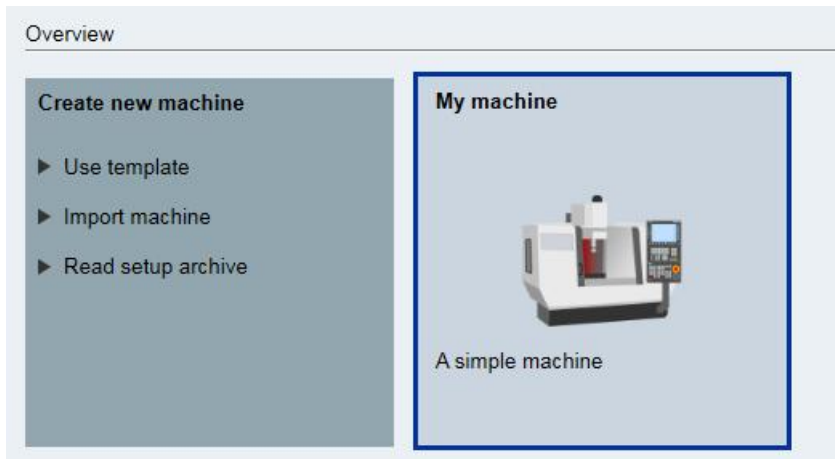
2. Open the "Machine type" drop-down list and select the required template.
You can select the required CNC software (e.g. 4.7) in the data tree that opens for each system (e.g. 840D sl).
After selection, the system and software version of the selected machine is displayed in the "Created with CNC SW" field.
3. In the "Machine name" entry field, enter a name for the machine (e.g. My machine).
4. If required, enter a short description in the "Description" entry field.

5. Select the resolution for the machine user interface (e.g. 1024 x 768).
6. Select the language for the machine user interface (e.g. English).
7. If you want to use your own machine image for the machine display, click the "..."
button next to the "Import image" field, navigate in the "Open" dialog to the
storage location of the graphic (*.png,*.jpg,*.bmp) and click "OK".
You return to the "Create new machine - Use template" window. The storage path
is displayed.
8. Click the "Create" button.

Note

If a machine with this name already exists, a corresponding message is displayed. Click "OK" and enter a new machine name.

The machine configuration for the SINUMERIK 840D sl is inserted in the overview.



4.3.2.3 Copying and configuring a machine

Requirement

- SinuTrain has been started and the machine overview is open.
- Machines have been created.

Creating a new machine configuration

1. In the machine overview, select the machine configuration that you want to copy and use for another machine.
2. Select the **File > Copy and Paste** menu command.
- OR -
Right-click and select "Copy and Paste" from the shortcut menu.
The machine is added to the machine overview and identified by a number in the machine name.
3. Then select the **Machine > Settings...** menu command for the copied machine.
- OR -
Right-click and select "Settings..." from the shortcut menu.
The "Edit machine" dialog opens.
4. Enter the desired changes (e.g. machine name, resolution, language, machine image) and click "Save and close".

See also

Changing machine settings (Page 74)

4.3.2.4 Importing a machine

Requirements

- You have a license.
- SinuTrain has been started and the machine overview is open.
- You have exported machine configurations as backup or as starting point for subsequent machine configurations.

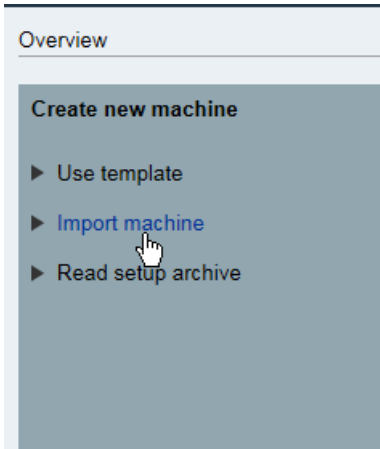
Note

Different SINUMERIK CNC system software versions

The SINUMERIK CNC system software version of the file to be imported is available with SinuTrain for SINUMERIK Operate . With different versions, manual changes must be made subsequently in accordance with the NC upgrade instructions.

Importing a machine

1. Click the "Import machine" option in the "Create new machine" functions page.



- OR -

Select the **File > Import...** menu command.

The "Create new machine - Import machine" window opens.

2. Click the "..." button next to the "Selected file" field and navigate in the "Open" dialog to the storage location of the exported configurations.
3. Select the required machine configuration file (*.set) and click the "Open" button. You return to the "Create new machine - Import" window.
 - The storage path is shown in the "Selected file" field.
 - The "Created with CNC SW" field shows the SINUMERIK CNC software version and the system (e.g. 840D sl) with which the machine configuration has been created.
4. Change the required settings as needed (e.g. machine name, description, etc.) and import your own machine image if applicable.

Note

Note that machines with identical names are not permitted in the machine overview.

Always change the machine name in the "Create new machine - Import" window even if you do not want to change the type of machine.

5. If you want to use the selected archive as a template for other machines in the future, check the checkbox "Create as template".

6. Click the button "Import machine".

Note

Warning notices and messages

If problems occur when importing the machine configuration, a window opens with the appropriate messages. Elements (e.g. cycles) that have not been imported error-free are listed with the appropriate descriptions.

Click "OK" to close the window.

You return to the machine overview and the machine is created.

4.3.2.5 Creating a machine from the start-up archive

Note the following conditions when creating machines from start-up archives.

- SINUMERIK CNC system software version and SinuTrain for SINUMERIK Operate version must match, otherwise it may not be possible to adapt the machine configuration.

Note

Manual adaptation of the machine configuration

If an adaptation is not possible, manual changes must be made subsequently in accordance with the NC upgrade instructions.

- If data is contained which is not suitable or not required for use in SinuTrain (e.g. for the PLC or drives), the machine configuration is adapted.

Note

An overview of all adapted machine data can be found in the online help for the CNC software. Select the menu command **Help > Help for SINUMERIK CNC SW >** and the corresponding software version.

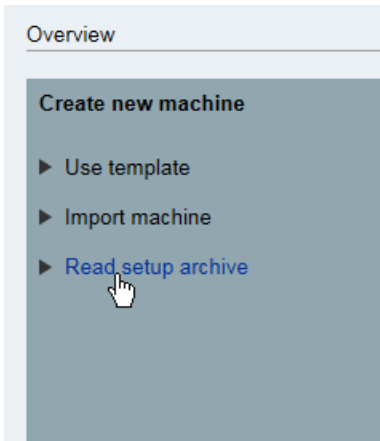
- The setup archive must contain all NC data.
- Start-up archives from powerline systems and HMI-Advanced/Embedded cannot be used.

Requirement

- You have a license.
- SinuTrain has been started and the machine overview is open.

Creating a machine from a setup archive

1. Click the "Read setup archive" option in the "Create new machine" functions page.



- OR -

Select the **File > New > From a setup archive...** menu command.

The "Create new machine - Read setup archive" dialog opens.

2. Click the "..." button next to the "Selected file" field and navigate in the "Open" dialog to the storage location of the required archive file (*.arc), select the file and click "Open".

A message informs you that the archive is being checked.

You return to the dialog and the selected file is displayed with the directory path.

The control type and software version of SINUMERIK Operate are also displayed.

Note

Notice messages

After the setup archive is imported, you will get a window with informational messages, which point out possible errors and problems.

You have the capability of copying the figures entered in the "Description" column via the button and to then send them to the hotline (Page 48) for analysis.

3. Enter the required specifications for the machine configuration (name and description) in the corresponding entry fields, if required, import your own machine image and select the resolution (e.g. 1024 x 768) and language (e.g. English) of the machine user interface.

- Click the "Read setup archive" button.

Note

If a machine with this name already exists, a corresponding message is displayed. Click "OK" and enter a new machine name.

The created machine configuration is inserted in the overview and shows the date of creation.



4.3.3 Changing machine settings

You can change the following settings for a machine:

- General
 - Machine name
 - Description
- Language

Machine interface language (German, English, French, Spanish, Italian, simplified Chinese). Only the languages selected during installation are available for selection.

If you have subsequently installed additional languages, these are also available for selection.
- Resolution

Resolution of the machine interface

 - 640x480
 - 800x600
 - 1024x768
 - 1280x1024
- Importing an image

Your own machine images can be stored in the following formats:

 - PNG
 - JPG
 - BMP

Procedure

1. In the machine overview, select the machine for which you want to change the settings.
2. Select the **Machine > Settings...** menu command.
- OR -
Right-click and select "Settings..." from the context menu.
The "Edit machine" dialog opens.
3. Enter the required changes and click "Save and close".

4.3.4 Exporting a machine configuration

You have the option of exporting machines that you have configured in order to back them up. The exported machine configurations are available as a starting point for later machine configurations or as a back-up copy. To do this, import the saved machine configuration file.

Exported machine configurations allow you to exchange these between two computers or to subsequently import them into more recent SinuTrain versions.

Requirement

You have a license.

Procedure

1. In the machine overview, select the machine configuration that you want to export.
2. Select the **File -> Export** menu command.
- OR -
Right-click and select "Export..." from the context menu.
The "Save as" dialog opens.
3. Navigate to the desired storage location, if required, change the file name and click "Save".
You receive a message after a successful export.
4. Click "OK" to finish the export.

Note

You can deactivate the message for the successful export. To do this, activate the "Do not display this note again" checkbox.

Select the **Tools > Options** menu command and activate the "Report completion of the machine export" checkbox in the "Options" window in order to switch the message on again for future exports.

4.3.5 Deleting a machine

If you do not require a machine configuration any longer, delete it from the machine overview.

Procedure

1. Select the machine that you want to remove from the Machine configuration list.
2. Select the **File > Delete** menu command.
- OR -
Right-click and select "Delete" from the context menu.
3. Confirm the message regarding the possible loss of data with "OK" and click in the subsequent prompt dialog box the "Yes" button to delete the machine.

Note

SinuTrain machine with user data

When deleting a machine, all user data (e.g. NC programs, work offsets, etc.) are lost. The data associated with a deleted machine cannot be restored.

Note

You have the option of disabling the message regarding data loss for future delete operations. To do this, activate the "Do not display this note again" checkbox.

Select the **Tools > Options** menu command and activate the "Inform of possible data loss before deleting" checkbox in the "Options" window in order to switch the message on again for future deletions.

4.3.6 Printing-out a program

You can print out the contents of text files (e.g. NC programs) using a printer configured on the PC (local printer, network printer) directly via SinuTrain from the SINUMERIK Operate user interface.

You can print G code programs as well as ShopMill and ShopTurn machining step programs with G code.

Defining the layout

In the "Print settings" window, you specify the layout for the printing, define the scope of the NC program that is to be printed and configure the display of the program.

Settings			Effect
Margins (mm)	Left:	Right:	Here you define the margins of the printout. Defines the distance between the top, bottom, right and left margin and the respective edge of the lines in mm.
	Top:	Bottom:	
Print area	Everything		Here you define the scope of the program printout. Defines that the complete NC program is printed.
	Lines from: to:		Defines the lines of the NC program that are to be printed.
	Selected range		Defines that only the part of the NC program marked in the editor is to be printed.
Print programs as text			Defines that sequence programs (ShopMill/ShopTurn) are printed out as G code.
Print programs with graphical illustrations			Defines that machining step programs (ShopMill/ShopTurn) will be printed in the same way as they appear in the editor.
	Print programs with input screen		Defines that the parameter screens for the machining steps are also printed out.
	Print closed blocks		Defines that when using program blocks, the program sets in the blocks are also printed.

Requirement

You require a license to print from the SINUMERIK Operate user interface.

Procedure



1. In the archive folder of the program manager, select the program that you wish to print out.



2. Place the cursor on the program and press the "Open" softkey. The program opens in the editor.
3. Select the **File > Print settings...** menu command.
4. Enter the distances for the margins in the "Print settings" window, define the print range and the representation type of the program and click the "OK" button to confirm your entries.
6. Select the **File > Print** menu command.
The "Print" dialog box with the activated standard printer opens (local printer, network printer).
7. Click the "Print" button.

Depending on the print range that has been defined, the complete program, a certain number of lines of the program or a selected range of the program is printed.

4.3.7 Starting and shutting down a machine.

Precondition

- Machine configurations are available in the machine overview.
- You need a license to be able to use the entire range of functions. Information on function restrictions can be found under License model (Page 55).

Starting a machine

The machine overview is open.

1. Select the required machine in the list of machine configurations.
2. Select the **Machine > Start** menu command.
 - OR -
Right-click and select "Start" from the context menu.
 - OR -
Click in the machine configuration.



The machine simulation opens with operator panel and SINUMERIK Operate user interface, machine control panel with feedrate and spindle override and CNC keyboard.

3. You operate SINUMERIK Operate using a mouse or a standard keyboard.
4. When operating SINUMERIK Operate, click the <HELP> key or press key <F12> to obtain context-sensitive online help for the window and the input screens of SINUMERIK Operate.

Shutting down the machine

- Select the **Machine > Shut down** menu command, if you wish to exit the actual machine configuration.
You return to the machine overview.

Restarting the machine

- Select the **Machine > Restart** menu command, if you wish to restart the actual machine configuration - for instance, after changing machine data.
The machine shuts down and is then immediately run up again.

4.4 Problem handling

4.4.1 Creating a trace

Should problems occur while working with SinuTrain, you have the capability of creating a trace.

To do so, activate the tool "SinuTrain for SINUMERIK Operate Trace". The tool then logs all of the actions and events of the next SinuTrain session in a text file, which you then send to the hotline for analysis.

General conditions

The trace tool can only be activated or deactivated when SinuTrain is not running.

Procedure

1. Ensure that SinuTrain is not running.
2. Navigate to the installation directory (default path: "C:\Programs (x86)\SIEMENS\SinuTrain") and open the "SinuTrain Workbench" folder.
3. Double-click the file "sinutraintrace.exe".
The tool "SinuTrain for SINUMERIK Operate Trace" is opened.
"Storage path" shows the path to the folder in which the trace file is saved.

Note

Changing the save location

Click on the "..." button and navigate to the desired save location. Click on the "Create new folder" button, assign a name, and click on the "OK" button.

The selected storage path is saved.

4. Click the "Activate" button.
5. Start SinuTrain and reproduce the steps that led to the problem.
6. Switch to the trace tool and click on the open "Trace folder" button.
7. Copy the file "sitrace.txt" that was saved in the folder and send it via e-mail to Technical Support (Page 48) for analysis.
8. If you want to deactivate the trace tool, you must first close SinuTrain beforehand.

Note

Information on system data

With the aid of the "Display system data" button, you have the capability of displaying information about the operating system, the processors, and the current memory allocation. Using the "Copy system data to the clipboard" button, save this data to the clipboard for forwarding to the hotline.

5 Additional documentation

5.1 Operating Manual and training instructions

When using SinuTrain, you have the option of using the context-sensitive online help of SINUMERIK Operate via the HELP key.

Furthermore, additional and more in depth operating manuals and training documents are available in six languages (German, English, French, Italian, Spanish, simplified Chinese).

Note

If a particular foreign language version of a document is not available, then as an alternative, the English edition is available.

Operating Manuals and Training Documents

- Easy milling with ShopMill
 - Milling basics
 - Handling the program
 - Step-by-step instructions for programming and machining various examples
- Turning made easy with ShopTurn
 - Turning basics
 - Handling the program
 - Step-by-step instructions for programming and machining various examples
- Milling
 - Detailed operating manual for SINUMERIK Operate on SINUMERIK 840D sl/828D, milling version.
- Turning
 - Detailed operating manual for SINUMERIK Operate on SINUMERIK 840D sl/828D, turning version.
- Universal
 - Detailed Operating Manual for SINUMERIK Operate on SINUMERIK 840D sl, Universal version (without cycles description).
- Basic Functions
 - Detailed Function Manual with a description of basic SINUMERIK functions.

- Programming Manual, Fundamentals
 - Programming Manual for users with a basic knowledge about drilling, milling and turning.
 - Simple programming examples that also explain commands and operations according to DIN 66025.
- Programming Manual Advanced
 - Detailed Programming Manual with a description of all parameters.
- Function Manual ISO Dialects
 - Description for the commissioning and execution option of part programs belonging to external CNC systems.
- Programming Manual, ISO milling
 - Detailed description of the special issues when programming in the ISO mode, milling version.
- Programming Manual, ISO turning
 - Detailed description of the special features when programming in the ISO mode, turning version.

A Appendix

A.1 Menu commands

The following menu commands are available to operate SinuTrain:



Menu	Menu commands		Function
File	New	From a template...	Changes to the "Create new machine - Use template" window to create a new machine.
		From a setup archive...	Changes to the "Create new machine - Read setup archive" window to create a new machine.
	Copying and inserting		Copies the machine selected in the machine overview and inserts it in the list of machines. You then change the properties of the copied machine via the Machine > Settings... menu command or the "Settings..." command in the shortcut menu.
	Delete		Deletes the selected SinuTrain machine.
	Import...		Changes to the "Create new machine - Import machine" window to transfer stored and saved machines to the machine overview.
	Export...		Opens the "Save as" dialog to store and save machine configurations from the machine overview.

Menu	Menu commands	Function
	Print settings...	Switches to the "Print settings" window. Here you define the margins and print range and select the representation type of the NC programs for printing.
	Print...	Prints programs corresponding to what has been defined in "Print settings" from the SINUMERIK Operate editor. Note: Only active for started machines.
	Exit	Exits SinuTrain for SINUMERIK Operate.
Machine	Start	Starts the machine configuration selected in the machine overview.
	Restart	Shuts down the SinuTrain machine and then restarts it automatically.
	Shut down	Shuts down the SinuTrain machine. The machine overview remains open.
	Settings...	Changes to the "Edit machine" window in order to change the machine name, description, language and machine image as well as the resolution of the SINUMERIK Operate user interface.
Extras	Install additional HMI languages...	Changes to the "Install additional HMI languages" window in order to install additional available languages for SINUMERIK Operate.
	Options...	Changes to the "Options" window to make the following settings: <ul style="list-style-type: none"> • Selection of the language for the SinuTrain user interface • Activation or deactivation of messages in SinuTrain for SINUMERIK Operate (e.g. message regarding possible data loss when deleting a SinuTrain machine)
Help	Help on SinuTrain...	Opens the online help for SinuTrain for SINUMERIK Operate.

Menu	Menu commands	Function
	Help on SINUMERIK CNC-SW	Opens the online help for release-specific information. The submenus depend on the installed CNC software versions.
	Info...	Changes to the "About SinuTrain for SINUMERIK Operate" window to obtain the following information: <ul style="list-style-type: none">• Product version of the installed SinuTrain for SINUMERIK Operate• Data of the versions of all CNC software packages in the "Installed SINUMERIK CNC SW packages" area










A.2 Context menu











There is a context menu with the following commands for each machine page in the machine overview:

Menu commands	Function
Start	Starts the machine configuration selected in the machine overview.
Export...	Opens the "Save as" dialog to export machine configurations from the machine overview.
Copying and inserting	Copies the machine selected in the machine overview and inserts it in the list of machines. You then change the properties of the copied machine via the Machine > Settings... menu command or the "Settings..." command in the context menu.
Delete	Deletes the selected SinuTrain machine.
Settings...	Changes to the "Edit machine" window in order to change the machine name, description, language and machine image as well as the resolution of the SINUMERIK Operate user interface.

A.3 Operation with standard PC keyboard

The following keys and key combinations are available for operation of SinuTrain SINUMERIK Operate.

PC keyboard	Function
<F1> ... <F8>	Horizontal softkeys 1 to 8
Shift + <F1> ... <F8>	Vertical softkeys 1 to 8
<F9>	
Shift + <F9>	
<F10>	
Shift + <F10>	
<F11>	
<F12>	
<Page↑>	
<Page↓>	
<Enter>	

PC keyboard	Function
<Insert>	 INSERT
Numerical block <5>	 SELECT
<Esc>	 ALARM CANCEL
<Ctrl> + <Alt> + <Shift> + <1>	 JOG
<Ctrl> + <Alt> + <Shift> + <2>	The operational SinuTrain machine is run down.
<Ctrl> + <Alt> + <Shift> + <3>	 RESET
<Ctrl> + <Alt> + <Shift> + <4>	 CYCLE START
<Ctrl> + <Alt> + <Shift> + <5>	 CYCLE STOP
<Ctrl> + <Alt> + <Shift> + <6>	 MDA
<Ctrl> + <Alt> + <Shift> + <7>	 SINGLE BLOCK
<Ctrl> + <Alt> + <Shift> + <8>	 AUTO

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Weitere Informationen

Tipps&Tricks, Downloads, Termine und mehr finden Sie in unserer Community:
www.cnc4you.siemens.com

Technische Dokumentation und Produkt Support auf unserem
Service&Support Portal:
www.siemens.com/automation/support

Für ein persönliches Gespräch finden Sie Ansprechpartner
in Ihrer Nähe unter:
www.siemens.com/automation/partner

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