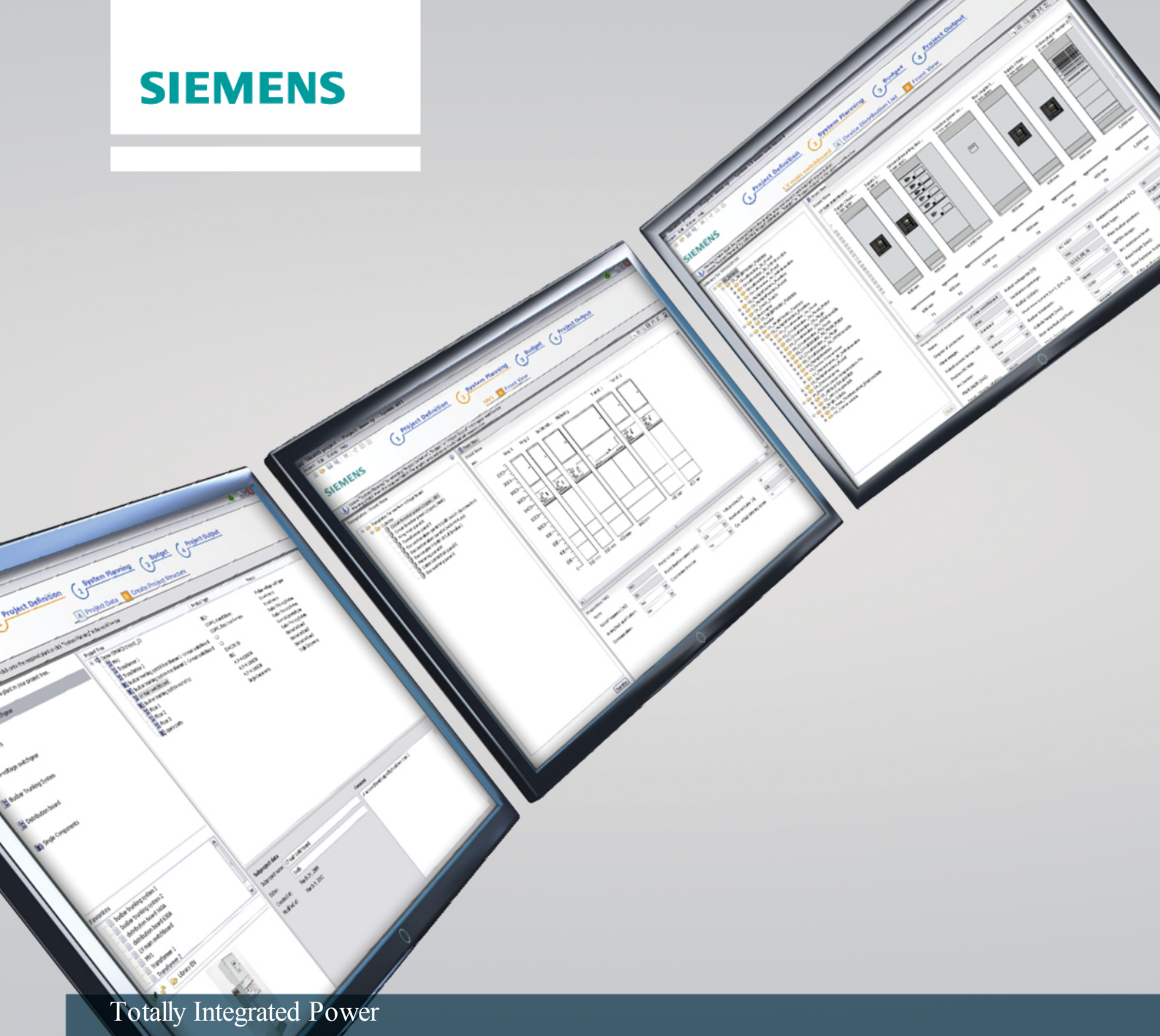


SIEMENS



Totally Integrated Power

SIMARIS project Help

5.0.0

Software Functions in Detail

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1 Introduction

1.1 Determination of space requirements and budget with SIMARIS project

With SIMARIS project you can get an overview of the space requirements for the electric power distribution within a building, from medium voltage to distribution boards, and thus get the basis for a cost estimation.

Having defined the project structure and selected the basic technical data, the required

- panels for medium voltage
 - transformers
 - protective and switching devices for low voltage
 - busbar trunking systems, including the specification of special components such as feed-in components, directional change components and power tap-off units
 - charging units for electric vehicles
 - and other single components
- can be selected.

By automatically selecting and placing suitable power distribution board systems based on your specifications, SIMARIS project finds the space requirements of the power distribution as well as the basic data for determining the required budget, which you can request from your Siemens contact with the data from SIMARIS project. Or, you can draft it yourself in a budget sheet that can be saved. From Version 2.0 on, the program also contains the automatic creation of technical specifications.








1.2 System requirements

These are the minimum hardware and software requirements to run SIMARIS® project:

- Processor: Intel Core i3 / AMD Phenom II X4
- 4 GB RAM
- Free hard disk space: 2.3 GB (if a country is selected) up to 10 GB (if all countries are selected)
- Screen resolution
 - Format 4:3: 1280x1024 (recommended 1400x1050)
 - Format 16:9: 1366x768 (recommended 1680x1050)
- Supported operating systems: Windows 7, Windows 8
- Supported MS-Office versions: Office 2007, Office 2010

1.3 Setup instructions

1.3.1 Setup from DVD

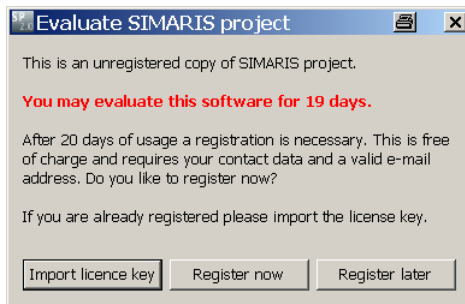
- Close all other applications on your computer.
- Insert the SIMARIS DVD into the DVD drive and start setup.exe.
- The setup wizard guides you through the installation and not only enables you to install SIMARIS project, but also SIMARIS design and SIMARIS curves. SIMARIS project cannot be selected for all countries owing to the product portfolio contained, so that this program can only be installed if you have selected at least one of the available countries in the country selection. A specification of countries for which SIMARIS project is currently available can be found at www.siemens.com/simarispj
- Follow the instructions of the setup wizard.
- SIMARIS project can be set up as local installation only, i.e. not as a network installation.
- Please check after program installation, whether updates are available and install them if required. To check whether an update is available, you can use the [Help menu](#)  → "Start online-update" to make a query provided your computer is connected to the Internet. Then you can directly install available updates online. Another option is to use the [Help menu](#)  → "Download update package" to call the corresponding page of the SIMARIS website to download the update package and install it afterwards. The website which provides updates for the SIMARIS planning tools can also be directly accessed using this link www.siemens.com/simarispj/update
- If you want to install or uninstall more technology packages (countries) at a later date, you can do this using the SIMARIS DVD. Start setup.exe, as described above, and then start the installation of SIMARIS project. A window is displayed showing which technology packages are available and where checkmarks are set for technology packages you have already installed. By setting or removing checkmarks, followed by a click on the "Accept" button, you can install or uninstall technology packages. The information about available technology packages is provided from the DVD and their setup is initiated from there, too. This also means that technology packages provided at a later date, i.e. which are not saved on this DVD, cannot be found. Also please note that any updates released after technology package installation must be installed separately, either online or using the [Help menu](#)  → Start Online Update or by downloading the update package for offline installation from www.siemens.com/simarispj/update, which you can also call up from the program using the [Help menu](#)  → Download Update Package.
- Another option how to install or uninstall more technology packages (countries) at a later date is using the [Extras menu](#)  → Regionalisation. In this case, however, Internet connection is required. A window is displayed showing which technology packages are available. Checkmarks are set next to those technology packages you have installed. Removing or setting checkmarks allows you to uninstall or install technology packages. In this case, information is retrieved online and the download of the technology packages you want to install as well, so that this procedure requires an Internet connection. In this case, too, please note that any updates released after technology package installation must be installed separately, either online or using the [Help menu](#)  → Start Offline Update or by downloading the update package for offline installation from the SIMARIS website www.siemens.com/simarispj/update, which you can also call up from the program using the [Help menu](#)  → Download Update Package.

1.3.2 Setup after download

- Request a download link at www.siemens.com/simaris/download by entering and sending your data.
- The download link will be sent to you by e-mail. Having downloaded the .zip file that can be accessed through this link, decompress it on the hard disk of your computer and then start setup_sp40.exe.
- Follow the instructions of the setup wizard.
- SIMARIS project can be set up as local installation only.
- The initially downloaded install package only comprises the basic package for installing SIMARIS project. In the process of the setup routine you will be asked in one window which technology packages (countries) you want to install. The country list on display is determined online, i.e. in the background it is queried which technology packages are available. After you have ticked off the countries you require, the installation of the desired technology packages is performed online, meaning these packages are downloaded during the setup process. Hence, to be able to run setup, you also need an active Internet connection during the setup process.
- Please check after running setup whether updates are available and install them if necessary. These updates will only install the part belonging to the country packages already installed on your computer and the update routine must be performed after installing more technology packages again. To check whether an update is available, you can start a query via the [Help menu](#) → "Start online-update" provided your computer is connected to the Internet. Then you can directly install available updates online. Another option is to use the [Help menu](#) → "Download Update Package" and access the corresponding page on the SIMARIS website, download the update package from there and then install it offline. The website providing updates for SIMARIS planning tools can also be accessed directly at www.siemens.com/simaris/update
- If you want to install or uninstall more technology packages (countries) later, you can do so using the [Extras menu](#) → Regionalisation. In this case, however, Internet connection is required again. A window is displayed showing which technology packages are available. Checkmarks are set next to those technology packages you have installed. Removing or setting checkmarks allows you to uninstall or install technology packages. In this case, information is retrieved online and the download of the technology packages you want to install as well, so that this procedure requires an Internet connection. Please note that any updates released after technology package installation must be installed separately, either online or using the [Help menu](#) → Start Offline Update or by downloading the update package for offline installation from the SIMARIS website www.siemens.com/simaris/update, which you can also call up from the program using the [Help menu](#) → Download Update Package.

1.3.3 Registration and read-in of the licence key

- The software may be used in a demo mode for 20 days after its installation. Only those days are counted on which you actually open the program. In order to be able to use SIMARIS project permanently, you must register on the Internet at www.siemens.com/simaris/register. Please enter your data there and request a licence by submitting the form. This licence will then be sent to you by e-mail within half an hour. Please save the file with the extension .lic (= licence key) on your computer.
- As long as the licence key has not been read in, you will be asked during every program start, whether you want to read in the licence key now or respectively, whether you would like to register now or later.



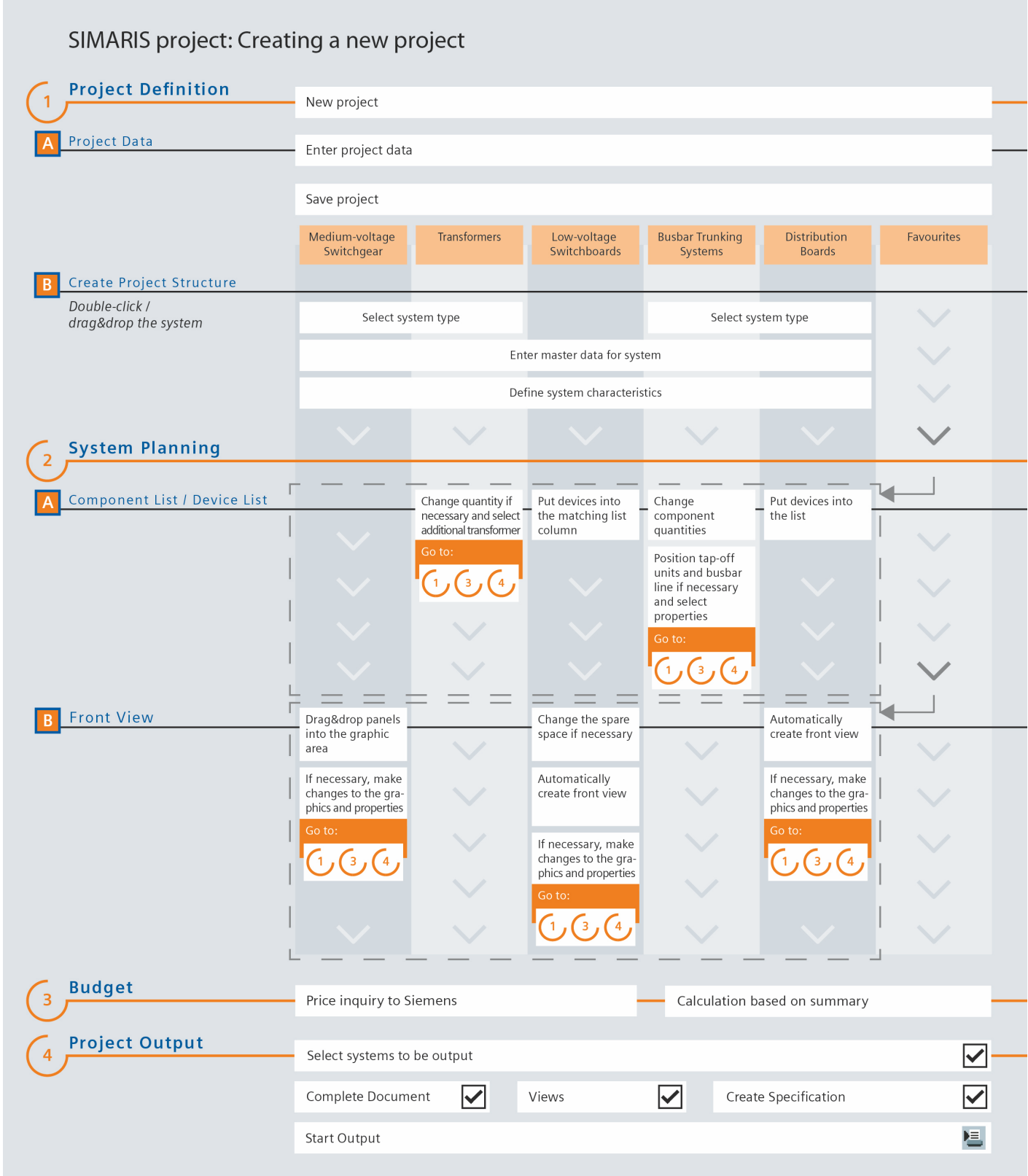
- Clicking the "Import licence key" button starts the import process of your licence key. The browser opens where you can set the file path of your licence key and select the licence file identified by the file extension .lic-sp. As soon as you open this file, the licence file is read in and the program is started.
- Clicking the "Register now" button automatically opens the registration page for the SIMARIS tools provided you are online. How to proceed from there was described in the previous section.
- Clicking the "Register later" button takes you straight to the program, but you will be asked about registration again during the next program start.
- You can also initiate the licence key import while the program is running using the [Extras menu](#) → "Licence".

1.3.4 Setup and use of country-specific versions

- In the setup wizard, you can select technology packages you want to install from a list of countries.
- On the one hand, this implies the language selection, because every country selection installs the national language and English as languages. On the other hand, this also implies the installation of the technology package pertaining to the selected country, i.e. the product and systems range available for the country, the technology which complies with the regulations and conditions of the respective country. It is possible to select several countries, which is above all necessary if you are editing projects for different countries, because you should, of course, edit each project with the relevant technology package only.
- If you later want to edit a project for a country whose technology package / language is not installed, you can do so without any problems with the help of the [Extras menu](#)^[12] → "Localisation", or by restarting the installation, selecting another country or several more countries and thus installing the required languages and technology packages. All installed countries and, if a country was selected, also the associated languages are provided for selection in the program step [Project Definition](#)^[17]. However, any change of country selection requires a program restart. Please note that in that case any available updates must also be reinstalled, since an update always installs that part which belongs to the country packages already installed on your computer. How to check whether an update is available and how to download and install it is described in the section [Setup from DVD](#)^[5] and [Setup after download](#)^[6].
- If you have created a project in a specific country setting and open this project while have made a different country selection, you will be informed that to open this project, your country setting must be adapted accordingly. This means that the country setting for a project cannot be changed at a later stage.
- When editing projects for different countries, the national language and English are each provided for editing. This means, for example, that you can edit the project in English, but you can change to the national language for documentation purposes. Or you can send the project file to the respective country and the editor there can open and edit the project in his/her national language.

2 Program Interface and Structure

2.1 Overview of the program sequence



2.2 Navigation bar / workflow bar

With the help of the navigation bar you can go to the desired program step by directly clicking it.



Project Definition

Under

1 Project Definition

you can find the subordinate project steps

A Project Data B Create Project Structure

in which you can enter the project data and design the project structure from the various systems.

System Planning

Under

2 System Planning

you can find subordinate project steps depending on the selected system, in which you can plan the respective system.

Medium-voltage switchgear is compiled in

A Front View

from the cubicles library.

Transformers, busbar trunking systems and single components are compiled under

A Component List

from device libraries or a catalogue.

Low-voltage switchgear is automatically configured after you have selected devices, when you switch from "A Device List" to "B Front View" or can be configured directly in the program step "B Front View".

A Device distribution list B Front View

Low-voltage switchgear is automatically configured after you have selected devices, when you switch from "A Device List" to "B Front View".

A Device distribution list B Front View

Charging units for electric vehicles are selected in

A Front View

using the available templates.

Budget

Under

3 Budget

you can find the subordinate project steps,

A Budget on Demand B Summary

in which you can either send your project file to your SIEMENS consultant for budget price calculation or calculate a budget yourself in the summary of the configured systems.

Project output

Under



you get directly to the output screen without having to select a subordinate project step.

For the entire project or individual systems you can create a document to be edited in your word processing program and/or a tender specification text in German or English in GAEB90 or text format. For switchgear, transformers and power distribution boards you can generate front views, and for switchgear and distribution boards also single-line diagrams in .dxf format.

2.3 Icon bars

2.3.1 Main window

| | New project | | Delete |
|--|---|--|--------|
| | Open project Only those projects can be opened which were created with the same country setting as the one currently set. If you want to open a project with a different country setting, proceed as described in chapter Project menu 17 in this Help text. | | Cut |
| | Save project | | Copy |
| | Save project as | | Paste |

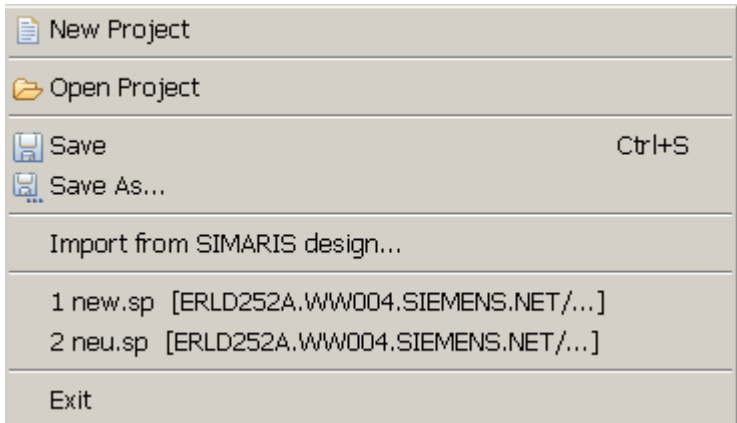
2.3.2 Graphic area

| | In the selection mode you can select required components (e.g. complete cubicles/sections, devices) in the graphic area. |
|--|--|
| | In the area selection mode you can select several required components (e.g. complete cubicles/sections, devices) in the graphic area. |
| | In the zoom mode you can zoom into a cut-out of the graphic. |
| | By clicking the general view button, the entire plant is shown in the graphic. |
| | By clicking this button, the entire plant is displayed horizontally aligned . |
| | By clicking this button, the entire plant is displayed vertically aligned . |
| | By clicking this button, a small overview window opens, showing which cut-out is currently displayed in the graphic. The cut-out can also be moved directly in this window to display the required cut-out in the graphic. |

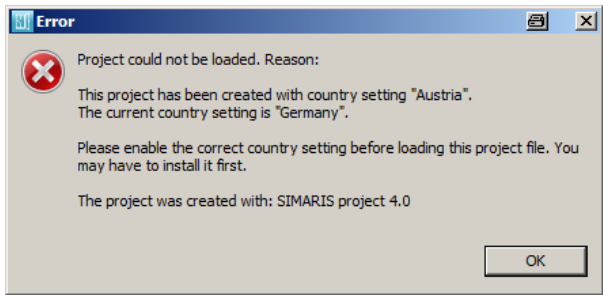
2.4 Menu bar and key combinations

Project Edit Extras Help

2.4.1 Project menu

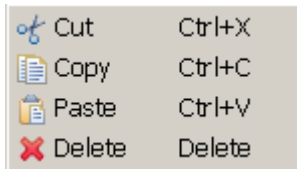


- In the **Project** menu, select
- **New project** to create a new project.
 - **Open project** to open an existing project with the extension .sp.
 - **Save** to save the current project.
 - **Save As...** to save the current project in a freely selectable project path under any name.
 - **Import from SIMARIS design...** to import a SIMARIS design file with the extension .sx.
 - one of the **projects last edited** from the displayed list to further edit it.
 - **Exit** to close SIMARIS project.



- If you try to open a project created with a different country setting than the one currently set, an error message will be displayed, since the country setting, and thus the technology package, once selected when a project was created, cannot be changed any more in SIMARIS project later.
- To be able to open the project, you must first choose the regional settings in "1 Project Definition" at "B Project Data" that match this project.
- If they cannot be selected, you may possibly have to install a matching technology package. The procedure how to install technology packages later is explained in chapter [Setup after download](#)⁶⁾ and [Setup from DVD](#)⁵⁾ in this Help text.

2.4.2 Edit menu



The options Cut, Copy, Paste and Delete can be found in the Edit menu and also under the same icons in the icon bar of the main window .

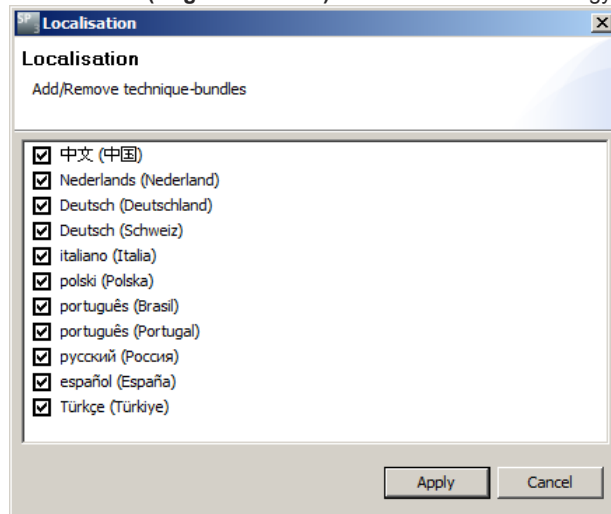
2.4.3 Extras menu

License Settings

Preferences

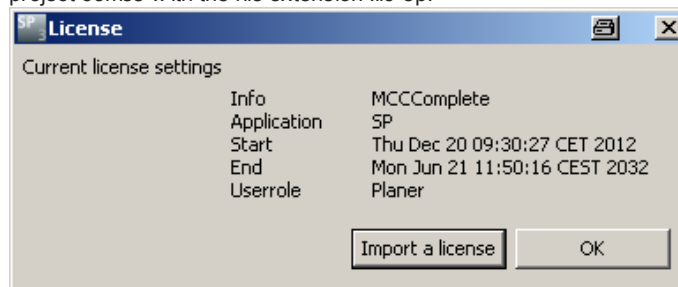
In the **Extras** menu, select

- **Localisation (Regionalisation)** to add or remove technology packages for different countries.



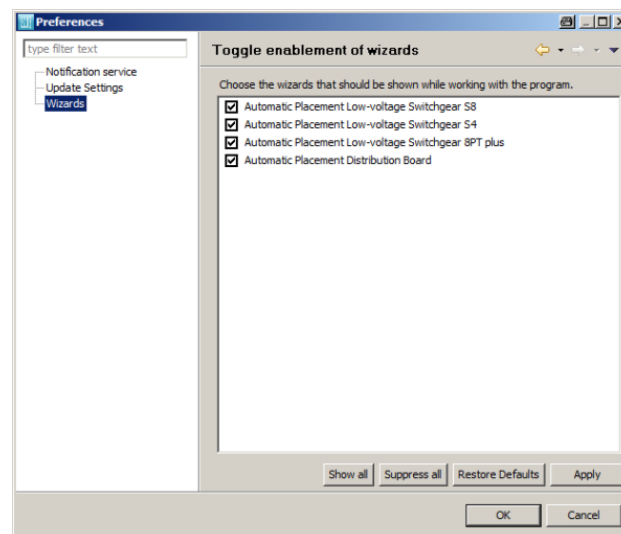
Installation/uninstallation of technology packages is performed dependent on your selection, as soon as you click the "Apply" button.

- **Licence** to check your licence status, or to import a new licence. The licence file to be imported in SIMARIS project comes with the file extension .lic-sp.

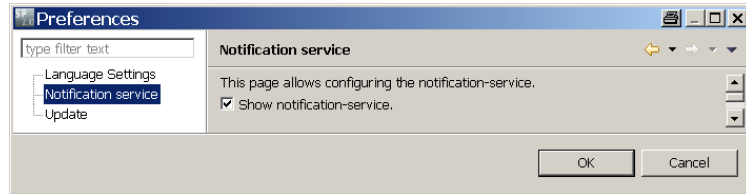


- **Settings** to specify personal settings defined for SIMARIS project. A window opens in which a tree is displayed on the left with the user preferences that can be set:

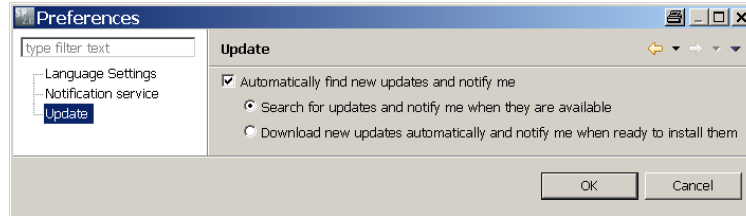
- If "Wizards" is selected, the right part of the window provides the option for enabling or disabling wizards. This means by removing the checkmark, you can deliberately disable automatic distribution board configuration for certain plant types and enable it later, or enable it for a different project.



- When selecting "Notification service", it is possible to enable or disable the notes below the navigation bar.



- When selecting "Update Settings" you can enable or disable the option to check for updates automatically upon every program start.












- **Show SIMARIS design Import Log** to check the import of a project from SIMARIS design. A complete log is generated in which you can check which devices were imported, for example, whether the order number was perhaps adjusted for some devices, or whether no suitable device might have been found.
- **Open GAEB Error Log** in order to be able to understand errors during specification text export in the GAEB format, if any. This menu item provides the option to export errors into a log file, it is therefore irrelevant as long as no such error logs exist.

2.4.4 Help menu

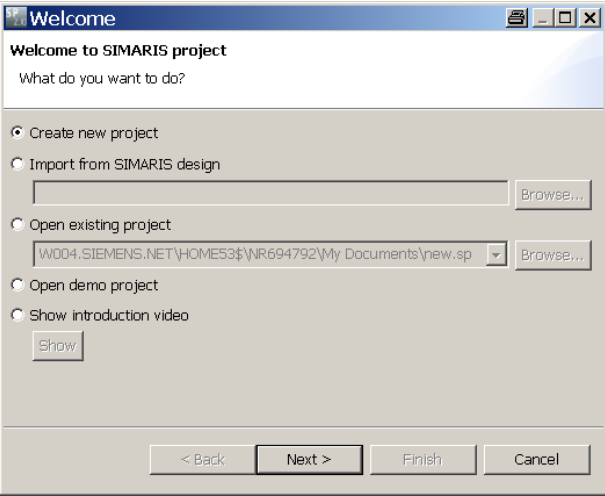
| | |
|--|--|
| <div>Introductory Videos</div> <div>Open Demo Project</div> <div>Help</div> <hr/> <div>http://www.siemens.com/simaris/interactivetour</div> <div>http://www.siemens.com/specifications</div> <hr/> <div>Export Error Log(s)</div> <hr/> <div>Check for Updates</div> <div>Install New Software</div> <hr/> <div>About SIMARIS project</div> | <p>In the Help menu you can use these menu items to do the following:</p> <ul style="list-style-type: none"> ■ Help to open this document to get informed about details of program use and handling while the program is running. ■ Tutorial to start a presentation which is divided into several chapters and many graphic diagrams and brief explanations giving you an overview of the program functions. ■ Technical manual to open a PDF file that provides complementary technical information about SIMARIS design and SIMARIS project. ■ Open Demo Project to load a demo project which includes demo plants as examples for various plant types. ■ http://www.siemens.com/specifications to call up the website which provides tender specification texts for download. ■ Export Error Log(s) to export a log in case of error, which might be useful for error clarification. ■ Start online-update to check whether an update is available for SIMARIS project and to directly install it online ■ Download update package to download an update as compressed file (.zip file), then decompress and install it. ■ What's new? to open a window which lists all data and function updates and changes since the last main version and all installed hotfixes and updates together with a brief description. ■ Info to open a window to obtain information about the version installed on your computer including the versions of all installed components as well as about the data of the licence key you currently use. |
|--|--|

2.4.5 Corresponding key combinations

| | | | |
|--------------|---------------|----------|--|
| Project menu | Save settings | Ctrl + S |  +  |
| Edit menu | Cut | Ctrl + X |  +  |
| | Copy | Ctrl + C |  +  |
| | Paste | Ctrl + V |  +  |
| | Delete | Del |  |

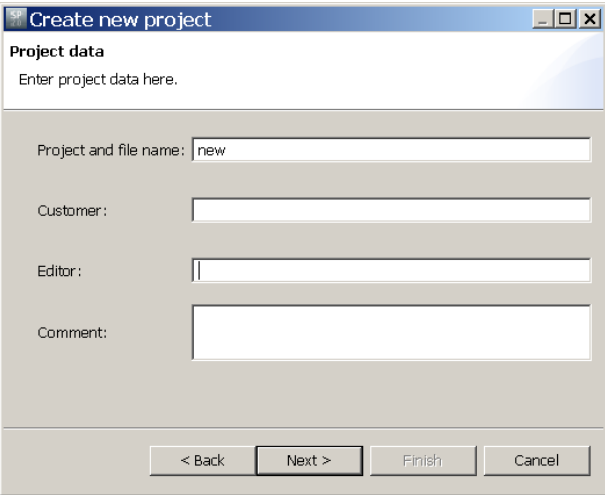
3 First Start

3.1 Call start wizard

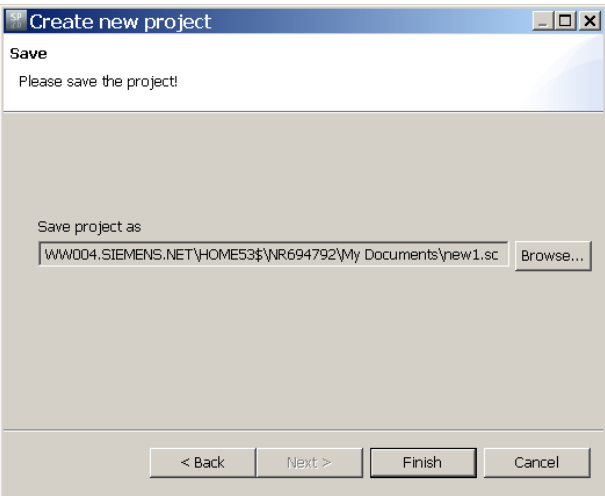


When you start the SIMARIS project software, the start wizard opens automatically.

3.1.1 Create new project



Select "Create a new project".
Clicking "Next" opens the window for the project data.
Enter the project data here. The entry of a project name is mandatory (default entry is "new"), the entry of any other project data is optional.



With "Next" you are requested to save the project in a user-configurable project path.

Clicking "Finish" saves the project file.

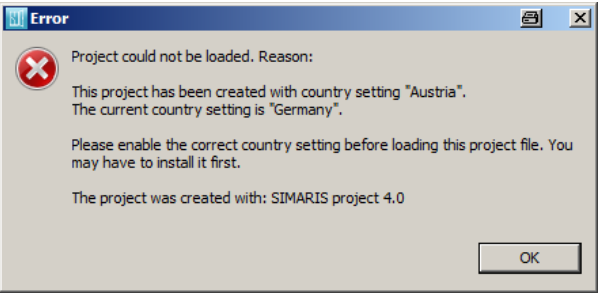
3.1.2 Import from SIMARIS design

Select "Import from SIMARIS design" in the start wizard and then "Browse..." to select a SIMARIS design file with the extension .sx. By clicking the "Finish" button, the SIMARIS design file is imported.

3.1.3 Open existing project

Select "Open existing project" in the start wizard and then "Browse..." to select a SIMARIS project file with the extension .sp. By clicking the "Finish" button the SIMARIS project file is opened.

When a project is imported which was created with a previous version of SIMARIS project, a backup file with the same name but a different extension is created. This file extension contains the version number of the SIMARIS project version in which the project was created. This enables you - if required - to post-edit the project again with the previous version on the basis of this file status.



- If you try to open a project created with a different country setting than the one currently set, an error message will be displayed, since the country setting, and thus the technology package, once selected when a project was created, cannot be changed any more in SIMARIS project later.
- To be able to open the project, you must first choose the regional settings in "1 Project Definition" at "B Project Data" that match this project.
- If they cannot be selected, you may possibly have to install a matching technology package. The procedure how to install technology packages later is explained in chapter [Setup after download](#) ¹⁴ and [Setup from DVD](#) ⁵ in this Help text.

3.1.4 Load demo project

Select "Load the demo project" in the start wizard. By clicking the "Finish" button the demo project is opened.

3.1.5 Tutorial

As soon as you click the "Show" button below Tutorial in the start wizard, a presentation is started which gives an introduction and overview of how to handle the program.

You can also call up the Tutorial while you are using the program. To do so, use the [Help menu](#) ¹⁴ → "Tutorial".

4 Project Definition



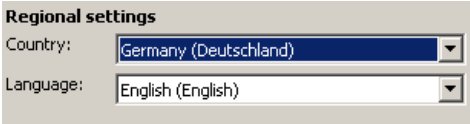
After a project was loaded or created and the start wizard completed, you will automatically be taken to program step "1 Project Definition". → "B Create Project Structure". In order to be able to view data kept in the project definition from other editing steps, or to complete and change them, click



on the navigation bar and choose - depending on whether you want to edit the project data or the project structure - "A Project Data" or "B Project Structure".

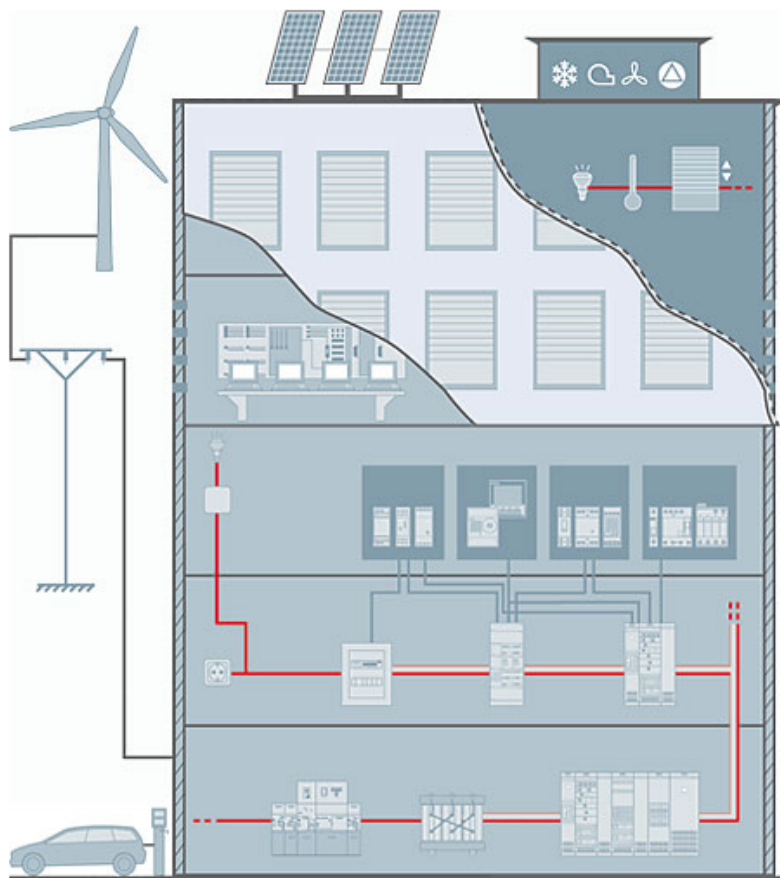
4.1 Project data

Below you will find an overview of how to edit project data and the content available on this window.

| | |
|--|---|
|  | <p>In an existing project, the master data, customer data and comment can be completed and changed under</p> <p> at the top left.</p> |
|  | <p>Localised settings of SIMARIS project are shown in the Project Definition at the bottom left and can be adapted there. They are closely linked to the installed country packages. This means that by selecting a country, the associated technology package, which comprises the products suitable and regionally available for the installation methods of the respective country, is used for configuration, too.</p> <p>The national language and English can be set for every country.</p> <p>Changing the language and/or the country only becomes effective after a restart of SIMARIS project.</p> <p>To this date, 12 countries with a total of 8 languages can be installed and set for SIMARIS project. A detailed list of all of the available country settings is displayed in the setup and can be viewed online at www.siemens.com/simaris.</p> |

Electrical Power Distribution for a Building

for Infrastructure and Industry



By clicking you will get detailed technical information:

- Medium-Voltage Switchgear
- Medium-Voltage Protection
- Energy Automation
- Power Quality
- Transformer
- Busbar Trunking Systems
- Low-Voltage Switchboards
- Distribution Boards
- Protection Devices
- Switching Devices
- Measuring Devices
- Monitoring Devices
- Switches and Socket Outlets
- Energy Monitoring for Non-Residential Buildings or Small and Medium Industrial Plants
- Building Control and Room Automation
- Elektromobility
- Photovoltaic
- Wind Energy

On the right part of the screen, you can display an overview of electrical power distribution in buildings (for infrastructure and industrial projects) by clicking the lettering "Totally Integrated Power", which includes a schematic graph of various components and brief explanations for each component that are shown as soon as you hover the mouse pointer over one of the components.

In addition, both the graphic elements and the texts in the list on the right are linked to product pages of the components, so that you can easily start a more comprehensive product search from the program.

▼ Short Introduction

Overview program flow

1 Project Definition - A Project Data

Please insert the needed project data here.

1 Project Definition - B Create Project Structure

Create the project structure with the different plants.

2 System Planning

In this step you can plan the particular plant. The construction of **low-voltage switchgear** and **distribution boards** takes place automatically, when switching from **A Feeder List** to **B Front View**. **Low-voltage switchgear** can be assembled additionally in **B Front View** out of the library. **Busbar Trunking Systems** and **transformers** are assembled at **A Bill of Material** out of device libraries. **Medium voltage switchgear** is assembled in **A Front View** out of the cubicle library.

3 Budget

For calculation of budget price send the project file to your SIEMENS-contact person as described in **A Budget on Demand** or calculate the budget by yourself in **B Summary**, please.

4 Project Output

Create a **document** about the entire project or individual plants for editing it in your word processing program and/or a **tender specification**. For **switchgear**, **transformers** and **distribution boards** you can generate **front views** and a **single line diagram** in DXF-format.

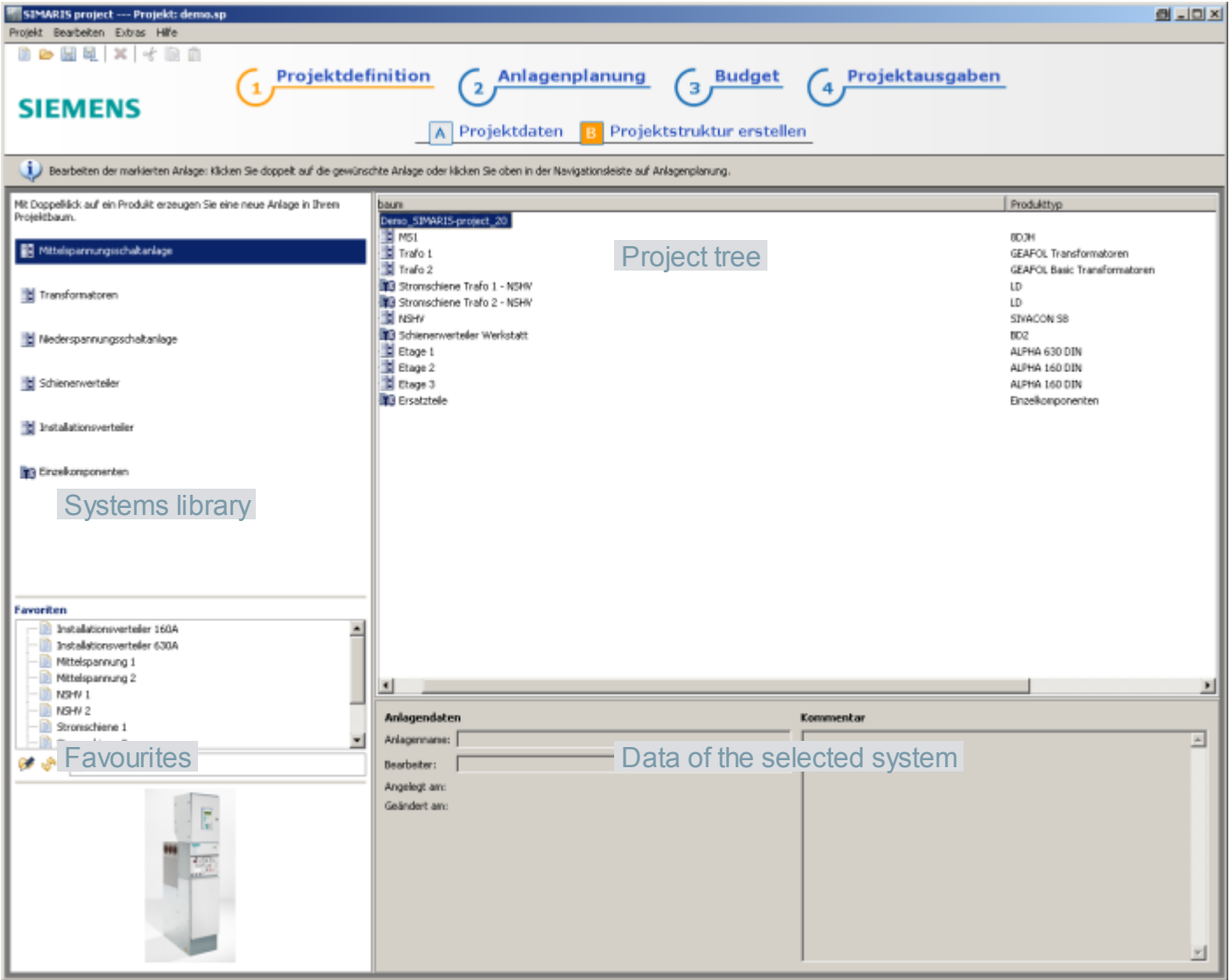
Project import from SIMARIS design

Create a transfer file for the desired network in SIMARIS design 7.0 and transfer it to SIMARIS project 3.0 via the menu Project/Import from SIMARIS design. The project structure created automatically from the SIMARIS design network you will see in **B Create Project Structure**. In **2 System Planning** you can see the created plants.

Whereas an overview of the program workflow is displayed if you hover over the lettering "Short introduction".

4.2 Create project structure






The following is a definition of the terms used in the individual areas of the user interface of the project structure.




Under

B Create Project Structure

you can select the systems required for the project structure.

- To **add a system**,
 - select the system in the systems library and drag it to the project tree by keeping the left mouse button pressed,
 - or double-click the required system in the systems library
 - Then further define the required features in the system-specific wizard for specification.
- To **cut, copy or delete a system**,
 - right-click the required system in the project tree and select "Cut", "Copy" or "Delete" from the context menu,
 - or select the system in the project tree and then select the corresponding icon  , 
or  from the icon bar, or choose from the Edit menu → "Cut", "Copy" or "Delete" on the menu bar.
- To **paste a system after having cut or copied it**,
 - right-click the desired position in the project tree and select "Paste" from the context menu,
 - or select the desired position in the project tree and then select the icon  or in the menu bar in the edit menu → "Paste" on the menu bar.
- If a system in the project tree is marked by the yellow icon , characteristics are missing for the specification.
To enter these,
 - double-click the selected system in the project tree and then select in the following windows - stepwise, if necessary - the missing characteristics which are also marked by the yellow icon, either by entering them or using the drop-down menu,
 - or select the system in the project tree and then click "System Planning" in the navigation bar so that you can select the missing characteristics in the same way.
- Users of SIMARIS Configuration Advanced (SIMARIS CFA) can export a SIVACON S8 low-voltage switchboard from SIMARIS project in order to edit it further in SIMARIS CFA. To do so, select the plant in the project tree and start the export using the context menu (right mouse button) by choosing "Export S8 → SIMARIS CFA".






4.3 Handling of systems in the project structure

- When a system is added to the project tree, the windows for selecting the desired system as well as for entering master data and system characteristics are opening one after the other.
- When clicking the "Finish" button in the system characteristics window without having completely filled the characteristics, you will remain in the program step Project Definition and can add further systems to the project tree. Nevertheless, the system remains marked by , because specification characteristics are missing. The window for entering the missing characteristics can be opened again by double-clicking the marked system in the project tree.
- When clicking the "Finish" button after having completely selected the required characteristics, you will automatically be taken to the program step System Planning. There you can select the required transformers, cubicles, devices, etc. from the templates or libraries depending on the selected system type. How to handle the various system types in the program step System Planning is described in the following chapter.
- The system data entered during the creation of the system can be seen and also changed on the bottom right in the "Plant data" area. To this end, select the required system in the project tree so that the data of the selected system is displayed and then make your changes in the corresponding fields, e.g. the system name or comment.

4.3.1 Create new medium-voltage switchgear

Create new Medium-voltage switchgear

Type of the medium-voltage switchgear
Please select a system!

| | Ur | Ik | Ibb | I Feeder |
|---|------------------------|----------------------|-------------------------|-------------------------|
|  8DJH gas-insulated for secondary distribution level | 17.5kV 24kV | 25kA 20kA | 630A 630A | 630A 630A |
|  8DJH 36 gas-insulated for secondary distribution level | 36kV | 20kA | 630A | 630A |
|  NXPLUS C gas-insulated for primary distribution level | 15kV 24kV | 31.5kA 25kA | 2500A 2500A | 2500A 2000A |
|  SIMOSEC air-insulated for secondary distribution level | 12kV 17.5kV 24kV | 25kA 25kA 20kA | 1250A 1250A 1250A | 1250A 1250A 1250A |
|  NXAIR air-insulated for primary distribution level | 17.5kV 24kV | 50kA 25kA | 4000A 2500A | 4000A 2500A |

< Back Next > Finish Cancel

- When new medium-voltage switchgear is created, the window for the system selection opens first
- Only those systems are displayed that match the set country selection. This means, the technology package for a country will offer only those systems for selection which are compatible with applicable regulations of this country and are also available there.

Create new 8DJH

Enter data for the product.

Product name:

Editor:

Comment:

Created at:

Modified at:

< Back Next > Finish Cancel

- By clicking the "Next" button you get to the window for entering the plant master data. Since this window looks the same for all systems, it is shown as an example here and will not be shown any more for the following system types.

- By clicking the "Next" button, you get to the window for selecting the system characteristics.
- Having selected all relevant data, click the "Finish" button to get to step "2 System Planning". If you didn't select all system data that is relevant, you will remain in step "1 Project Definition".
- When 8DJH or SIMOSEC medium-voltage switchgear is selected, you can call up more information using the info button next to the field "Capacitive voltage detector systems", which you can also find in the corresponding section of the Technical Manual. It can be accessed using the [Help menu](#) [F1] → "Technical manual".

4.3.2 Create new transformer

| | Sn | Uprim |
|--|---------------|-----------|
| GEAFOLE Basic transformers Eco-design Cast-resin dry-type transformer for highest requirements in terms of personal protection and low fire load, suitable for operation in buildings without additional activities, especially economical | 100...3150kVA | 10...30kV |
| GEAFOLE transformers Eco-design Cast-resin dry-type transformer for highest requirements in terms of personal protection and low fire load, suitable for operation in buildings without additional activities | 100...3150kVA | 6...30kV |
| Oil-transformers hermetic Eco-design Oil-immersed transformers for economical use without any special requirements, maintenance-free | 50...3150kVA | 10...20kV |
| Oil-transformers expansion tank Eco-design Oil-immersed transformers for economical use without any special requirements, suitable for higher thermal loads | 50...3150kVA | 10...20kV |

- When creating a new transformer, the window for the system selection opens first.
- Only those systems are displayed that match the set country selection. This means, the technology package for a country will offer only those systems for selection which are compatible with applicable regulations of this country and are also available there.
- After selection of the system matching your application case, a click on the "Next" button takes you to the window for entering the plant master data (see similar window above: ["Create new medium-voltage switchgear"](#) [22]).

- By clicking the "Next" button, you get to the window for selecting the system characteristics.
- Having selected all relevant data, click the "Finish" button to get to step "2 System Planning". If you didn't select all system data that is relevant, you will remain in step "1 Project Definition".

4.3.3 Create new low-voltage switchboard

- When a low-voltage switchboard is created, the window for system selection is displayed first.
- Only those systems are displayed that match the set country selection. This means, the technology package for a country will offer only those systems for selection which are compatible with applicable regulations of this country and are also available there.
- After selection of the system matching your application case, a click on the "Next" button takes you to the window for entering the plant master data (see similar window above: ["Create new medium-voltage switchgear"](#) [22]).

- Clicking "Next" takes you to the window for selecting plant characteristics.
- Having selected all relevant data, click the "Finish" button to get to step "2 System Planning". If you didn't select all system data that is relevant, you will remain in step "1 Project Definition".
- The info button next to the field "Arc resistance level" allows you to call up more information, which you can also find in the corresponding section of the Technical Manual. It can be accessed using the [Help menu](#) [14] → "Technical manual".
- Users of SIMARIS Configuration Advanced (SIMARIS CFA) can export a SIVACON S8 low-voltage switchboard from SIMARIS project in the "Project Structure" step in order to further edit it in SIMARIS CFA. To do so, select the plant in the project tree and start the export from the context menu (right mouse button) by selecting "Export S8 → SIMARIS CFA".

4.3.4 Create new busbar trunking system

| System | Un-max In | IP | Tap off box |
|---|-------------------|------------------|-------------|
| System BD01 Power supply matching the exact requirements of small loads | 400V 40..160A | IP54, IP55 | 63A |
| System BD2 Flexible and safe power distribution in the medium current range for industry and buildings | 690V 160..1250A | IP52, IP54, IP55 | 400A |
| System LD Flexible power distribution for high currents in industry | 1000V 1100..5000A | IP34, IP54 | 50..1250A |
| System LX Reliable power transmission from the transformer to the main distribution board in the building | 690V 800..6300A | IP54, IP55 | 50..1250A |
| System LI Reliable power transmission from the transformer to the main distribution board in the building | 690V 800..6300A | IP55 / IP66 | 160..630A |

- When creating a new busbar trunking system, the window for the system selection opens first.
- By clicking the "Next" button, you get to the window for entering the master data on the system (similar window see above at ["Create new medium-voltage switchgear"](#) (22)).

Material:

Conductor configuration:

Functional endurance class:

- By clicking the "Next" button, you get to the window for selecting the busbar material, the conductor configuration and the required functional endurance category.
- Note: Functional endurance can only be factored in for busbar systems for power transmission in SIMARIS project, meaning only the BD2, LD and LX systems. If you have previously selected another busbar system for the respective line, your selection for the functional endurance category will automatically be defaulted as "without" and cannot be changed.

Length [m]:

Functional endurance class:

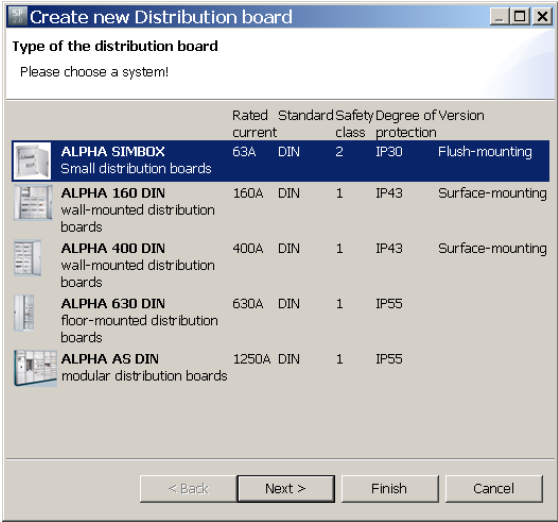
Protection class:

Rated current [A]:

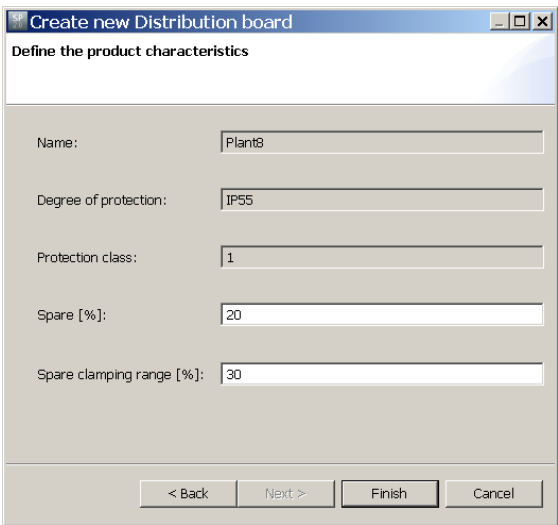
Conductor configuration:

- By clicking the "Next" button, you get to the window for selecting more busbar trunking system characteristics.
- Having selected all relevant data, click the "Finish" button to get to step "2 System Planning". If you didn't select all system data that is relevant, you will remain in step "1 Project Definition".
- If a functional endurance category was selected in the previous window, the rated current values offered for selection in this window will be adjusted corresponding to the required derating.

4.3.5 Create new distribution board

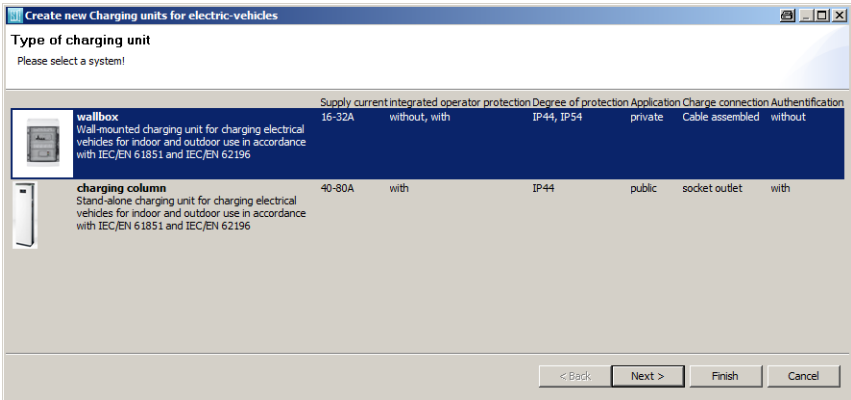


- When creating a new distribution board, the window for the system selection opens first.
- Only those systems are displayed that match the set country selection. This means, the technology package for a country will offer only those systems for selection which are compatible with applicable regulations of this country and are also available there.
- By clicking the "Next" button, you get to the window for entering the master data on the system (analogue window see above at ["Create new medium-voltage switchgear"](#) (22)).



- By clicking the "Next" button, you get to the window for selecting the system characteristics.
- The spare space required as well as the space reserve for the terminal area are specified as a percentage value, which is factored in the device list and for automatic placement.
- Having selected all relevant data, click the "Finish" button to get to step "2 System Planning". If you didn't select all system data that is relevant, you will remain in step "1 Project Definition".

4.3.6 Create charging unit for electric vehicles



- When a new charging unit for electric vehicles is created, the window for the system selection opens first.
- Only those systems are displayed that match the set country selection. This means, the technology package for a country will offer only those systems for selection which are compatible with applicable regulations of this country and are also available there.
- By clicking the "Next" button, you get to the window for entering the master data on the system (similar window see above at ["Create new medium-voltage switchgear"](#) (22)).

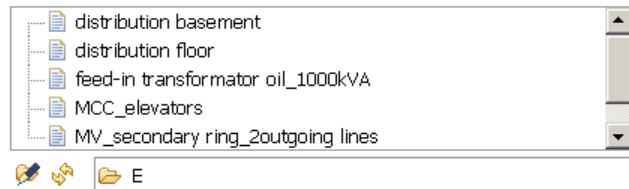
- By clicking the "Next" button, you get to the window for selecting the system characteristics.
- Having selected all relevant data, click the "Finish" button to get to step "2 System Planning". If you didn't select all system data that is relevant, you will remain in step "1 Project Definition".



4.3.7 Create new single components

- When a single component is created, the window for entering the master data for the plant is opened directly.
- By clicking the "Finish" button, you get to step "2 System Planning".

4.4 Favourites

Favorites



- It is possible to save favourites for each available system type, which can later be integrated in projects to be edited.
- To do so, you must first create a folder on a drive you can access, where you want to save your Favourites. But you can also use the "My Library" folder created during setup. If several users shall be enabled to access the saved Favourites, corresponding folder may also be created on a server drive accessible to them.
- By clicking the  icon you can define the desired / this folder as storage location in the explorer.
- You can now save individual systems from each edited project as favourites by selecting a system with the left mouse button, dragging it to the list of favourites keeping the left mouse button pressed and dropping it there by releasing the mouse button. The system is then added to the alphabetically sorted list.
- In the corresponding folder on the drive, you can identify the files containing favourites by the file extension .spx.
- If you want to delete or rename systems from the Favourites folder, you have to do that directly in the created folder on the drive. Subsequently, you can update the list of favourites displayed in SIMARIS project by clicking the  icon.
- To integrate the saved favourites in a project to be edited, select the desired favourite with the left mouse button, drag it to the desired position in the project tree by keeping the left mouse button pressed and place it there by releasing the left mouse button.
- If you want to transmit plants created using favourites to other project editors who don't have access to a possibly shared Favourites folder on a server (see above), you can copy the files from the Windows Explorer and send them by e-mail. The recipient can save the favourites files in his/her local Favourites folder and then integrate them into his/her projects.

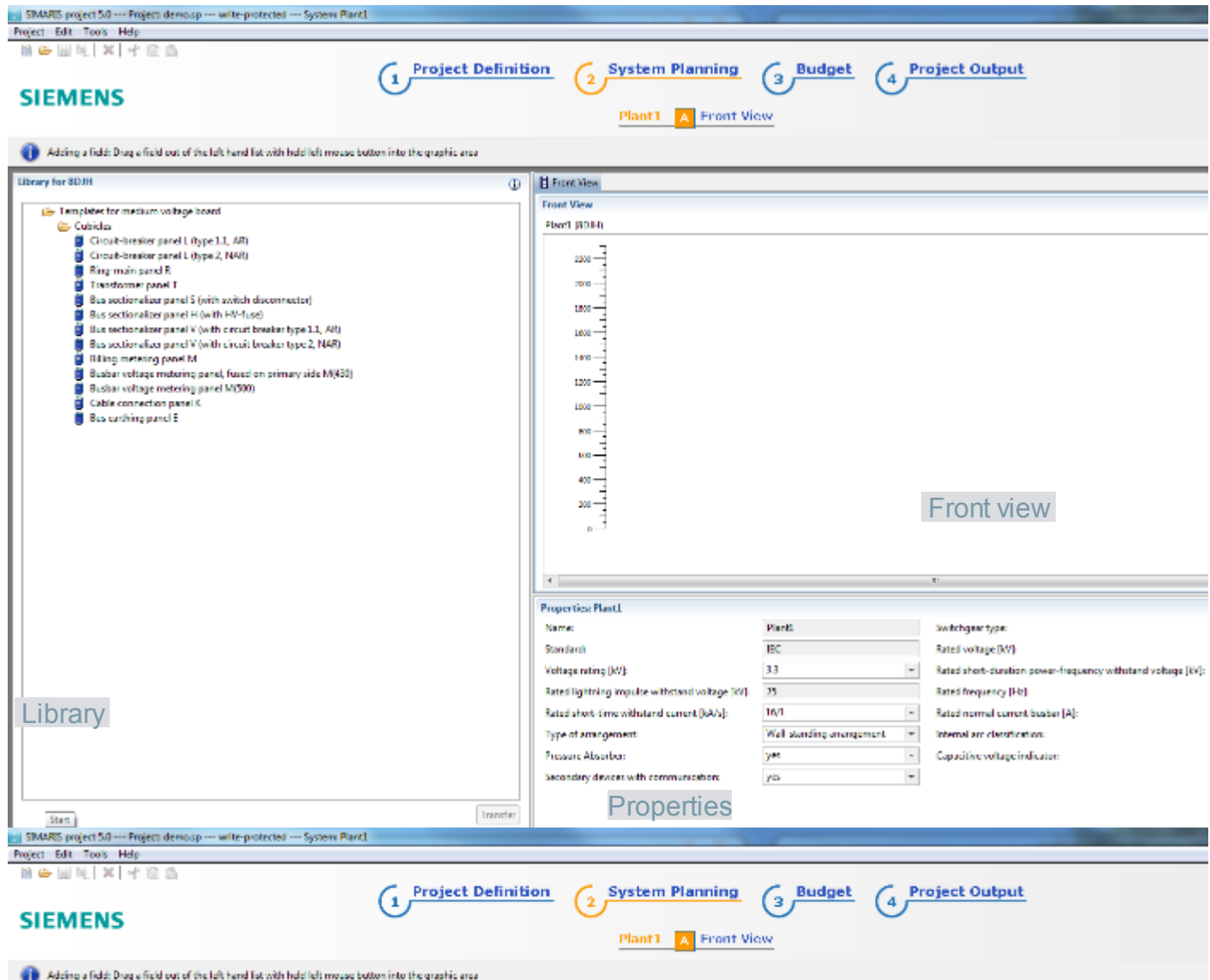
5 System Planning

5.1 User interface variants in system planning

5.1.1 Overview of the front view

The following is a definition of the terms used in the individual areas of the Front View user interface in System Planning.

This user interface is available for medium-voltage switchgear, low-voltage switchboards, distribution boards, and charging units for electric vehicles.



5.1.2 Overview of the device list

The following is a definition of the terms used in the individual areas of the Device list user interface in System Planning.

This user interface is available for low-voltage switchboards and distribution boards.

SIEMENS

1

Projektdefinition

2

Anlagenplanung

3

Budget

4

Projektausgaben

NSHV

A

Verteilergeräteleiste

B

Frontansicht

Frontansicht automatisch erstellen: Klicken Sie in der Navigationsleiste oben auf "B Frontansicht"

Library

01_Einspeisungen

02_Kupplungen

03_Abginge

04_Blindleistungskompensation 7%

05_Einzelfelder

NSHV

| Menge | Platz | Menge | Platz | Einspeisung/Kupplung | Abzweig | Br... | H... | Typ |
|-------|-------|-------|-------|------------------------|---|-------|------|---------------------|
| 1 | 1 | 1 | 1 | ACB 1600A_3P_Einschub | Versorgung Etagenverteiler | | 1... | Leistungsschalter |
| 1 | 1 | 1 | 1 | | Sinocode(kommunikation)_sicherungslos | 600 | 200 | OPW |
| 2 | 2 | 2 | 2 | | Sinocode(kommunikation)_sicherungslos-I | 600 | 150 | OPW |
| 1 | 1 | 1 | 1 | | MCCB 160A_3P_Einschub | 600 | 200 | OPW |
| 2 | 2 | 2 | 2 | | MCCB 250A_3P_Einschub | 600 | 300 | OPW |
| 1 | 1 | 1 | 1 | | 100kVr_mit_Gruppenschalter | | 1... | Abzweig (Komp... |
| 1 | 1 | 1 | 1 | ACB 1600A_3P_Einsch... | | | 1... | Leistungsschalter |
| 1 | 1 | 1 | 1 | ACB 1600A_3P_Einsch... | | | 1... | Leistungsschalter |
| 1 | 1 | 1 | 1 | | 150kVr_mit_Gruppenschalter | | 1... | Abzweig (Komp... |
| 6 | 6 | 6 | 6 | | Lasttrennleiste_mit Sicherung_160A_3P_Messung | 600 | 50 | Lasttrennleiste ... |
| 2 | 2 | 2 | 2 | | Lasttrennleiste_mit Sicherung_250A_3P_Messung | 600 | 100 | Lasttrennleiste ... |
| 1 | 1 | 1 | 1 | | Lasttrennleiste_mit Sicherung_400A_3P_Messung | 600 | 200 | Lasttrennleiste ... |
| 5 | 5 | 5 | 5 | | 3xSicherungs_Lasttrennschalter_160A_Frontblende | 200 | 300 | OPW Blende |
| 5 | 5 | 5 | 5 | | Leitungsschutzschalter_B16A_1P_Frontblende | | | lationsein... |
| 12 | 12 | 12 | 12 | | Leitungsschutzschalter_B10A_3P_Frontblende | | | lationsein... |

Tigenschaften: NSHV

Name:

NSHV

Schutzart:

IP40

Anlagenausführung:

Standard

Benennungstrom Ie oben [A]:

1280

Lage PE HS:

unten

Störlichtbogen-Barriere:

ja

Anlagentiefe [mm]:

600

Übernehmen

Betriebsspannung Ue [V]:

AC 400V

Sanimalschienensystem:

LI-L3, PE, N

Kurzschlussstrom Ics oben [kA, Is]:

90

Sanimalschienenbehandlung:

keine

Feldhöhe [mm]:

2200

Stangenverschluss vorn:

ja

Umgebungstemperatur [°C]:

35

Anlagentyp:

Einfront

Hauptsanimalschienenlage:

hinten oben

N(PEN)-Auslegung:

voll (100%)

Störlichtbogenstufe:

ohne

Sockelhöhe [mm]:

100

Türverschluss vorn:

Schwenkhebel

Übersicht

5.1.3 Overview of the component list

The following is a definition of the terms used in the individual areas of the Component list user interface in System Planning.

This user interface is available for transformers, busbar trunking systems and single components.

In case of single components, the top left area displays a catalogue tree for device type selection. At bottom left you will find specific product features for selection depending on the device type in order to specify these components in detail.

SPMARTIS project --- Projekt: demo.sp --- System: Schienenverteiler Werkstatt

Projekt Bearbeiten Extras Hilfe

SIEMENS

1 Projektdefinition

2 Anlagenplanung

3 Budget

4 Projektausgaben

Schienenverteiler Werkstatt A Stückliste

Verlassen Sie die Anlagenplanung über die obere Navigationsleiste durch Auswahl von "Projektdefinition", "Budget" oder "Projektausgaben".
Menge verändern: Klicken Sie in die Spalte Menge und geben Sie die gewünschte Menge ein oder geben Sie die Menge unten bei Eigenschaften im Feld "Menge" ein.

Vorlagen - Baum

Schienensysteme

Vorlagen

Schienenstrang

Abgangskasten

beliebige Stücklistenposition

Library

Beschreibung

Schienenverteiler Werkstatt

#BD2C-3-1000_2 Schiene horizontal mit Abgangstellen pro Meter

#BD2C-3-1000_3 Vertikale Verlegung pro Meter

#BD2C-3-1000_4 Kabeleinspeisung pro Stück

#BD2C-3-1000_5 Mitteneinspeisung pro Stück

#BD2C-3-1000_6 Verteileranschlussstück pro Stück

#BD2C-3-1000_7 Richtungsänderung 90° pro Stück

#BD2C-3-1000_8 T-Kasten pro Stück

#BD2C-3-1000_9 K-Kasten pro Stück

#BD2C-3-1000.10 Brandschutz 590 mittlere Feuerwiderstandklasse pro Stück

#BD2C-3-1000.11 Brandschutz 5120 höhere Feuerwiderstandklasse pro Stück

#BD2C-3-1000.12 Schutzart IP54 hochkant pro Meter

#BD2C-3-1000.13 Schutzart IP54 flach pro Meter

#BD2C-3-1000.14 Schutzart IP54 vertikal pro Meter

BMP1203142 BD2-AK2X/CEE325533 ABGANGSKASTEN 32A / 1 X 3 POLIG S33 + 1 X 5 POLIG CE

#BD2C-3-400_2 Schiene horizontal mit Abgangstellen pro Meter

#BD2C-3-400_3 Vertikale Verlegung pro Meter

#BD2C-3-400_4 Kabeleinspeisung pro Stück

#BD2C-3-400_5 Mitteneinspeisung pro Stück

#BD2C-3-400_6 Verteileranschlussstück pro Stück

#BD2C-3-400_7 Richtungsänderung 90° pro Stück

#BD2C-3-400_8 Flexible Richtungsänderung pro Stück

#BD2C-3-400_9 T-Kasten pro Stück

#BD2C-3-400.10 K-Kasten pro Stück

#BD2C-3-400.11 Brandschutz 590 mittlere Feuerwiderstandklasse pro Stück

#BD2C-3-400.12 Brandschutz 5120 höhere Feuerwiderstandklasse pro Stück

#BD2C-3-400.13 Schutzart IP54 hochkant pro Meter

#BD2C-3-400.14 Schutzart IP54 flach pro Meter

#BD2C-3-400.15 Schutzart IP54 vertikal pro Meter

BMP1203142 BD2-AK2X/CEE325533 ABGANGSKASTEN 32A / 1 X 3 POLIG S33 + 1 X 5 POLIG CE

Länge / Menge

90

2

1

0

0

4

0

0

0

1

0

0

0

0

5

25

0

0

2

0

0

0

0

0

0

0

0

6

Component list

Eigenschaften: #BD2C-3-400_2

Menge: 25

Einheit: Meter

Meterpreis: 3a

Mehrpriest: Nein

Schutzart: IP52, IP54, IP55

Bemessungsstrom [A]: 400

Leiterkonfiguration: 3L-1N-1PE

Bestellnummer: #BD2C-3-400_2

Beschreibung: Schiene horizontal mit Abg

Typ (Gerät/Teil): Eingefügtes Gerät







Übernehmen

Properties


31

5.2 Messages

5.2.1 Hints

| | | |
|---|-------------|--|
| Below the navigation bar, comments are displayed. Here you are informed on what you can/should do next. | | |
|  | Information |  Editing of marked plant: Double-click onto the required plant or click "System Planning" in the workflow bar |
|  | Warning |  Define in properties all yellow marked boxes |
|  | Conflict |  Please remove all red marked conflicts! Use the tab 'Front View' in 'System Planning'. |


5.2.2 Input request


When a component, e.g. in the Component list, is marked by the yellow icon,  this means that specification characteristics are missing. To enter these, fill in the input fields in the Properties area (below) also marked by the yellow icon.






5.3 Handling of system planning

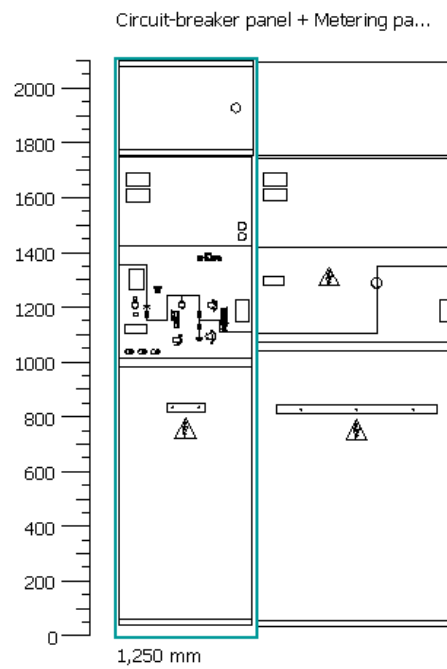
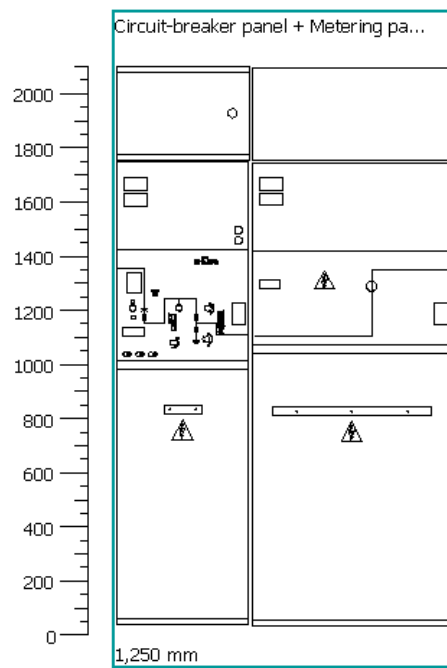
5.3.1 Handling of medium-voltage switchgear

The Front View user interface is your only workflow area for creating new medium-voltage switchgear. In the headline of the library you find the icon





 to call up further information about the panels you can select in the library.

More information about medium-voltage switchgear, e.g. about cubicles (panels), protective devices and capacitive voltage detecting systems and about the typification of circuit-breakers in medium-voltage switchgear you can call up via the info-button above the library, or can be found in the corresponding sections of the Technical Manual which can be accessed using the [Help menu](#)  → "Technical manual".

| | |
|---------------------------------------|---|
| Add new cubicle | <ul style="list-style-type: none"> Select the desired cubicle in the library and drag it to the graphic area keeping the left mouse button pressed, or double-click the desired cubicle library (left) to transfer it to the graphic area automatically. |
| Move cubicle | <ul style="list-style-type: none"> Select the section in the graphic area and move it to the desired position keeping the left mouse button pressed. |
| Cut, copy, delete cubicle | <ul style="list-style-type: none"> Right-click the desired section in the graphic area or select several cubicles and then select "Cut", "Copy" or "Delete" from the context menu or select one or several cubicle(s) and then select the corresponding icon ,  or  or in the menu bar in the edit menu → "Cut", "Copy" or "Delete" on the menu bar. |
| Paste cubicle again after cut or copy | <ul style="list-style-type: none"> Right-click the desired position in the graphic area and select "Paste" from the context menu or, on the icon bar, select the icon  or in the menu bar in the edit menu → "Paste" on the menu bar. |
| Change cubicle name | <ul style="list-style-type: none"> Select the cubicle and overwrite the corresponding input field in the "Properties" area. |
| Change technical data of a cubicle | <ul style="list-style-type: none"> Select the cubicle, click in the desired input field in the "Properties" area  and select the desired data item from the drop-down menu. If current and voltage transformers are selected, more data fields will be displayed for specification depending on your selection, where appropriate data must be selected, unless they are set with default values. |
| Particularities of combined cubicles | <ul style="list-style-type: none"> Combined cubicles can only be cut, copied or deleted completely. To change the arrangement within a combined cubicle, the entire cubicle must be selected and adjusted accordingly in the data field "Arrangement of fields" (= cubicle arrangement) in the Properties section below the graphic area. <div style="border: 1px solid #ccc; padding: 10px; margin: 10px 0;"> <p>Arrangement fields:</p> <div style="border: 1px solid #ccc; padding: 5px;"> <div style="border-bottom: 1px solid #ccc; padding-bottom: 5px;">L + M</div> <div style="border-bottom: 1px solid #ccc; padding-bottom: 5px;">L + M</div> <div style="border-bottom: 1px solid #ccc; padding-bottom: 5px;">M + L</div> </div> </div> <ul style="list-style-type: none"> The properties of the combined cubicle will be shown in the "Properties" section below the graphic area, as soon as the combined cubicle is selected as a whole. The properties of the cubicle will be shown in the "Properties" below the graphic area, as soon as a part of a cubicle is selected. |



5.3.2 Handling of transformers

| | |
|--|---|
| The "Component list" user interface is your only workflow area for selecting one or more transformer(s). | |
| Add new transformer | <ul style="list-style-type: none"> ■ Select the desired transformer in the library and drag it to the component list keeping the left mouse button pressed, ■ or double-click the desired transformer in the library to add it to the component list automatically. ■ You can add several transformers. |
| Move transformer | <ul style="list-style-type: none"> ■ Select the transformer in the component list and move it to the desired position keeping the left mouse button pressed. |
| Cut, copy, delete transformer | <ul style="list-style-type: none"> ■ Right-click the desired transformer in the parts list or select several transformers and then select "Cut", "Copy" or "Delete" from the context menu ■ or select one or several transformer(s) and then select the corresponding icon  ,  or  or in the menu bar in the edit menu→ "Cut", "Copy" or "Delete" on the menu bar. |
| Paste transformer again after cut or copy | <ul style="list-style-type: none"> ■ Right-click the desired position in the project tree and select "Paste" from the context menu ■ or select the icon  or in the menu bar in the edit menu→ "Paste" on the menu bar. |
| Enter quantity | <ul style="list-style-type: none"> ■ If you need several identical transformers, you can enter the desired Quantity in the "Properties" section (bottom) in the corresponding input box, or overw rite the respective field in the "Quantity" column in the list of plants. |

5.3.3 Handling of low-voltage switchboards

5.3.3.1 Device list


Select the required devices in the "Device list" user interface.




Attention: Always select a feed-in circuit-breaker first! It will be listed accordingly in the "Infeed/Coupling" column.

More devices selected as infeed or coupling will automatically be listed in the "Infeed/Coupling" column.

More devices selected as feeders and reactive power compensation units will automatically be listed in the "Feeder" column.

This is necessary so that different busbar sections within a plant can be properly detected and processed during automatic configuration.

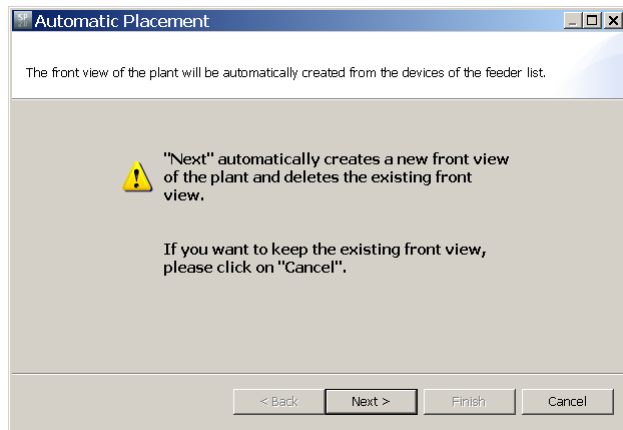
More information about low-voltage switchboards, e.g. cubicles, forms of internal separation, connection options through busbars and cables, electronic overcurrent tripping units (ETU) for 3WL circuit-breakers and the arc resistance levels you can call up via the info-button above the library, or can be found in the corresponding chapters of the Technical Manual for the SIMARIS planning tools which can be accessed using the [Help menu](#)  → "Technical manual".


| | | | | | | | | | | | | | | | | | | | |
|--|--|---|---|---|-------------------------------------|--|---|---|---|---|-------------------------------------|--|---|---|---|---|-----------------------------------|--|--|
| Add new device | <ul style="list-style-type: none">■ Please always select a feed-in circuit-breaker first!■ Select the device from the library and drag it to the appropriate column - "Infeed/Coupling" or "Feeder" in the Device list - keeping the left mouse button pressed,■ or double-click the desired device in the library (left) to transfer it to the device list automatically.■ The quantity to be selected for feed-in switches and couplings can only be "1" (couplings simultaneously serve as busbar disconnectors) | | | | | | | | | | | | | | | | | | |
| Move device within the list | <ul style="list-style-type: none">■ Select the device in the device list and move it to the desired position keeping the left mouse button pressed. | | | | | | | | | | | | | | | | | | |
| Cut, copy, delete device | <ul style="list-style-type: none">■ Right-click the desired device in the device list or select several devices and then select "Cut", "Copy" or "Delete" from the context menu■ or select one or several device(s) and then select the corresponding icon  ,  or  or in the menu bar in the edit menu→ "Cut", "Copy" or "Delete" on the menu bar. | | | | | | | | | | | | | | | | | | |
| Paste device again after cut or copy | <ul style="list-style-type: none">■ Right-click the desired position in the device list and select "Paste" from the context menu■ or select the icon  or in the menu bar in the edit menu→ "Paste" on the menu bar. | | | | | | | | | | | | | | | | | | |
| Enter quantity | <ul style="list-style-type: none">■ Select a device and enter the desired quantity in the corresponding input field in the "Properties" area■ or click the desired line in the "Quantity" column and change the quantity there. | | | | | | | | | | | | | | | | | | |
| Change device name | <ul style="list-style-type: none">■ Select the desired device and overwrite the name in the "Name" input field in the "Properties" area. | | | | | | | | | | | | | | | | | | |
| <p>The yellow marking in the device list indicates devices which have not yet been placed.</p> <table><tr><td>2</td><td>0</td><td></td><td></td><td>Inlineswitchfusedisconnector_250...</td><td></td></tr><tr><td>1</td><td>0</td><td></td><td></td><td>Inlineswitchfusedisconnector_400...</td><td></td></tr><tr><td>5</td><td>5</td><td></td><td></td><td>3x_Fuse_Switch disconnector_16...</td><td></td></tr></table> | 2 | 0 |  |  | Inlineswitchfusedisconnector_250... | | 1 | 0 |  |  | Inlineswitchfusedisconnector_400... | | 5 | 5 |  |  | 3x_Fuse_Switch disconnector_16... | | <ul style="list-style-type: none">■ If there are yellow markings in the device list, this means that these devices have not yet been placed in distribution boards.■ To place these devices plus matching assembly kits in distribution boards, please trigger automatic creation of the front view by clicking  Front View and continue as described in the following section Automatic creation of the front view .■ If you don't want to overwrite the front view you created and perhaps post-edited, because you would have to repeat post-editing, you can also directly place devices graphically in the "Front View", as described in section Editing the front view . |
| 2 | 0 |  |  | Inlineswitchfusedisconnector_250... | | | | | | | | | | | | | | | |
| 1 | 0 |  |  | Inlineswitchfusedisconnector_400... | | | | | | | | | | | | | | | |
| 5 | 5 |  |  | 3x_Fuse_Switch disconnector_16... | | | | | | | | | | | | | | | |

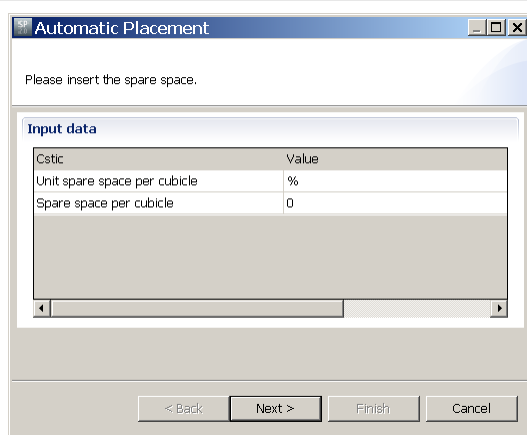
5.3.3.2 Automatic creation of the front view

B Front View

To create the front view , select the devices and then click



- If a front view is already available, the following window is displayed.
- Clicking "Next" overwrites the **existing front view** and an automatic placement creates a new front view of the distribution board.
- Clicking "Cancel" displays the **existing front view**.
- Using the [Extras menu](#)  → settings, you can deliberately switch off automatic configuration in the "Wizard" by disabling it for the respective plant (untick the checkbox).




- To create the front view , the spare space has to be specified. The default **spare space** can be adapted in the following window which opens automatically, as soon as the already existing front view is dismissed by clicking the "Next" button and a new front view is created. To this end, click the corresponding input field and change the numeric value there. This input is not applied as default but has to be entered upon every new creation of the front view .

5.3.3.3 Editing the front view

This program step allows to post-edit the front view which was automatically generated from the device list, or to directly create a plant graphically.

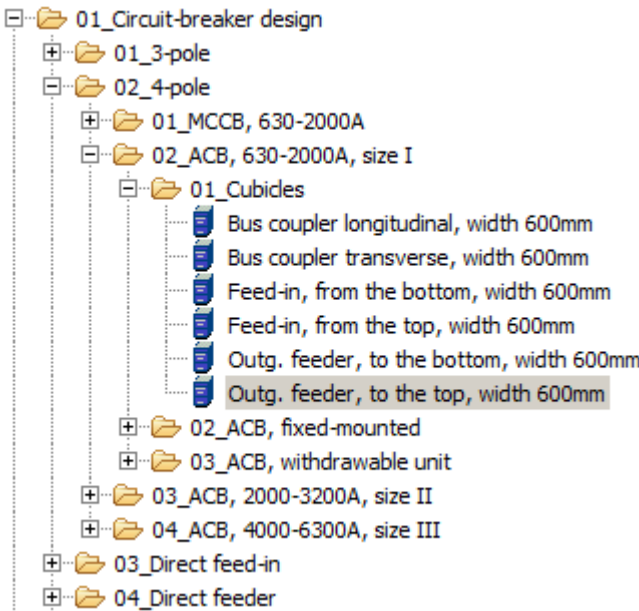
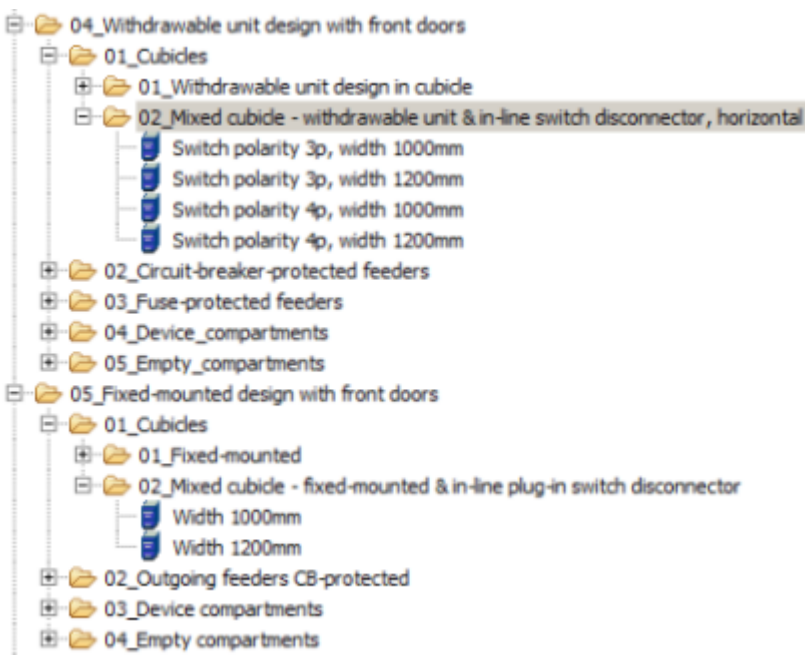
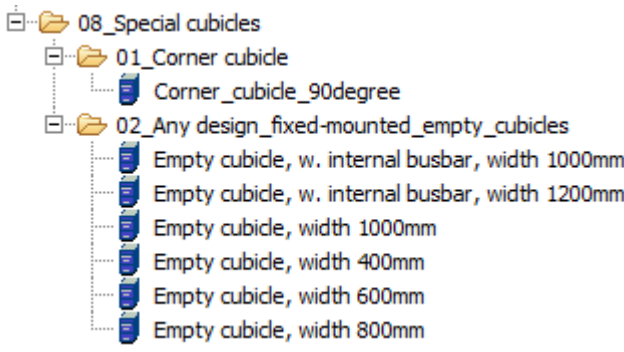
In the library, you can find all device and cubicle variants that can also be selected using the device list and the automatic configuration of the front view .






Additionally, there are more cubicles in the library for the SIMACON S8 low-voltage switchboard, which can only be selected in the "Front view" program step, meaning they cannot be created in the "Device list" step. Please note, that these special cubicles must always be placed in the graphic view after a repeated automatic configuration, since automatic configuration only considers devices from the device list and any other manually placed cubicles will be deleted during the automatic configuration process.







More information about low-voltage systems, e.g. cubicles, forms of internal separation, connection options through busbars and cables, electronic overcurrent tripping units (ETU) for 3WL circuit-breakers and the arc resistance levels you can call up via the info-button above the library, or can be found in the corresponding sections of the Technical Manual for the SIMARIS planning tools which can be accessed using the [Help menu](#)  → "Technical manual".


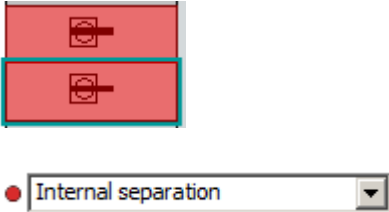
- [-] 01_Circuit-breaker design
 - [+] 01_3-pole
 - [+] 02_4-pole
 - [+] 03_Direct feed-in
 - [+] 04_Direct_feeder
- [-] 02_In-line switch disconnectors with fuses, horizontal
 - [+] 01_Cubicles
 - [+] 02_In-line switch disconnector with fuses, plug-in, 3p, with metering
 - [+] 03_In-line switch disconnector with fuses, plug-in, 3p, without metering
 - [+] 04_Device compartment equipped with small feeders
 - [+] 05_Empty device compartments
 - [+] 06_Blanking covers for empty compartments
- [-] 03_In-line fuse switch disconnector, vertical
 - [+] 01_Cubicles
 - [+] 02_In-line fuse switch disconnector, 3p, with metering
 - [+] 03_In-line fuse switch disconnector, 3p, without metering
 - [+] 04_Blanking cover for empty compartments
- [-] 04_Withdrawable unit design with front doors
 - [+] 01_Cubicles
 - [+] 02_Circuit-breaker-protected feeders
 - [+] 03_Fuse-protected feeders
 - [+] 04_Device compartments
 - [+] 05_Empty compartments
- [-] 05_Fixed-mounted design with front doors
 - [+] 01_Cubicles
 - [+] 02_Outgoing_feeders_CB-protected
 - [+] 03_Device compartments
 - [+] 04_Empty compartments
- [-] 06_Fixed-mounted design with front covers
 - [+] 01_Cubicles
 - [+] 02_Circuit-breaker-protected feeders
 - [+] 03_Fuse-protected feeders
 - [+] 04_Device compartments
 - [+] 05_Empty compartments
- [-] 07_Reactive power compensation 7%
 - [+] 01_Cubicles
 - [+] 02_Built-in components without group switch
 - [+] 03_Built-in components with group switch
- [-] 08_Special cubicles
 - [+] 01_Corner cubicle
 - [+] 02_Any design_fixed-mounted_empty_cubicles

- To add a cubicle to the graphic, please select the required cubicle from the library and drag it to a suitable position in the graphic area, keeping the left mouse button pressed. Another option (which will only work if you didn't select a section in the graphic area) is to double-click the desired cubicle in the library, which will then be added to the graphic area automatically.
- To add devices with matching assembly kits to the graphic, please select the required device from the library and drag it to a suitable position in the graphic area, keeping the left mouse button pressed.
- Matching cubicles and devices can always be found in one category, so that you can easily find matching devices for the selected cubicle.
- The devices selected in graphic area are assigned as infeed/coupling or outgoing feeder in the device list, too. This means that these devices will also be considered during automatic reconfiguration, but this automatic reconfiguration may result in a different device arrangement than the graphic placement you performed.

| | |
|---|---|
|  <ul style="list-style-type: none"> 01_Circuit-breaker design <ul style="list-style-type: none"> 01_3-pole 02_4-pole <ul style="list-style-type: none"> 01_MCCB, 630-2000A 02_ACB, 630-2000A, size I <ul style="list-style-type: none"> 01_Cubicles <ul style="list-style-type: none"> Bus coupler longitudinal, width 600mm Bus coupler transverse, width 600mm Feed-in, from the bottom, width 600mm Feed-in, from the top, width 600mm Outg. feeder, to the bottom, width 600mm Outg. feeder, to the top, width 600mm 02_ACB, fixed-mounted 03_ACB, withdrawable unit 03_ACB, 2000-3200A, size II 04_ACB, 4000-6300A, size III 03_Direct feed-in 04_Direct feeder | <ul style="list-style-type: none"> As already mentioned in the introduction to this chapter, you can add more cubicles to the configured plant in the graphic design in the "Front View" step which you cannot create by device selection in the "Device List" step. In the "01_circuit-breaker design" category, a transverse bus coupler cubicle is additionally available for selection for the SIVACON S8 low-voltage switchboard, provided that you selected "Rear top and bottom" for the creation of the main busbar position before. Please note, that these special cubicles must always be placed in the graphic view again after a repeated automatic configuration, since automatic configuration only considers devices from the device list and any other manually placed cubicles will be deleted during the automatic configuration process. |
|  <ul style="list-style-type: none"> 04_Withdrawable unit design with front doors <ul style="list-style-type: none"> 01_Cubicles <ul style="list-style-type: none"> 01_Withdrawable unit design in cubicle 02_Mixed cubicle - withdrawable unit & in-line switch disconnecter, horizontal <ul style="list-style-type: none"> Switch polarity 3p, width 1000mm Switch polarity 3p, width 1200mm Switch polarity 4p, width 1000mm Switch polarity 4p, width 1200mm 02_Circuit-breaker-protected feeders 03_Fuse-protected feeders 04_Device compartments 05_Empty compartments 05_Fixed-mounted design with front doors <ul style="list-style-type: none"> 01_Cubicles <ul style="list-style-type: none"> 01_Fixed-mounted 02_Mixed cubicle - fixed-mounted & in-line plug-in switch disconnecter <ul style="list-style-type: none"> Width 1000mm Width 1200mm 02_Outgoing feeders CB-protected 03_Device compartments 04_Empty compartments | <ul style="list-style-type: none"> Additional mixed cubicles "Withdrawable unit & in-line switch disconnecter horizontal" are available for selection for the SIVACON S8 low-voltage switchboard in the category "04_Withdrawable unit design with front doors". In category "05_Fixed mounted design with front doors", these are the additional mixed cubicles "Fixed mounting & in-line, plug-in design". Please note, that these special cubicles must always be placed in the graphic view again after a repeated automatic configuration, since automatic configuration only considers devices from the device list and any other manually placed cubicles will be deleted during the automatic configuration process. |
|  <ul style="list-style-type: none"> 08_Special cubicles <ul style="list-style-type: none"> 01_Corner cubicle <ul style="list-style-type: none"> Corner_cubicle_90degree 02_Any design_fixed-mounted_empty_cubicles <ul style="list-style-type: none"> Empty cubicle, w. internal busbar, width 1000mm Empty cubicle, w. internal busbar, width 1200mm Empty cubicle, width 1000mm Empty cubicle, width 400mm Empty cubicle, width 600mm Empty cubicle, width 800mm | <ul style="list-style-type: none"> Additionally, corner cubicles, empty cubicles, and empty cubicles with busbar are available for selection for the SIVACON S8 low-voltage switchboard in the category "08_special cubicles". Additionally, corner cubicles, cubicles with mounting plate, and cubicles with a 19 inch mounting frame are available for selection for SIVACON S4 low-voltage switchboards (only contained in technology packages for certain countries) in the category "07_special cubicles". Additionally, corner cubicles and empty cubicles are available for selection for SIVACON 8PT low-voltage switchboard in the category "08_special cubicles". Please note that you must manually place these cubicles in the graphic again during repeated automatic configuration, i.e. automatic placement, since automatic configuration only factors in the devices from the device list and any other manually placed cubicles are deleted, when automatic configuration is carried out. |

| | |
|---|--|
| In order to further edit an automatically created or post-edited front view , this includes grafically created front view s, you can do the follow ing: | |
| Move cubicle | <ul style="list-style-type: none"> ■ Select a section in the graphic area and move it to the desired position keeping the left mouse button pressed. |
| Cut, copy, delete cubicle | <ul style="list-style-type: none"> ■ Select the desired cubicle(s) in the graphic area and then select "Cut", "Copy" or "Delete" from the context menu (right mouse button) ■ or one of the corresponding icons  ,  or  or in the menu bar in the edit menu→ "Cut", "Copy" or "Delete" in the Edit menu on the menu bar. ■ If placed devices are deleted or cut together w ith the cubicle, these devices are still contained in the device list and marked in yellow there, because they are (now) not placed in a cubicle. If these devices shall be completely deleted from the configured plant, this must be done in the "Device List" program step; if they are to be kept, they must be re-placed using automatic configuration or by "Pasting" the cubicle at a different position. |
| Paste cubicle again after cut or copy | <ul style="list-style-type: none"> ■ Right-click the desired position in the graphic and select "Paste" from the context menu ■ or, in the icon bar, select the icon  or in the menu bar in the edit menu→ "Paste" in the Edit menu on the menu bar. |
| Move w ithdraw able unit | <ul style="list-style-type: none"> ■ Select a w ithdraw able unit in the graphic and move it to the desired position keeping the left mouse button pressed. |
| Cut, copy, delete w ithdraw able unit | <ul style="list-style-type: none"> ■ Select the desired w ithdraw able unit(s) in the graphic area and then select "Cut", "Copy" or "Delete" from the context menu (right mouse button) ■ or one of the corresponding icons  ,  or  or in the menu bar in the edit menu→ "Cut", "Copy" or "Delete" in the Edit menu on the menu bar. ■ If placed devices are deleted or cut together w ith the w ithdraw able unit, these devices are still contained in the device list and marked in yellow there, because they are (now) not placed in a cubicle. If these devices shall be completely deleted from the configured plant, this must be done in the "Device List" program step; if they are to be kept, they must be re-placed using automatic configuration or by "Pasting" the w ithdraw able unit into a different cubicle. |
| Paste w ithdraw able unit again after cut or copy | <ul style="list-style-type: none"> ■ Right-click the desired position in the graphic and select "Paste" from the context menu ■ or, in the icon bar, select the icon  or in the menu bar in the edit menu→ "Paste". |
| Change / enter cubicle name | <ul style="list-style-type: none"> ■ Select the desired cubicle and enter the desired name in the "Name" input field in the "Properties" area or change an existing name there. |

| | |
|---|--|
| <p>Change technical data of a cubicle</p> | <ul style="list-style-type: none"> ■ Select the cubicle and in the "Properties" area in the input field <ul style="list-style-type: none"> - Connection type, click  and select the cable or busbar trunking system from the drop-down list - Door stop, click  and select left or right from the drop-down list - Internal separation, click  in the desired input field in the "Properties" area and select the desired data item from the drop-down menu. - Cubicle width [mm], click  and select the desired width from the drop-down list. <p>Depending on the type of cubicle you may have more options for change.</p> <p>Attention: changes of the cubicle width must be re-entered after an automatic placement, since this automatic process resets all cubicle width values to the default values.</p> |
| <p>The coloured markings on cubicles, assembly kits, or devices indicate the following:</p> | |
|  | <ul style="list-style-type: none"> ■ Coupling cubicles placed as the first or last cubicle of a plant are marked in red. They must be moved to a different position within the plant. |
|  | <ul style="list-style-type: none"> ■ Overcrowded cubicles are marked in red, the surplus assembly kit is also shown in red, and owing to the overlapping it looks darker. ■ In such a case, too, you will be informed about the existing conflict in "Properties" section below the graphic area. |






| | |
|---|---|
| <p>Blindleistungskomp... 0 mm frei</p>  | <ul style="list-style-type: none"> ■ Assembly kits are marked in yellow , as long as not all of the required features have been selected for specification. To select these features, select the respective assembly kit and select the missing data in the "Properties" section shown below the graphic area. ■ Data fields which still require selecting data are marked with an orange rhombus. |
|  | <ul style="list-style-type: none"> ■ Assembly kits are marked in red if there is a conflict. ■ If you select the respective assembly kit, an information about the conflict is given below the graphic area in "Properties". However, this conflict cannot always be solved by changing the data of the assembly kit, other cubicle data may have to be adjusted, too. To do so, select the cubicle, in which the assembly kit is located, check the data in "Properties" below the graphic area and change them if required. |
| | <ul style="list-style-type: none"> ■ Similarly, there are also more markings and messages for devices and assembly kits, e.g. if placed devices overlap in assembly kits for modular devices or if these kits are overcrowded. ■ In such cases, you must trace the notes which are displayed either in the assembly kit properties or in the cubicle properties and thus eliminate the existing conflicts. |

5.3.4 Handling of a busbar trunking system

The "Component list" user interface is your only workflow area for selecting a busbar trunking system.









More information about busbar trunking systems, e.g. a systems overview and configuration rules, can be found in the corresponding chapters of the Technical Manual which can be accessed using the [Help menu](#) → "Technical manual".

| | |
|--|---|
| <div><div><div>DescriptionLength / Quantity</div><div><div>Plant4</div><div>#LDC2625_1 Busbar trunking without tap-off points (for feeder) per meter100</div><div>#LDC2625_2 Riser per meter30</div><div>#LDC2625_3 Tap-off point per piece0</div><div>#LDC2625_4 Supplement for cable feeder0</div><div>#LDC2625_5 Flanged end per piece0</div><div>#LDC2625_6 90° elbow/knee per piece2</div><div>#LDC2625_7 T-unit per piece0</div><div>#LDC2625_8 Firebarrier class S120 per piece0</div></div></div></div> | <ul style="list-style-type: none">Here you can see the component list of a busbar trunking system and the individual components as an example. |
| <div><div><div>DescriptionLength / Quantity</div><div><div>Plant3</div><div>#CD-L-1254_2 Busbar trunking with 2 tap-off points per meter100</div><div>#CD-L-1254_3 Cable feeder per piece3</div><div>BPS0320-OCF25 CD-L-1254-R FLEXIBLE UNIT 25A IP55 L3,L2,L1,N,PE(HOUSING)0</div></div></div></div> | <ul style="list-style-type: none">To change the length of a busbar or the component quantities, click the appropriate line in the "Length / Quantity" column and change the length / quantity by overwriting it. |
| <div><div><div>DescriptionLength / Quantity</div><div><div>Plant4</div><div>#LDC2625_1 Busbar trunking without tap-off points (for feeder) per meter100</div><div>#LDC2625_2 Riser per meter30</div><div>#LDC2625_3 Tap-off point per piece0</div><div>#LDC2625_4 Supplement for cable feeder0</div><div>#LDC2625_5 Flanged end per piece0</div><div>#LDC2625_6 90° elbow/knee per piece2</div><div>#LDC2625_7 T-unit per piece0</div><div>#LDC2625_8 Firebarrier class S120 per piece0</div></div></div></div> | <ul style="list-style-type: none">It is also possible, for example, to enter the ratio of vertical installation with regard to the total length "busbar horizontal" by selecting the corresponding line in the "Length / Quantity" column.Correspondingly, the quantity and length of the remaining components can be adapted in the component list according to the project requirements. |
| <div><div><div><div><div>Plant1</div><div>#LDC7625_1 Section 1100</div><div>#LDC7625_2 Riser per meter0</div><div>#LDC7625_3 Tap-off point per piece0</div><div>#LDC7625_4 Flanged end per piece0</div><div>#LDC7625_5 90° elbow/knee per piece0</div><div>#LDC7625_6 T-unit per piece0</div><div>#LDC7625_7 Firebarrier class S120 per piece0</div><div>Promat fire protection [m]100</div></div></div><div><div>Properties: Promat fire protection [m]</div><div><div>Quantity:100Unit:Meter</div><div>Board thickness [mm]:20Number of casing sides:3</div><div>Outer width per side [mm]:320Weight per m² [kg]:25.5</div><div>Price per m²:82.8Currency:Euro</div></div></div></div></div> | <ul style="list-style-type: none">If "Functional endurance" was selected for the busbar line, the corresponding length of promoting will be automatically shown in the Promat information of the component list. Changing the length of the busbar line also adjusts the length value for the promoting.But a shorter promoting length may be chosen than the length of the busbar line if promoting is not required for the entire busbar line. As soon as you have adjusted the length of promoting manually, an automatic adjustment of the length of promoting is no longer possible in case of a length change of the busbar line.If promoting is selected in the component list, promat properties will be displayed below the component list. The data fields for the "Price" and the "Weight per m²" of the promoting will be displayed, too. Though they are set with default values, they can be adjusted according to requirements.Likewise, you can decide whether promoting is required for 2, 3, or 4 sides in the data field "Number of casing sides" according to your project requirements. <p>More information about the topic of functional endurance and its consideration in SIMARIS project can be found in the corresponding chapter of the Technical Manual for the SIMARIS planning tools which can be accessed using the Help menu → "Technical manual".</p> |

| | |
|--|---|
| Add tap-off unit | <ul style="list-style-type: none"> ■ Select a tap-off unit in the library and drag it to the busbar in the parts list keeping the left mouse button pressed. Then, select the missing technical data of the tap-off unit (input fields marked in yellow) in the "Properties" area. |
| Move tap-off unit | <ul style="list-style-type: none"> ■ Select the tap-off unit in the component list and move it to the desired position keeping the left mouse button pressed. |
| Cut, copy, delete tap-off unit | <ul style="list-style-type: none"> ■ Select the desired tap-off unit(s) in the component list and then select "Cut", "Copy" or "Delete" from the context menu (right mouse button) ■ or one of the corresponding icons  ,  or  or in the menu bar in the edit menu→ "Cut", "Copy" or "Delete" on the menu bar. |
| Paste tap-off unit again after cut or copy | <ul style="list-style-type: none"> ■ Right-click the desired position in the systems tree of the component list and select "Paste" from the context menu ■ or select the desired position and then select the icon  in the icon bar. |
| Add another busbar line | <ul style="list-style-type: none"> ■ Select a busbar line in the library and drag it to the systems tree of the component list keeping the left mouse button pressed. |
| Delete busbar line | <ul style="list-style-type: none"> ■ Select one or several busbar line(s) from the component list and select "Delete" from the context menu (right mouse button) ■ or select the icon  or in the menu bar in the edit menu→ "Delete". |
| Complete a user-configurable component list item | <ul style="list-style-type: none"> ■ Select "User-configurable component list item" in the library and drag it to the systems tree of the component list keeping the left mouse button pressed. You then have to enter an order number and further data for specification in the "Properties" area. |

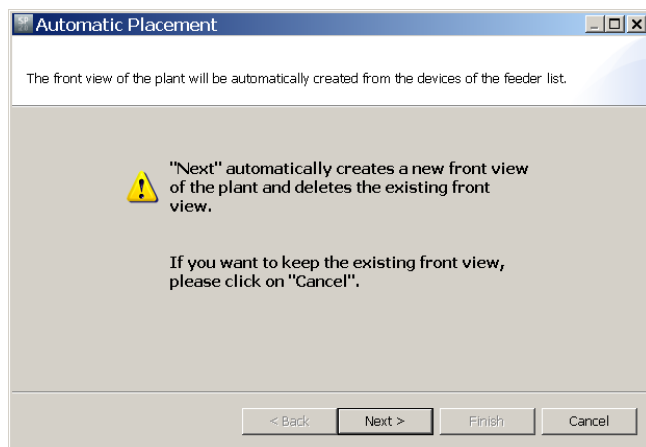
5.3.5 Handling of a distribution board

5.3.5.1 Device list

| Select the required devices in the "Device list" user interface. | | | | | | | |
|---|--|---|-------------|--------|---|---|---|
| Add device | <ul style="list-style-type: none">Select the device in the library and drag it to the device list keeping the left mouse button pressed. | | | | | | |
| Move device within the list | <ul style="list-style-type: none">Select the device in the device list and move it to the desired position keeping the left mouse button pressed. | | | | | | |
| Cut, copy, delete device | <ul style="list-style-type: none">Right-click the desired device in the device list or select several devices and then select "Cut", "Copy" or "Delete" from the context menuor select one or several device(s) and then select the corresponding icon  ,  or  or in the menu bar in the edit menu→ "Cut", "Copy" or "Delete" | | | | | | |
| Paste device again after cut or copy | <ul style="list-style-type: none">Right-click the desired position in the device list and select "Paste" from the context menuor select the icon  or in the menu bar in the edit menu→ "Paste" on the menu bar. | | | | | | |
| Add user-selectable device | <ul style="list-style-type: none">Select "User-selectable device" in the library and add it to the device list. Enter an order number and the weight of the device in the "Properties" area. | | | | | | |
| Enter quantity | <ul style="list-style-type: none">The desired Quantity of a selected device can be entered <table><tr><th>Qua...</th><th>Plac. Count</th><th>Feeder</th></tr><tr><td>1</td><td>0</td><td> Molded Case Circuit Breakers, 160A, 3-pole, 40kA, System protection, ETU 20, 2 HS (1NO+1NC)</td></tr></table> | Qua... | Plac. Count | Feeder | 1 | 0 |  Molded Case Circuit Breakers, 160A, 3-pole, 40kA, System protection, ETU 20, 2 HS (1NO+1NC) |
| Qua... | Plac. Count | Feeder | | | | | |
| 1 | 0 |  Molded Case Circuit Breakers, 160A, 3-pole, 40kA, System protection, ETU 20, 2 HS (1NO+1NC) | | | | | |
| Change device name | <ul style="list-style-type: none">Select the desired device and change the name in the "Name" input field in the "Properties" area. | | | | | | |
| Automatic adaptation of the terminal connection area | <ul style="list-style-type: none">When the quantity of a device is changed, the terminal connection area is adapted automatically according to the default set during the plant creation (project definition). | | | | | | |
| Manual expansion of the terminal connection area | <ul style="list-style-type: none">Select "Terminal connection area" in the library and drag it to the device list. | | | | | | |
| The yellow marking in the device list indicates devices which have not yet been placed. | <ul style="list-style-type: none">If there are yellow markings in the device list, this means that these devices have not yet been placed in distribution boards.To place these devices plus matching mounting kits in distribution boards, please trigger automatic creation of the front view by clicking  and continue as described in the following section Automatic creation of the Front View ^[48].If you don't want to overwrite the front view you created and perhaps post-edited, because you would have to repeat post-editing, you can also directly place devices graphically in the "Front View", as described in section Editing the front view ^[48]. | | | | | | |

5.3.5.2 Automatic creation of the front view

For automatic creation of the front view , click

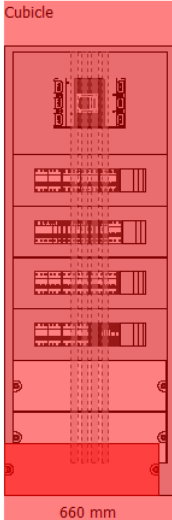
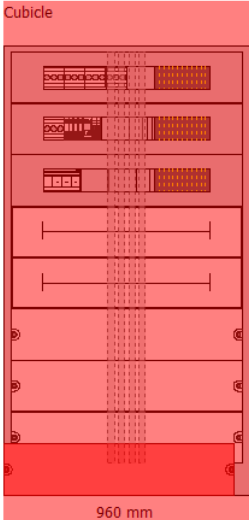
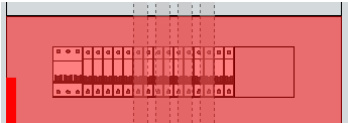


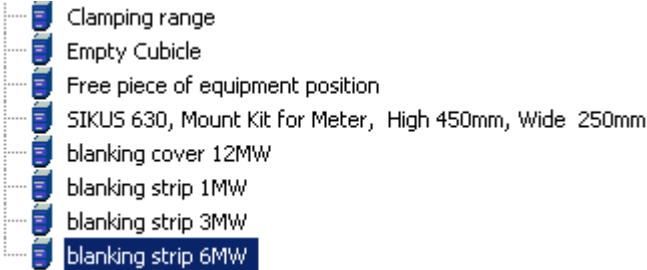
- If a front view is already available, the following window is displayed
- Clicking "Next" overwrites the **existing front view** and an automatic placement creates a new front view of the distribution board.
- The default spare space as well as the space reserve for the terminal area are considered according to the specifications made, when the distribution board was added in the project definition.
- Clicking "Cancel" **displays the existing front view**
- Using the [Extras menu](#) → settings, you can deliberately switch off automatic configuration in the "Wizard" by disabling it for the respective plant (untick the checkbox).

5.3.5.3 Editing the front view

To edit the front view, the following options are provided:






| | |
|---------------------------------------|---|
| Move cubicle | <ul style="list-style-type: none"> ■ Select the section in the graphic area and move it to the desired position keeping the left mouse button pressed. |
| Cut, copy, delete cubicle | <ul style="list-style-type: none"> ■ Select the desired cubicle(s) in the graphic area and then select "Cut", "Copy" or "Delete" from the context menu (right mouse button) ■ or one of the corresponding icons , or or in the menu bar in the edit menu → "Cut", "Copy" or "Delete" on the menu bar. ■ If placed devices are deleted or cut together with the cubicle, these devices are still contained in the device list and marked in yellow there, because they are (now) not placed in a cubicle. If these devices shall be completely deleted from the configured plant, this must be done in the "Device List" program step; if they are to be kept, they must be re-placed using automatic configuration or by "Pasting" the cubicle at a different position. |
| Paste section again after cut or copy | <ul style="list-style-type: none"> ■ Right-click the desired position in the graphic area and select "Paste" from the context menu ■ or select the icon or in the menu bar in the edit menu → "Paste" in the Edit menu on the menu bar. |
| Add new device | <ul style="list-style-type: none"> ■ Select a device in the library and drag it to the graphic area keeping the left mouse button pressed. |
| Move device | <ul style="list-style-type: none"> ■ Select one or several device(s) in the graphic area and move it/them to the desired position keeping the left mouse button pressed. |
| Cut, copy, delete device | <ul style="list-style-type: none"> ■ Select the desired device(s) in the graphic area and select "Cut", "Copy" or "Delete" from the context menu (right mouse button) ■ or one of the corresponding icons , or or in the menu bar in the edit menu → "Cut", "Copy" or "Delete" on the menu bar. ■ If a placed device is deleted or cut, it is still contained in the device list and marked in yellow there, because it is not placed in a cubicle. If this device shall be completely deleted from the configured plant, this must be done in the "Device List" program step; if it is to be kept, it must be re-placed using automatic configuration or by "Pasting" it into a different cubicle. |
| Paste device again after cut or copy | <ul style="list-style-type: none"> ■ Right-click the desired position in the graphic and select "Paste" from the context menu ■ or select the icon or in the menu bar in the edit menu → "Paste" on the menu bar. |

| | |
|--------------------------------|--|
| Change / enter cubicle name | <ul style="list-style-type: none"> Select the desired section in the graphic area and enter the desired name in the "Name" input field in the "Properties" area: <div> <div>Properties: Cubicle</div> <div> <div>Name:</div> <div>Weight factor:</div> <div>1.2</div> <div>Total weight [kg]:</div> <div>53.718</div> </div> </div> |
| Change weight factor | <ul style="list-style-type: none"> The weights of the distribution board and devices are added up automatically. The weights of cables, terminals, etc. are taken into account proportionally via the weight factor. To change the weight factor, select the respective cubicle and change the weight factor in the corresponding input field in the "Properties" area (see graphic above). |
| Select distribution board size | <ul style="list-style-type: none"> DIN system: When the front view is generated, the distribution board size is determined according to the selected devices. Any other distribution board added later, this also includes empty distribution boards, is selected in the same size. If you want to select a different distribution board size, you can specify the distribution board size in the plant's "Properties" area by selecting a different value in the "Distribution board size (max. MW)" input field. The plant properties are displayed if none of the cubicles is marked. To this end, left-click into the white space outside the cubicles. As soon as you have defined the distribution board size by selecting an MW figure, the width and the height of the distribution board will also be adjusted accordingly in the plant's "Properties" area. NF system: When the front view is generated, the distribution board size is determined according to the selected devices. In case of an ALPHA 630 NF distribution board, the pre-selection is always a distribution board with a busbar compartment at the side and busbars at the top. However, if you want to create the distribution board without busbars or with a different installation of the busbars (e.g. busbar installation at the rear wall), you must make the appropriate selection in the data fields "Busbar", "Installation type" and "Width inside", which may affect the width of the distribution board. Any other distribution board added later, this also includes empty distribution boards, is selected in the same height. If you want to select a different height using Select distribution board height, you can specify the distribution board height in the "Properties" section for the plant by selecting a different value in the input field "Height outside". The plant properties are displayed if none of the cubicles is selected. To this end, left-click into the white space outside the cubicles. If a size adjustment of distribution boards in height or width means that previously placed assembly kits/devices can no longer be placed, the entire distribution board or assembly kit is marked in red, and supernumerous assembly kits or devices at the bottom left in the distribution board are also shown in red. They can manually be moved to other empty spaces in other distribution boards / assembly kits or they can be deleted. <div> <div> <div>Cubicle</div>  <div>660 mm</div> </div> <div> <div>Cubicle</div>  <div>960 mm</div> </div> <div>  </div> </div> |

| | |
|--|--|
| <p>Add additional cubicles (empty distribution boards)</p> | <ul style="list-style-type: none"> ■ DIN system: Select an "empty distribution board" in the library and drag it to the graphic area. An empty distribution board of the same size as the existing ones will be added. But you can select a different width for this distribution board, by selecting this distribution board in the graphic area and choosing a different width in the distribution board properties displayed below . ■ NF system: Select an "empty distribution board" in the library and drag it to the graphic area. An empty distribution board of the same size as the existing ones will be added. But in case of an ALPHA 630 NF distribution board, this will be a distribution board without a busbar compartment at the side. You can choose a different width and busbars as well by making the corresponding selections in the fields "Busbars", "Width inside" and "Installation type". |
| <p>Add blanking strip, any devices, terminal area, blanking cover and mounting kits for meter manually</p> | <ul style="list-style-type: none"> ■ Select the desired element in the library and drag it to the graphic area keeping the left mouse button pressed.  |

5.3.6 Handling of charging units for electric vehicles

To select charging units for electric vehicles, you will only work in the Front View user interface.

| | |
|---|--|
| Add new charging unit | <ul style="list-style-type: none"> ■ Select the desired charging unit in the library (on the left) and drag it to the graphic area keeping the left mouse button pressed |
| Move charging unit | <ul style="list-style-type: none"> ■ Select the desired charging unit in the graphic area and drag it to the desired position keeping the left mouse button pressed |
| Cut, copy, delete charging unit | <ul style="list-style-type: none"> ■ In the graphic area, right-click the desired charging unit, or select several charging units, and select "Cut", "Copy" or "Delete" in the context menu. ■ Or, select one or more charging units and select one of the desired icons from the icon bar ,  or  or in the menu bar in the edit menu→ "Cut", "Copy" or "Delete". |
| Paste charging unit again after cut or copy | <ul style="list-style-type: none"> ■ Right-click the desired position in the graphic area and select "Paste" from the context menu ■ or, select the icon on the icon bar  or in the menu bar in the edit menu→ "Paste". |
| Change name of charging unit | <ul style="list-style-type: none"> ■ Select the charging unit in the graphic area and overw rite the corresponding input field in the "Properties" area. |
| Change technical data of a charging unit | <ul style="list-style-type: none"> ■ Select the charging unit and click in the desired input field in the "Properties" area  and select the desired data item from the drop-down menu. |

6.1 Budget inquiry

www.siemens.com/simaris/contact.

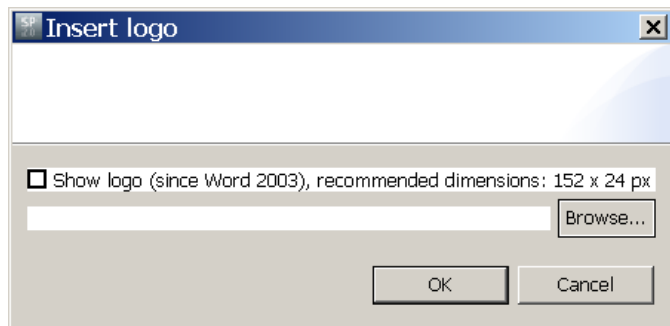
7.1 Output types and options


| Project Tree | Product Type | Product | Output |
|--------------|-------------------|-------------|-------------------------------------|
| Project | | | |
| Plant1 | GEAFOL trans... | Transfo... | <input checked="" type="checkbox"/> |
| Plant2 | SIVACON S8 | Low Vol... | <input checked="" type="checkbox"/> |
| Plant3 | CD-L | Busbar ... | <input checked="" type="checkbox"/> |
| Plant4 | LD | Busbar ... | <input checked="" type="checkbox"/> |
| Plant5 | BD2 | Busbar ... | <input checked="" type="checkbox"/> |
| Plant6 | Distribution b... | Distribu... | <input type="checkbox"/> |

If you tick the top checkbox, all plants will be selected, if you remove your checkmark from the top checkbox, all checkmarks will be removed from the plants.

- ☒ Select All
- ☐ Deselect All



An alternative way how to select or deselect all plants is to open the context menu with the right mouse button and make the respective selection.

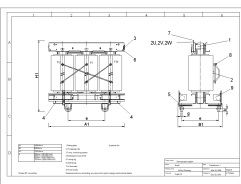


You can **insert your own logo** into the complete document by clicking  at the top right. Then, select the desired logo using "Browse...".

Start output



- To start the output, select  **Complete Document according to selection** and click  "Start Output". The complete document is output in a modifiable .rtf format and automatically opens your installed word processing program. The thus created file can then be saved; this can also be done in the WORD format (.doc) which considerably decreases the file volume.
- If many plants have been selected for the output, the data output might take several minutes depending on the processing power of your computer.

[illegible]

- The complete output of the plants comprises a cover sheet,
 - a general description of the systems used in the project,
 - technical data on the configured plants, for low-voltage switchboards and distribution boards also including a heating estimation,
 - a cover sheet for each plant on the created views,
 - a front view of the plants (only for medium-voltage switchgear, low-voltage switchboards and distribution boards)
 - a circuit diagram (single-line) (only for medium-voltage switchgear and low-voltage switchboards).
 - and a budget overview including, if applicable, prices, additions and reductions as calculated in step "3 Budget"→ "Summary".
- Furthermore, the complete output comprises a disclaimer in which statements
 - on disclaimers of liability
 - for cost estimates
 - on the project transfer from SIMARIS design
 - on the front views created
 - on the circuit diagram (single-line) are made.
- Finally, this output provides a list of relevant standards for the plants and devices configurable with SIMARIS project.

Output of plant views

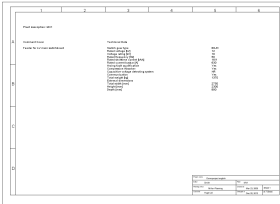
You can also initiate the output of available plant views, cover sheet, front view, and single line diagram separately. The views can be output individually or simultaneously in one document. Documents are created in DXF format and are at first displayed in a DXF viewer. Files generated in this way can then be saved. Files are saved from the DXF viewer, either using "Save as" (see icon on the icon bar at the top left), as DXF or DWG files, or they can be saved in the following variants using the File menu:


- Save copy
- Create PDF...
- Convert drawing (Dwg)...

This means, drawings can be saved in the DXF, DWG, or PDF format. In addition, there is the option (in the file menu) to choose whether individual, selected, or all drawings shall be converted/saved.

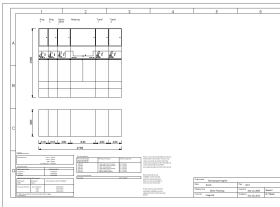
For each selected plant, the following output options can be selected and thus be integrated in the output.


Output cover sheet



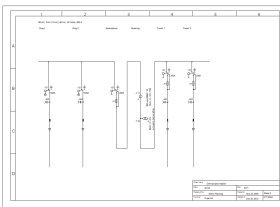
- Select ☒ **Cover sheet per plant** and click  "Start Output". One sheet each is output containing the technical data and comments (only for medium-voltage switchgear, transformer, low-voltage switchboard, and distribution board).

Output front view



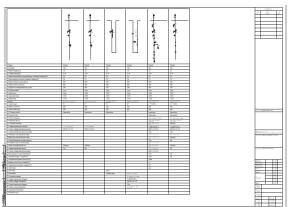
- Select ☒ **Front View per Plant Compressed** and click  "Start output". A front view is output (only for medium-voltage switchgear, transformer, low-voltage switchboard, and distribution board).


Output circuit diagram (single-line)



- Select ☒ **Single Line** and click  "Start Output". A single-line diagram is output (only for the medium-voltage or low-voltage switchgear).

System drawing (can only be selected in the "China" country setting).



- Select and click  "Start Output". A system drawing is output (only for the medium-voltage or low-voltage switchgear).

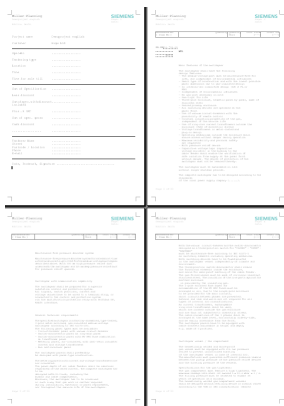
Create specification automatically


Another output variant is the creation of specifications for configured plants. To do so, first select the plants for which a specification is to be generated in the project tree, then select the language in which the specification is to be output. You can choose between German and English.

Create specification in GAEB 90, d81 format

- Select ☒ GAEB 90 file according to selection and click  "Start Output". A window is opened where you can select the desired storage location using the "Browse..." button. In another window, you can enter the file name. After clicking "Save", you are taken back to the first window where you can complete the process by clicking "Finish". Files in German language are automatically assigned the file extension <file name>.d81 and files in English <file name>.x81.
- This output variant is not available in the "China" country setting.

Create specification in .rtf format




- Select ☒ RTF document according to selection and click  "Start output". A window opens in which you can select the desired storage location via the "Browse..." button and in another window the file name. Then, click "Save" to return to the first window in which you can complete the process by clicking the "Finish" button. Files in German and English are automatically saved with filename.rtf.
- In the .rtf document that is generated, you can add a Table of Contents by selecting the following text on the second page of the document and pressing F9, or by selecting "Update Fields" from the context menu using the right mouse button.
To update the table of contents press 'F9' or mouse right click
- This output variant is not available in the "China" country setting.

Select both output options simultaneously

- In this case, location and name of the files to be created are queried one after another similar to the procedure described above.

Tender specification in .rtf format for China.

- Select ☒ RTF document according to selection and click  "Start Output". An .rtf document is created which can be used for invitations to tender in China in combination with the system drawing.

7.2 Data transfer

Data transfer for budgeting

To determine a budget for the plants which you configured, please get in touch with your Consultant Promoter at Siemens. Send him your saved project (filename.sp) by e-mail. You can find the contact person responsible for you at the following Internet address:

www.siemens.com/simaris/contact

Data transfer from SIMARIS design

To be able to establish the budget and space requirements for a power distribution system dimensioned using SIMARIS design, you can import a corresponding export file from SIMARIS design (file_name.sx) into SIMARIS project. However, this is only possible with synchronized versions of SIMARIS design and SIMARIS project, for example SIMARIS design 7 corresponds to SIMARIS project 3 and SIMARIS design 8 to SIMARIS project 4.

To import a transfer file into SIMARIS project, select "Import from SIMARIS design" in the start wizard during program start, or when the program is already executed, use the Project menu → Import from SIMARIS design and then select a SIMARIS design file with the file extension .sx by clicking the "Browse" button. Clicking "Next" imports the SIMARIS design file and "Finish" generates the corresponding views and lists. Depending on the project size, this process may take some time.

On the basis of the data imported from SIMARIS design the required plants are generated directly, listed in the project tree and displayed as component list or front view in the program step "System Planning".

- "Components not recognized" will be listed accordingly in the project tree in step "1 Project Definition" under "B Create Project Structure".
- Components which cannot be built into the distribution boards are listed under "Single components".
- Established protective devices in outgoing feeders located on busbars are transferred to matching tap-off units and thus listed in the component list for the established busbar trunking systems.

Then, the individual, automatically generated plants can be post-processed as required.

If the program should find during data import that the present national setting in SIMARIS project is not compatible with the country setting in the transfer file from SIMARIS design, a hint will be given and the option provided to adjust the country setting accordingly, before the import is started.

If the transfer file is imported in SIMARIS project with a different country setting than the one set in the transfer file, products and systems are implemented matching to the country selected in SIMARIS project - as far as possible. Devices which cannot be built into plants, because no matching plants are available in this country setting, are listed in the project tree under "Single components".

Attention: In SIMARIS project, it is **NOT** possible to change the national setting again at a later stage of project editing!

If you also want to integrate the network diagram created in SIMARIS design in the documentation prepared in SIMARIS project, you can export the network diagram from SIMARIS design as .dxf file and then import it to the DXF viewer in SIMARIS project, by dragging the saved file from the Explorer to the open DXF viewer.

8 Technical Background of the Systems

The following is a short list of the Siemens systems stored in the current SIMARIS project version.

Corresponding short information is also available in the program in the program step

1 Project Definition

under

A Project Data

There you can move the mouse pointer over the list of the various systems on an abstract image of a building. Depending on the system you are selecting, this is marked in the building and a brief description is displayed.

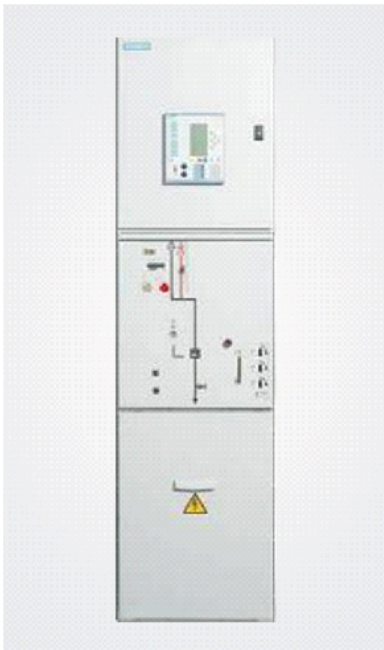
If you need further information, click the respective system in the list below the building. This will automatically lead you to the corresponding Siemens Internet pages with the most recent information on this system.

8.1 Medium-voltage switchgear

The gas- and air-insulated, type-tested switchgear for primary and secondary distribution levels in the medium-voltage network require little space in the switchgear room and are manufactured as hermetically sealed pressure system in accordance with IEC 62271-200. They are thus absolutely independent of external influences.

Since not all countries can be equipped with the same systems, matching systems are displayed for selection dependent on the country setting you have chosen.

NX PLUS C



- Gas-insulated for primary distribution level
 - Up to 24 kV / up to 31.5 kA / up to 2500 A
 - Type-tested, metal-enclosed, metal-separated, SF6-insulated
 - Compact and powerful
 - Single and double busbar system
 - Can be installed and expanded without any gas work
 - Maintenance-free for lifetime
 - Hermetically welded containers, gas-tight for lifetime
 - Environmentally independent (dust, humidity, small animals)

8DJH and 8DJH compact



- Gas-insulated for secondary distribution level
 - Up to 17.5 kV, 25 kA or 24 kV, 20 kA
 - Busbar 630 A, feeders up to 630 A
 - Factory-built, type-tested switchgear in accordance with IEC 62271-200
 - Metal-enclosed
 - Single busbar
 - Gas-insulated, tight for lifetime
 - Flexible due to side by side arrangement and block form
 - Individual panels and block versions
 - Fully flexible system concept – expandable to both sides with panels or blocks
 - Switching devices and protection schemes optimised for each switching task

| | |
|--|---|
| <p>8DJH36</p>  | <ul style="list-style-type: none"> ■ Gas-insulated for secondary distribution level <ul style="list-style-type: none"> - Up to 36 kV, 20 kA - Busbar 630 A, feeders up to 630 A - Factory-assembled, type-tested switchgear in accordance with IEC 62271-200 - Metal-enclosed - Single busbar - Gas-insulated - Hermetically sealed - Side by side arrangement and expandable as one panel or panel block |
| <p>SIMOSEC</p>  | <ul style="list-style-type: none"> ■ Air-insulated for the secondary distribution level <ul style="list-style-type: none"> - Up to 12 kV, 25 kA or 17.5 kV, 25 kA or 24 kV, 20 kA - Busbar up to 1,250 A, feeders up to 1,250 A - Factory-built, type-tested switchgear in accordance with IEC 62271-200 - Metal-enclosed - Single busbar - Air-insulated technology combined with gas-insulated switching function - Modular, compact design - Individual panels and combined panels available - Low-voltage cubicle can be integrated (in two of the available system heights) |
| <p>NXAir (only China)</p>  | <ul style="list-style-type: none"> ■ Air-insulated for the primary distribution level (only for use in China) <ul style="list-style-type: none"> - Max. 12 kV, 40 kA or 24 kV, 31.5 kA - Busbar up to 3150 A or 4000 A, branches up to 3150 A or 4000 A - Factory-built, type-tested switchgear in accordance with GB3906, DL404, IEC62271-200 - Metal-enclosed - Single busbar - Air-insulated design combined with vacuum switching function - Modular design - Single cubicles - Low-voltage cubicle can be integrated |
| <p>NXAIR</p>  | <ul style="list-style-type: none"> ■ air-insulated for primary distribution <ul style="list-style-type: none"> - up to 17.5 kV, 50 kA resp. 24 kV, 25 kA - busbar up to 3150 resp. 4000 A, feeders up to 3150 resp. 4000 A - factory-assembled, type-tested switchgear in accordance with IEC 62271-200 - Metal-enclosed - Single busbar - Air-insulated design combined with vacuum switching function - Modular design - Single cubicles - Low-voltage cubicle can be integrated |

8.2 Transformers

GEAFOL cast-resin transformers

Wherever distribution transformers must ensure utmost safety in areas frequented by people or which require protection of water, Siemens GEAFOL cast-resin transformers are the perfect solution.

Properties



- High operating safety
- Very good electrical, mechanical and thermal properties
- Hardly inflammable, self-extinguishing, no toxic gas emission in case of fire
- Vacuum casting of the high-voltage winding allows for a long lifetime because of freedom from partial discharges up to twice the rated voltage
- Particularly environmentally friendly and low-noise design, maintenance-free, no structural requirements with regard to oil pan

GEAFOL transformers 4GB

- Cast-resin transformers for highest requirements in terms of personal protection and fire load, suitable for operation in buildings without additional measures
- Variants provided in SIMARIS project:
 - Apparent power from 250 kVA to 2,500 kVA
 - Rated voltage (primary voltage) from 6 kV to 30 kV

GEAFOL basic transformers 4GT

- Cast-resin transformers for highest requirements in terms of personal protection and fire load, suitable for operation in buildings without additional measures, particularly economical
- Variants provided in SIMARIS project:
 - Apparent power from 630 kVA to 2,500 kVA
 - Rated voltage (primary voltage) from 10 kV to 30 kV

GEAFOL 60

- Cast-resin transformers for highest requirements in terms of personal protection and fire load, suitable for operation in buildings without additional measures
- Variants provided in SIMARIS project (only for the Brazil country package):
 - Apparent power from 75 kVA to 2,500 kVA
 - Rated voltage (primary voltage) from 11.4 kV to 13.8 kV

Oil transformers

On the last transformation stage from the power station to the consumer, distribution transformers provide the required energy for systems and buildings. Therefore, they must not only operate reliably and economically but also silently. Siemens oil distribution transformers meet these demands and are suitable for extreme climatic conditions and for installation in confined spaces – in distribution systems as well as in industrial plants.

Properties



- Excellent electrical, mechanical and thermal properties
- Use of biodegradable cooling liquids
- Customized distribution transformers for almost every application and site
- Low values of loss and noise emission due to the use of silicon-alloyed electrical sheets

Oil transformers hermetic 4HB

- For cost-effective operation without any specific requirements, maintenance-free
- Variants provided in SIMARIS project:
 - Apparent power from 50 kVA to 2500 kVA
 - Rated voltage (primary voltage) from 10 kV to 20 kV

Oil transformers expansion tank 4JB

- For cost-effective operation without any specific requirements, higher thermal load
- Variants provided in SIMARIS project:
 - Apparent power from 50 kVA to 2500 kVA
 - Rated voltage (primary voltage) from 10 kV to 20 kV

8.3 Low-voltage switchboards

When planning with SIMARIS project, the **SIVACON S8** power distribution board, SIVACON S4 and SIVACON 8PT (only for China) Since not all countries can be equipped with the same systems, matching systems are displayed for selection dependent on the country setting you have chosen.

SIVACON S8



The SIVACON S8 low-voltage switchboards provide the optimum of plant safety thanks to power switchgear and controlgear (PSC) assemblies verified by type test. They ensure maximum personal safety owing to an arc fault proof door lock system. Devices can quickly be accessed for adjustments. The system includes a highly efficient ventilation system with maintenance benefits.

Properties

- Standards and regulations:
 - PSC power switchgear and controlgear assembly in accordance with IEC 60439-1, EN 60439-1
 - Protection against electric shock in accordance with DIN EN 50274
 - Testing under conditions of arcing due to an internal fault in accordance with IEC 61641
- Clearance and creepage distances:
 - Rated impulse withstand voltage (U_{imp}) 12 kV
 - Overvoltage category IV
 - Degree of pollution 3
- Rated insulation voltage U_i 1000 V, 50 / 60 Hz
- Rated operating voltage U_e up to 690 V
- Busbars 3-pole / 4-pole:
 - Main busbar at rear top
 - Rated currents I_n up to 7000 A
 - Rated peak withstand current I_{pk} up to 330 kA
 - Rated short-time withstand current I_{cw} up to 150 kA, 1 s
- Degree of protection in accordance with IEC 60529, EN 60529 up to IP 55
- Form of internal separation in accordance with IEC 60439-1, EN 60439-1, Para. 7.7 up to form 4

Available mounting techniques

- Circuit-breaker panel with SENTRON 3WL up to 6300 A or 3VL up to 1600 A
- Universal installation technology panel for motor and cable feeders up to 630 A in withdrawable unit design with combination options with fixed-mounted design (compartment door) and in-line design 3NJ6 (plug-in)
- Panel for frequency converter, CEP and changeover
- In-line design 3NJ6 (plug-in) for cable feeders up to 630 A in plug-in design
- Fixed-mounted panel (front panel) for cable feeders up to 630 A and modular installation devices
- In-line design 3NJ4 (fixed-mounted) for cable feeders up to 630 A
- Reactive power compensation up to 600 kvar

SIVACON S4



SIVACON S4 is a power switchgear and controlgear (PSC) assembly verified by type test, which is used in infrastructural supply in administrative and functional buildings, in the industry as well as in commercial buildings and public buildings like schools and hospitals. The concept of the SIVACON S4 low-voltage power distribution board is characterized by a high degree of personal and plant safety.

This plant is only available for the following country settings: Brazil, China, the Netherlands, Austria, Poland, Portugal, Spain.

Properties

- Standards and regulations:
 - power switchgear and controlgear (PSC) assembly in accordance with IEC 60439-1/2, EN 60439-1/2
 - Protection against electric shock in accordance with DIN EN 50274
 - Testing under conditions of arcing due to an internal fault in accordance with IEC 61641
- Clearance and creepage distances:
 - Rated impulse withstand voltage (U_{imp}) 12 kV
 - Overvoltage category IV
 - Degree of pollution 3
- Rated insulation voltage U_i 1000 V, 50 / 60 Hz
- Rated operating voltage U_e up to 690 V

- Busbars 3-pole / 4-pole:
Horizontal main busbars
Rated currents I_n max. 4000 A
Rated peak withstand current I_{pk} max. 220 kA
Rated short-time withstand current I_{CW} max. 100 kA, 1 s
- Degree of protection in accordance with IEC 60529, EN 60529 up to IP 55
- Form of internal separation in accordance with IEC 60439-1, EN 60439-1, Para. 7.7 up to form 4

Available mounting techniques

- The circuit-breaker panel with SENTRON 3WL up to 3200 A or 3VL up to 1600 A
- In-line design 3NJ6 (plug-in) for cable feeders up to 630 A in plug-in design
- Fixed-mounted panel (module doors or panel door/ front cover) for cable feeders up to 1600 A
- In-line design 3NJ4 (fixed-mounted) for cable feeders up to 630 A
- Fixed-mounted panel for modular installation devices with panel door / front cover
- Panels with mounting plate, 19'' guide frame

SIVACON 8PT



SIVACON 8PT low-voltage switchboards provide a standard solution for building installations and industrial design. The systems are built up from standardized modules which - thanks to their multitude of combination options - meet all requirements. Their high quality ensures a long service life and reliable plant operation.

This plant is only available in the "China" country setting.

Properties

- Standards and regulations:
PSC power switchgear and controlgear assembly in accordance with IEC 60439-1, EN 60439-1
Testing under conditions of arcing due to an internal fault in accordance with IEC 61641
- Clearance and creepage distances:
Rated impulse withstand voltage (U_{imp}) 8 kV
Overvoltage category III
Degree of pollution 3
- Rated insulation voltage U_i 1000 V, 50 / 60 Hz
- Rated operating voltage U_e up to 690 V
- Busbars 3-pole / 4-pole:
Horizontal main busbars
Rated currents I_n max. 7400 A
Rated peak withstand current I_{pk} max. 375 kA
Rated short-time withstand current I_{CW} max. 150 kA, 1 s or max. 120 kA, 3 s
- Degree of protection in accordance with IEC 60529, EN 60529 up to IP 54
- Form of internal separation in accordance with IEC 60439-1, EN 60439-1, Para. 7.7 up to form 4

Available mounting techniques

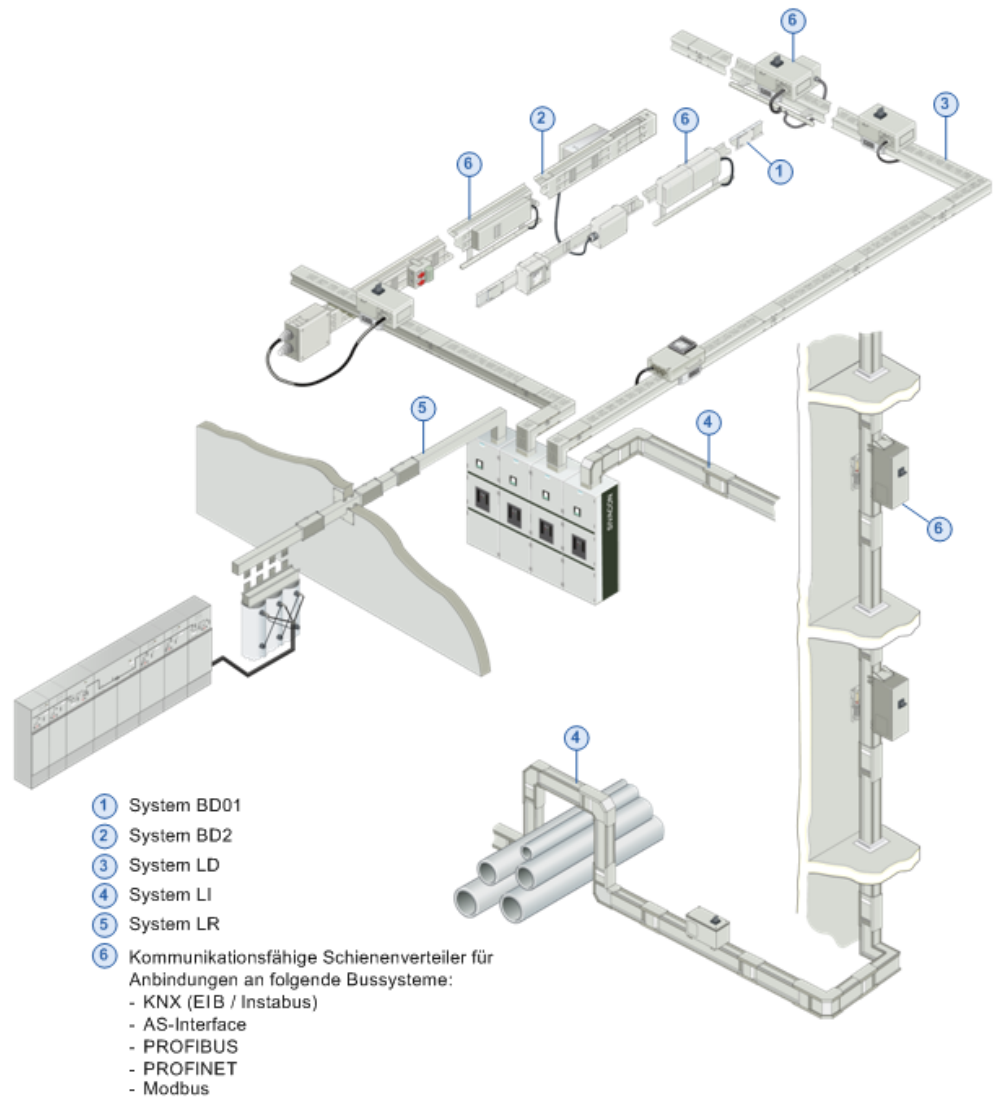
- Circuit-breaker panel with SENTRON 3WT up to 3200 A, 3 WL up to 6300 A or 3VL up to 1600 A
- Fixed-mounted panel (front covers or front doors) for cable feeders or motor feeders up to 630 A
- Fixed-mounted panel for modular installation devices with panel door / front cover
- Panels with mounting plate

8.4 Busbar systems

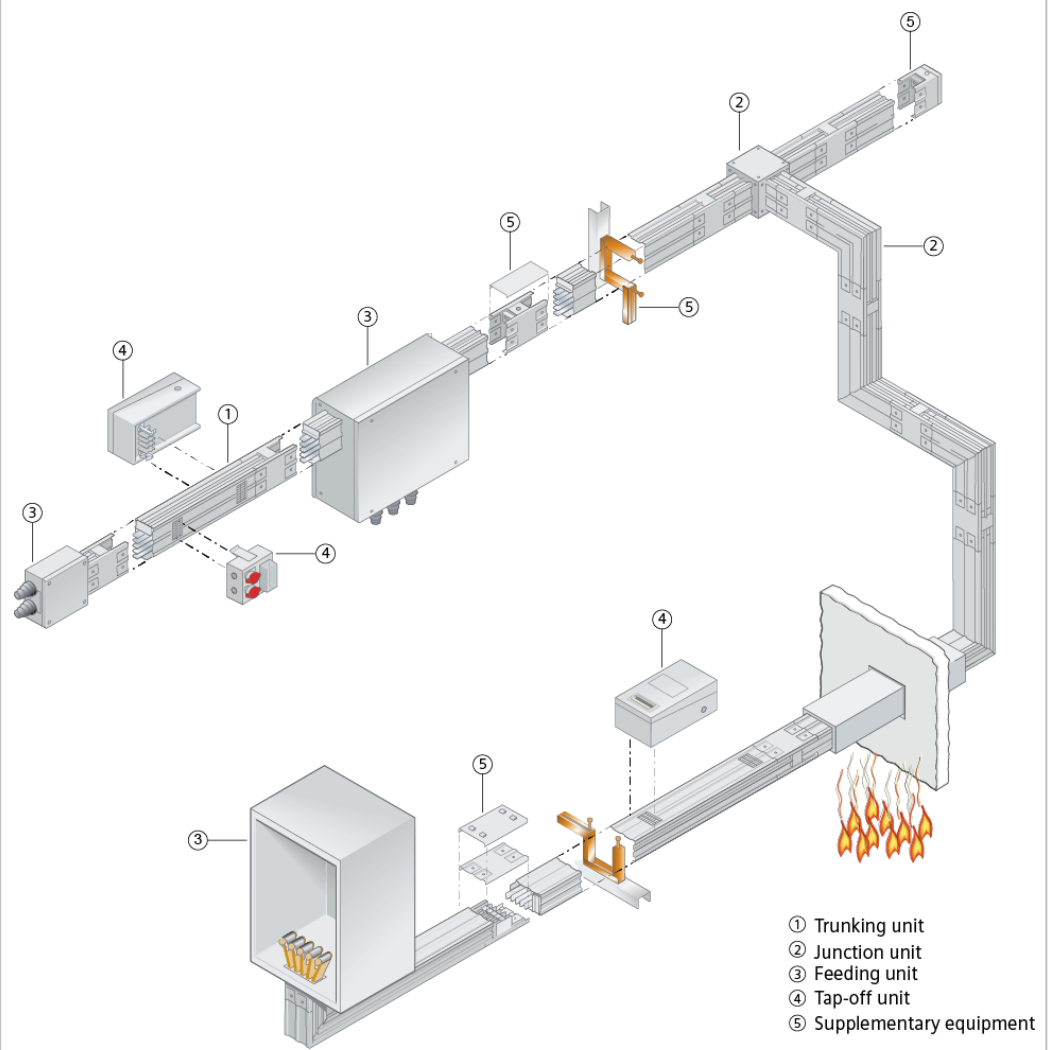
SIVACON 8PS busbar trunking systems can meet all load demands reliably and safely with a complete product range for use from 40 A up to 6,300 A. The high short-circuit rating and low fire load as well as type-tested connections to SIVACON switchboards and GEAFOL transformers ensure maximum safety. The systems require little space, allow for a clear network design and can be installed quickly and retrofitted or adapted without any problems. The system also comprises communication-capable components. Enhanced safety is ensured through the high short-circuit rating, the low fire load and also through type testing.

| | |
|--------------------|--|
| BD01 system | <ul style="list-style-type: none"> ■ To power electrical tools in workshops and for lighting systems ■ Use from 40 A up to 160 A ■ Rated operating voltage $U_{e\ max}$ 400 V ■ Degree of protection up to IP 55 |
| BD2 system | <ul style="list-style-type: none"> ■ For power transmission and distribution in the medium current range in office buildings and for transfer lines in all industrial sectors. ■ Use from 160 A up to 1250 A ■ Rated operating voltage $U_{e\ max}$ 690 V ■ Degree of protection up to IP 55 |
| LD system | <ul style="list-style-type: none"> ■ For the transmission and distribution of high currents in trade fair halls, the automotive industry, heavy industries and on ships. ■ Use from 1,100 A up to 5,000 A ■ Rated operating voltage $U_{e\ max}$ 1,000 V ■ Degree of protection IP 34/IP 54 |
| LI system | <ul style="list-style-type: none"> ■ For power transmission from the transformer to the main distribution board in the building. ■ Use from 800 A up to 6,300 A ■ Rated operating voltage $U_{e\ max}$ 690 V ■ Degree of protection up to IP 55/IP 66 |
| LX system | <ul style="list-style-type: none"> ■ For the transmission and distribution of high currents in large buildings, radio stations, data centres, and for chip and semiconductor production. ■ Use from 800 A up to 6,300 A ■ Rated operating voltage $U_{e\ max}$ 690 V ■ Degree of protection up to IP 55 |

The overview shows the busbar trunking systems available at Siemens.



The overview states the designations of the various components of a busbar trunking system taking the BD2 system as an example.



8.5 Distribution boards

In planning projects for countries in which distribution boards in accordance with DIN systems must be used, SIMARIS project relies on the following distribution board types from the ALPHA DIN distribution board range which are tested in accordance with DIN EN 60439-1/3, DIN VDE 0603-1 for use as power sub-distribution boards.

ALPHA AS DIN modular distribution boards
8GK14



Degree of protection IP 55, safety class 1, for use up to 1250 A

ALPHA 630 DIN floor-mounted distribution boards
8GK13



Degree of protection IP 55, safety class 1, for use up to 630 A


ALPHA 400 DIN wall-mounted distribution boards
8GK11




For surface-mounting, degree of protection IP 43, safety class 1, for use up to 400 A

| | |
|--|---|
| ALPHA 160 DIN wall-mounted distribution boards 8GK10 | For surface-mounting, degree of protection IP 43, safety class 2, for use up to 160 A |
| The components of the ALPHA distribution boards, i.e. the assembly kits and accessories, are provided in a platform structure. | |

In planning projects for countries in which distribution boards in accordance with NF systems must be used, SIMARIS project relies on the following distribution board types from the ALPHA NF distribution board range which are tested in accordance with CEI EN 60439-1, IEC 60439-1, CEI EN 61 439-2, IEC 61 439-2 (ALPHA AS and ALPHA 630), or in accordance with CEI 23-48, CEI 23-49, CEI 23-51 (ALPHA 125) for use as power sub-distribution boards.

| | |
|---|---|
| ALPHA AS NF floor-mounted distribution board 8GK24 | Degree of protection IP 55, safety class 1, for use up to 800 A |
|  | |

| | |
|--|---|
| ALPHA 630 NF Wall- and floor-mounted distribution board 8GK21, 8GK23 | Degree of protection IP 55, safety class 1, for use up to 630 A |
|  | |

ALPHA 125 NF Wall-mounted distribution board
8GK20



Degree of protection IP 43, safety class 1, for use up to 125 A

To configure low-current distribution projects in SIMARIS project, ALPHA SIMBOX small distribution board types are used as sub-distribution boards for low currents.

ALPHA SIMBOX XL small distribution boards
(DIN) 8GB



Flush-mounting, degree of protection IP 30, safety class 2, for use up to 63 A
These distribution boards are tested in accordance with DIN VDE 0603, DIN 43871, IEC 60439-3 for use in countries using DIN systems.

ALPHA SIMBOX T small distribution boards



Flush-and surface-mounting, degree of protection IP 40, safety class 2, for use up to 60 A
These distribution boards are tested for use in countries using IEC systems, on the basis of IEC 60670-1, IEC 60670-24.



ALPHA SIMBOX MB small distribution board



Flush mounting, degree of protection IP 30, safety class 2, for use up to 63 A.
These distribution boards are only available for use in China. Consequently, they are only listed for selection if the country setting "China" was chosen.

To configure the functionality required for the project to be edited, devices, such as modular installation devices, moulded-case circuit-breakers, switch disconnectors, in-line type fuse switch disconnectors, are available that match your choice of distribution board type and size.

8.6 Charging units of electric vehicles

| | |
|---|---|
| <p>Wall-mounted charging units as well as charging stations are available to design projects with charging units for electric vehicles. They are tested in accordance with IEC/EN 61851 and IEC/EN 62196.</p> | |
| <p>Wall box</p>  | <p>Wall-mounted charging unit for indoor and outdoor use, for private customers Charging connection: cable Charging current: 16 A to 32 A, degrees of protection IP 44/ IP 55</p> |
| <p>Charging station</p>  | <p>Stand-alone charging unit for indoor and outdoor use, for public customers Charging connection: socket Charging current: 40 A to 80 A, degree of protection IP 44</p> |

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