

# New Features of ELCAD/AUCOPLAN Version 2020

October 2019

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# **1 New Features of ELCAD/AUCOPLAN Version 2020**

With ELCAD/AUCOPLAN Version 2020, AUCOTEC continues the ongoing evolution of the past years.

With its new list dialog, ELCAD/AUCOPLAN 2020 features a modern control element in which your alphanumerical data is always represented in the same way. More effective means to edit data, such as a multiple selection, sort and search functions and the option to move columns, are automatically available in more than 100 places by means of the new list dialog.

You can now also edit cable master data in the Master Data tree, and cables are re-presented hierarchically in the Item Editor. This significantly facilitates editing the data.

In ELCAD/AUCOPLAN 2020, we have incorporated a total of more than 70 enhancements that have been derived from your requirements and requests. As in all our extensions, our focus has again been on the compatibility of your data and on further simplifications to the handling.

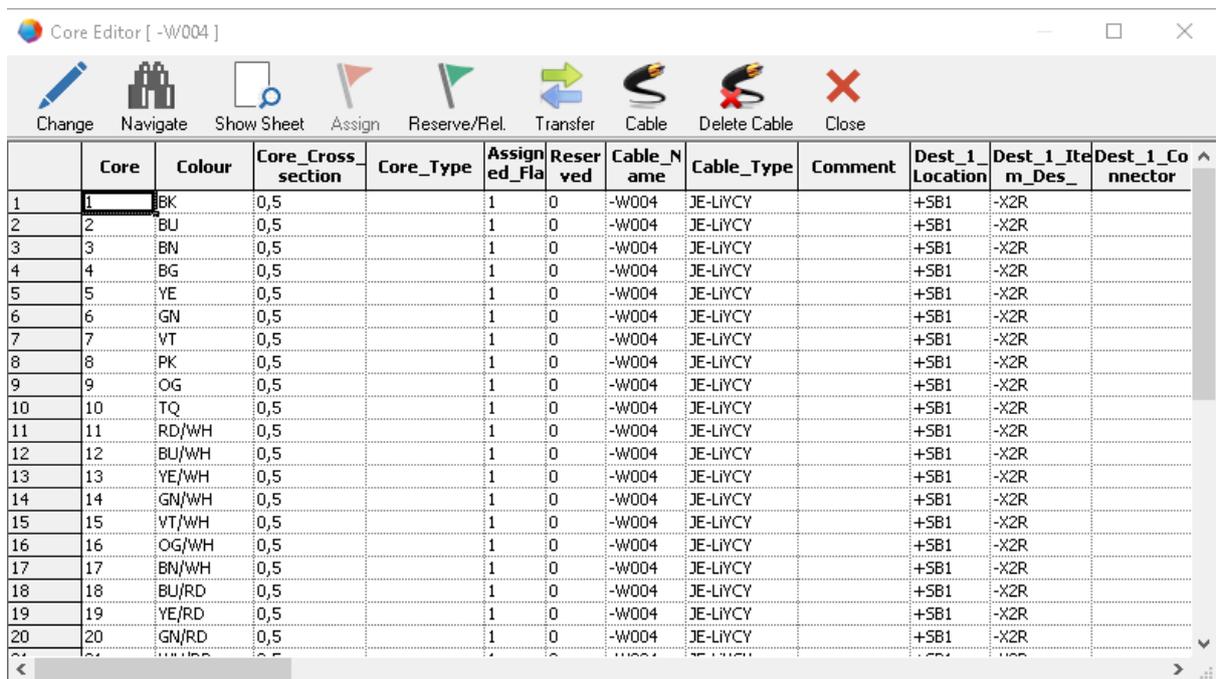
Hanover, October 2019

## 1.1 General Innovations

### 1.1.1 Redesign of the List Element to Edit Data

One of the most noticeable changes in ELCAD/AUCOPLAN 2020 is the redesign of the list element which is used in more than 100 places to represent data as a list. It entirely replaces the previous list element and is the basis for many functional enhancements.

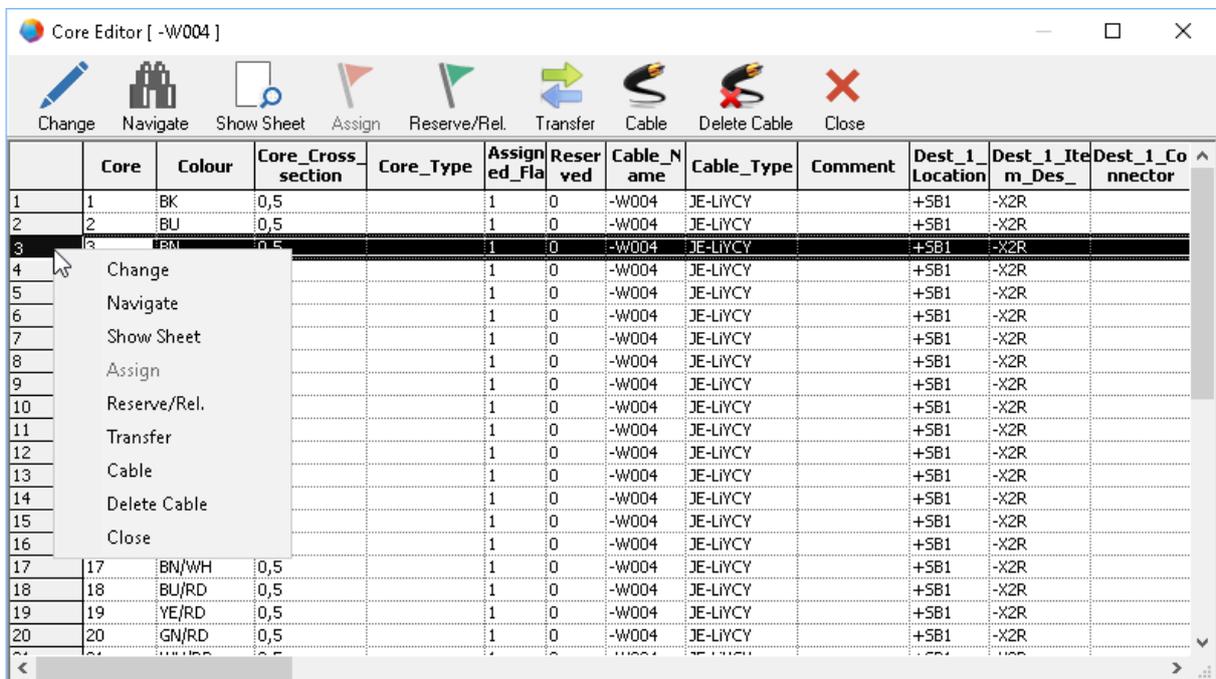
Because of the high number of places in the program where the list element is used, we will only present some examples in this chapter.



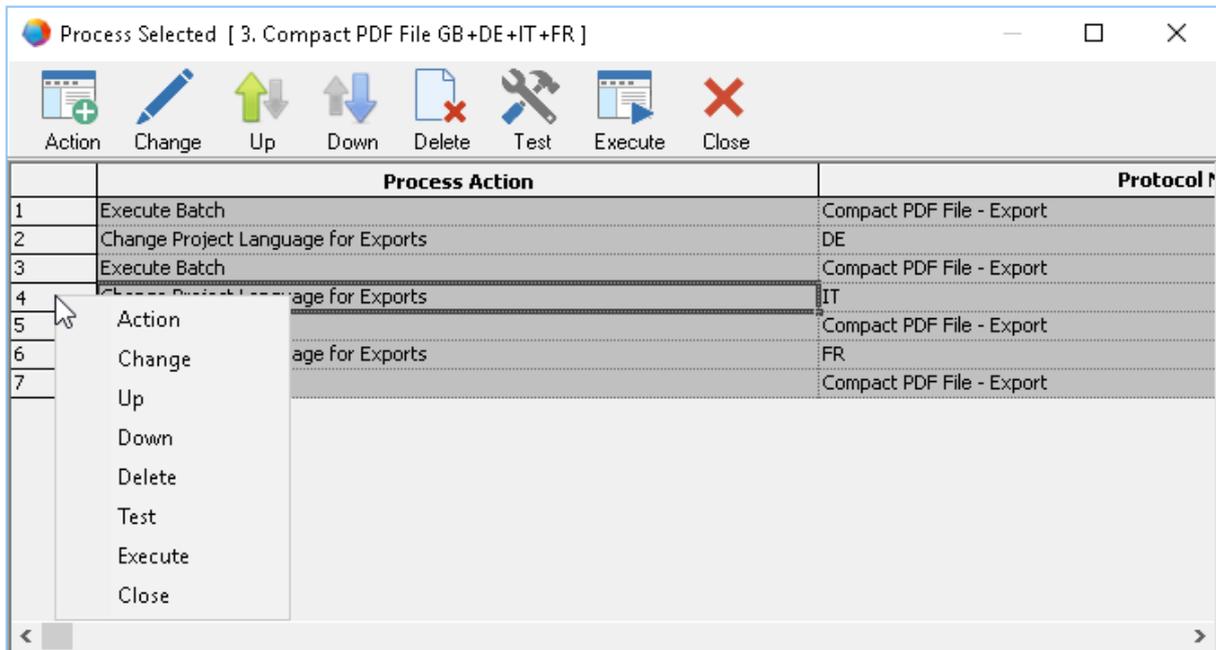
The new element generally provides the following functions.

<b>Changing the window size</b>	The size and position of the list element is variable and can be adapted to your requirements. If you have changed the window settings, the window size and position are saved.
<b>Changing the column widths</b>	The column widths are variable. You can change their size by clicking the separating line between the columns in the area of the column header and dragging it to the required width while keeping the mouse key pressed. On closing the window, the sequence and width of the columns are automatically saved.
<b>Sorting</b>	Sort the list by the content of its columns by clicking the column header.
<b>Moving</b>	Move a column by clicking the column header and moving the column to the required position while keeping the left mouse key pressed.

<b>Shortcut menus of column headers</b>	Functions which are available for columns are available as shortcut menus of the column headers. To access a shortcut menu, activate a column, then right-click the column header.
<b>Multiple selection</b>	In the new list element, a multiple selection of rows is possible in many dialogs. Using CTRL+click and Shift+click, you can select several items for subsequent actions.
<b>Shortcut menus of row headers</b>	Functions which are available for rows are available as shortcut menus of the row headers. To access a shortcut menu, right-click the row header.
<b>Icons for various functions</b>	In the previous element, only buttons with texts were possible. The new list element uses buttons with meaningful icons instead, so that the functions provided can be distinguished at a glance.



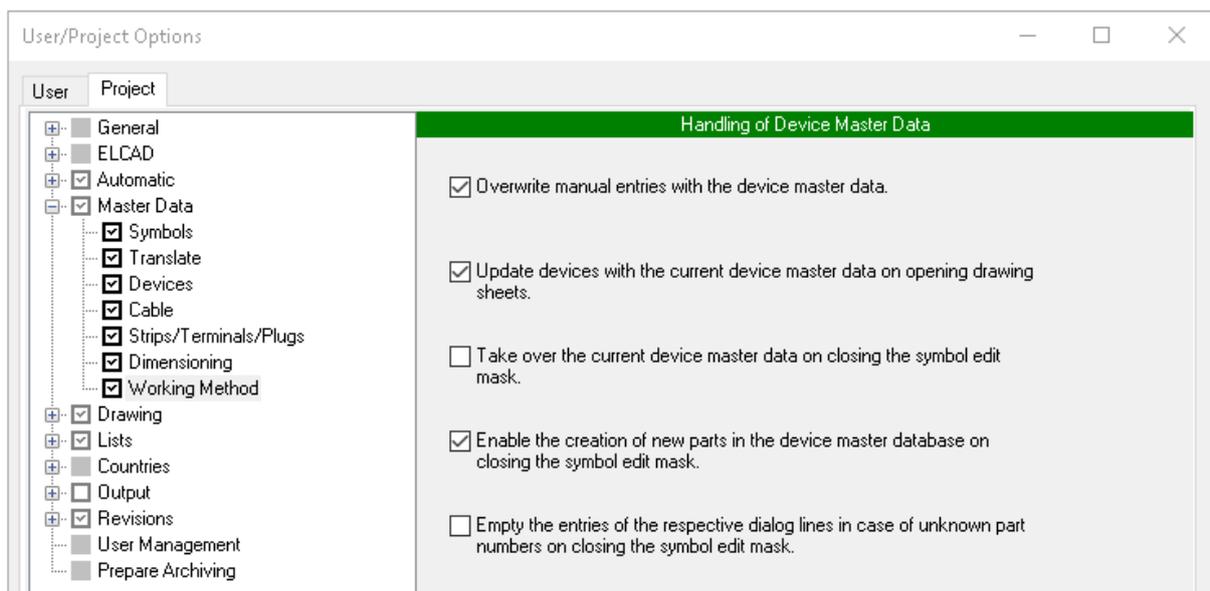
Due to the new list element, the dialog to edit batches and processes also allows for an intuitive handling.



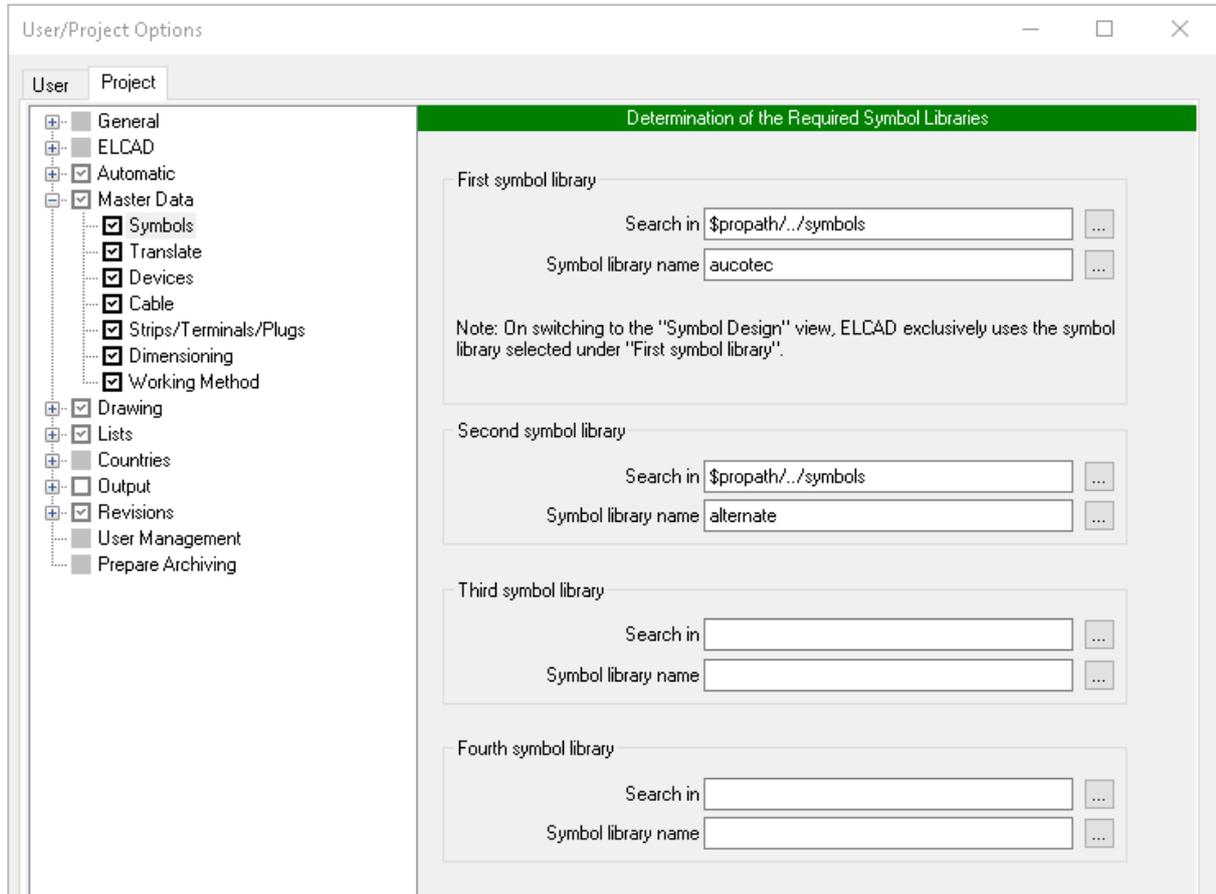
### 1.1.2 Redesign of Option Dialogs

With the increasing range of functions, the options of ELCAD/AUCOPLAN have become more complex. To also make the option dialogs better understandable for new users, various dialogs in Version 2020 have been redesigned. Additional information contribute to easy understanding.

Example: Handling of master data



Example: Determination of the required symbol libraries



## 1.2 New in Project Editing

### 1.2.1 Administration of the Total Number of Drawings in the Project

A new function allows you to represent the total number of all drawings in the project. To be able to also represent the total number of all drawings in form sheets, **code number 86** is used. The content of this code number is adapted on adding and deleting drawings, even if the changes have been caused by automatic functions such as batches, processes or the creation of graphic lists.

In addition to that, a further code number, **code number 85**, is automatically filled with the sequential number of the drawing in the project. With that number, representations such as the following one are possible: **Sheet 109 of 226**.

These code numbers are exclusively used in form sheets. The calculation of the sequential number is done based upon the standard sorting of the **Management Levels** view of the Drawings tree. Sorting the Drawings tree in a different way does not affect the numbering.

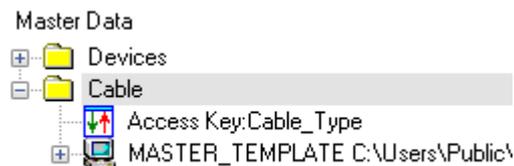
### 1.2.2 Selective Updating of the Drawings tree

Using the function **Edit Form shape**, you can edit all dialogs of the form sheet. To ensure that the sorting of the drawings in the tree is up to date after editing the form sheet, the Drawings tree was always updated entirely.

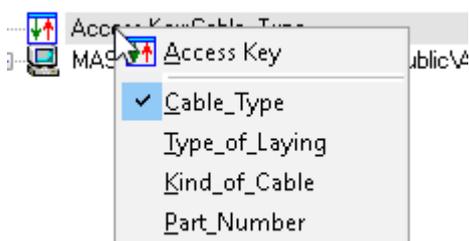
In ELCAD/AUCOPLAN 2020, an analysis is run first to check whether any data contained in the sorting of the current tree was changed by the adaptations. If this is not the case, the Drawings tree is not updated. In large project in particular, this significantly accelerates processing.

### 1.2.3 Using and Managing Cable Master Data in the Master Data Tree

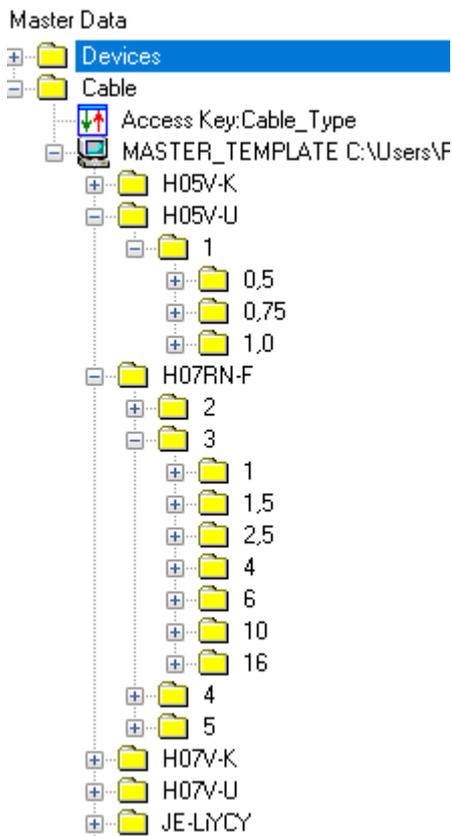
In ELCAD 2020, the cables of the cable master data set in the project are additionally displayed as a separate node in the Master Data tree. You will find the cables in the new **Cable** node.



By right-clicking the **Access Key** icon, you can select the sorting from the access keys of the cable master data.

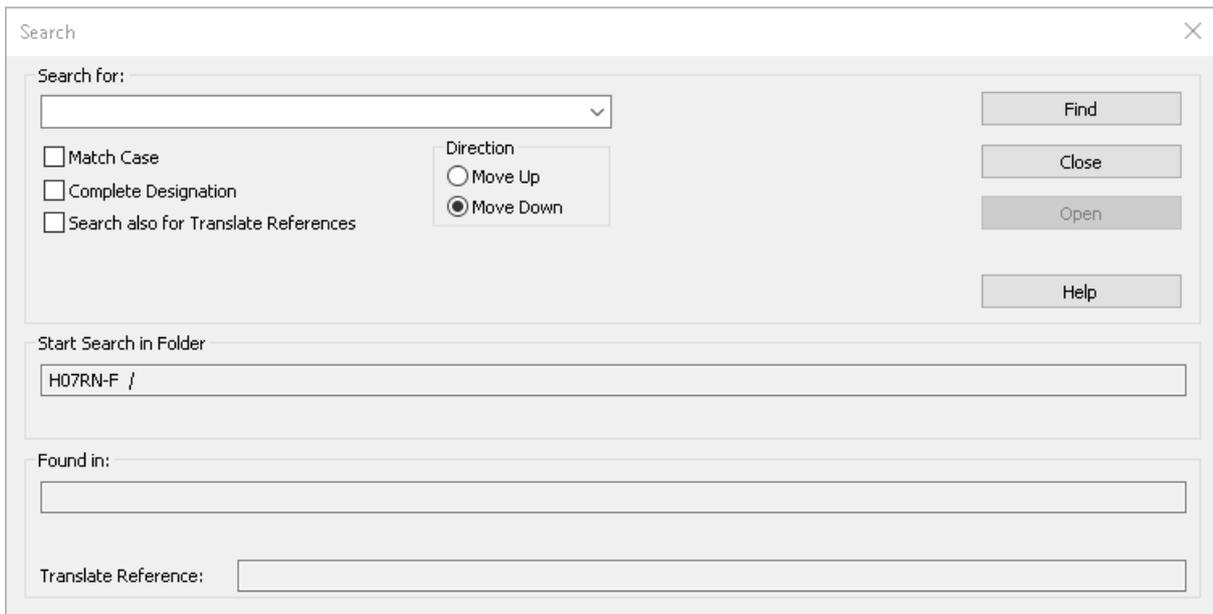


The cable master data is then displayed according to the access key.

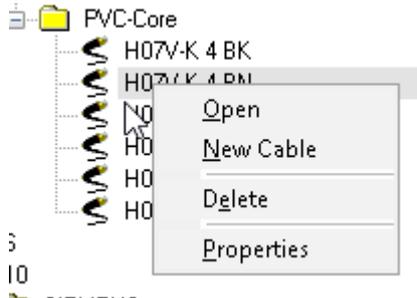


The following functions are available by right-clicking a folder:

<b>New Cable</b>	Using this function, you can create a new cable at the selected position. The new cable is initialized with the properties of the folder that is already selected, but you can overwrite them.
<b>Search</b>	Search for a specific text starting from the selected folder. For that, the <b>Search</b> dialog is available with all its options.



Right-clicking the cable provides you with the following options:



<b>Open</b>	Using this function, you can edit the technical data of the cable in the <b>Modify</b> dialog.
<b>New Cable</b>	Using this function, you can create a new cable. The new cable is initialized with the properties of the selected cable, but you can overwrite them.
<b>Delete</b>	Using this function, you can delete the selected cable after answering a confirmation prompt.
<b>Properties</b>	Using this function, the technical data of the cable is displayed in the <b>Modify</b> dialog. You cannot make any changes.

Moreover, you can assign a cable master data item to a core symbol via drag and drop. During that process, the cable master data is transferred to the core symbol.

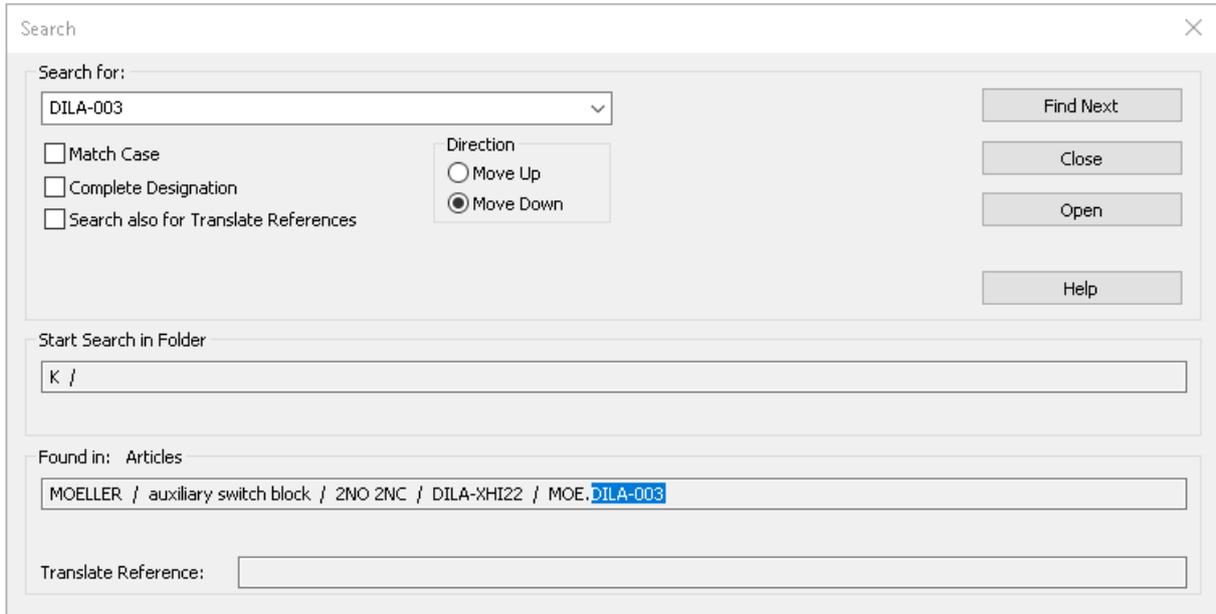
The preconditions for this are:

- The drawing contains a core symbol of the symbol type 8
- The core symbol has been prepared for the cable planning (symbol class 1600=4)
- The core symbol must not yet be associated with the cable planning (evaluation). Otherwise, the evaluation of the core symbol must explicitly be reset.

During the drag and drop process, these conditions are checked. If these conditions are not met, the cable master data item cannot be assigned.

### 1.2.4 Master Data Tree - Direct Opening on Searching

In the Master Data tree, a further improvement has been added on searching for devices. Once an article (part number) is found as a search result, it can be edited right away via the **Open** button.

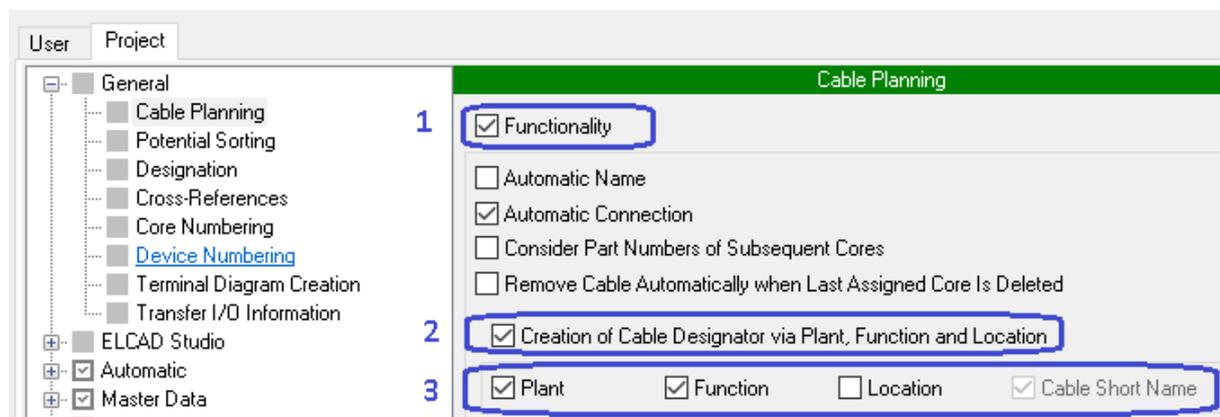


### 1.2.5 Structured Display of Cables in the Item Editor

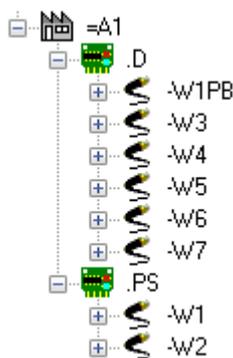
In ELCAD/AUCOPLAN 2020, the cables in the Item Editor are displayed according to the project-specific settings. In this context, the structured view based upon the designation blocks Plant, Function, Location is now also supported.

To get a structured view, you must fulfill the following prerequisites in the **Project Options**:

1. Under **General/Cable Planning**, the option **Functionality** must be activated.
2. The option **Creation of Cable Designator via Plant, Function and Location** must be activated.
  - a. At least one of the options **Plant**, **Function** and **Location** must be activated.



The cables are displayed in the Item Editor according to the structure defined by the options. This is independent from whether you are using a **common representation** or a **distributed representation** for the Item Editor.



### 1.2.6 Display of Marking Comments in the Status Line

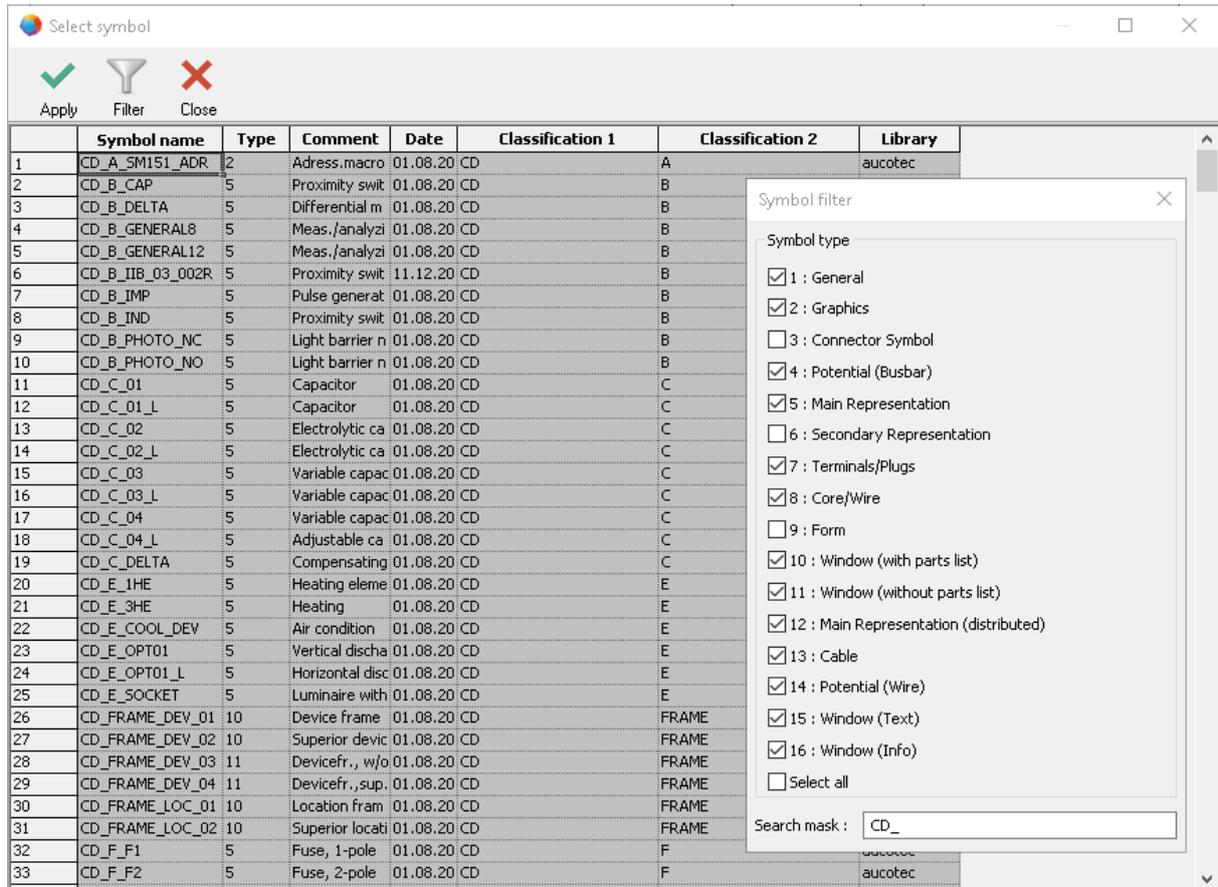
In the Drawings tree, drawings containing sheet markings are displayed with a corner highlighted in red. In ELCAD Version 2020, the marking comments and the person in charge are displayed in the status line at the bottom of the screen if you click the drawing object in the tree or if you select it via the arrow keys.

## 1.3 New in Drawing Editing

### 1.3.1 New Selection Dialog for Symbols

If you want to select symbols while editing drawings, select the menu item **In-  
sert/Symbols**. After that, all available symbols are offered in the **Select symbol** dialog.

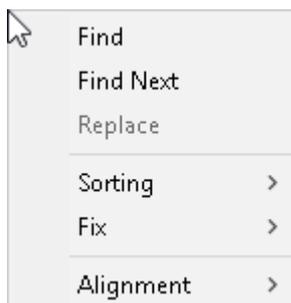
This dialog has been redesigned to allow for a most efficient symbol selection. Because of the new list element, you can now freely adapt the size of the dialog.



The redesign of the filter is particularly efficient. In the filter, you can limit the displayed symbol types by check boxes. At the same time, you can specify parts of the symbol name in the filter row **Search mask**.

Both filter options have a direct effect on the search result and further limit the search result in the dialog window at the same time.

Of course, all other new functions to **Change**, **Sort** or **Search** are also available for the columns and rows of the dialog.



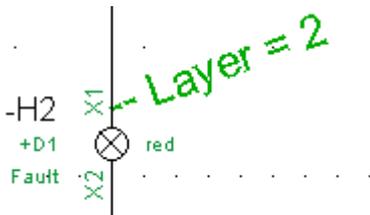
The defined filter is saved on closing the dialog, and is again available on reopening it.

### 1.3.2 Display of Graphic Elements on Layers

A further requirement was to display graphic elements assigned to layers. You can activate this function via the menu item **Extras/Test Drawing/Configuration**. For that, you will find the new option **Show Layer** in the **Permanent Display of Marks** dialog.



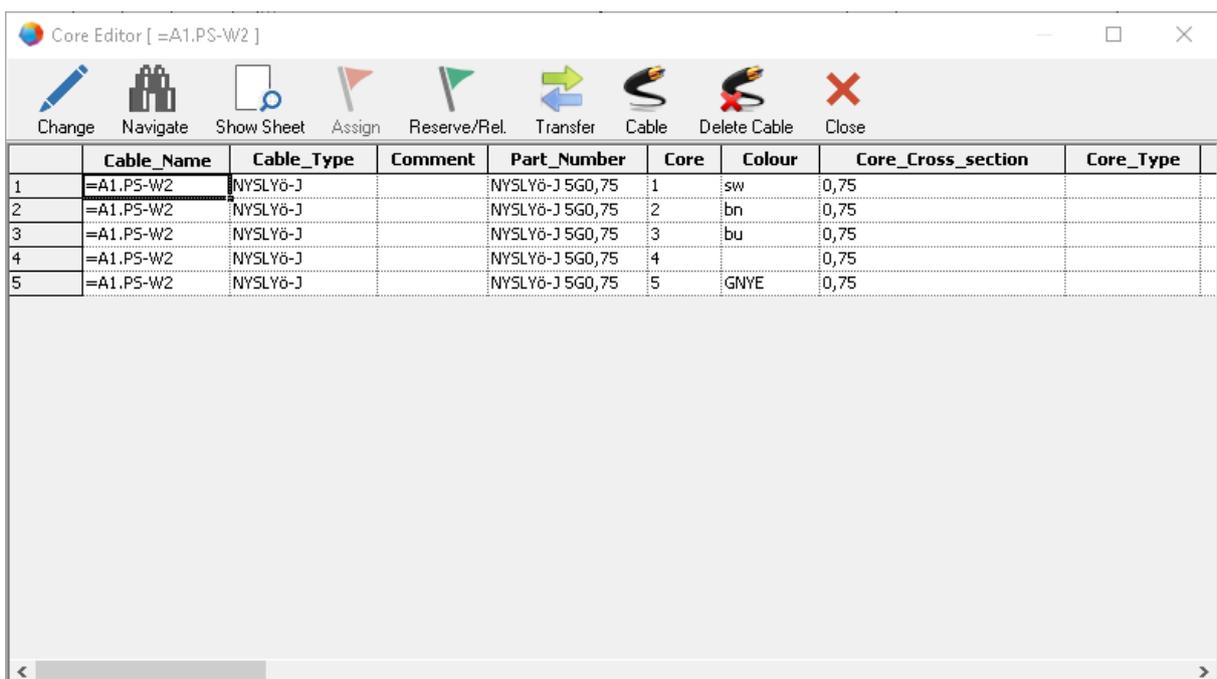
If this setting is activated, all graphic elements which are not located on standard layer 0 are marked with a layer note at their reference point in the drawing.



### 1.3.3 Active buttons in the Core Editor

The buttons in the Core Editor are now only active if the preconditions with regard to the cable status are met.

<b>Assign</b>	The <b>Assign</b> button is active if the cable is not completely assigned or reserved and if at least one misassigned core is available.
<b>Reserve/Release</b>	The <b>Reserve / Release</b> button is active if the number of cores of the cable is higher than the number of assigned cores.
<b>Transfer</b>	The <b>Transfer</b> button is active if assigned or misassigned cores are identified for the cable.



### 1.3.4 Test of Items with Part Number Where No Quantity is Defined

Another new verification checks items where part numbers have been assigned, but no quantity (code number 149) is entered. You can activate this function via the menu item **Extras/Test Drawing/Configuration**. For that, you will find the new option **Part Number without Quantity Specification** in the **Permanent Display of Marks** dialog.



In ELCAD/AUCOPLAN, several parts can be defined at one symbol. This is done by repeatedly defining code number 80 (Part number) and 149 (Quantity) in the symbol.

If a part number is defined and no quantity is entered, the symbol is marked in the drawing.

The check is done for the following symbol types:

<b>Symbol type 1</b>	General symbol
<b>Symbol type 5</b>	Main representation
<b>Symbol type 7</b>	Terminals / Plugs
<b>Symbol type 10</b>	Window symbol. Framed symbols are displayed in the parts list.
<b>Symbol type 11</b>	Window symbol. Framed symbols are not displayed in the parts list.
<b>Symbol type 12</b>	Main representation, distributed

## 1.4 New in Graphics Outputs

### 1.4.1 Consistent Specification of the Colours for Colour Outputs

Drawings are often printed in colour or output as coloured PDF files. In that case, the various colours reflect company-specific states.

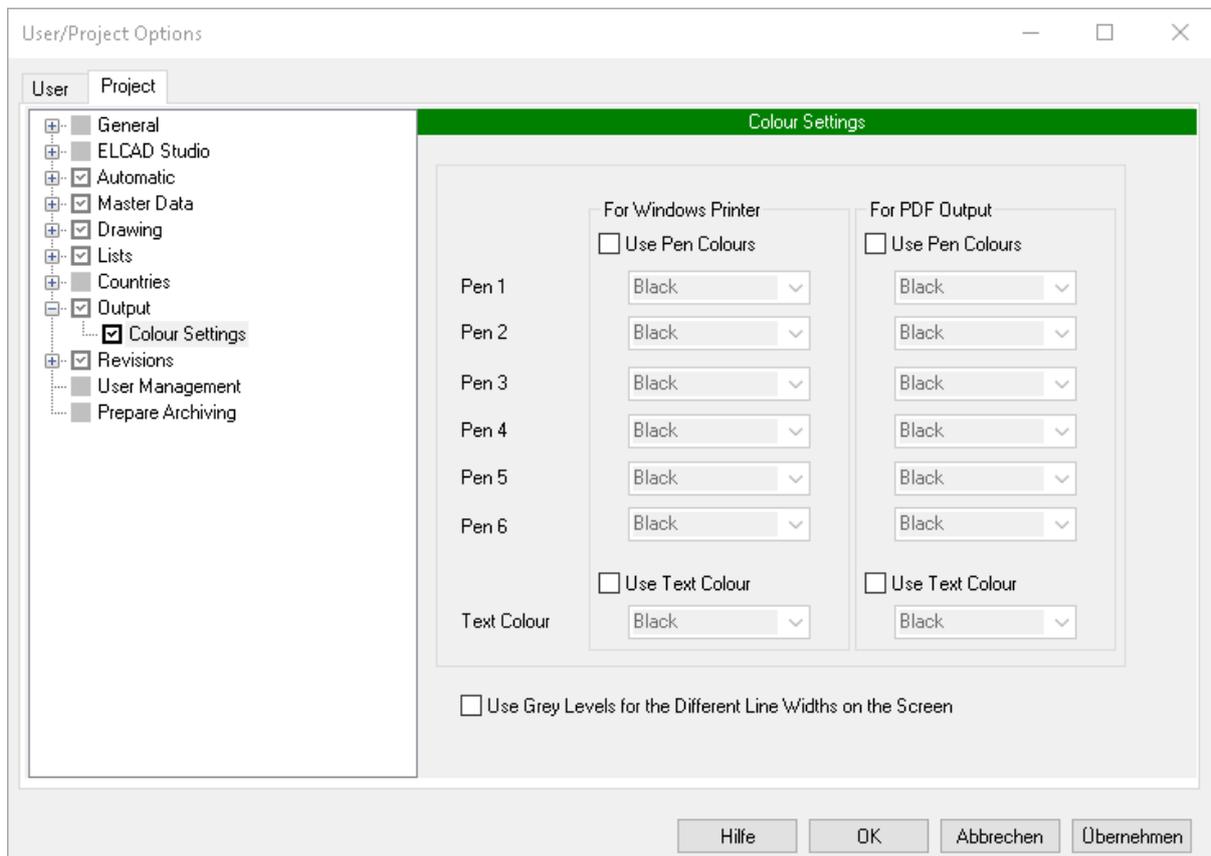
Up to now, the colour output for printers and PDF outputs were solely saved user-specific:

#### Extras/User/Project Options/User/Output/Colour Settings

Colour outputs of different users occasionally resulted in differing print results.

In ELCAD/AUCOPLAN 2020, you can now define the colour settings for a project and thus ensure that the colour outputs of all users will always be consistent. Because of that, you will now also find the colour settings in the project options.

#### Extras/User/Project Options/Project/Output/Colour Settings



### 1.4.2 Setting the Margins for PDF and TIFF Outputs

The options for the PDF and TIFF outputs were extended so that it is now possible to specify separate values for the four margins.

You will find the settings under:

**Extras/User/Project Options/Output/Graphic Export/PDF Format**

or

**Extras/User/Project Options/Output/Graphic Export/TIFF Format**

The screenshot shows a settings dialog with the following elements:

- Enable Navigating / Searching (not Conform to PDF/A-1b)
- Author:
- Margins section:
  - Top:
  - Bottom:
  - Left:
  - Right:
- Leave Out 0.35 mm Margins

## 1.5 New in Symbol Editing

### 1.5.1 Increase of the Maximum Number of Possible Pins per Symbol

In ELCAD/AUCOPLAN 2020, the maximum number of possible pins per symbol has been increased from 100 to 250. This supports the technical trend to develop more and more complex devices with a high number of pins.

The maximum number of dialogs per symbol remains unchanged at 800.

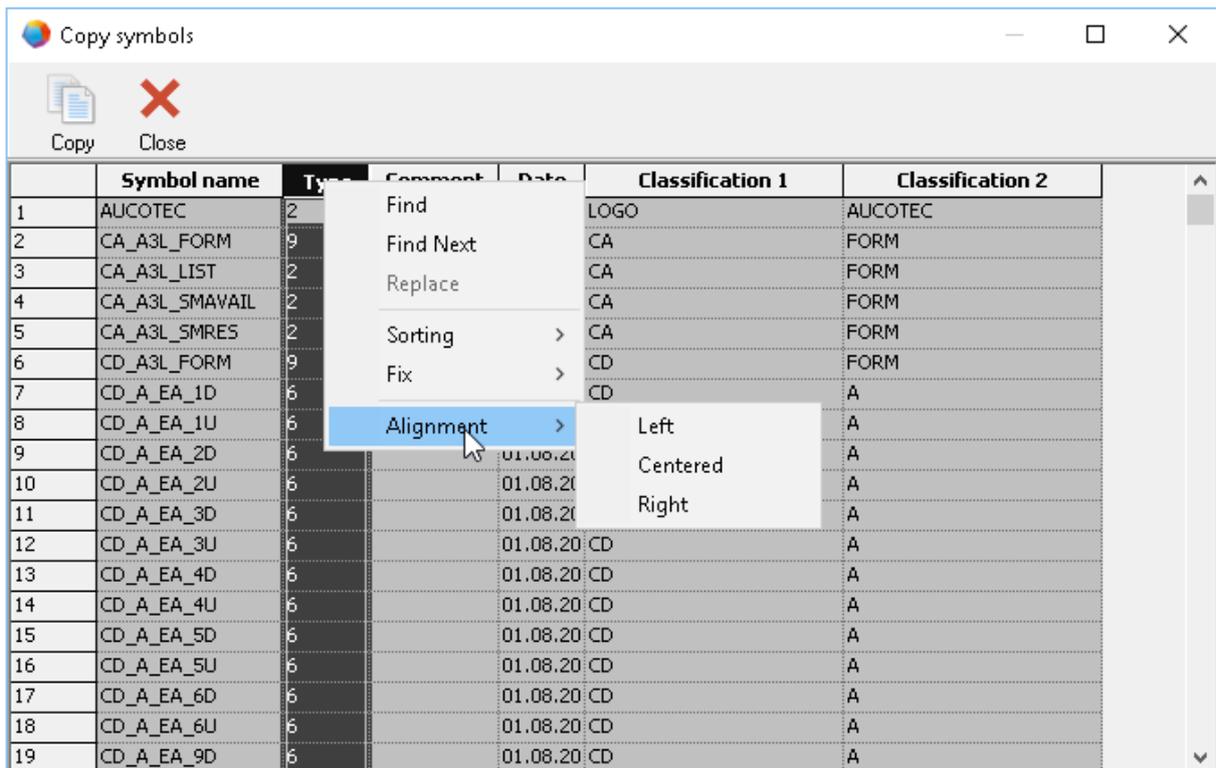
### 1.5.2 New Dialog for Copying Symbols

This dialog is another example of the possibilities of the new list element.

In the dialog, you can select several symbols for copying via **CTRL+click** and **shift+click** and then copy the selected symbols in one go.

Moreover, you can also sort the list by the column content in an ascending or descending order by clicking the respective column header.

Right-clicking the column header provides you with further useful functions. For instance, using **Search**, the entire list is searched for a character string.

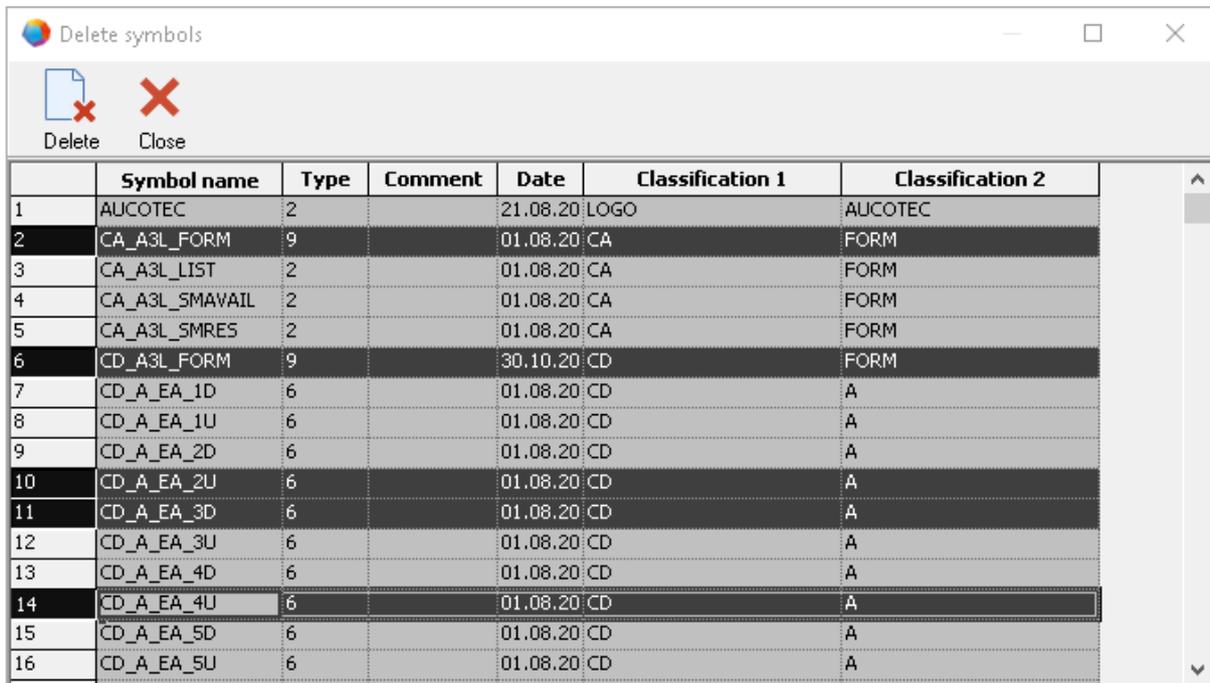


### 1.5.3 New Dialog for the Deletion of Symbols

In the dialog for the deletion of symbols, you can also sort the list by the column content in an ascending or descending order by clicking the respective column header.

Using **CTRL+click** and **shift+click**, you can now select several symbols for deletion and then delete the selected symbols in one go.

Right-clicking the column header provides you with further useful functions. Using **Search**, the entire list is searched for a character string.



	Symbol name	Type	Comment	Date	Classification 1	Classification 2
1	AUCOTEC	2		21.08.20	LOGO	AUCOTEC
2	CA_A3L_FORM	9		01.08.20	CA	FORM
3	CA_A3L_LIST	2		01.08.20	CA	FORM
4	CA_A3L_SMAVAIL	2		01.08.20	CA	FORM
5	CA_A3L_SMRES	2		01.08.20	CA	FORM
6	CD_A3L_FORM	9		30.10.20	CD	FORM
7	CD_A_EA_1D	6		01.08.20	CD	A
8	CD_A_EA_1U	6		01.08.20	CD	A
9	CD_A_EA_2D	6		01.08.20	CD	A
10	CD_A_EA_2U	6		01.08.20	CD	A
11	CD_A_EA_3D	6		01.08.20	CD	A
12	CD_A_EA_3U	6		01.08.20	CD	A
13	CD_A_EA_4D	6		01.08.20	CD	A
14	CD_A_EA_4U	6		01.08.20	CD	A
15	CD_A_EA_5D	6		01.08.20	CD	A
16	CD_A_EA_5U	6		01.08.20	CD	A

## 1.6 New in the Assignment List

### 1.6.1 Display of the Assignment List Configuration

On creating assignment lists in ELCAD, you have to select a PLC type first. The PLC type stores the operators, designations, lengths, address ranges and other parameters for the controls.

If you use different PLC controls and do not enter the PLC type as a part of the list comment, the information will not be visible at a later stage.

Because of that, the PLC type, the name of the underlying configuration, is displayed together with each assignment list in ELCAD/AUCOPLAN 2020. You will find the PLC type in square brackets behind the designation of the list in the Input / Output Components tree.

Folder	Name
ELCAD_STUDI...	
1	[Siemens S7 *.sdf]

On changing the comment of an assignment list, the PLC type is also listed in square brackets behind the comment.