



**AUCOTEC**  
Create Synergy – Connect Processes

# Engineering Base

## The Terminal Block Designer

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## 1 General Information

Using the Terminal Block Designer, you can edit terminal blocks and terminals. It is possible to assign material and to define fixed jumpers, wire jumpers and insertion bridges.

Device data already entered at the terminal or the terminal block is displayed in the Terminal Block Designer.

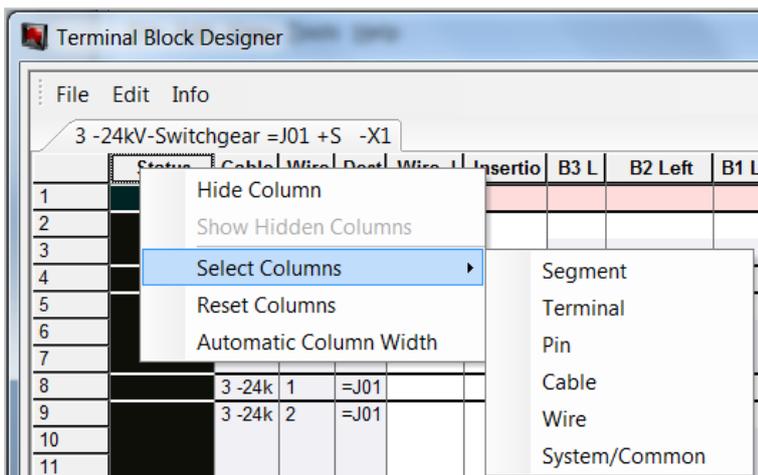
For general information on the Terminal Block Designer, i.e. for information on its structure and on how it is started, please refer to the Engineering Base Help. Under **Search**, enter the keyword **Terminal Block Designer**.

## 2 Configuration of the Terminal Block Designer

The columns of the terminal block designer can be customized. Some important columns, available for selection and configuration, are listed below:

- Status column: Certain characteristics of a terminal are entered here. For example, "Not assigned" for free terminals without graphical representation. A cell in the status column is highlighted in red if an inconsistency occurs in the corresponding row. A short explanatory text is then displayed in the status line. This column is always displayed in the terminal block designer!
- Columns "B1", "B2", ... : These columns are used to show the bridges on the terminal level 1, 2 ... on the right or left side. The column width is automatically adjusted. If the bridges cross end covers or end mounts or if the end points are on different levels, the fields and also the corresponding cell in the status column are highlighted in red. A corresponding message will be displayed in the status bar.
- Column "Wire Jumper": Here wire connections within the terminal block are represented graphically. The column width is automatically adjusted.
- The column "Terminal": This column is used to enter the terminal number.

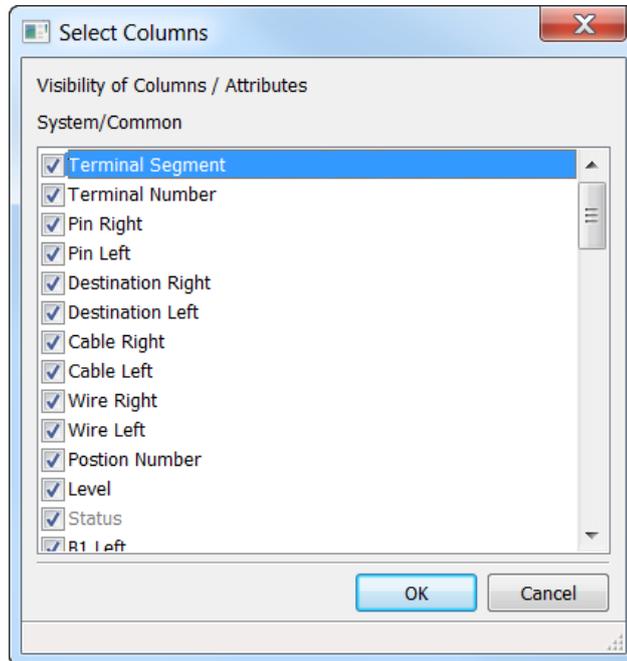
To configure the Terminal Block Designer, click the column header of a column with the right mouse button. The following menu is shown:



Context menu for column configuration

Functions:	
<b>Hide Columns</b>	Mark the header of the column that is to be hidden. Right-click to open the context menu and select <b>Hide Column</b> . The column is now hidden but still marked in the dialog select columns.
<b>Show Hidden Columns</b>	The hidden columns are now visible again.
<b>Select columns</b>	The available information on the Terminal Block Designer is consolidated in 6 themes: <ul style="list-style-type: none"> <li>• Segment</li> <li>• Terminal</li> <li>• Pin</li> <li>• Cable</li> </ul>

- Wire
- System/Common



*Dialog Select Columns*

Click the check boxes of the columns you want to be displayed.

**To add or delete several columns:**

Select the desired columns by pressing the left mouse button. The selected columns are marked in blue. Click one check box in the marked area. For all marked columns, all check boxes are marked or unmarked.

By clicking **OK** the selection of the columns is stored, clicking **Cancel** will abort the selection of columns.

All columns which are not displayed by default are displayed on the right-hand side of the table when they are added.

The columns available in the Terminal Block Designer are specified under [Columns of the Terminal Block Table in the Terminal Block Designer](#).

<b>Reset Columns</b>	All individual changes are canceled. By default, most of the columns of the area System/Common are displayed.
<b>Automatic Column Width</b>	The width of all columns in which at least one field is set are adjusted to their minimally required values.

**More possibilities of customizing:**

<b>Change the Column Width</b>	<ol style="list-style-type: none"> <li>1. Click the line separating two columns.</li> <li>2. Press the left mouse button and shift the separating line according to your needs.</li> </ol>
<b>Shift Columns</b>	<ol style="list-style-type: none"> <li>1. Click the column header of the column you want to shift.</li> <li>2. Press the left mouse button and shift the column according to your needs: The red vertical line indicates the position where the column will be inserted.</li> </ol>
<b>Recover</b>	<p>If only the number column is displayed, because all other columns are invisible, double-click on the separating line of the column at the height of the header row. The hidden columns will be displayed again.</p>

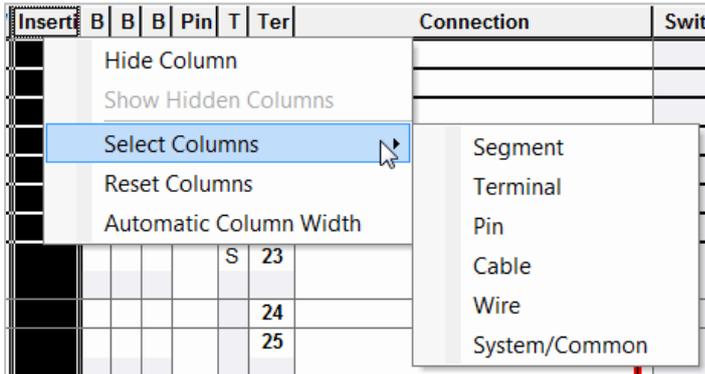
All individual changes will be saved if you leave the Terminal Block Designer with **OK** or if the confirmation prompt at **Cancel** is answered with **Yes**.

### 3 Columns of the Terminal Block Table in the Terminal Block Designer

The terminal block designer can be customized.

The configuration of the columns is explained in detail in [Configuration of the the Terminal Block Designer](#).

If you left-click onto a column header, the following selection menu is displayed:



Select Columns dialog

#### 3.1 Columns in Segment, Terminal, Pin, Cable, Wire

All attributes (incl. boolean attributes) of the terminal are displayed sorted by the theme.

#### 3.2 Columns in System/Common

The columns displayed after using **Reset columns** are marked in the column **Default**.

Column	Default	Meaning/Content
Pin Designation right or left	√	Designation of the terminal pin (A, B, C and so on).
Not shown in diagram	√	These connections (gray) are not represented in the terminal diagram. If you select <b>Not shown in diagram</b> in the context menu of an unspecified connection, it is automatically moved into this column and displayed in gray.
B1 – B8 Slot of accessory right or left	√	Shows the "Slots" of a terminal. The information if such connections are available is taken from the catalog using the material number of the terminal. By default, three slots B1 – B3 are displayed. If there are less than 3 terminal extensions listed in the catalog for a terminal, the slots which cannot be edited are displayed with a gray background. If there is no material assigned to the terminal, all three default slots can be edited.

		<p>It is possible to represent <b>material bridges</b> in these slots. In the project, these bridges are not represented by a wire; they are accessories and are assignable only to terminals with mounting form. The last terminal (follower terminal) has to be a terminal with material and mounting form! It is possible to bridge terminals with different terminal types (see also chapter 5, <a href="#">Special Information about Material Bridges</a>).</p> <p> <b>Please note:</b></p> <ul style="list-style-type: none"> <li>• It is impossible to insert a new terminal within an existing material bridge.</li> <li>• The material bridge still exists if a bridged terminal is deleted.</li> <li>• If the last terminal of a material bridge is deleted, the material bridge is deleted too.</li> <li>• Terminals within a material bridge are movable when all jumpered (bridged) terminals are marked.</li> </ul> <p>It is possible to place <b>jumpers</b> in these 'slots'. If a slot contains a jumper, no other accessories can be assigned.</p>
B1 Symbol - B8 Symbol Right or Left		In these columns, you can assign a bridge symbol from the graphics toolbox (accessory) to a <b>Fixed Jumper</b> .
Image		Graphical representation of the terminal.
Representation	✓	Cross-reference.
Wire	✓	Core number.
Wire Jumper right or left	✓	<p><b>Wire jumpers</b> and <b>graphical wire jumpers</b> are displayed in these columns.</p> <p>The wire jumper indicates whether there is a wire connection between two terminals of this terminal block. If a terminal is added or deleted, the jumper is dynamically larger or smaller.</p> <p> In the terminal diagram, this <b>wire jumper</b> is not displayed as a wire jumper, but as an alphanumeric target reference.</p> <p>In the project, an object <b>jumper</b> is created as a sub-device below the terminal with the highest position number. The attribute <b>Jumper Specification</b> contains the value <b>Wire Jumper</b>.</p> <p>Wire jumpers located one after the other are displayed staggered.</p>

		)) Upon its first call in the Terminal Block Designer, the attribute <b>internal</b> (right) is set for a <b>graphical wire jumper</b> . The graphical wire jumper is displayed in the terminal block diagram if the respective parameters are defined in the terminal block diagram template.
Level	√	Level, for example, potential level of the multi-level terminal (or multi-tier terminal).
Hard jumper		Insertion bridge without external/internal Information.
Insertion Bridge right or left	√	Indicates whether there is an insertion bridge, external or internal, and which terminals will be connected to it. If a terminal is added or deleted, the insertion bridge becomes larger or smaller dynamically.
Cable right or left	√	Cable.
Terminal Number	√	Terminal Number.
Terminal Segment	√	Multi-level terminal (or multi-tier terminal).
Comment		Comment.
Material	√	Device name from the equipment catalog.
Position Number	√	Position of the terminal or the terminal segment on the terminal block.
Potential	√	The potential connected to the terminal.
Cross-section		Cross-section.
Switch	√	Disconnect terminal with switch.
Status	√	This column is always displayed in the terminal block designer. Not assigned: For the terminal, there is no graphical representation. The terminal is therefore not shown in the circuit diagram, but it is displayed in the tree and in the terminal diagram (terminal reserve). Red background: In the status line a warning notice appears when you move the mouse over this cell.
Type		Classification.
Connection	√	This virtual field can contain the following entries: <b>Unspecified connections</b> between terminals of this terminal block, shown in <b>red</b> . From here, you can either place the connections via the context menu on the accessory slots or define them as insertion bridge, wire jumpers or mixed wire jumpers. <b>Mixed wire jumpers</b> , wire jumper left/right or wire jumper right/left, represented by a <b>blue arrow</b> . These jumpers represent a connection between two terminals of a terminal block, connecting a left pin of terminal X with a right pin of terminal Y. The arrow always points from the terminal connected with the left pin to the terminal with the right pin.

		<ul style="list-style-type: none"> <li>• <b>Wire jumper left/right:</b> The wire jumper is connected to the left side of the terminal with the lower position number and to the right side of the terminal with the higher position number.</li> <li>• <b>Wire Jumper right/left:</b> The wire jumper is connected to the right side of the terminal with the lower position number and to the left side of the terminal with the higher position number.</li> </ul> <p>If a terminal is added or deleted, the connection is dynamically larger or smaller.</p> <p>Once the connection is permanently assigned, whether as a wire connection, insertion bridge or jumper in a slot, this display disappears.</p> <p><b>Jumpers</b> can be detected by the system when the terminals are located one after the other on the terminal strip and they are of the same type and potential. That means that although these jumper connections remain red, the jumper is still identified and entered in the terminal diagram.</p>
Destination right or left	√	Connected destination right or left.

## 4 Editing with the Terminal Block Designer

Both individual data fields marked by white color and the entire terminal table can be edited. The processing functions of the terminal block can be accessed from the menu items in the main menu or the context menu of the terminal table. The available editing options allow you to make the necessary customizations and changes.

To mark or select several terminals in the terminal table, select a terminal with left click, press the CTRL key and select additional terminals. If you want to select an entire terminal group, mark the first terminal with a left click, hold down the Shift key and select the last terminal of the group with a left click.

Below the terminal table, a status line and several buttons are displayed:

<b>Ok</b>	The Terminal Block Designer is closed. If changes were made before this selection, a dialog appears as to whether or not the changes are to be saved.
<b>Cancel</b>	The Terminal Block Designer is closed. If changes were made before this selection, a dialog appears as to whether or not the changes in the data are to be discarded.
<b>Help</b>	Opens the online help for the Terminal Block Designer.

### 4.1 Work with the Main Menu

**The File menu:**

<b>Open Terminal Block</b>	Opens the <b>Modify</b> dialog. Information in the terminal block is displayed here, e.g. system attributes, ordering data, specifications, operating data and the classification. This data can be freely edited or defined via selection menus. The dialog can also be activated from the <b>Engineering Base Explorer</b> without starting the terminal block designer beforehand.
<b>Print</b>	Prints the current terminal block.
<b>Print Preview</b>	Preview of the terminal block to be printed.
<b>Printer Setup</b>	The printer selection dialog opens.
<b>Exit</b>	Exits the Terminal Block Designer with a confirmation prompt asking whether the changes made are to be adopted or not.

**The Edit menu:**

<b>New</b>	With this selection, new terminal segments, end covers, etc., are created. The insertion position cannot be specified, the selected object is inserted at the end of the terminal table.	
	<b>Terminal Segment</b>	A new terminal segment is created. Within this newly created terminal segment, new terminals can only be created via the context menu of the first column of the terminal segment row.

	<b>Terminal without Segment</b>	A new terminal without terminal segment is created. If the attribute <b>Standard Terminal Type</b> is initialized for the terminal block, then a newly created terminal receives the Standard Terminal Type as <b>Terminal Number</b> . The material data of the Standard Terminal Type will be transferred to the terminal.
	<b>End Cover</b>	A new end cover is created. A <b>Master Shape for Terminal Block Diagram "EXTD1"</b> is automatically assigned to the end cover to allow for the end cover to be displayed in the terminal diagram. The inserted row is highlighted in green.
	<b>End clamp</b>	A new end clamp is created. A <b>Master Shape for Terminal Block Diagram "EXMA1"</b> is automatically assigned to the end clamp to allow for the end clamp to be displayed in the terminal diagram. The inserted row is highlighted in pink.
<b>Number</b>	<b>by Position</b>	All terminals in the grid numbered consecutively starting with 1.
	<b>By Segment</b>	All terminals in the grid numbered per segment and consecutively starting with 1. Terminals that are not assigned to a segment get the number 1.
	<b>by Level</b>	All terminals in the grid numbered consecutively in the order of the levels starting with 1: That is, first all terminals of level 1 in ascending order, then all terminals of level 2 ascending order, etc.

**The Info menu:**

<b>About Terminal Block Designer</b>	This opens the <b>Information on Terminal Block Designer</b> dialog displaying the current version and resource version number.
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## 4.2 Using the Shortcut Menu of the First Column

You have the possibility to edit single or multiple terminals in the terminal block.

Click with the right mouse button the corresponding line number (first column) of the terminal you want to operate on, to open the shortcut menu.

The following menu items are available:

<b>New</b>	<p>With this selection, new terminals, terminal segments etc. are generated. You can choose either <b>in front of</b> or <b>behind</b> to determine where to insert the new object.</p> <p>The levels or the segment positions (position number) are renumbered according to the input position.</p>
<b>Terminal</b>	<p>A new terminal is created in a segment. The marked terminal is also placed into this segment. The levels are renumbered according to the input position.</p> <p>If the attribute <b>Standard Terminal Type</b> is initialized for the terminal block, then a newly created terminal receives the Standard Terminal Type as <b>Terminal Number</b>. The material data of the Standard Terminal Type will be transferred to the terminal.</p> <p>It is impossible to insert a new terminal within an existing material bridge!</p>
<b>Terminal Segment</b>	<p>A new terminal segment is created. In this context the segment positions are recalculated.</p>
<b>Terminal without Segment</b>	<p>A new terminal without terminal segment is created. The levels are renumbered according to the input position.</p> <p>If the attribute <b>Standard Terminal Type</b> is initialized for the terminal block, then a newly created terminal receives the Standard Terminal Type as <b>Terminal Number</b>. The material data of the Standard Terminal Type will be transferred to the terminal.</p>
<b>End Cover</b>	<p>A new end cover is created. In this context the segment positions (position numbers) are recalculated.</p> <p><b>A Master Shape for Terminal Block Diagram</b> "EXTD1" is automatically assigned to the end cover. Thereby the end cover is displayed in the terminal diagram.</p> <p>The inserted row is highlighted in light green.</p>
<b>End clamp</b>	<p>A new end clamp is created. In this context the segment positions (position numbers) are recalculated.</p> <p><b>A Master Shape for Terminal Block Diagram</b> "EXMA1" is automatically assigned to the end clamp. Thereby the end clamp is displayed in the terminal diagram.</p> <p>The inserted row is highlighted in pink.</p>

<b>Delete</b>	After deleting a terminal or a terminal segment, the levels or the segment positions are updated. Several objects can be deleted simultaneously.	
	<b>Terminal</b>	The terminal is deleted. If a terminal within an existing material bridge is deleted, the material bridge still exists but it ends at another terminal!
	<b>Terminal Segment</b>	The entire terminal segment is deleted. If you have not marked the terminal segment in its entirety, the selection is automatically extended to the entire segment.
<b>Swap Destinations</b>	<ul style="list-style-type: none"> <li>• <b>Terminal:</b> Swaps the destinations at the selected terminal. In doing so, the pin sides of the terminals pins are also swapped and the attributes <b>Internal</b> or <b>External</b> of the pin are marked. The cable and wire (core) are also adapted.</li> <li>• <b>Pins:</b> The destinations of the marked row are swapped. The pin sides of the pins of this row are swapped accordingly. The attributes <b>Internal</b> or <b>External</b> of all pins of the respective terminal are marked.</li> </ul> <p> This function is not active, if the attribute <b>Pin Ordering</b> is set at the terminal, or if the pin designation is defined by the mounting form of the terminal.</p> <p> Swapping the destinations in the Terminal Block Designer does not change the circuit diagram!</p>	
<b>Open Terminal</b>	The dialog <b>Modify</b> is displayed. Information on the terminal is displayed here, e.g. system attributes, ordering data, specifications, operating data and the classification. This data can be freely edited or defined via selection menus. The dialog can also be activated from the Engineering Base Explorer without starting the terminal block designer beforehand.	
<b>Run Assistant</b>	Enables the start of a assistant with the name TBD.Terminal.Run. So far, this assistant is not provided by AUCOTEC.	
<b>Cut</b>	The selected object is highlighted in gray, is cut out and can be replaced with the <b>Paste</b> menu option to another position. It is possible to cut out multiple objects at the same time.	
	<b>Terminal Segment</b>	Select the segments that are to be removed and reinserted in another position using the menu item <b>Paste</b> . If a segment was not selected in its entirety, the selection is automatically extended to the complete segment. The selected terminal segments are marked with a gray background.

	<b>Terminal</b>	Select terminals that are to be removed and reinserted in another position using the menu item <b>Paste</b> . The selected terminals are marked with a gray background. Terminals within a material bridge are movable when all bridged terminals are marked.
<b>Paste</b>		You can choose either <b>in front of</b> or <b>behind</b> to determine where to insert the new object. As for the creation of new terminals or segments, the levels and segment positions are recalculated.
<b>Pagination</b>		The attribute <b>Pagination</b> is marked at the terminal segment or the terminal. The terminal or the terminal segment is marked in turquoise in the Terminal Block Designer.

You can edit individual or several terminals of the terminal block simultaneously.

### 4.3 Editing data fields in the terminal table

Cells of the terminal table that are highlighted in white may be edited.

Depending on the column, there are three possibilities to edit the cells:

- You can enter data directly. In that case, a text field (terminal number, position number, and so on) opens in the cell when you click it.
- You can enter data via a selection window only.  
The selection window is displayed by left-clicking the respective cell (accessory slot B1 - Bn, material).
- For Boolean attributes, you can set or remove the check marks if the selection boxes are highlighted in white.

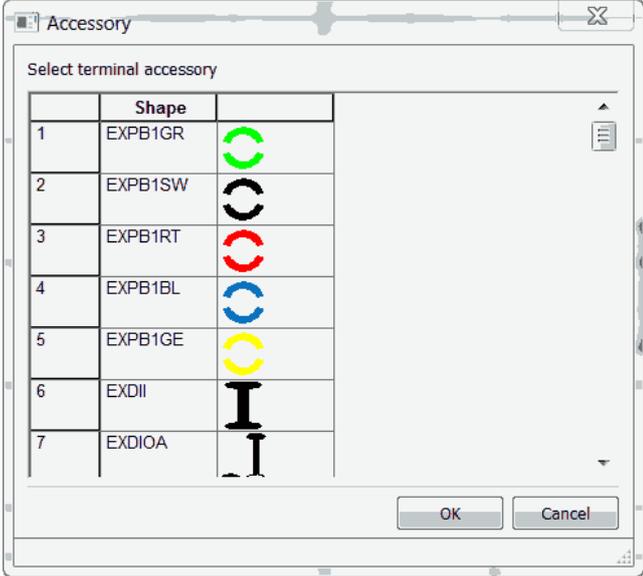
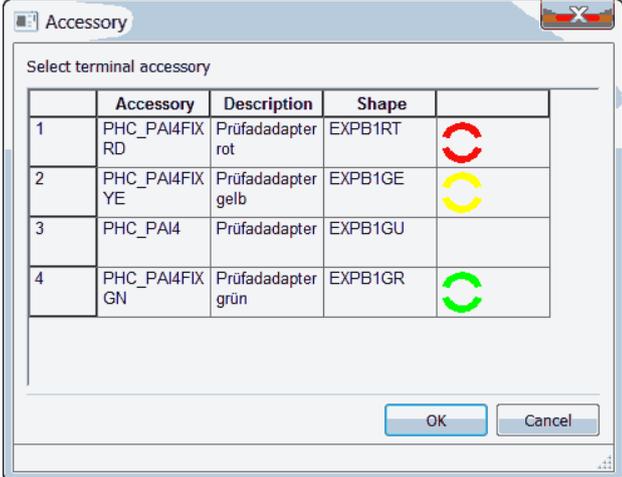
#### To select several connections, bridges or wire jumpers

1. To do so, left-click
  - the start or end point of a bridge,
  - the start or end point of a connection,
  - a corner of a wire bridge.
1. Select further connections, bridges or wire jumpers by left-clicking and keeping the **CTRL** key pressed.
2. Press and hold the **CTRL** key and open the shortcut menu via a right-click.
3. Select the requested option that is to be carried out for all marked connections, bridges or wire jumpers.



You can only select several objects of the same column.

### 4.3.1 Editing the Columns B1 – Bn (accessory slot)

<p><b>Click an empty cell in the accessory slot</b></p>	<p><b>Select terminal accessory (Shape).</b></p>	<p>The dialog <b>Accessory (Shape)</b> opens.</p>  <p><i>Dialog Select terminal accessory</i></p> <p>To select a terminal accessory (Shape), click the corresponding line number in the first column of the table and confirm with <b>OK</b>.</p> <p>The shapes are defined in the <b>Engineering Base Explorer</b> in <b>Terminal accessories</b> (Button <b>Stencils</b> / folder <b>Graphics Toolbox</b>).</p>
<p><b>Click an empty cell in the accessory slots (shape with mounting position)</b></p>	<p><b>Select terminal accessory</b></p>	<p>The dialog <b>Accessory</b> opens.</p>  <p><i>Dialog Select terminal accessory</i></p> <p>To select a terminal accessory, click the corresponding line number in the first column of the table and confirm with <b>OK</b>.</p> <p>The accessories shown in the dialog are defined in the <b>Engineering Base Explorer</b> in <b>Materials</b> (button <b>Catalogs</b>).</p>

<b>Click a cell with shape in the accessory slots</b>	<b>Delete accessory</b>	The terminal accessory is deleted.
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Several terminals can be selected in the terminal block designer for the assignment of accessories to accessory slots.

#### **To select several terminals**

1. Click with the left mouse button on the first column of the first terminal to be selected.
2. Mark further terminals
  - Select the subsequent terminal with the left mouse key still pressed.
  - Select further individual terminals by a left-click on the first column of the desired terminals and keep the Ctrl key simultaneously pressed.
  - Select a range of terminals by pressing the Shift key and a left-click on the first column of the first and the last terminal of the range.
3. Click on an empty cell of the accessory slots of the selected terminals using the right mouse key.

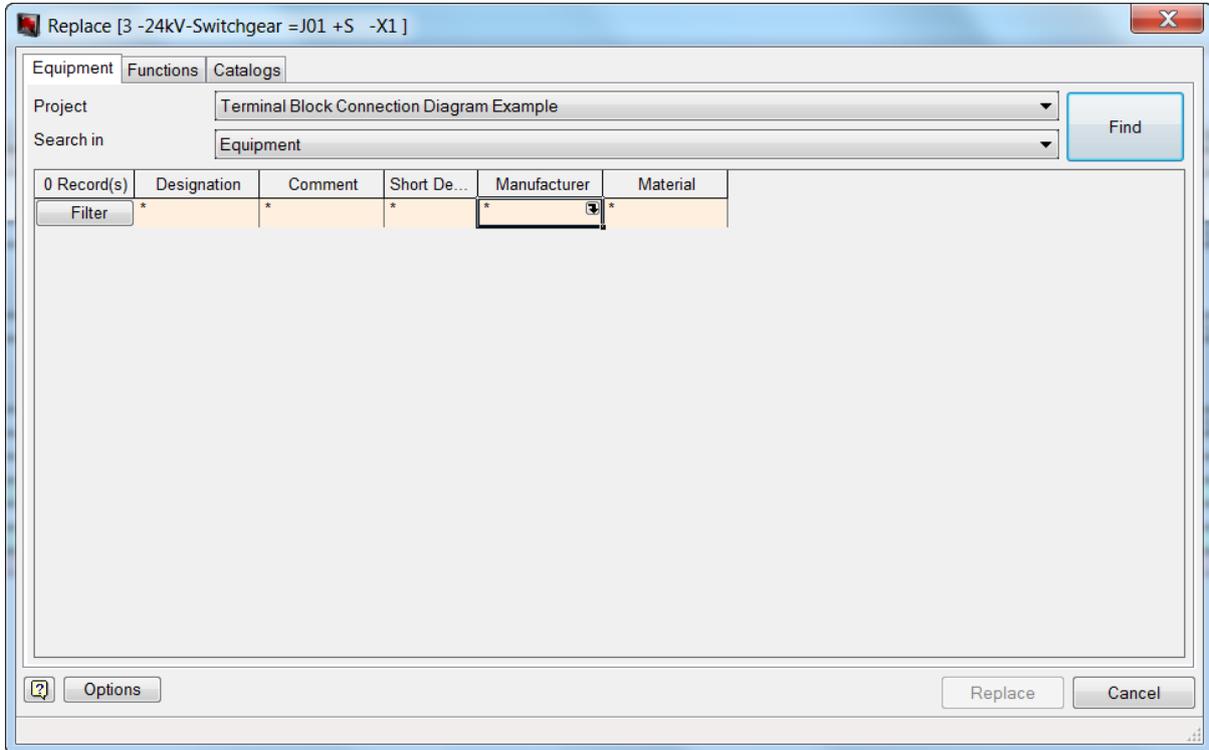
The accessory for all terminals selected can now be selected. Thereby, the selection dialog of the terminal on which the context menu is opened will be displayed. For all of the terminals selected a check is executed to verify that the selected accessories are permissible for the mounting form defined for the terminal. If this is not the case, no accessories will be entered.

If accessories are assigned to a terminal, but no shape name was entered or the entered shape does not exist, the corresponding cell is shown hatched in the Terminal Block Designer.

### 4.3.2 Editing the Column Material

All cells in the column Material are editable even though they are not highlighted in white.

Click a cell in the column Material. After clicking on , the dialog **Replacing a device** opens.



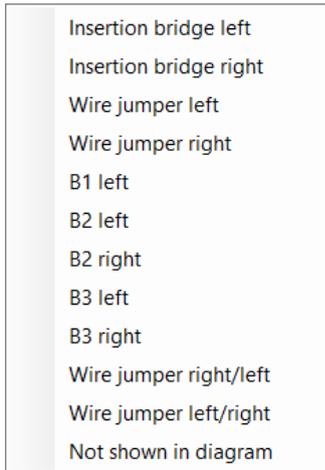
*Dialog Replacing a device*

### 4.3.3 Editing the Column Connection

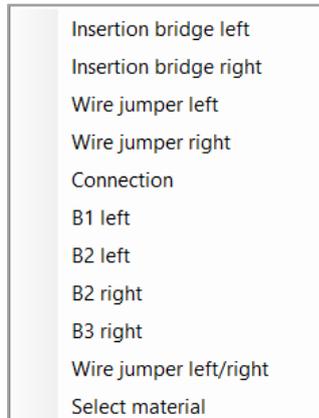
In this column, all unspecified connections between the terminals of this terminal block are displayed in red. Once the connection is permanently assigned, whether as a wire connection, insertion bridge or jumper in a slot, this display disappears.

Mixed wire jumpers are also shown in this column. They are represented by a blue arrow that points from the terminal with external pin to the terminal with internal pin.

Click on the start or end point of the unspecified connection and the following shortcut menu is shown.



*Context menu connection*



*Context menu mixed wire jumper right/left*

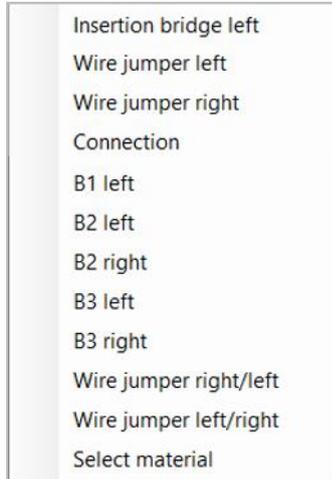
Action	
Insertion bridge left or right	The unspecified connection (or mixed wire jumper) is turned into an insertion bridge and is shown in the column Insertion bridge (left or right).
Wire jumper left or right	The unspecified connection (or mixed wire jumper) is turned into a wire jumper and is shown in the column wire jumper (left or right).
Bn bridge left or right	The unspecified connection (or mixed wire jumper) is turned into a jumper and is shown in the column Bn (left or right).

Wire jumper left/right	The unspecified connection (or mixed wire jumper) is turned into a mixed wire jumper and is shown in the column connection. The mixed wire jumper is connected to the left side of the terminal with the smaller position number and to the right side of the terminal with the larger position number.
Wire jumper right/left	The unspecified connection (or mixed wire jumper) is turned into a mixed wire jumper and is shown in the column connection. The mixed wire jumper is connected to the right side of the terminal with the smaller position number and to the left side of the terminal with the larger position number.
Connection	The mixed wire jumper is again turned into an unspecified connection and is shown in the column connection (in red).
Select material	Accessory material can be assigned to the mixed wire bridge. The dialog window <b>Replace</b> for material is displayed.
Not shown in diagram	The unspecified connection is automatically moved to the <b>Not shown in diagram</b> column and displayed in gray. The unrepresented connection is stored as a bridge in the project. The attribute <b>Suppress Bridge in Terminal Block Diagram</b> is marked at the bridge and the attribute <b>Jumper Specification</b> gets the value <b>Bridge not Represented</b> .

#### 4.3.4 Editing the Column Insertion Bridge

In this column, all inserted bridges are displayed.

Click on the start or end point of the insertion bridge and the following shortcut menu is shown.



*Context menu insertion bridge right*

Action	
Insertion bridge left or right	The insertion bridge is moved left or right.
Wire jumper left or right	The insertion bridge is turned into a wire jumper and is shown in the column wire jumper (left or right).
Connection	The insertion bridge is again turned into an unspecified connection and is shown in the column connection (in red).
Bn bridge left or right	The insertion bridge is turned into a jumper and is shown in the column Bn (left or right).
Wire jumper left/right	The insertion bridge is turned into a mixed wire jumper and is shown in the column connection.
Wire jumper right/left	The insertion bridge is turned into a mixed wire jumper and is shown in the column connection.
Select material	Accessory material can be assigned to the insertion bridge. The dialog window <b>Replace</b> for material is displayed.

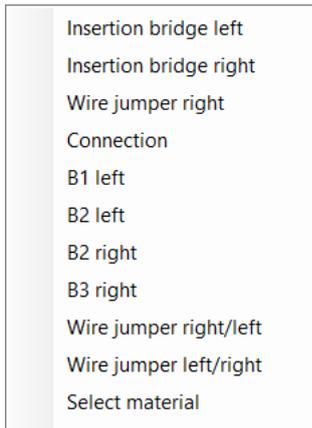
### 4.3.5 Editing the Column Wire Jumper

The defined wire jumpers and graphical wire jumpers are displayed in this column.

#### Wire jumper [ ]

Wire jumpers indicate whether there is a connection between two terminals of the terminal block. In the terminal block diagram, these wire jumpers are not displayed graphically, but as alphanumeric target reference.

Left-clicking a corner of the wire jumper opens a shortcut menu.



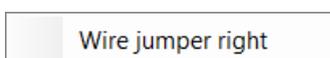
Context menu wire jumper left

Action	
Insertion bridge left or right	The wire jumper is turned into an insertion bridge and is shown in the column Insertion bridge (left or right)
Wire jumper left or right	The wire jumper is moved left or right.
Connection	The wire jumper is again turned into an unspecified connection and is shown in the column connection (in red).
Bn bridge left or right	The wire jumper is turned into a jumper and is shown in the column Bn (left or right)
Wire jumper left/right	The wire jumper is turned into a mixed wire jumper and is shown in the column connection.
Wire jumper right/left	The wire jumper is turned into a mixed wire jumper and is shown in the column connection.
Select material	Accessory material can be assigned to the wire jumper. The dialog window <b>Replace</b> for material is displayed.

#### Graphical wire jumper [ ]

Graphical wire jumpers can only be created in the diagram. Upon its first call in the Terminal Block Designer, the attribute **internal** (right) is set for a graphical wire jumper.

Left-click the start or end point of the graphical wire jumper to open the context menu.



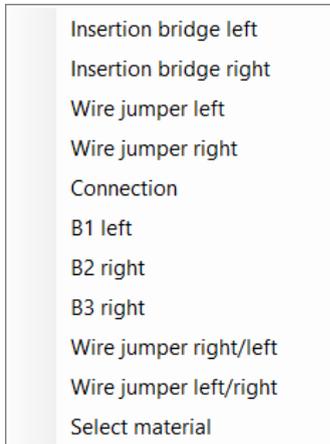
Context menu graphical wire jumper left

Graphical wire jumpers can be displayed internal (right) or external (left).

### 4.3.6 Editing the Column Bn

In this column, all fixed jumpers are displayed.

Click on the start or end point of the fixed jumper and the following shortcut menu is shown.



*Context menu jumper B2 left*

Action	
Insertion bridge left or right	The jumper is turned into an insertion bridge and is shown in the column Insertion bridge (left or right)
Wire jumper left or right	The jumper is turned into a wire jumper and is shown in the column wire jumper (left or right)
Connection	The jumper is again turned into an unspecified connection and is shown in the column connection (in red).
Bn bridge left or right	The jumper is shifted to another slot.
Wire jumper left/right	The jumper is turned into a mixed wire jumper and is shown in the column connection.
Wire jumper right/left	The jumper is turned into a mixed wire jumper and is shown in the column connection.
Select material	Accessory material can be assigned to the jumper. The dialog window <b>Replace</b> for material is displayed.

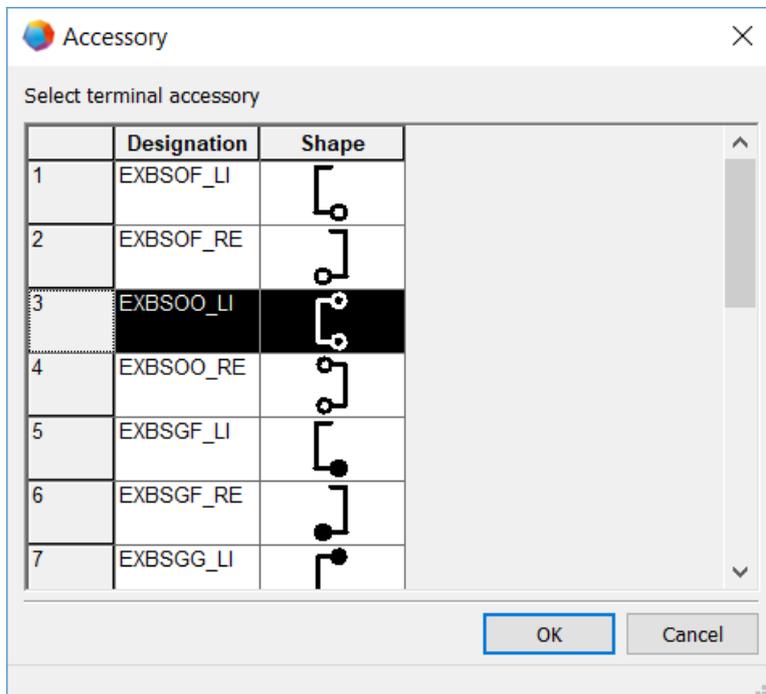
### 4.3.7 Editing the Columns B1 Symbol – Bn Symbol

In this column, the bridge symbol of a **Fixed Jumper** is displayed in the columns B1-Bn.

A bridge symbol can only be selected for a **Fixed Jumper**. If the **Fixed Jumper** is converted to a different bridge type or to a connection, the bridge symbol is no longer displayed.

#### To assign a bridge symbol to a fixed jumper

1. Click the row of a symbol column (B1 Symbol - Bn Symbol) which contains the end point (terminal with the highest terminal number) of the fixed jumper in the respective column B1 - Bn.
2. On the shortcut menu, click **Select Symbol**.
3. Select the required bridge symbol from the list of available bridge symbols in the displayed **Accessory** dialog.



4. Click **OK**.

#### To remove the bridge symbol of a fixed jumper

1. Click the end point of the bridge symbol.
2. On the shortcut menu, click **Delete Symbol**.

### 4.3.8 Editing the Column Not shown in diagram

The connections not displayed in the terminal block diagram will be listed in this column. The connection will be displayed in grey.

If you select in the context menu of an unspecified connection the option **Not shown in diagram**, then this connection will be shifted into this column automatically.

Click on the start or end point of a bridge displayed in gray and the shortcut menu will be shown.

Connection	The unrepresented connection again becomes an unspecified connection and will be displayed in the column <b>Connection</b> in red.
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### 4.3.9 Editing the Column Switch

In this column the switches are represented, either opened or closed. Editing is possible via **Open Terminal** in the context menu of the first column. The representation of the switch terminal is conditioned by the markings of the following terminal attributes:

With disconnect switch	The terminal switch is displayed as opened 
Switch normally closed	By marking the check box, the switch is displayed as closed, i.e. the external side is separated from the internal side. 

## 5 Special Information about Material Bridges

Material bridges are a special case of the accessory, because at least two terminals are affected. The assignment to a terminal using the Accessory Wizard is only possible for terminals with mounting form.

The attributes **Jumper Type**, **Jumper length** and **Master-Shape for Terminal Block** of the material bridge specify the representation in the Terminal Block Designer.

Specifications Tab		
<b>Jumper Type</b>	The 5-place identifier describing the type is built of:	
	1. place: bridge type	possible entries: D = isolating bar jumper S = switching jumper L = removable jumper.
	2. place: bottom bridge area	possible entries: O = opened G = closed F = fixed.
	3. place: top bridge area	possible entries: O = opened G = closed F = fixed.
	4. place: separator "_"	
	5. place: description if internal or external	possible entries: RE = right (internal; slot positive ) LI = left (external; slot negative).
<b>Jumper length</b>	Number of terminals that are jumpered (bridged) with the bridge.	
<b>Master-Shape for Terminal Block Diagram</b>	Master-Shape that has to be used. Material bridge Master-Shapes start with "EXB" (e.g. EXBSGF_LI).	

### Examples for jumper types:

SGG\_LI = Switching jumper, bottom and top closed, left (external).

SGF\_RE = Switching jumper, bottom closed, top fixed, right (internal).