

Engineering Base

New Features in Version 5.2

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Contents

1	New Features	3
1.1	New Features in this Version	3
1.2	Migration of Data from Previous Versions.....	3
2	Data Exchange and Integration of External Systems.	4
2.1	Advanced CAD Import.....	4
2.2	Smart PDF Export for Individual Sheets	4
2.3	Export of Block Structures to DWG/DXF.....	5
2.4	Text Alignment in Rotating and Mirroring.....	6
3	Redesign and Enhancement of Wizards	7
3.1	UNDO for Wizards	7
3.2	Multi User Capability for the Merge I/O Wizard.....	7
3.3	Modification of the Catalog Structure Wizard	7
3.4	Enhancement of the Relay and Contactor Wizard	8
4	Releases.....	10
4.1	Release of Engineering Base for Windows 7	10
4.2	Release of Engineering Base for Windows Server 8 R2	10
5	Connections.....	11
5.1	Highlighting of Conductors and Connections	11
5.2	Bypass Wiring for Variants, Multiple Representations and to Increase Wire Cross-sections	12
6	Miscellaneous	14
6.1	Reports with Initial Value	14
6.2	Introduction of a Database Dictionary.....	14

6.3	Switching off of Peer-to-Peer Cross References	14
6.4	Enhancement of the Info Dialog.....	14
6.5	Automated Generation of Net Separators.....	16

1 New Features

1.1 New Features in this Version

We are glad to be able to offer you with this version of Engineering Base new features that have the potential to improve your productivity.

New feature	Background
Data exchange and integration of external systems	Data exchange with external systems and archiving
Redesign and enhancement of wizards	Enhanced handling efficiency
Releases	Use of the latest in system and server technology
Connections	Improved overview and more options for representation
Various	Higher functionality and improved support

1.2 Migration of Data from Previous Versions

To migrate data from previous Engineering Base versions, you must update the database with the database manager.

How to update a database:

1. Open the **database manager** via the Windows **start menu**.
2. In the **File** menu, click on **Update databases**.

The wizard for updating the database is started. Follow the instructions.

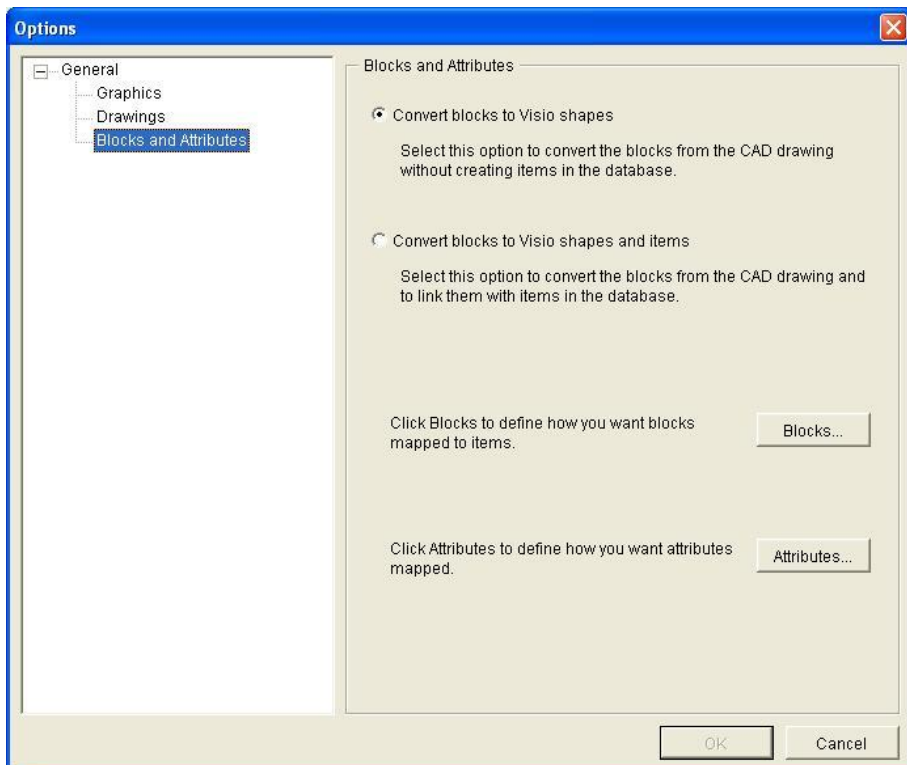


Databases from previous versions can only be accessed if they have been updated. Databases not matching the installed Engineering Base version are not displayed in the selection dialog.

2 Data Exchange and Integration of External Systems

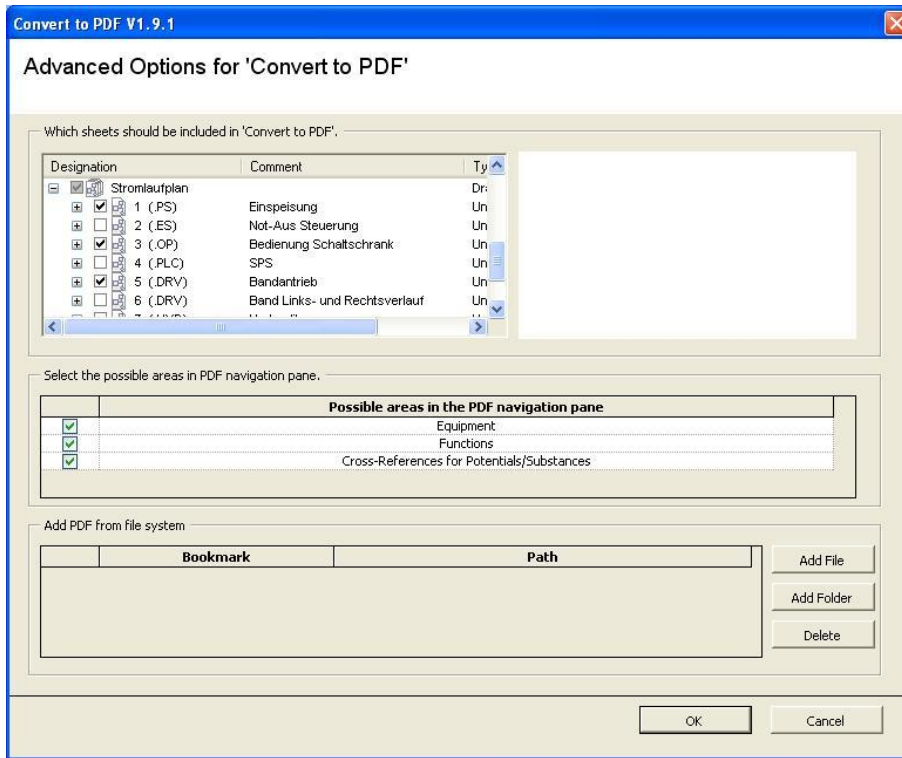
2.1 Advanced CAD Import

The EB **Advanced CAD Import** wizard has been upgraded again: The wizard's **Options** dialog was enhanced by the sub-dialog **Blocks and Attributes** to enable the user to assign to each block and attribute imported from DWG / DXF an EB shape or rather an EB attribute.



2.2 Smart PDF Export for Individual Sheets

Smart PDF enables the export of all sheets of a project to the PDF format: Navigation capabilities within this intelligent PDF format provide for fast locating of documents not only using document structure but equipment, function, and potential structure, too.



Enhanced options using SmartPDF for project export.

Beyond this functional range, by now, you have the option to select individual sheets for export, instead – as up to now – to export the entire project. This new functionality is complemented by the option to add any PDF file from the file system to the project to be exported.

2.3 Export of Block Structures to DWG/DXF

The EB export of drawings to DWG/DXF writes by default the master shapes referenced by exported shapes as block structures into the DWG/DXF interface files. Now, the user has the option to set a registry switch to dissolve the transferred EB shapes into simple graphics. That way, blocks need not to be transferred any longer.

2.4 Text Alignment in Rotating and Mirroring

Up to now, importing graphical documents or drawings, e.g. in the SVG format, resulted caused by oversized text boxes for static strings not only in optically unsatisfying results if the imported symbols were rotated or mirrored. In individual cases, even, the graphical information was distorted, e.g. by false association of terminal designations.

This problem was solved using an optimization algorithm for text boxes with up to four characters to effect minimum sized text boxes for the imported static texts. Hence, the import of static texts is no longer a problem.

3 Redesign and Enhancement of Wizards

3.1 UNDO for Wizards

EB now offers for the majority of wizards delivered in the standard distribution, exceptions are e.g. the export wizards, an UNDO function: It can be activated by clicking the **Undo** button in the EM menu bar (see subsequent figure) or in the Visio menu.



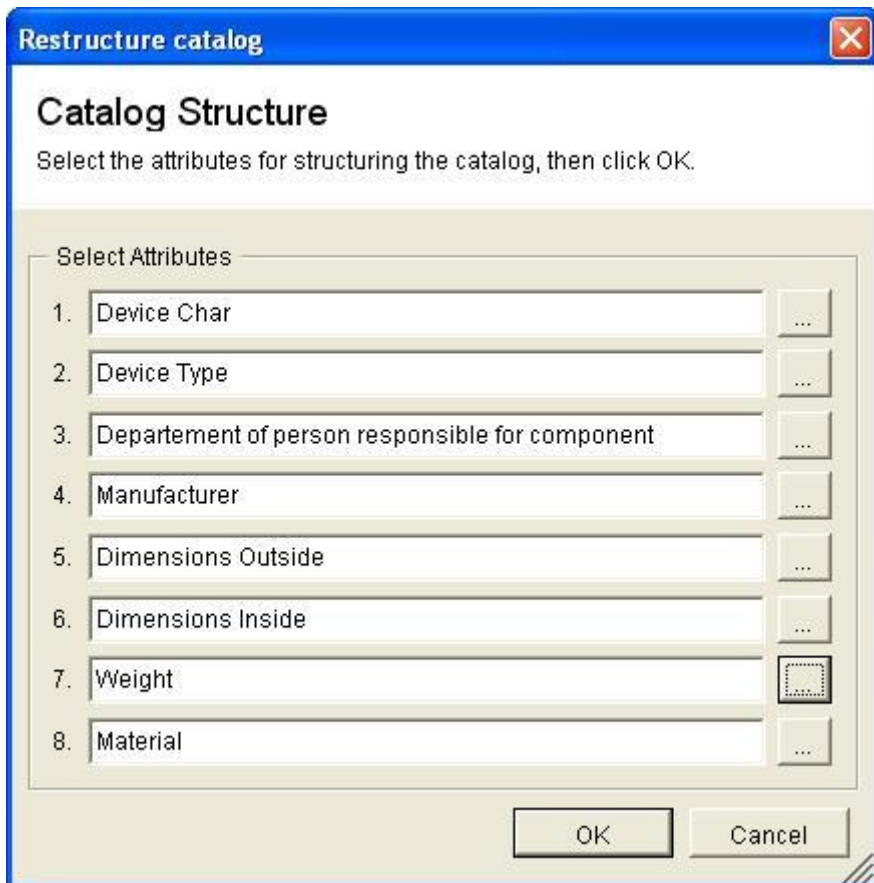
Therefore, in the domain of VBA programming, the means to carry out UNDO operations had to be developed. Hence, all operations executed within VBA can now be reversed. The UNDO operations can also be nested to allow for an adjustment of the granularity of reversible operations to the requirements of the specific application.

3.2 Multi User Capability for the Merge I/O Wizard

To further enhance the capabilities of EB for concurrent engineering, the **Merge I/O Wizard** has been upgraded to support multi user access.

3.3 Modification of the Catalog Structure Wizard

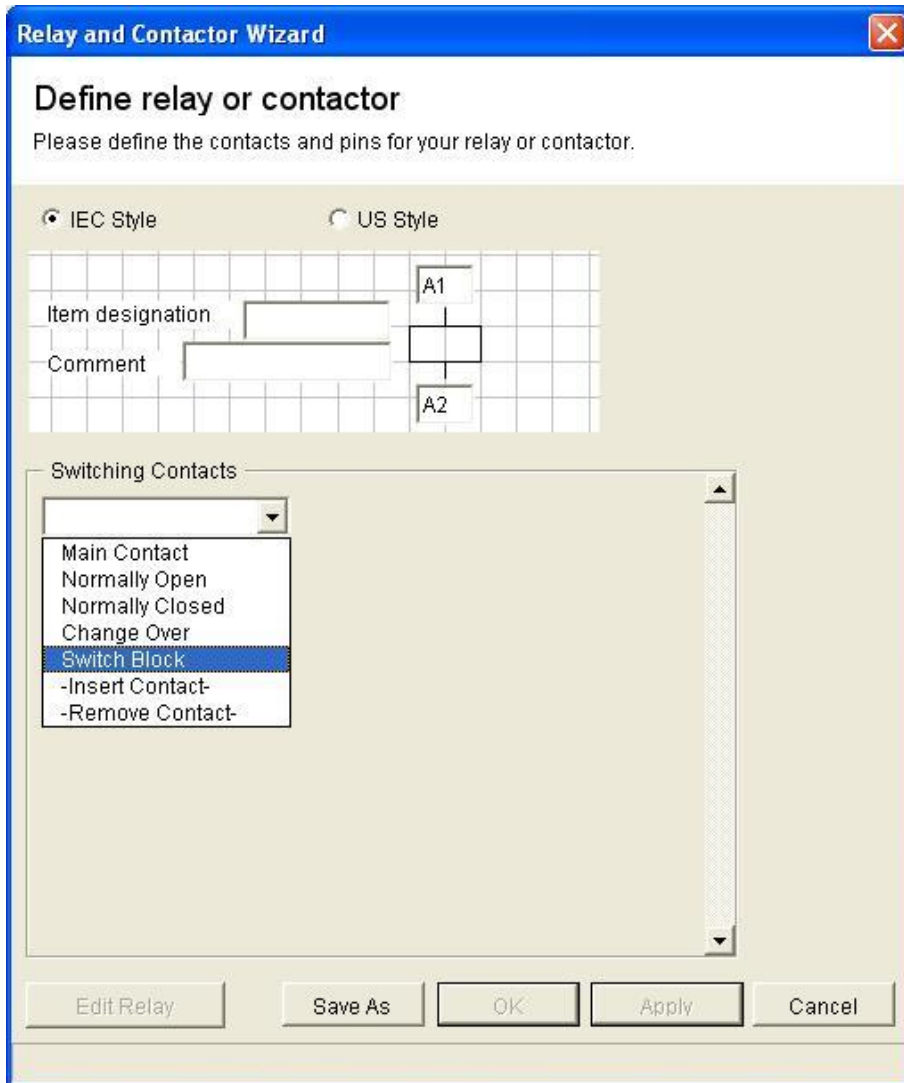
Up to now, the **Catalog Structure** wizard could be used to restructure the components of a catalog based on up to four preselected classifying attributes. With the new version of EB, there is now the option to select from all available attributes those needed to restructure the catalog (see figure below).



Dialog to select all attributes needed to restructure a catalog.

3.4 Enhancement of the Relay and Contactor Wizard

The **Relay and Contactor Wizard** has been extended in a way to enable now for the creation of an additional structural level for auxiliary contacts without being forced to specify on this level e.g. a “Normally Open” or “Normally Closed” contact explicitly. This is supported by the selection box in the field **Switching Contacts** of the Relay and Contactor Wizard which offers now an item **Switch Block** (see figure below) to help define a respective new structural level.



4 Releases

4.1 Release of Engineering Base for Windows 7

Engineering Base has been released for operation under Windows 7.

4.2 Release of Engineering Base for Windows Server 8 R2

Engineering Base has been released for operation under Windows Server 8 R2. The user can profit now from the enhancements offered by Windows Server 8 R2: Scalability, data compression and application deployment have been improved decisively.

5 Connections

5.1 Highlighting of Conductors and Connections

To improve graphically the overview over the actually existing connection topology on a diagram, selected connectors or connections can be marked with a predefined color and displayed with increased line thickness. For this purpose, the EB tool bar has been extended by a respective button (see below):



The selection always extends to the wire ends connected – if a wire has been associated – or rather to the end of the connection, which means to the nearest device. If there are junctions in a selected network, then the presentation change extends the junctions. To highlight connectors, the user has to select connections and / or wire tags and symbols for forced connections, and then click the **Highlight** button (see above) on the EB tool bar.

The coloring is done with the color that is used for the coloring of modules / variants, too. A change of the highlighting color by the user is not possible. Only connections associated with the selected connector are colored. Symbols – especially wire tags and symbols for forced connections are not highlighted.

If only one connection is selected, then the ends of the connection are searched for wire tags. If wire tags are found, then the connectors associated with the wire tags are selected. If no wire tags are found at the ends of the selected connection, then the entire network is highlighted.

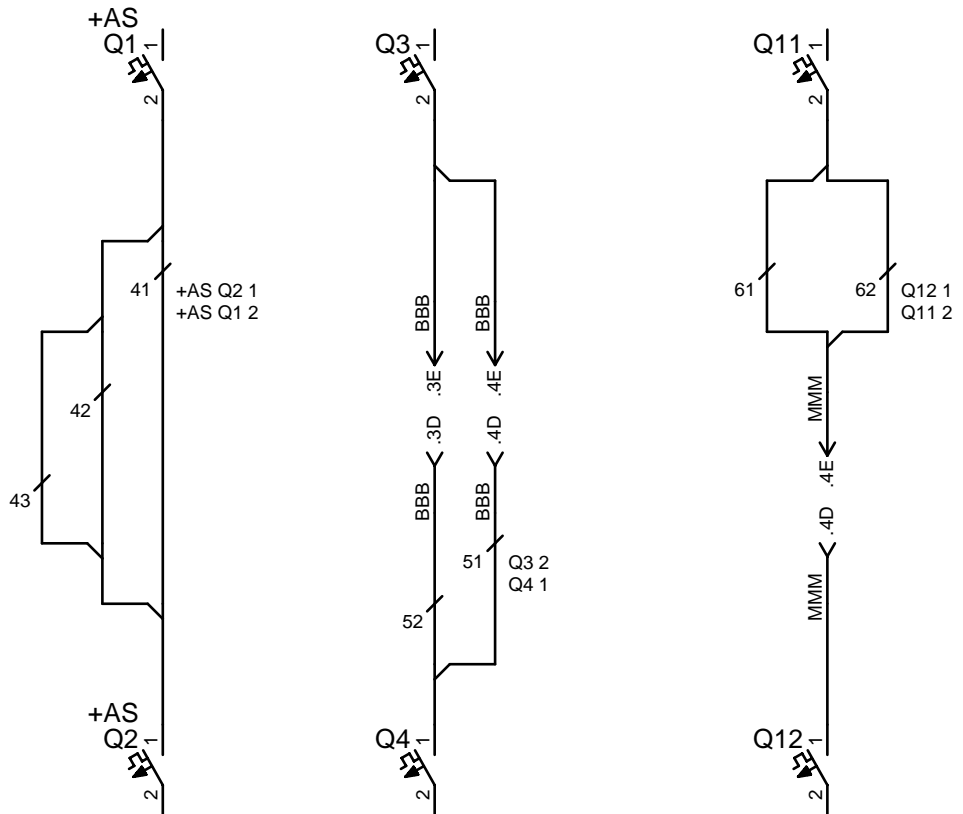
The highlighting is reset if

- the diagram is stored, or
- highlighting is activated by a new or empty selection (nothing on the diagram was selected).

If a wire tag is selected within an ambiguous wiring, then the path to be highlighted is not determined. The algorithm then highlights those connections found first to lead to its destination.

5.2 Bypass Wiring for Variants, Multiple Representations and to Increase Wire Cross-sections

With the new version, EB offers new functionality to realize so-called bypass wiring in variants, multiple representations, and to increase wire cross sections. The following graphics illustrates supported scenarios serving to increase wire cross sections.

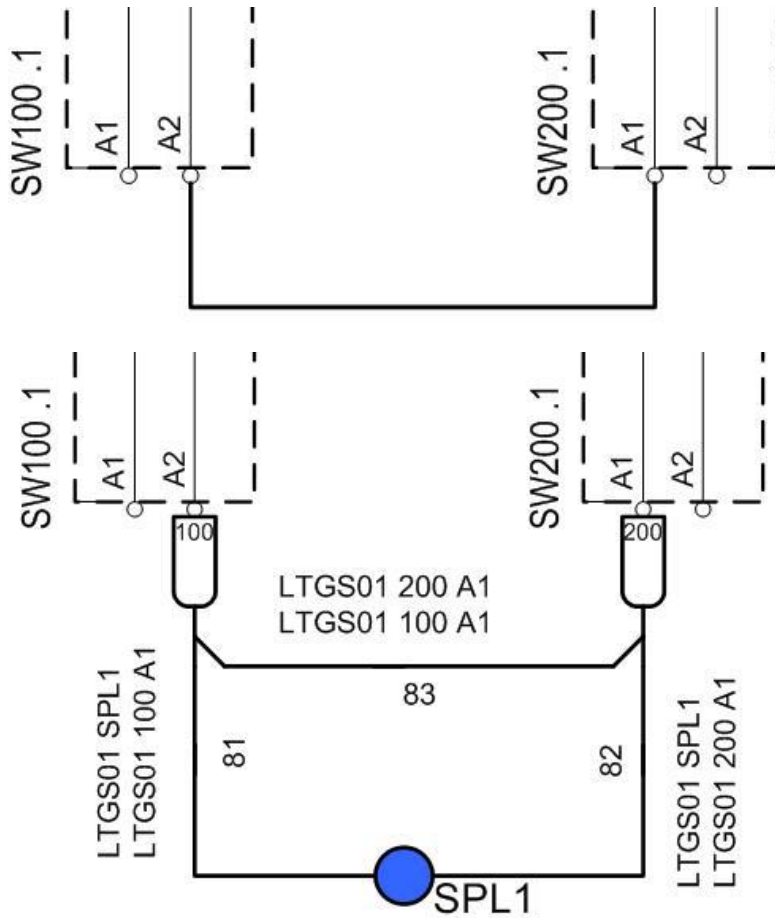


Examples for supported scenarios to increase wire cross sections.

The functionality offered by EB supports to connect two terminals with up to seven wires and to associate each with a different wire symbol. Thereby, the specified connections can be lead over page connectors.

Precondition for applying this new functionality is the use of forced connection symbols: Symbols for forced connections are an approach offered by EB to specify the actually intended wiring and connectivity.

In addition, EB supports now scenarios concerning multiple representations of wiring that enable different views with different levels of detail of the wiring (see example below):



A global map (above) and a simultaneous view of two wiring variants. Wiring with one wire (83) and two wires (81,82).

6 Miscellaneous

6.1 Reports with Initial Value

Up to now, to output a report meant to increment page numbers from “1” to “n” that is to say each report had to start with page number “1”. Now, the property dialog of the project can be adjusted in a way that the page number of the report can start with any freely chosen value. This value is set using an attribute that has to be selected for this purpose.

6.2 Introduction of a Database Dictionary

Complementary to the already existing system and project dictionaries, the user has now the option to use a project independent dictionary valid for all projects of a database. It offers a means to for a database specific extension of the system dictionary. The database dictionary is set up using the **Properties** dialog on the level of the database.

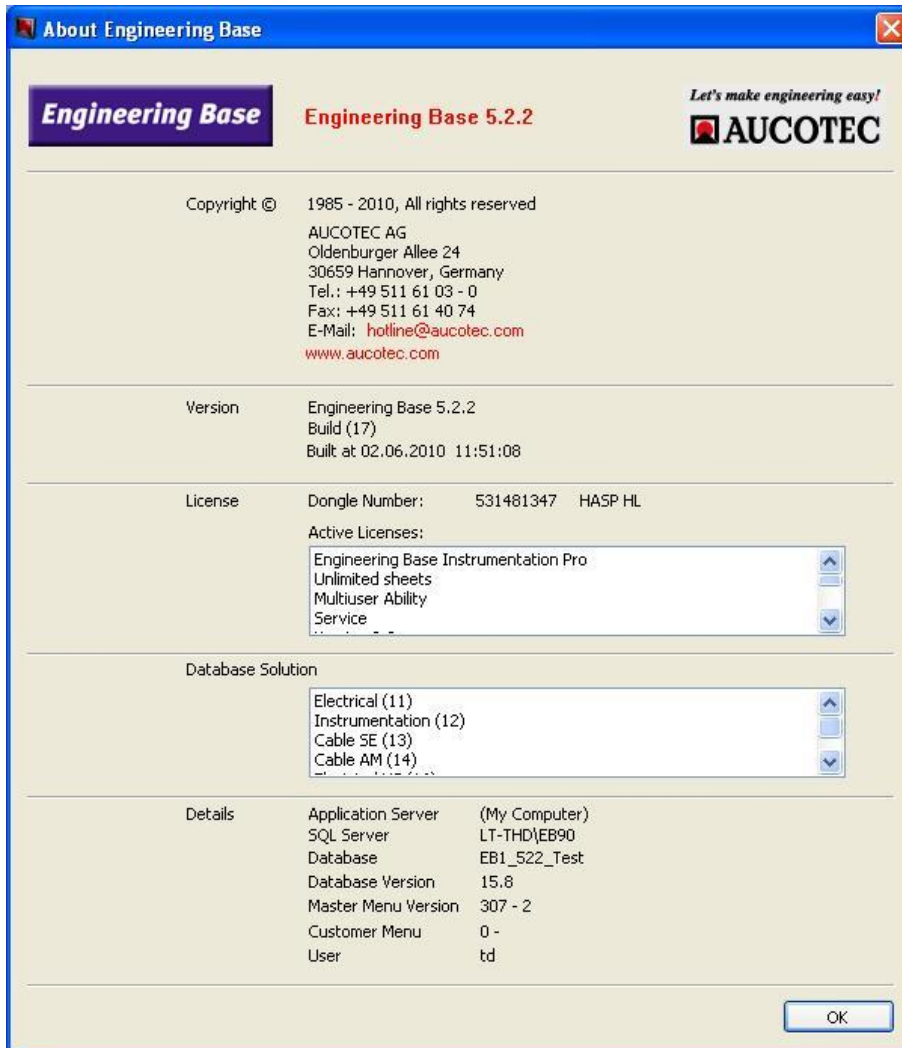
6.3 Switching off of Peer-to-Peer Cross References

Now, the so-called peer-to-peer cross references can be switched off or rather reduced selectively in EB: Peer-to-peer cross references serve to point from one representation of a device to all the rest of them. The alteration allows now to switch off all cross references between the same devices, represented on different sheets stored under different sub-folders of the **Documents** folder that is to say cross-references are only shown between multiple representations stored under the same sub-folder of **Documents**.

This new function is set up using the **Properties** dialog on the level of the respective project.

6.4 Enhancement of the Info Dialog

The **About Engineering Base** dialog of EB has been enhanced in way that the user can now learn from the dialog which industrial sector solutions he has activated.



6.5 Automated Generation of Net Separators

EB now offers the option to generate net-separators according to the requirements of the respective application. The generation of a net-separator is enacted first by successive selection of individual connection endpoints in a diagram or by selection of the entirety of connection endpoints needed by using a selection frame. Subsequently, the user pulls a line adapter shape from a stencil for net-separators – to be found via Stencils → Devices → Net-Separator – to the selected connection endpoints and drops the line adapter shape on exactly the connection endpoint that is to receive the terminal position one.

Afterwards, the net-separator symbol is generated automatically. The generation of net-separators can be configured concerning the

- slant of “net-separator arms”
- color
- line type and
- length of “net-separator arms”.

The shortcut menu of the net-separator offers the function **Reduce Net-Separator**: If a “net-separator arm” is not connected, then after calling this function the net-separator is reduced. An extension of the net-separator can be enacted by deleting the current net-separator and by selecting the needed connection endpoints again and a subsequent call to the function **New Net-Separator**.