ELCAD

ELCAD Studio

The modular, object-oriented electric design

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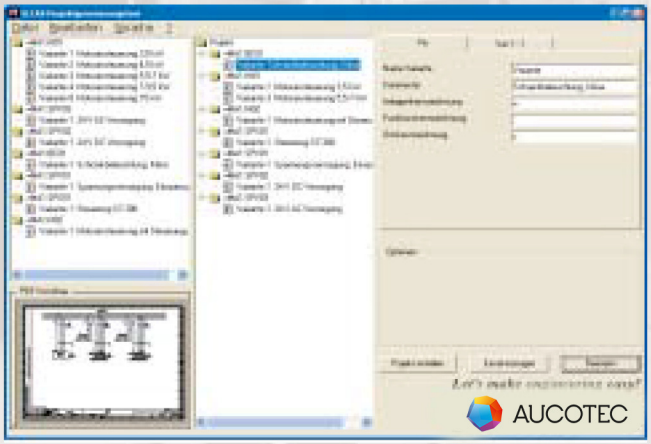
Modular, object oriented electric design

Modular construction based on standard components
With the ELCAD Studio, for the first time modular design on the basis of standardized function modules is directly integrated into an E-CAE system. With an ELCAD template project, reusable module can be predefined or put together from already projected machines and plants. These standardized "construction kits" contain, apart from the circuit diagrams proper, all of the information concerning I/O assignment, the device definitions and specifications as well as the external documentation required. In a working project these templates can be accessed via search keys or filter criteria and copied any number of times in a single operation.

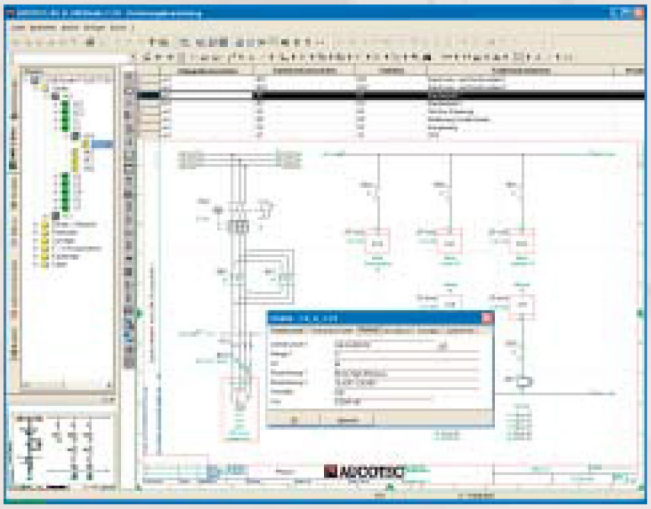
At the same time ELCAD Studio also offers a variant management option. Function-oriented standard modules must be defined only once, their special - application-dependent - components and parameters are automatically assigned on the basis of the variant selected. This renders the usual maintenance and setup times superfluous. Variants can also be defined and changed retrospectively.

If the modules to be used in a plant are put together with an external tool, ELCAD Studio offers an intelligent delta management. Changes and differences with respect to the current data stock are determined, the import and export can be carried out in a controlled and transparent way.

Object-oriented database engineering
ELCAD Studio offers an up-to-date object-oriented device concept. Plant and device data can be defined and edited in alphanumeric or graphic editing views. Objects are changed only once, and the changes are automatically updated online for all views. Plant, function and location structures can be specified independently of graphics, devices can be defined without a circuit diagram.



Project configuration on the basis of function modules and variants



ELCAD Studio supports functional planning with combined list and graphics editing

Direct object editing in worksheets

The integrated table editing of all structure and device data is unique in the world of electric CAE. Here the user can directly edit all engineering data with up-to-date list browsers and access appropriate filtering and sorting functions. Undo/redo, cut/paste and the possibility to freely set the table views and column arrangement complete this currently unique way of editing electric CAE data online. Mass editing and clear central changes can be done easily with ELCAD Studio.

Integrated table editing in ELCAD

Online cabinet layout concept

Machine design starts with cabinet construction - this requirement of electric design can easily be met with ELCAD Studio. The devices required for the cabinet can be placed in the cabinet by drag & drop from a tree view of the devices. The device definition proper can be effected directly in the device tree, via the device symbol view in the layout diagram or via a part taken from the Parts tree. The appropriate symbolic representation of the device is in this case deduced from the part definition and offered for placement. A special “Layout view” displays all devices not placed in the cabinet online in the object window - if devices are removed from the cabinet, the list is automatically updated.

Electrical cabinets can be copied over several projects. ELCAD Studio can automatically fill the necessary device list on the basis of the device data copied simultaneously and can generate a parts list required for ordering. A circuit diagram is not required for this and can be created later on. With plausibility checks and drag/drop functions, ELCAD Studio again offers maximum ease of operation also in this case. Thus with ELCAD Studio the engineering process can be flexibly adjusted to the practical requirements. Device data can be used for ordering without functional assignment in the circuit diagram, and cabinet construction can be commissioned. Later data processing is guaranteed.

Direct import of items

ELCAD Studio deals with the task of integrating external engineering data such as drive lists, load and field device definitions in an utterly unique way. Intelligent mapping functions and openness to all customary data formats permit the import of data from the most varied systems. Imported data can be further processed and specified directly in the table view, or they can be assigned to the symbols in graphics editing by drag & drop. Default values for identifications can optionally be taken from the drawing contents or the imported device definition. An integrated delta manager provides transparency and checking during data import. Newly added, changed or deleted data are labelled beforehand and can optionally either be selectively adjusted or appended. With ELCAD Studio, unnecessary multiple entries of external engineering data are a thing of the past, and a change management check with respect to external data is ensured for the first time.

Central modification of plants, locations and devices

Higher-level designations of the plant, function and location objects can be changed or renamed centrally. All object and frame views are automatically updated. Thereby the currently customary effort put into change management is avoided together with the errors associated with it.

Features

Modular design

- Definition of standardized “construction kits”
- Variant management with automatic assignment
- Delta management for controlled data import and export
- Object-oriented design in alphanumeric or graphics editing view

Object-oriented device concept

- Changes are updated online for all representations
- Device definition even without a circuit diagram

Table editing

- Up-to-date list browsers for all structure and device data
- Diverse filtering and sorting functions

Online cabinet concept

- Direct placement from a device tree view
- Layout view with representation of unplaced devices

Integration of external engineering data

- Import of all data formats
- Intelligent mapping function

Central change management

- Automatic updating of all object and frame views
- Central changes

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Advantages

All advantages at a glance:

- Definition of reusable modules for faster project creation
- Standardized “construction kits” with all of the important information readily accessible
- Variant management facilitates series manufacturing without much effort
- Delta management for error-free data import and export
- Modular, object-oriented design in alphanumeric or graphics editing view
- Object changes are updated only once and online for all representations
- Device definition can be done in a time-saving manner without creating the circuit diagram
- Simple tabular editing of all structure and device data is possible
- Online cabinet concept with direct placement from a device tree view into the cabinet
- All devices not placed in the cabinet visible at a glance in the layout view
- Timely commissioning of cabinet construction by flexible engineering process
- Easy integration of external devices with all data formats
- Automatic updating of all object and frame representations in case of changes

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