ZUKEN®

E3.panel - Documentation and design of electrical control panels

SPECIAL FUNCTIONALITY IN E3.panel

- Integrated schematic and panel design
- Schematic panel navigation
- Multiple panel sheets
- Shared panel sheets
- Automatic snapping placement
- Clash detection
- Hazard avoidance
- 2D and 3D design
- 3D placement in free space
- Fluid control panels

E3.panel+

- Automatic routing
- Shortest path algorithm
- Segregation
- Duct fill capacity check
- DXF import and export (punching, drilling and cutting detail)
- Support for hose, tubing and piping
- Drill-hole definition for duct and DIN-rail

Manufacturing support

- Cut list
- Komax integration
- Perforex integration
- 3D STEP AP 212/214 output

Introduction

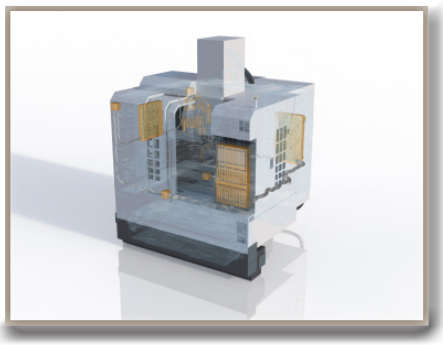
Zuken's E3.series is used for documenting and detailing electrical and fluid design projects. Its flexibility supports the entire process from definition and design, through manufacturing and maintenance. Its unique object-oriented architecture ensures all stages of the design are fully synchronized.

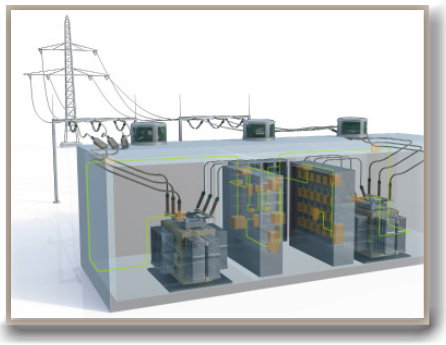
E3.panel enables full documentation of control panels while the built-in design rule checks prevent errors from entering the manufacturing phase. E3.panel+ is an add-on to E3.panel that provides automatic wiring within the panel and additional manufacturing capabilities.

Working in either two or three dimensions, E3.panel is completely integrated with E3.schematic and E3.cable. Changes made in the panel or schematic are immediately reflected across both and users can easily navigate between the two. Simple slot and mount functionality means electrical engineers do not need to use complex 3D MCAD systems.

Supported industries

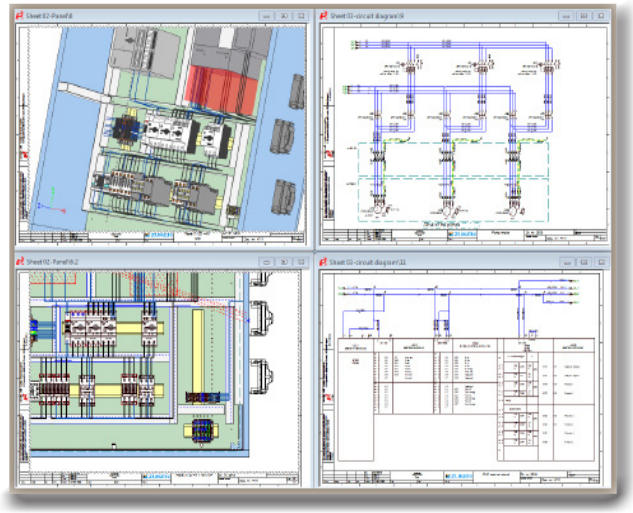
E3.panel is ideally suited for machinery, plant process and power industries, as well for any vehicle requiring panel enclosures.





Schematic and panel integration

Users may begin their designs in either E3.panel or E3.schematic. Electrical engineers needing to provide space requirements to the mechanical teams can layout their panel design before beginning the schematic. Parts pulled from the library will visually change as they are dragged across either the schematic or panel sheets, and once placed, are immediately available in the opposing design space.



Combined schematic and panel design

Design rule checks

Slot and mount information makes panel placement simple; devices automatically snap on to valid mounting positions without the need for complex move commands. Valid mounting locations are automatically highlighted, providing immediate feedback to users. Keep out areas and height restrictions help prevent placement errors.

Automatic panel wiring

E3.panel+ enables automatic wire routing within the panel enclosure. Connectivity data from the schematic is automatically available in the panel design, and a shortest route algorithm routes the wires through cable ducts. Segregation is standard where EMC and noise issues need to be avoided.

Design for manufacturing

Manufacturing data is extracted from the design in the form of wire lists, which includes route and length information. In addition various modules exist, which interface E3.panel to manufacturing equipment such as Komax wire preparation machinery and Perforex drilling, punching and cutting tools. E3.panel+ adds DXF import into E3.schematic to view data, the ability to exclude certain devices from DXF, and drill-hole definition for duct and DIN-rail (set holes size and spacing).

Additional E3.series options

E3.cable
Enhanced functionality for designing cables and cable harnesses. Different views of the design enable specific documents to be created for production, start-up and service.

E3.fluid
Integrated design solution for hydraulics, pneumatics, cooling and lubrication systems. Supports integrated electrical and fluid design.

E3.formboard
Creates build-to-print detailed 1:1 harness designs; linked dynamically to E3.cable drawings.

E3.Revision Management
Document all physical and graphical changes between design iterations. Automatically produce engineering change order documentation.

E3.3D Routing Bridge
Transfer wire, cable and cable harness information to 3D MCAD systems. After routing, the individual wire lengths can be transferred back to E3.series.

E3.topology
Evaluate system harnesses early in the design flow for factors such as length, weight and cost. Enables tradeoff analysis of harnesses and sub-harnesses to optimize manufacturing performance and cost.

E3.redliner
Markup documents in a protected read-only copy of the design. Playback and jump to all recommended changes in the master design.

E3.view
View all E3.series projects and special viewer files with this free-of-charge viewer.

E3.Export to KomaxTopConvert
Interface E3.panel wiring directly with Komax wire preparation equipment.

E3.perforex export to Perforex drilling machine
Interface E3.panel with Perforex drilling and milling equipment.

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