

AVEVA Electrical

Electrical engineering and design system, documentation and management for the entire lifecycle

AVEVA Electrical is a feature-rich software suite for electrical engineering and design. Its advanced graphical user interfaces, and its use of design rules and catalogues for data creation and maximum workflow flexibility, make AVEVA Electrical the preferred choice for projects of all sizes.

Stand-alone, integrated with AVEVA Instrumentation or fully integrated with the project's selected suite of applications, AVEVA Electrical is functionally rich, both for the engineering contractors in design and for the Owner Operator in everyday operations.

When used as part of an integrated AVEVA software deployment, the product adds electrical data into the complete project information model, exposing it to the full range of AVEVA's design, engineering, collaboration and lifecycle management technologies.



Business Benefits

Increased productivity

- Easy to learn, fast and accurate
- Integration with AVEVA PDMS/Outfitting cable routing
- Single-line diagrams instantly created
- Create and manage engineering data
- Compare and Update features
- Integrated E&I projects
- Multi-purpose datasheets
- Local language available

Automatically generated deliverables

- Electrical datasheets
- Load list
- Key one-line diagram
- Single-line diagrams (with or without CAD)
- Schematic and standard installation diagrams
- Termination drawings
- Cable schedules, diagrams and drumming
- Bill of Materials created using the report writing module

Increased design quality

- 'Visual engineering'
- Change management
- Comply to cable sizing standards
- Graphical cabling design and management

Rapid payback

- Easily and rapidly deployed on new or existing projects, integrates with standard office applications
- Highlights flaws in the design before they become irretrievable



Making connections: AVEVA Electrical serves a wide range of process, power and marine industries



Key Features

AVEVA Electrical comprises three integrated modules which share a common, multi-user SQL Server database for design and as-built data. By hosting AVEVA Instrumentation and AVEVA Electrical project databases on one SQL database, customers can share and control equipment and connections.

- Equipment can be shared between AVEVA Instrumentation and AVEVA Electrical, allowing each technology to terminate on shared objects.
- Allows E&I engineers and designers to work on the same project and share/control information.

Use of catalogues and rules enables right-first-time design. Accurate design information is further supported by seamless integration with 3D model data, e.g. for cable routing. High quality documentation maximises productivity in operations.

AVEVA Electrical supports multiple languages throughout for ease of deployment and use worldwide. Data integrity is ensured by extensive validation processes, automatic cross-referencing and rigorous change control. Straightforward customisation enables configuration by users, without the need for programming skills. Intuitive use minimises training needs and makes users immediately productive.

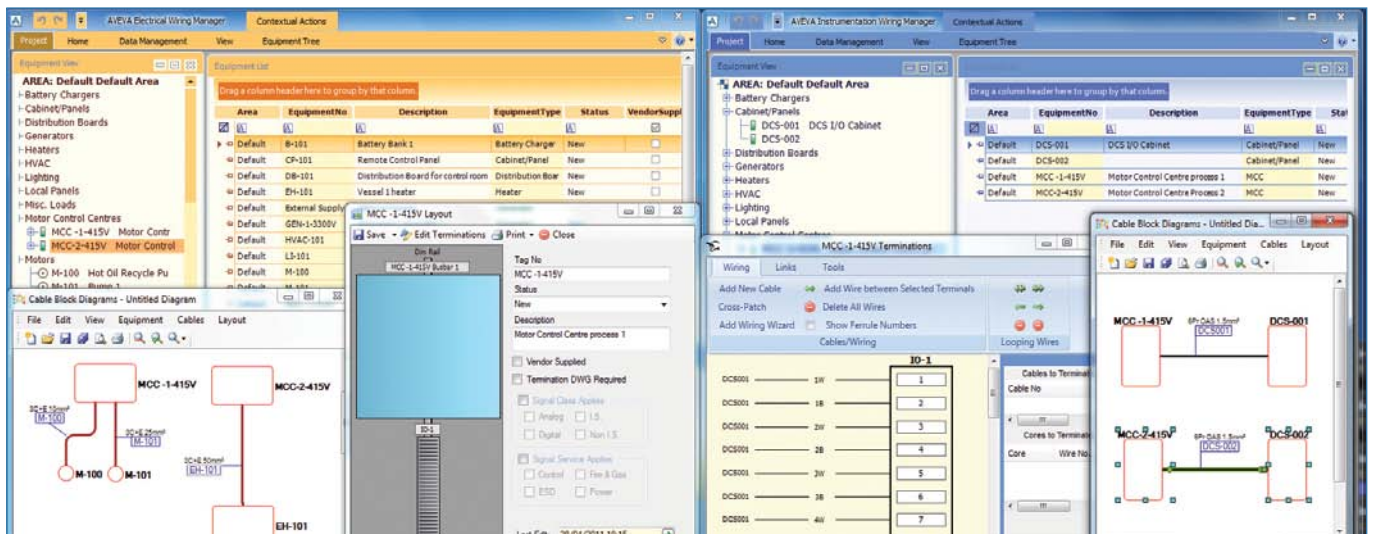
Other important features include:

- full integration with the AVEVA NET information and resource management portfolio
- interface to all industry-standard document management systems
- report comparison and highlighting
- E&I Extracts feature enables data to be divided up between project teams and then merged back into the main database.

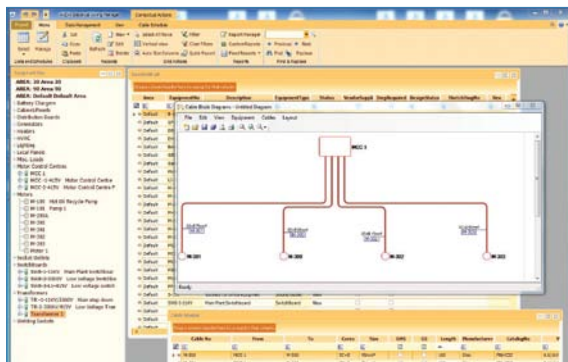
The flexible feeder hierarchy constantly monitors the project loads. Single-line diagrams are instantly created and re-created from this flexible feeder.

AVEVA Electrical gives the user the ability to create and manage electrical engineering data, design data and documentation.

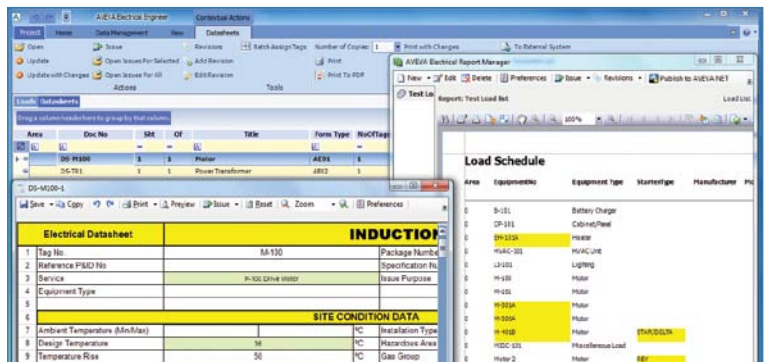
Compare and Update facility allows the user to perform Excel data interaction whilst being able to modify and control the information exchange.



Working on the same project, electrical engineers can see instrumentation objects and vice versa



AVEVA Electrical Wiring Manager creating cables using the cable block wiring diagram



Datashet and report change highlighting in AVEVA Electrical Engineer module

Integrated Modules

Electrical Engineer module

This module enables equipment data entry/import, Compare and Update, change tracking, automated generation of highly customisable single-line diagrams and specification documents, and the creation and management of reports and documentation. Its features include a straightforward and flexible spreadsheet-style interface, plus:

Electrical load list

- Define electrical data (volts, kW, FLC, kVAr, pf, phases) including Excel import
- Define load type (such as motor, feeder, distribution board, HVAC, Lighting & Power)
- Define circuit type (including DOL, FWD/REV, VSD, CB)
- Define wiring rule (auto-creation of equipment, cables and terminations)

Supplies list

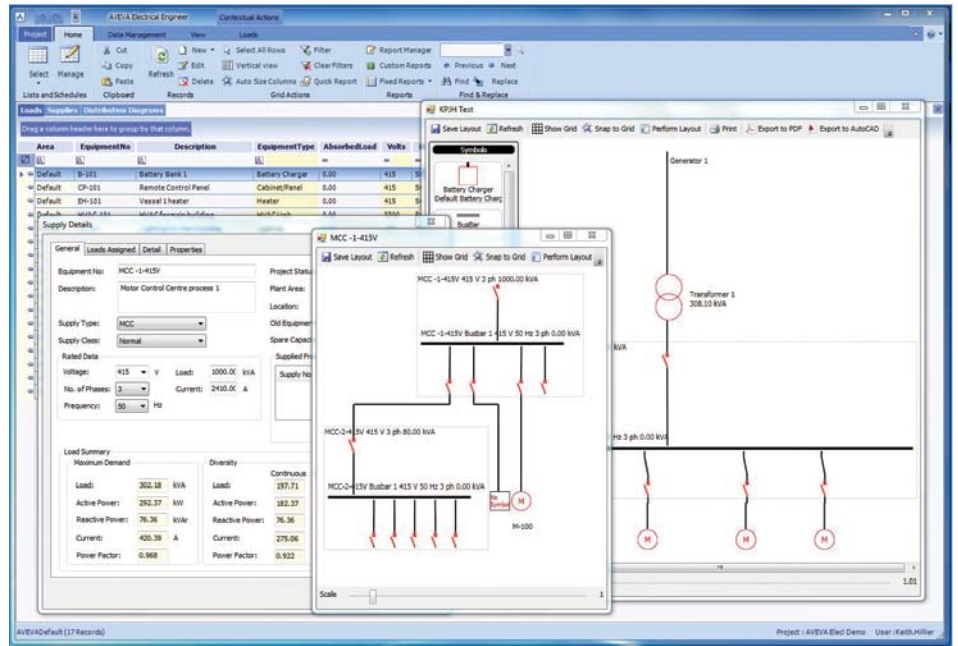
- Define design electrical data (volts, kW, FLC, kVAr, pf, phases)
- Define supply type (MCC, distribution board, switch board, etc.)
- Assign loads from load list (and MCC module or circuit number)
- Calculate demand (kW, FLC, kVAr, pf) for normal, standby and essential
- Any supply can be a load for any other supply

Calculations

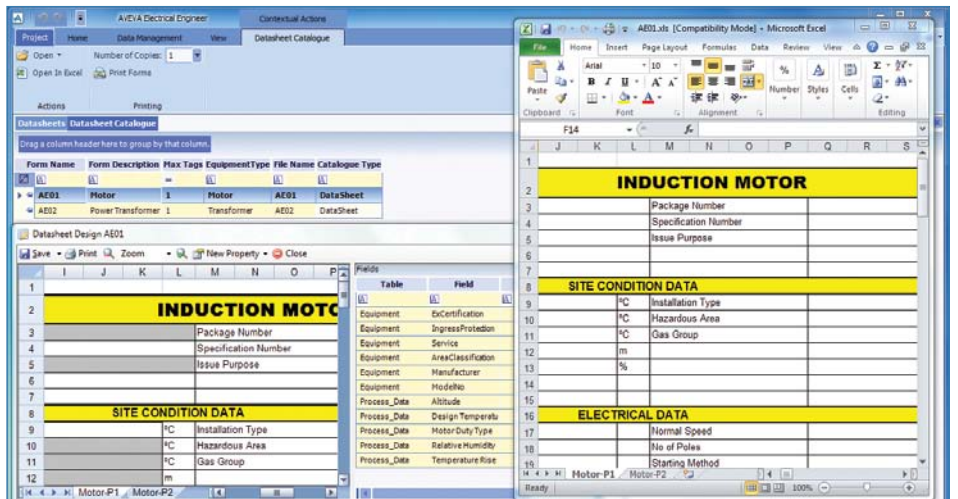
- Loads: change in any load rolls up through all supplies
- Cable sizing (volt drop, fault level) by installation method
- Fuse/CBs sizing, short-circuit/fault current

Electrical Equipment Datasheets

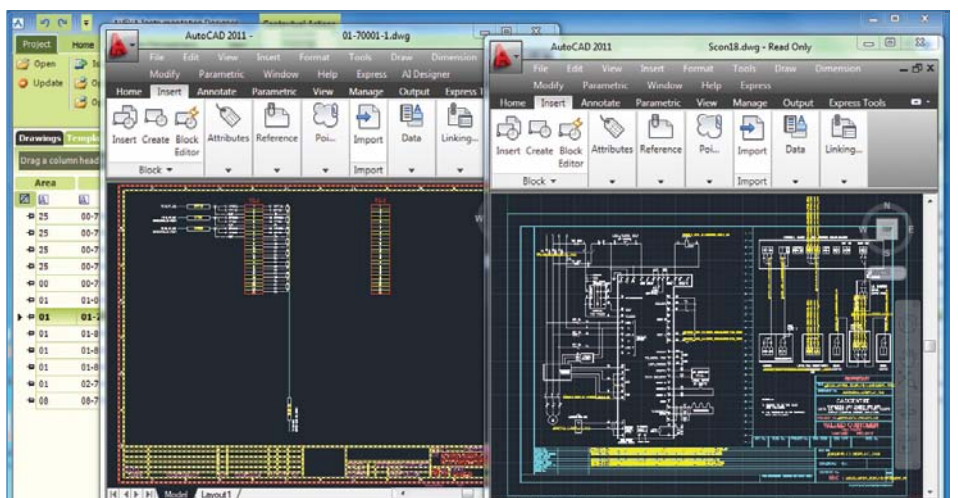
- User defined (using Excel) for MCCs, distribution boards, motors, UPS, etc.



Automated single-line diagrams (SLDs) in AVEVA Electrical Engineer module



Datasheets in native Excel and embedded in AVEVA Electrical



The AVEVA Electrical Designer module auto-generating a motor schematic

Integrated Modules (continued)

Electrical Wiring Manager module

Based on AVEVA Instrumentation Wiring Manager

Cable schedules

- Define From and To cable type
- Define installation method
- Cable sizing (including volt drop, fault level) by installation method
- Cable gland/adaptor sizing
- Auto cable drumming, Bill of Materials

Terminations

- Drag-and-drop by cable or wire
- Auto wire number inheritance
- Copy existing equipment (including internal terminals and devices)
- Termination reports without CAD

Cable block diagrams

- Interactive (edit cable, equipment properties and terminations)
- Add new equipment/cables on the fly

Electrical Designer module

Based on AVEVA Instrumentation Designer

Auto-creation of single-line diagrams in AutoCAD

- Based on loads assigned and user-defined circuits
- Engineering data updated from load list / supplies list
- Editable and updatable (not re-created in AutoCAD)

Auto-creation of schematic diagrams in AutoCAD

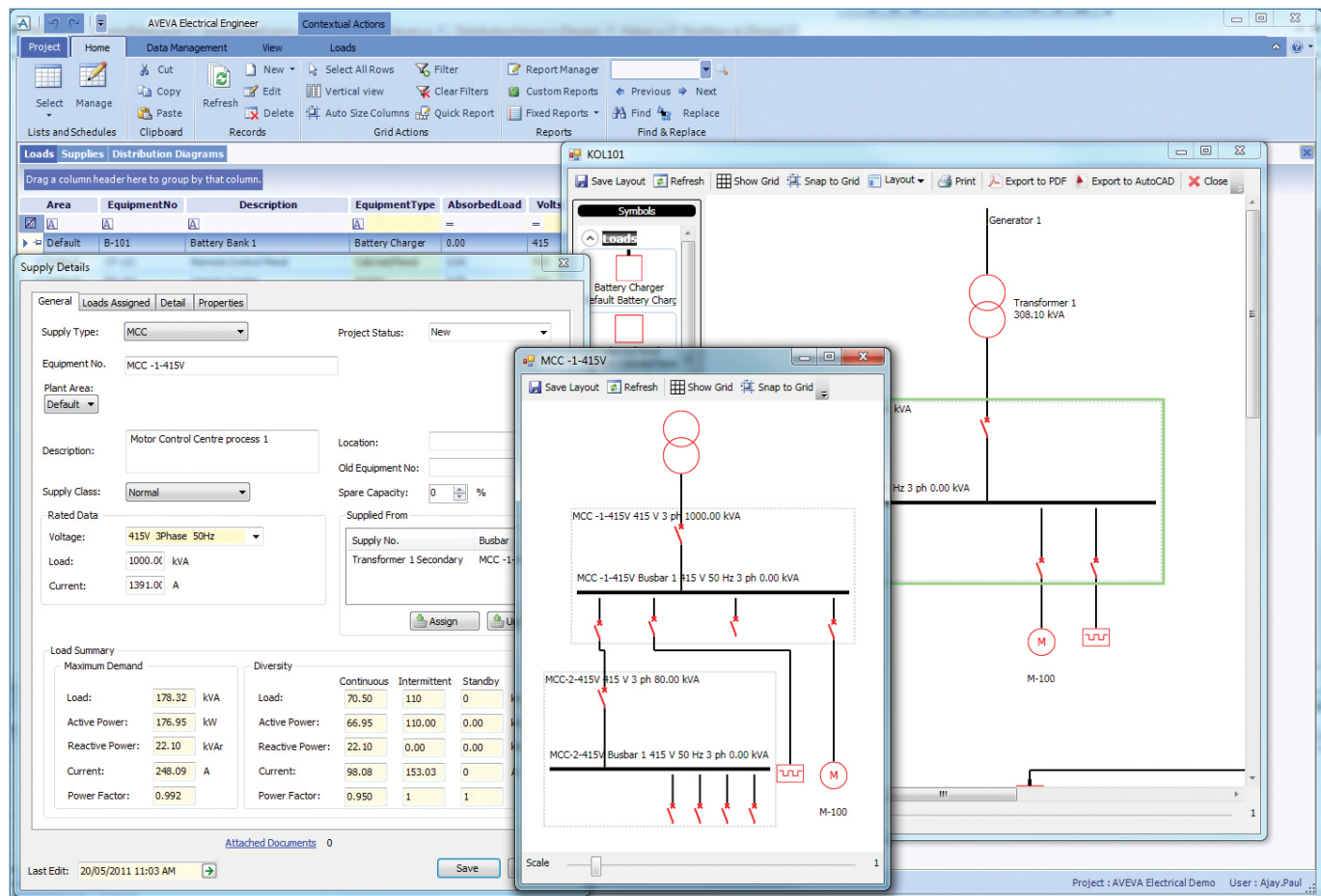
- Based on user-defined templates
- Engineering data updated from load list / supplies list
- Editable and updatable (not re-created in AutoCAD)

Termination diagrams

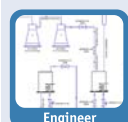
- Parametric (auto-drawn) based on Wiring Manager connectivity
- Ability to create terminations by cable (terminations at both ends)

Installation details

- Based on user-defined templates and assigned components
- Create project BOM



AVEVA Electrical Engineer module automating SLDs



AVEVA Electrical is one of AVEVA's Engineer products, which create schematics, diagrams, datasheets, engineering lists and indexes

AVEVA Worldwide Offices | www.aveva.com/offices



AVEVA believes the information in this publication is correct as of its publication date. As part of continued product development, such information is subject to change without prior notice and is related to the current software release. AVEVA is not responsible for any inadvertent errors. All product names mentioned are the trademarks of their respective holders.

Copyright 2011 AVEVA Solutions Limited and its subsidiaries. All rights reserved. AEEC/DS/11.

Tel +44 (0)1223 556655 | Fax +44 (0)1223 556666 | www.aveva.com/contact

Information in this datasheet relates to product version 12.1 unless otherwise stated.