3DEXPERIENCE®

TMS CADCentre
SolidWorks in Scotland

SOLIDWORKS

SOLIDWORKS ELECTRICAL

OBJECTIVE

SOLIDWORKS® Electrical helps companies simplify the electrical design process and enables concurrent development of electrical and mechanical aspects of a design. SOLIDWORKS Electrical is unique in its ability to provide a real-time, bi-directional link between SOLIDWORKS Electrical schematics and 3D mechanical models. This offers a clear advantage to any company where two or more users must collaborate on a project, and having up-to-date and synchronized information is a must.

OVERVIEW

SOLIDWORKS Electrical is a set of Computer-Aided Engineering (CAE) design tools that are integral parts of the SOLIDWORKS design and simulation portfolio. SOLIDWORKS Electrical helps design engineers reduce the risk inherent in innovation, enabling companies to get products to market faster and with less cost, due to a decreased need for physical prototyping. With a powerful and intuitive set of electrical design capabilities, designers can establish an integrated design early in the design process. This helps minimize or even eliminate potential defects and avoids costly design rework, saving time and money.

BENEFITS

- Streamline the development process.
- Avoid hidden costs.
- Reduce manufacturing defects.
- Avoid time-to-market delays.

CAPABILITIES

- SOLIDWORKS Electrical schematics are bi-directionally linked to allow multi-user interaction in real-time, and to 3D SOLIDWORKS assembly, facilitating verification of proper fit, planning of all wire, cable, harness routes, and calculation of all wire lengths prior to any assembly.
- ECAD and MCAD share a common database, ensuring consistency and facilitating creation of a single, unified Bill of Materials (BOM), including both electrical and mechanical elements.
- Component database is easily linked to MRP/ERP to ensure that proper part numbers, pricing, supplier info, lead time, and other relevant data is captured at the time of design.
- SOLIDWORKS Electrical, with its real-time, multi-user design, enables complex schematic designs to be easily shared across multiple disciplines.
- SOLIDWORKS Electrical translates single line schematics into detailed multi-line power and control and PLC schematics.
- SOLIDWORKS Electrical offers detailed terminal strip management tools.
- SOLIDWORKS Electrical allows for the reuse of existing designs.

SOLIDWORKS Electrical Schematic Standard

A powerful, easy-to-use schematic design tool for the rapid development of embedded electrical systems for equipment and other products. SOLIDWORKS Electrical Schematic Standard features built-in and web-enabled libraries of symbols and manufacturer part information to streamline the design process. With these automated design and management tools, users can simplify an array of tedious design tasks, from terminal block to contact cross reference assignments.

- **Single line schematic:** Electrical system planning tool for creating complex embedded electrical system utilizing simple pictorial representations of electrical components and interconnectors.
- **Multiline schematic:** Traditional schematic creation
- tool with a simplified User Interface (UI) optimized for simplification of repetitive tasks>
- **2D cabinet creation:** Generate 2D panel representations from an electrical schematic, with 2D outlines of electrical components.

DASSAULT SYSTEMES

- **Electrical component and symbol library:** Extensive library of industry-standard schematic symbols combined with a database of manufacturer parts, to provide an easily customizable and adaptable parts base through easy-to-use import tools.
- **Design and reuse:** Suite of integrated tools for intelligent cut and paste, an easy-to-access selection of "favorite" components and circuit design elements, and the ability to reuse non-SolidWorks Electrical design elements through easy-to-use import wizards.
- **Automated terminal drawing creation:** Automatically generate terminal drawings based on and synchronized with the real-time design.
- **Report generation:** Automatically generate reports based on real-time design database queries, with custom reports possible via integrated custom report creation tools.
- **Automated contact cross-referencing:** Electrical contacts are automatically cross referenced in real time and synchronized based on availability and type of contacts from manufacturer-specific components.

SOLIDWORKS Electrical Schematic Professional

Same features as Standard, plus additional advanced automation tools and functionality, including:

- **PLC tools:** The Programmable Logic Controller (PLC) management tools automate many PLC wiring design tasks, along with the ability to import PLC data and labels.
- **SOLIDWORKS Enterprise PDM integration:** Automated publishing of schematic data, drawings, and reports for archival and revision control.

These capabilities increase the speed and accuracy of the electrical systems design. Users can create and modify PLC drawing configurations, report templates, and design rules. SOLIDWORKS Electrical Schematic Professional offers the ability to import data configuration and data from Excel®, and work with real-time synchronized unified Bills of Materials (BOMs).

SOLIDWORKS Electrical 3D

Allows for the integration of electrical schematic design data with the SOLIDWORKS 3D model of a machine or other product, bi-directionally, and in real time. SOLIDWORKS Electrical 3D enables users to place electrical components and use advanced SOLIDWORKS routing technology to automatically interconnect electrical design elements within the 3D model. Users can determine optimal lengths for wires, cables, and harnesses, all while maintaining design and BOM synchronization.

- **Electrical 3D:** Bi-directional integration of electrical schematic design data from SOLIDWORKS Electrical Schematic with the SOLIDWORKS 3D CAD model.
- **Real-time collaboration:** Synchronized, bi-directional environment enables multiple users to work on the same project simultaneously and in real time for easier project collaboration.
- **Auto-routing:** Advanced SOLIDWORKS routing technology to simplify the auto-routing process for wire, cables, and harnesses in the 3D CAD model.
- **Harness development:** Create schematic driven harness designs utilizing real-time, bi-directional functionality, coupled with powerful routing, flattening, and automatic documentation.
- **Real-time synchronization:** All project design data
- bi-directionally synchronized in real time between schematics and the 3D model in a multi-user, collaborative environment.
- **Manufacturers electrical component library:** Extensive integrated library of manufacturer parts provides an easily customizable and adaptable parts base through easy-to-use import tools and wizards .
- Create a 3D cabinet representation based on the electrical schematic.
- Electrical components are represented as SOLIDWORKS models.
- Synchronized electrical and mechanical BOM.

SOLIDWORKS Electrical Professional

Combines the schematic functionality of SOLIDWORKS Electrical Schematic with the 3D modeling capabilities of SOLIDWORKS Electrical 3D, all in one powerful, easy-to-use package. SOLIDWORKS Electrical Professional is ideally suited for the user who demands electrical and mechanical design integration.

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