

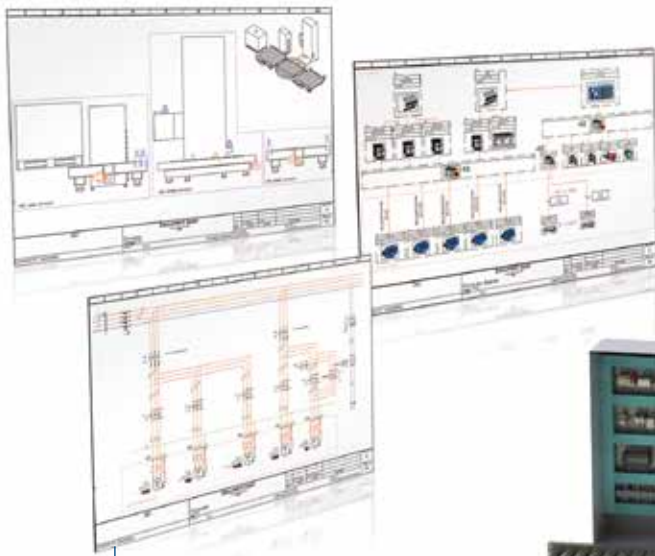
SOLIDWORKS ELECTRICAL

Real-time integration of Electrical Schematics and 3D CAD



INTEGRATED ELECTRICAL SYSTEM DESIGN

Increasingly products have embedded electrical content, including power systems, user controls, complex wiring, and harnesses. SOLIDWORKS® Electrical helps simplify electrical schematic creation with an intuitive interface for faster design of embedded electrical systems. Bidirectional integration in real time with SOLIDWORKS 3D CAD helps make both electrical and mechanical engineers more productive, and improves collaboration for fewer product delays, more consistent and standardized designs, lower costs, and faster time-to-market. You can create schematic-driven harness designs with powerful routing, flattening, and automated documentation.



SOLIDWORKS Electrical schematics integrate with SOLIDWORKS 3D models to enable true concurrent electromechanical design.

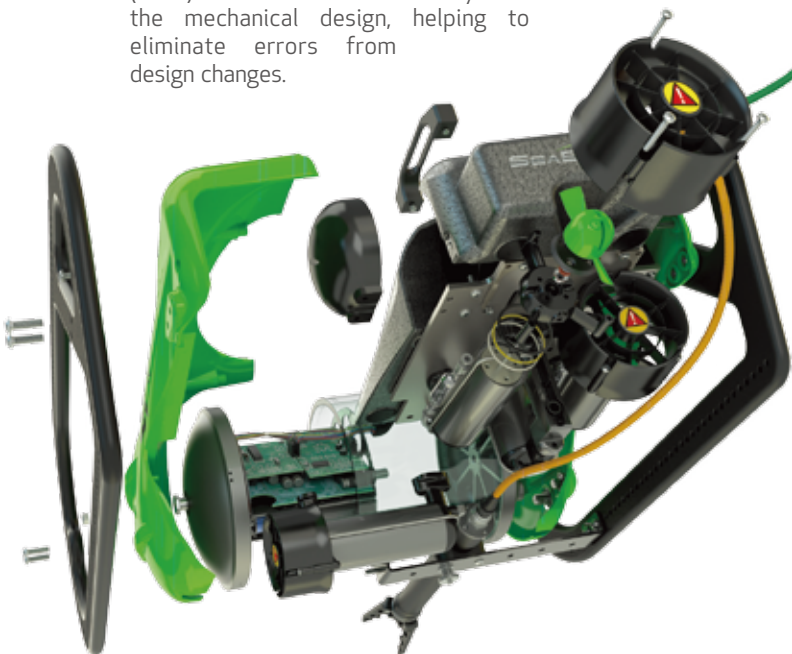


Modernize your electrical system design

In the complex world of electromechanical design, creating an electrical system using 3D CAD can be a demanding and daunting task. Developing design elements and defining the electrical interconnect of wires, cables, and harnesses is often laborious and error-prone.

3D CAD electrical development has typically been done with the interchange of design data via external files and manual design. Using external files can cause electrical and mechanical designs to become unsynchronized, resulting in design, manufacturing, and supply chain discontinuities. Current practices also do not provide easy collaboration between design disciplines.

SOLIDWORKS Electrical 3D™ technology enables faster development of schematically defined electrical systems that can be readily implemented in the 3D CAD model. Real-time synchronization of the electrical schematic and 3D CAD model enables unification of the bill of materials (BOM) between the electrical system and the mechanical design, helping to eliminate errors from design changes.



SOLIDWORKS Electrical packages provide a range of electrical schematic and 3D design capabilities:

- **SOLIDWORKS Electrical Schematic** A powerful, easy-to-use suite of collaborative, schematic design tools that help drive the rapid development of embedded electrical systems for equipment and other products. Built-in libraries of symbols, manufacturer part information, and 3D component models provide common, reusable materials that help optimize design reuse. Automated design and management tools help streamline and simplify an array of tedious design tasks, from PLC and terminal block to contact cross-reference assignments.
- **SOLIDWORKS Electrical 3D** Integrate electrical schematic design data with SOLIDWORKS 3D bidirectionally and in real time. SOLIDWORKS Electrical 3D enables you to place electrical components and use advanced SOLIDWORKS routing technology to automatically interconnect electrical design elements within the 3D model. Determine optimal lengths for wires, cables, and harnesses, all while maintaining design and BOM synchronization between electrical and mechanical designs.
- **SOLIDWORKS Electrical Professional** Combine the electrical schematic functionality of SOLIDWORKS Electrical Schematic with the 3D modeling capabilities of SOLIDWORKS Electrical 3D in one powerful, easy-to-use package. SOLIDWORKS Electrical Professional is ideally suited for the user that supports both electrical and mechanical design integration with 3D models.

CHOOSE THE SOLIDWORKS ELECTRICAL PACKAGE THAT'S RIGHT FOR YOU.

SOLIDWORKS Electrical Schematic

Create schematics for electrical and control systems for your projects.

Key capabilities include:

- Advanced database architecture enabling multiple users to work on projects concurrently
- Integrated single line, multiline, and mixed schematic development tools
- Design rules checks (DRC) reports, providing feedback on design integrity
- Intelligent copy-and-paste circuits to reuse designs across projects
- Smart Search and filter capabilities, simplifying design element searching within and across projects
- Enhanced content management, including a web-based content portal, for ease of content selection
- Electrical calculation reports for circuit power properties, e.g., voltage and power loss of cables
- Advanced rights management for user based access control of the electrical design tools and libraries.
- Generate SOLIDWORKS eDrawings® documents for projects, providing seamless integration with mobile devices
- One-touch integration with SOLIDWORKS Enterprise PDM to manage project data and documents, generate reports, and create PDF and DWG™ exports (SOLIDWORKS Enterprise PDM sold separately)
- Generate DWG, DXF™, and intelligent PDF documents for projects, with smart navigational capabilities
- Dynamic connector tools provide a powerful and easy to use way to simplify all aspects of creation, design and use of electrical connectors.
- Ability to define cable harness in schematic drawing
- Direct import of existing DWG and DXF symbols with existing attributes and connections
- Circuit symbol creation wizard to easily prepare custom schematic symbols
- Customizable symbol and macros palettes for the most frequently used symbols and saved circuits
- Fully automated generation of PLC schematic, terminal strip drawing, and support documents
- Simple-to-use library managers for symbols, footprints, title blocks, macros, cables, and part references, including customizable ERP connectivity for standard parts
- Configurable to support industry standards (DIN, JIS, ANSI, ISO)

SOLIDWORKS Electrical 3D*

Add SOLIDWORKS Electrical Schematic data to your SOLIDWORKS 3D model.

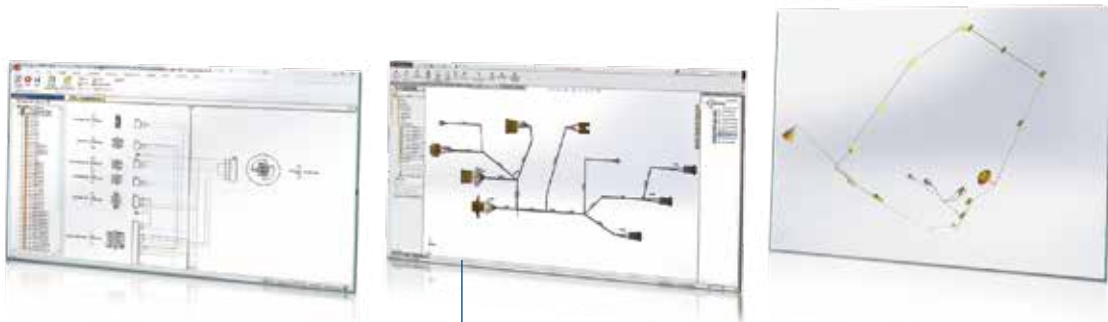
Key capabilities include:

- **Electrical 3D** CAD-embedded interface bidirectionally integrates electrical schematic design data from SOLIDWORKS Electrical with the SOLIDWORKS 3D CAD model.
- **Harness development** Create schematic-driven harness designs in the 3D model, utilizing real-time bidirectional functionality coupled with powerful routing, flattening, and automatic documentation capabilities.
- **Autorouting technology** Advanced SOLIDWORKS routing technology with advanced diagnostics provides highly simplified autorouting of wires, cables, and harnesses from within a 3D CAD model. The routing detail information is available instantly to all project users.
- **Collaboration** SOLIDWORKS Electrical enables multiple users to work on the same project simultaneously.
- **Real-time synchronization** Project design data is synchronized in real time, bidirectionally between schematics and the 3D model. This allows key information, such as BOM and design data, to be unified between design disciplines and users.
- **Electrical 3D Cabinet Design** SOLIDWORKS Electrical combines SOLIDWORKS CAD and Electrical technologies, to provide a cohesive environment for electrical 3D cabinet design that is synchronized in real time without the use of external files and can utilize existing CAD data. Using industry-proven SOLIDWORKS automation tools, SOLIDWORKS Electrical provides extensive capability and usability for all aspects of electrical 3D cabinet design and documentation.

SOLIDWORKS Electrical Professional*

Combine both schematic creation and 3D electrical system modeling.

- SOLIDWORKS Electrical Schematic and SOLIDWORKS Electrical 3D in one convenient package
- Single installation and licensing



SOLIDWORKS Electrical 3D provides capabilities to develop schematic-driven 3D electrical harness designs.

*Requires SOLIDWORKS CAD software (sold separately)

THE BENEFITS OF INTEGRATING ELECTRICAL SCHEMATICS WITH 3D MECHANICAL MODEL

Increase collaboration and synchronization between electrical and mechanical design

Eliminate Hidden Costs

With your 3D model and schematic linked bidirectionally in real time, you help prevent mistakes and additional costs, as well as create a combined BOM for electrical and mechanical elements.

Reduce Manufacturing Defects and Scrap

With items from the electrical schematic added to the 3D model, you can help confirm fit, check for collision/clash, calculate lengths, plan for efficient material usage, and reduce scrap. Documentation is better and more consistent throughout development, reducing mistakes.

Improve Time-to-Market

Coordinating electrical and mechanical functions enables teams to work in parallel to save time. Specific time-saving benefits include combining mechanical and electrical BOMs to streamline production planning and faster planning of cable/wire/harness paths using the 3D model.

Ensure Consistent Manufacturing and Assembly

Including electrical information from the schematic in the 3D model enables detailed planning, documentation, and visualization of overall product design, helping to ensure consistent assembly from unit to unit.

SOLIDWORKS PRODUCT DEVELOPMENT SOLUTION

SOLIDWORKS software provides users with an intuitive 3D development environment that helps maximize the productivity of your design and engineering resources to create products better, faster, and more cost-effectively.

SYSTEM REQUIREMENTS

- Windows® 7 (x32 and x64) or Windows 8 x64
- 2 GB RAM (minimum)
- 5 GB disk space free (minimum)
- Video board (certified recommended)
- Intel® or AMD® processor
- DVD or broadband Internet connection
- Internet Explorer 8 or later
- Video board (certified recommended)



3DEXPERIENCE®



智誠科技有限公司

Intelligent CAD/CAM Technology Ltd.

Hong Kong Headquarter

Units 811-812, 8/F, No.16 Science

Park West Avenue, Hong Kong

Science Park, Shatin, N.T. Hong Kong

Tel: (852) 2425 8136

Fax: (852) 2425 8098

Website

www.ict.com.hk

www.ict.com.cn

Email

ictinfo@ict.com.hk

Shenzhen

Tel: (86 755) 8290 0794

Fax: (86 755) 8295 1453

Guangzhou

Tel: (86 20) 3801 1593

Fax: (86 20) 3801 1595

Dongguan

Tel: (86 769) 2202 6215

Fax: (86 769) 2203 1860

Zhuhai

Tel: (86 756) 333 9630

Fax: (86 756) 333 3260

Suzhou

Tel: (86 512) 6818 7309

Fax: (86 512) 6818 7310

Shanghai

Tel: (86 21) 6336 6878

Fax: (86 21) 6336 6879

China Toll-free Technical Support Hotline: 400 886 6353