

SOLIDWORKS ELECTRICAL SUITE

SEAMLESS INTEGRATION OF
ELECTRICAL AND MECHANICAL DESIGN



INTEGRATED ELECTRICAL SYSTEM DESIGN

SOLIDWORKS® Electrical Solutions simplify electrical product design with specific tools designed for the engineering discipline and intuitive interfaces for faster design of embedded electrical systems. Native integration with SOLIDWORKS 3D CAD provides better collaboration and productivity, resulting in fewer product delays, more consistent and standardized designs, lower costs, and faster time-to-market.

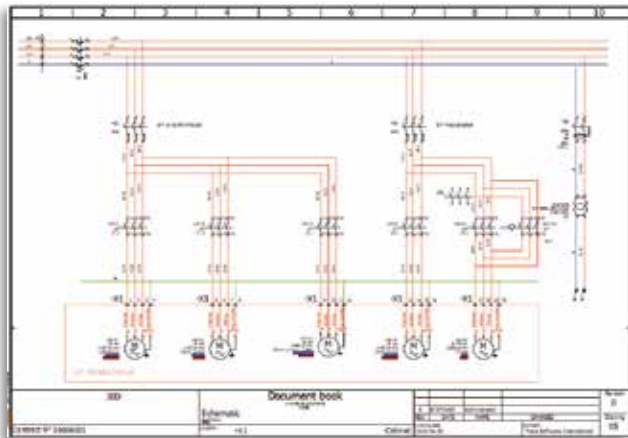
“Innovation has helped us gain a commanding share of our market, and SOLIDWORKS software is one of the tools that helps us to innovate freely.”

– Kai Birger Olsen, Engineering Director, Ramboll Offshore Wind



SOLIDWORKS ELECTRICAL SOLUTIONS

Designers and engineers can quickly define the electrical interconnect of complex electrical systems with the easy-to-use electrical system design solutions in SOLIDWORKS Electrical. Utilizing intelligent single line or traditional multiline schematics, and a library of thousands of electrical schematic symbols and parts, you can develop embedded electrical system designs in a real-time, collaborative multiuser environment that connects mechanical and electrical engineering.



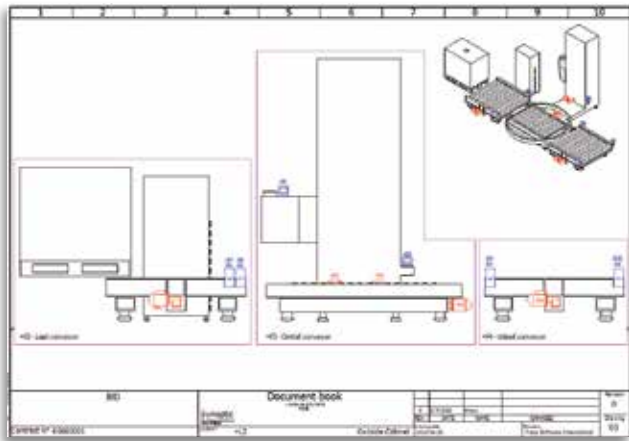
SOLIDWORKS ELECTRICAL SCHEMATIC PROFESSIONAL

A powerful easy-to-use suite of collaborative schematic design tools drives 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 optimizing design reuse. Streamline and simplify an array of tedious design tasks, from PLC and terminal block to contact cross-reference assignments, with SOLIDWORKS automated design and management tools.



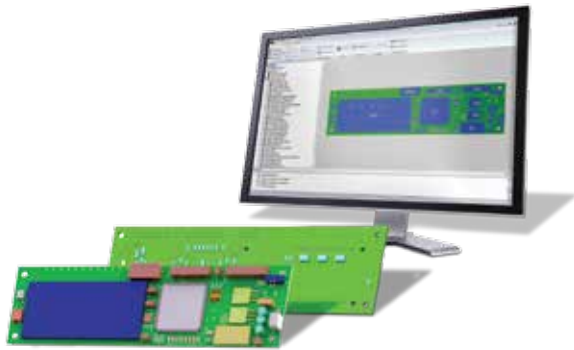
SOLIDWORKS ELECTRICAL 3D

Integrate electrical schematic design data with the SOLIDWORKS 3D model of a machine or other product—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, while maintaining design and BOM synchronization between electrical and mechanical designs.



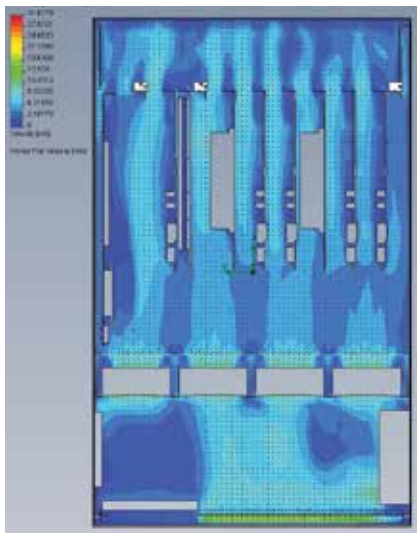
SOLIDWORKS ELECTRICAL PROFESSIONAL

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 who supports both electrical and mechanical design integration.



CIRCUITWORKS

Share data between electrical CAD (ECAD) and mechanical CAD (MCAD) designers using the CircuitWorks™ tool in SOLIDWORKS 3D CAD software. CircuitWorks enables users to share, compare, update, and track electrical design data so they can more quickly resolve electrical-mechanical integration problems.

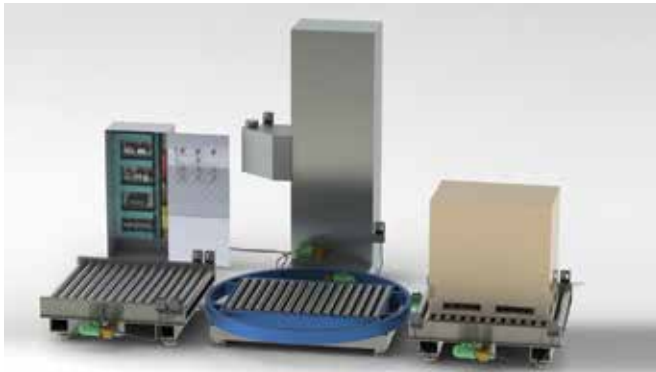


SOLIDWORKS FLOW SIMULATION AND ELECTRONIC COOLING MODULE

Optimize the thermal performance of your Printed Circuit Boards (PCB) and electronic components. You can perform component thermal analysis on designs incorporating PCBs and electronics with SOLIDWORKS Flow Simulation and the Electronic Cooling Module. The Electronic Cooling Module features a comprehensive set of intelligent models along with the core SOLIDWORKS Flow Simulation models that enable you to quickly and accurately build a broad range of electronic cooling applications.

ENGINEERING CHALLENGES TACKLED WITH SOLIDWORKS ELECTRICAL SOLUTIONS

SOLIDWORKS Electrical Solutions are part of the SOLIDWORKS product portfolio that enable engineers to design with purpose-built tools that provide smooth integration, while providing efficient engineering workflow across disciplines in the industry.



ELECTRICAL SYSTEM DESIGN AND INTEGRATION

- Industrial Automation Equipment
- Skid Systems
- Heavy Equipment
- Appliances
- Specialty Equipment
- Aerospace System

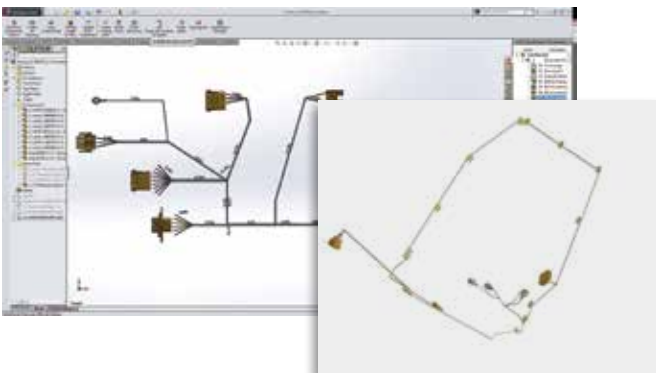
ELECTRICAL CABINET DESIGN

- Control Box
- Switch Gear/Energy
- Central Office Cabling
- Structured Wiring



MECHATRONIC SYSTEM DESIGN

- Flex Cable Design
- Ridge Flex Cable
- Computer Controlled Systems
- Computational Systems
- Consumer Electronics
- Connected Devices
 - Connect Automation
 - IOT Devices
 - Wearable Devices
- Robotic Systems
- Medical Device
- UAS/UAV



COMPLEX HARNESS DESIGN

- Industrial Automation Equipment
- Home Office automation Equipment
- Heavy Equipment
- Appliances
- Specialty Vehicles
- Aerospace System

SOLIDWORKS Electrical Solutions provide industry recognized design solutions for seamless integration of electrical and mechanical designs

Boost product innovation

- Grow market share and differentiate through groundbreaking product design
- Empower engineering teams with intuitive, powerful electrical design tools that simplify development and bring innovative products to market faster

Ensure consistent manufacturing and assembly

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

Shorten 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 Bills of Materials (BOMs) to streamline production planning, and faster planning of cable/wire/harness paths using the 3D model.

Decrease product development costs

- Highly automated and efficient tools streamline and simplify the design process, reducing development and verification time while eliminating costly rework
- Reduce the need for costly prototyping by integrating virtual electrical design early in product development

SOLIDWORKS ELECTRICAL SOLUTIONS

SOLIDWORKS Electrical Solutions are integral parts of the SOLIDWORKS design and simulation portfolio that help design engineers reduce the risk inherent in innovation and get their products to market faster with less physical prototyping to decrease costs. With a consistent, powerful, intuitive set of electrical design capabilities which are all fully integrated with the SOLIDWORKS portfolio, designers can establish an integrated design early in the process and avoid costly rework.

Schematic and Layout Design

Manufacturing Drawing

Mechanical Design and Industrial Design

Electronic Thermal Simulation

Manufacturing Drawing

Structural Simulation

Plastic Part Design

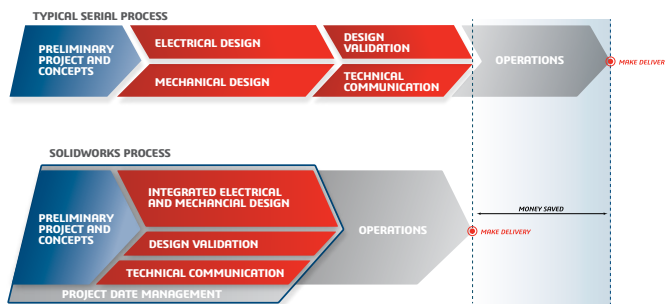
Plastic Injection Simulation



SOLIDWORKS ELECTRICAL SUITE

Product	Schematic	Real-time Collaboration	Real-time Multiuser	3D	PCB Integration	Harness Design	Flex Cable	Dynamic Connector	PCB Simulation	Flex Cable	Ridge Flex PCB
Schematic Standard*	X	-	-	-	-	-	-	-	-	-	-
Schematic Professional	X	X	X	-	X	X	X	X	-	X	-
Electrical 3D	-	X	X	X	-	X	X	-	-	X	-
SOLIDWORKS Electrical Professional	X	X	X	X	X	X	X	X	-	X	-
SOLIDWORKS Simulation Electronic cooling	-	-	-	X	X	-	X	-	X	X	X
Electrical Routing***	-	-	-	X	-	X	X	-	-	X	-

* Limited Availability ** Included with SOLIDWORKS Desktop Professional and Premium *** Included with SOLIDWORKS Desktop Premium and Electrical 3D



SOLIDWORKS PRODUCT DEVELOPMENT SOLUTIONS

SOLIDWORKS software provides an intuitive 3D development environment that helps maximize the productivity of your design and engineering resources to create better products faster and more cost-effectively. See the full range of SOLIDWORKS software for design, simulation, technical communication, and data management at www.solidworks.com/products2016.

LEARN MORE

To learn more about SOLIDWORKS Electrical Solutions, visit www.solidworks.com/electrical or contact your local authorized SOLIDWORKS reseller.

SOLIDWORKS systems requirements are posted on the SOLIDWORKS website at www.solidworks.com/systemrequirements.

Our 3DEXPERIENCE® platform powers our brand applications, serving 12 industries, and provides a rich portfolio of industry solution experiences.

Dassault Systèmes, the 3DEXPERIENCE® Company, provides business and people with virtual universes to imagine sustainable innovations. Its world-leading solutions transform the way products are designed, produced, and supported. Dassault Systèmes' collaborative solutions foster social innovation, expanding possibilities for the virtual world to improve the real world. The group brings value to over 190,000 customers of all sizes in all industries in more than 140 countries. For more information, visit www.3ds.com.

