

# 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. The new SOLIDWORKS PCB design tool adds the scientific power and natural design intuition of Altium® with the 3D expertise of SOLIDWORKS. Native integration for all disciplines—electrical, mechanical, and electronics—provides better collaboration and productivity, resulting in more consistent and standardized designs, lower costs, and fewer product delays for faster time-to-market.

## 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 ground-breaking product design
- Empower engineering teams with intuitive, powerful electrical design tools that simplify development and the creation of new ideas to bring innovative products to market faster

### Ensure consistent manufacturing and assembly

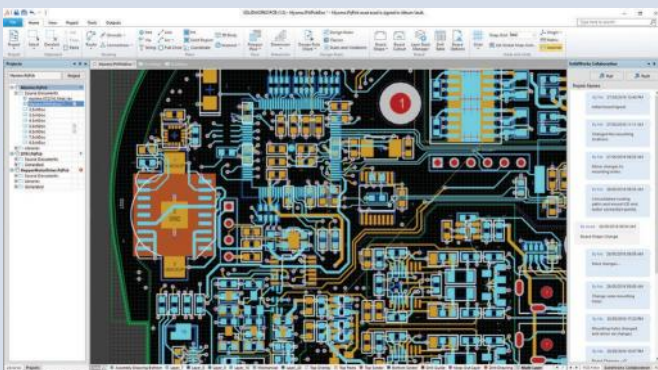
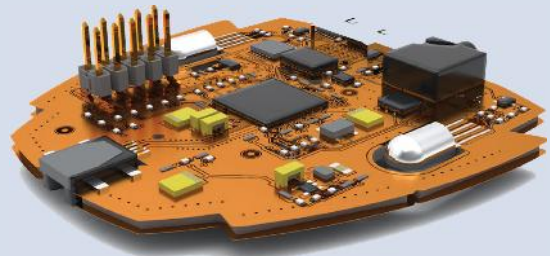
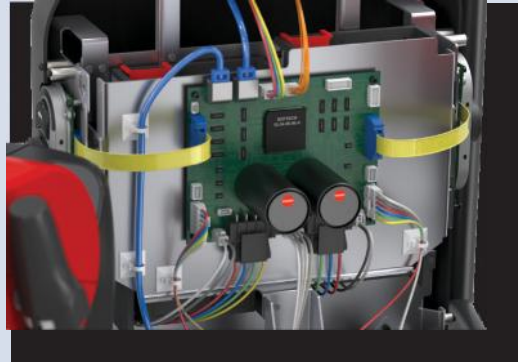
Including electrical information from the schematic in the 3D model enables detailed planning, visualization, and documentation of the overall product design, helping to ensure consistent assembly from unit to unit.

### 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

The suite of SOLIDWORKS solutions for electrical/mechanical design and integration help design engineers reduce the risks inherent in innovation and get their products to market faster with less physical prototyping to reduce costs. With a consistent, powerful, intuitive set of design capabilities, all fully integrated with SOLIDWORKS, designers can establish an integrated design early in the process and avoid costly rework.

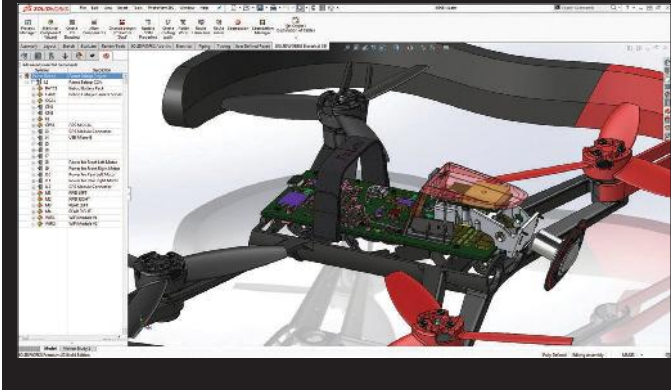
### SOLIDWORKS PCB POWERED BY ALTIUM

The new SOLIDWORKS PCB powered by Altium design tool combines the power and usability of Altium with the 3D expertise of SOLIDWORKS to unite the electronic and mechanical worlds, one design at a time. By integrating electronic designs seamlessly with SOLIDWORKS utilizing your trusted mechanical workflow designs come to life with integrated design data, managed Engineering Change Order (ECO) processes, and greater analysis capabilities. SOLIDWORKS PCB is focused on bringing the best of both worlds together. Do what you do best in SOLIDWORKS, and let SOLIDWORKS PCB handle your PCB design needs.

### SOLIDWORKS PCB CONNECTOR POWERED BY ALTIUM

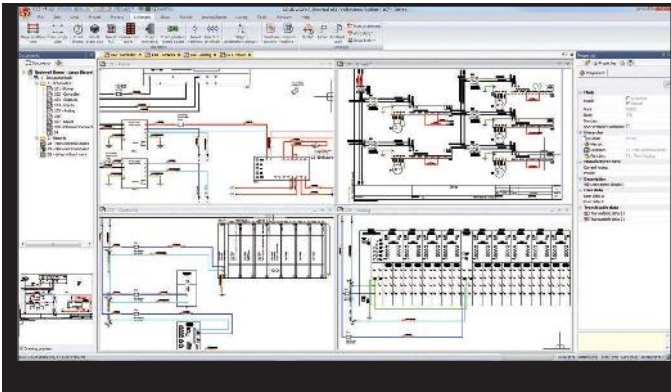
This revolutionary product allows current and future uses of Altium design products to preserve and enhance their investments with the innovative collaboration and data management capabilities found in SOLIDWORKS PCB.

# Accelerate the electrical system design process with a suite of easy-to-use solutions



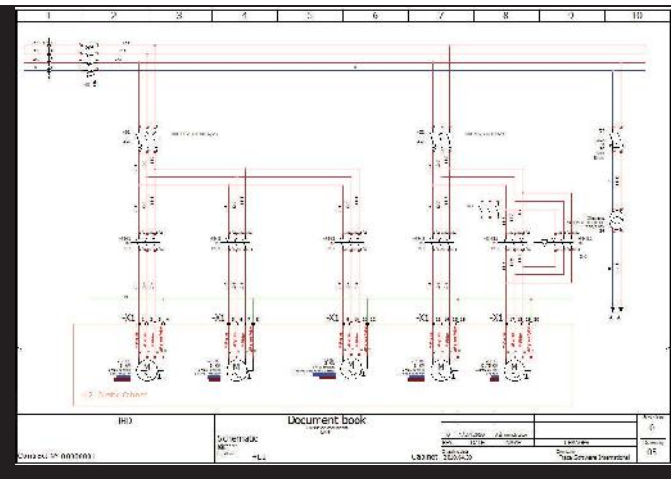
## SOLIDWORKS ELECTRICAL

Designers and engineers can quickly define the electrical interconnect of complex electrical systems with 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.



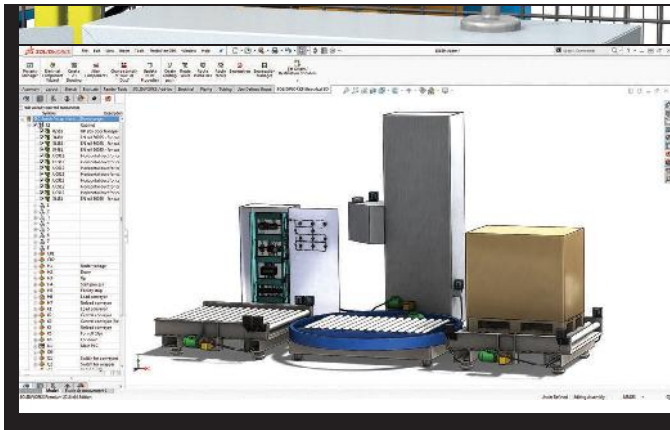
## SOLIDWORKS ELECTRICAL SCHEMATIC PROFESSIONAL

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 Programmable Logic Controller (PLC) and terminal block to contact cross-reference assignments, with SOLIDWORKS automated design and management tools.



## SOLIDWORKS ELECTRICAL SCHEMATIC STANDARD

A powerful, easy-to-use single user schematic design tool helps rapid development of embedded electrical systems for equipment and other products. Built-in and web-enabled libraries of symbols and manufacturer part information provide common reusable materials optimizing design reuse. You can streamline and simplify an array of tedious design tasks, from terminal block to contact cross-reference assignments, with our automated design and management tools.



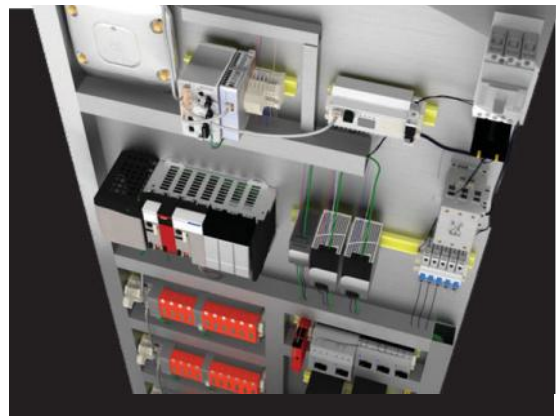
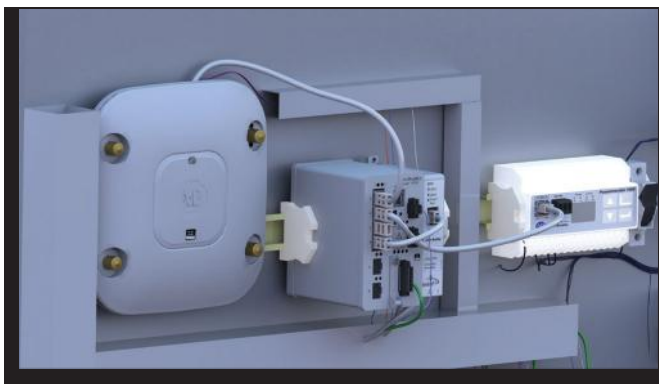
### SOLIDWORKS ELECTRICAL 3D

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.



## 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.



### ELECTRONICS DESIGN AND INTEGRATION

- Connected Devices
  - Connect Automation
  - Internet of Things (IoT) Devices
  - Wearable Devices
- Toys
- Consumer Products
- Industrial Equipment
- Robotics
- Medical Devices
- Automotive
- Electric Vehicles
- Aircraft Interiors
- Appliances

### ELECTRICAL SYSTEM DESIGN AND INTEGRATION

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

### ELECTRICAL CABINET DESIGN

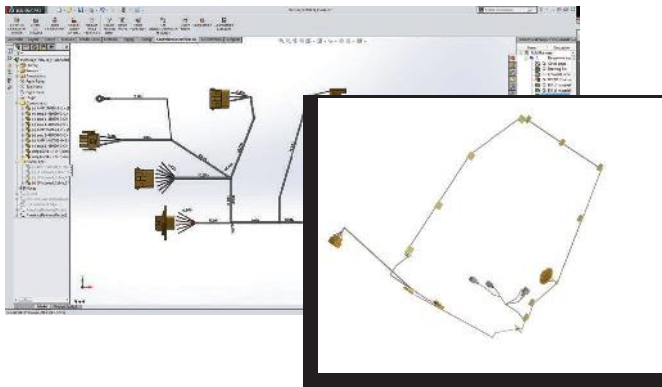
- Control Boxes
- Switch Gear/Energy
- Central Office Cabling
- Structured Wiring

### MECHATRONIC SYSTEM

- Flex Cable Design
- Rigid Flex Cable
- Computer Controlled Systems
- Computational Systems
- Consumer Electronics
- Robotic Systems
- Medical Devices
- Unmanned Aerial System/Unmanned Aerial Vehicle (UAS/UAV)

### COMPLEX HARNESS DESIGN

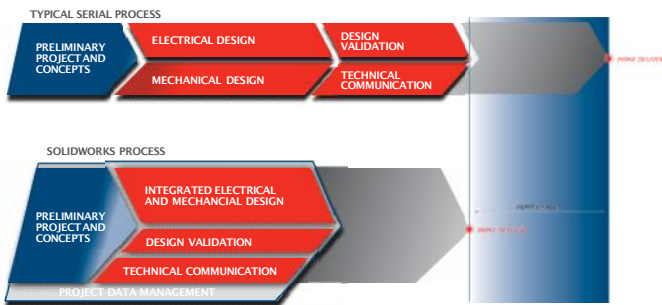
- Industrial Automation Equipment
- Home Office automation Equipment
- Heavy Equipment
- Appliances
- Specialty Vehicles
- Aerospace Systems



## SOLIDWORKS ELECTRICAL SUITE

Product	Technology	Schematic	Collaboration	Multi-user	3D	PCB Integration	Harness Design	Flex Cable	Rigid Flex PCB
SOLIDWORKS PCB Powered by Altium	Electronics Design	X	X	X	X	X	-	X	X
SOLIDWORKS PCB Connector Powered by Altium	Electronics Design	-	X	X	X	X	-	X	X
SOLIDWORKS Schematic Standard	Electrical	X	-	-	-	-	-	-	-
SOLIDWORKS Schematic Professional	Electrical	X	X	X	-	X	X	X***	X***
SOLIDWORKS Electrical 3D	Electrical	-	X	X	X	X	X	X	-
SOLIDWORKS Electrical Professional	Electrical	X	X	X	X	X	X	X	-
CircuitWorks™ *	Electronics Design	-	-	-	X	X	-	X	X
Electrical Routing**	Electrical	-	-	-	X	-	X	X	X***

\* Included with SOLIDWORKS Professional and SOLIDWORKS Premium \*\* Included with SOLIDWORKS Premium and SOLIDWORKS Electrical 3D  
 \*\*\* Integration supported



### 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](http://www.solidworks.com/products2016).

### LEARN MORE

To learn more about SOLIDWORKS Electrical Solutions, visit [www.solidworks.com/electrical](http://www.solidworks.com/electrical) or contact your local authorized SOLIDWORKS reseller.

SOLIDWORKS systems requirements are posted at the SOLIDWORKS website.

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