

# Solid Edge Wiring and Harness Design

## Electromechanical design as it's meant to be

### Benefits

- Achieve first-pass success in the design of electromechanical products
- Automate design processes to reduce manual tasks and improve efficiency
- Increase productivity via online direct collaboration
- Model in 3D; collaborate on electrical details
- Realize rapid, error-free electrical and harness design
- Validate designs using integrated electrical behavior

### Features

- Automated harness engineering for creation of production-ready drawings, BOMs, costings, NC files and manufacturing reports
- Built-in intelligent libraries for components, symbols and simulation models
- Electromechanical digital mockups eliminate the need for costly prototypes

### Summary

The quantity of electronics in machines and devices increases on a yearly basis. With that sustained level of growth, the ability to accurately design and document an electromechanical product can be extremely challenging. Previous design methodologies using nonintelligent drawing tools and spreadsheets can no longer keep track of all the details in a design. Instead, a data-driven, integrated electromechanical design environment can be used to validate designs, providing automation as a design proceeds.

Siemens Solid Edge® Wiring and Harness Design software enables the creation of fully functional and manufacturable electromechanical designs in a seamless electrical computer-aided design (ECAD) and mechanical computer-aided design (MCAD)

environment. Based on proven technology from Mentor, a Siemens business, these software modules enable you to design electrical systems while simultaneously collaborating with the mechanical design to optimize product design. This facilitates the accommodation of space reservation, clash detection and hazard avoidance in the mechanical domain.

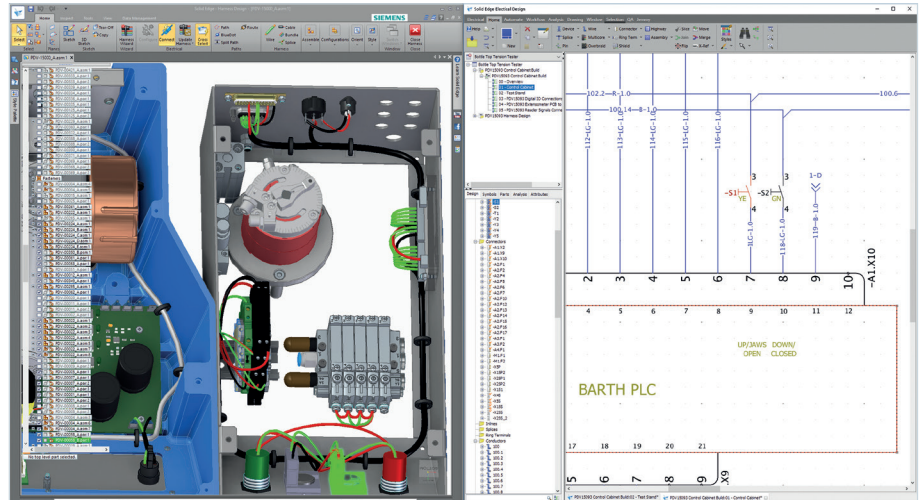
Both Solid Edge Wiring and Harness Design modules contain robust part and model repositories, which support the automated selection of parts, terminal plugs and seals for each connector. The parts library includes over 4,000 popular industrial parts.

Solid Edge Wiring and Harness Design, combined with the Solid Edge 3D Design environment, allows companies to bring products to market faster without sacrificing quality. When deployed together, Solid Edge Wiring Design reduces effort by automating the flow of wiring data into Solid Edge Harness Design. When used with Solid Edge Electrical Routing, this unique solution provides interactive, highlighted cross-probing and dynamic updating between the ECAD-MCAD domains, which helps minimize design errors and shortens development time. Solid Edge electrical design modules are available individually or as a bundled solution.

# Solid Edge Wiring and Harness Design

## Features *continued*

- Extended publishing capabilities and BOM exchange for Teamcenter integration
- Parts library that includes 4,000 popular industrial parts
- Seamless data exchange between domains with connected mode



Solid Edge Electrical Routing directly interfaces between Solid Edge Wiring and Harness Design using a feature called connected mode, which allows the user to bridge environments and update harness information.

## Solid Edge Wiring Design

Solid Edge Wiring Design is a graphical design environment for creating wiring diagrams. With built-in intelligence that automates many design tasks, the software makes full electrical schematic development easy via an intuitive user interface, electrically intelligent symbols, and automated part selection. The software features built-in verification and design rule checks to validate design, eliminating errors faster and earlier in the flow. It shows voltages and currents as the design proceeds, highlighting problem areas, such as short circuits, and validating wire and fuse size.

The tool automatically generates reports for wires, connectors and devices used in the design. Diagram, device and wire index-tables, with full sheet and zone referencing, can be added to the drawings. These automatically update as changes are made.

## Solid Edge Harness Design

A graphical design environment for creating harness and formboard drawings, Solid Edge Harness Design can be

used for in-house production or build-to-print purposes. With an intuitive user interface that makes harness design authoring easy, the software automates many design tasks. For example, connector tables are automatically populated as wires are added, terminals selected, and wire tables generated. A powerful parts selector automatically configures and selects terminals, seals and wires for each connector, including allowances for add-ons and knock-offs. This speeds the harness design and eliminates the major source of problems found in the traditional design process.

Once a harness is complete, powerful reporting capabilities can be used to generate the documentation required for manufacturing. The reports are generated directly from the design drawing, ensuring fast and accurate information. This can significantly reduce production lead times and prevent manufacturing errors.

## Reporting

Solid Edge Wiring Design and Solid Edge Harness Design feature a standard set of reports for designs. These reports

can be saved and viewed in a web browser. Both products also offer the ability to configure and build reports with either an application programming interface (API) or an easy user interface. Reports can be based on any number of objects, attributes, properties or even calculations.

#### Adherence to standards

The software supports the International Electrotechnical Commission (IEC) and American National Standards Institute (ANSI) symbol and parts libraries; ANSI ladder schematics adhere to ANSI drawing standards, which is especially useful when designing machinery.

#### Single-vendor solution

A single-vendor solution enables an intimate integration, which is not possible with third-party and add-on products. By enabling data to flow seamlessly between the 2D wiring, 2D harness and 3D MCAD domains, teams can understand and trace the impact of design decisions across domains. In addition, wiring and harness design tools are integrated with Teamcenter® software, enabling configuration management and revisions to designs.

#### Extending value

Solid Edge is a portfolio of affordable, easy to deploy, maintain and use software tools that advance all aspects of the product development process: mechanical and electrical design, simulation, manufacturing, technical documentation, data management and cloud-based collaboration.

#### Minimum requirements

- Windows 10 Enterprise or Professional (64-bit only) version 1709 or later (recommended)
- Windows 8.1 Pro or Enterprise (64-bit only)
- 8GB RAM
- Screen resolution: 1920 x 1080
- 6.5GB of disk space required for installation

Solid Edge Electrical Design servers are supported in the following environments:

- Windows server 2016 (recommended)
- Windows server 2012 R2

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