Creo Schematics™

Design Complex Systems with Confidence

To succeed in today's markets, companies need to introduce smart connected products faster than the competition, at lower cost, and with higher quality. Creo Schematics helps you achieve this goal by automating the connected systems detailed design processes—saving time, effort, and money.

When designing connected products, it is absolutely essential to create high quality schematics that document and plan the Electrical requirements. Creo Schematics contains the rich breadth of diagramming tools to satisfy the needs of many disciplines and industries, without forcing designers to compromise.

As part of the design process, electro-mechanical designers route cables and pipes within their 3D assembly Using logical information from the the schematic. Automating the transition of smart data from the 2D schematic to highly automate the 3D electro-mechanical and piping design ensuring design integrity. This compatibility not only speeds the 3D design by removing the tedious, manual process of interpreting 2D schematic diagrams, Creo Schematics also provides the electrical and electro-mechanical designers with more time to optimize the positioning of key sensors.

Key Benefits

Reduce time-to-market

Creo Schematics provides the rich, multi-discipline tools design engineers need to create schematic designs quickly and easily. It then automates the routing of 3D cables and wires within Creo Parametric™ and Creo Elements/Direct®, and the routing of pipes within Creo Parametric. This eliminates the process of manually interpreting 2D schematics when creating a 3D digital prototype of harnesses and pipes.
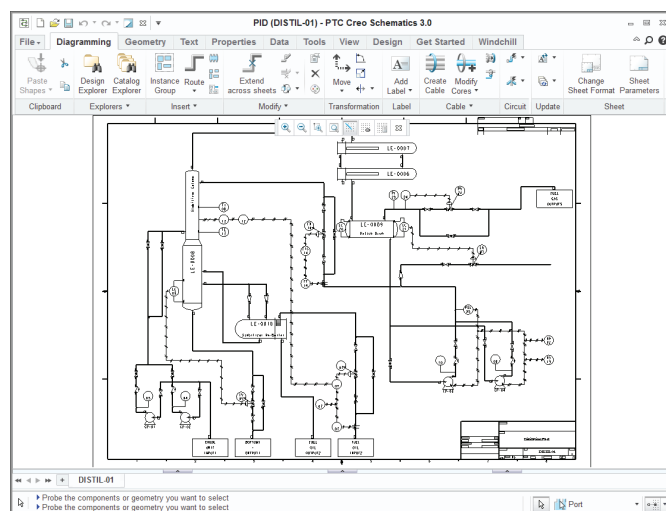
Creo Schematics is a comprehensive 2D diagramming solution for multiple design disciplines.

Reduce total product cost

PTC offers a more comprehensive routed systems solution, consisting of Creo Schematics, Creo Parametric, and the Creo Piping and Cabling Extension. In combination with ECAD-MCAD Collaboration extension, PTC provides the electro-mechanical engineer the foundations for developing smart connected products. The complete digital model to be defined within Creo reduces the dependency on physical prototypes and significantly lowering product costs. Analysis tools such as Clearance and Creepage Extension and E-simulate for schematics, helps engineers to digitally optimize the electrical design for safety, cost and weight. Indirect costs can be reduced as well. Since all schematic creation and analysis tools, and 3D routing, PCB and

Analysis tools are provided in a common set of tools, users won't need to learn multiple software user interfaces, further reducing training costs.

Improve product quality

Creo Schematics enables the digital design to be completely defined, and its information to be transferred directly into Creo Parametric or Creo Elements/Direct to drive the 3D design. This eliminates the error-prone interpretation of 2D schematics by the mechanical engineer. Creo Parametric and Creo Elements/Direct can automatically check the completed 3D routed assembly for exact compliance with the 2D schematics, saving the engineer hours of manual, tedious checking, and eliminating mistakes before production– thereby resulting in improved product quality and greater confidence. In addition, simulation capabilities in Creo Schematics and Creo Parametric allow designers to optimize the design for electrical reliability.

Improve information exchange

Creating a single, comprehensive digital model makes the rich product information available to all teams. The combination of Creo Schematics with the cabling and piping applications within Creo enables routed systems teams to completely define all aspects of the design in a rich digital model, without the need for interpretation or translation. Creo Schematics drives the 3D routing via XML, *.ecad, and *.con, which eliminates translation errors and automatically ensures compliance with the 2D schematic design.

The right tools

Designers using Creo Schematic no longer need to rely on office tools that were never intended for schematic design. Nor do mechanical designers have to experience the frustration of interpreting 2D schematics, or manually checking the 3D routed systems for compliance. Creo Schematics, combined with the 3D piping and cabling applications in Creo, offers the 'no compromise' solution for the design of routed systems.
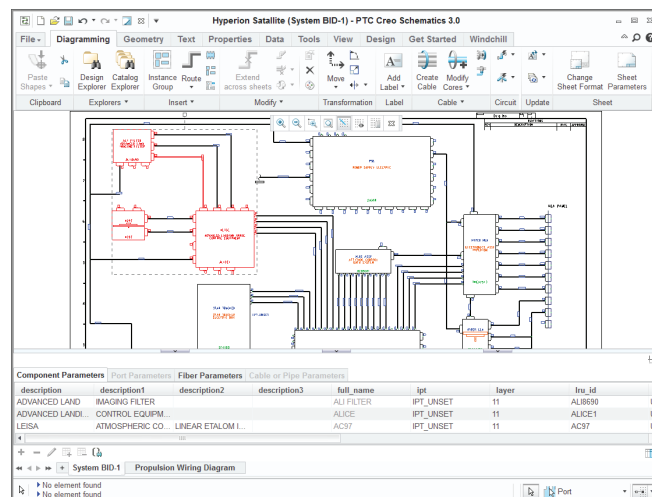
The software helps you create designs faster by enabling you to view and edit multiple objects.

Built on proven technology

A rich diagramming solution built on proven technology, the software combines the best functionality from PTC's proven incumbent diagramming solutions, leveraging experience from major aerospace and automotive customers. The result: rich diagramming technology and the connection to drive routed systems within 3D MCAD solutions.
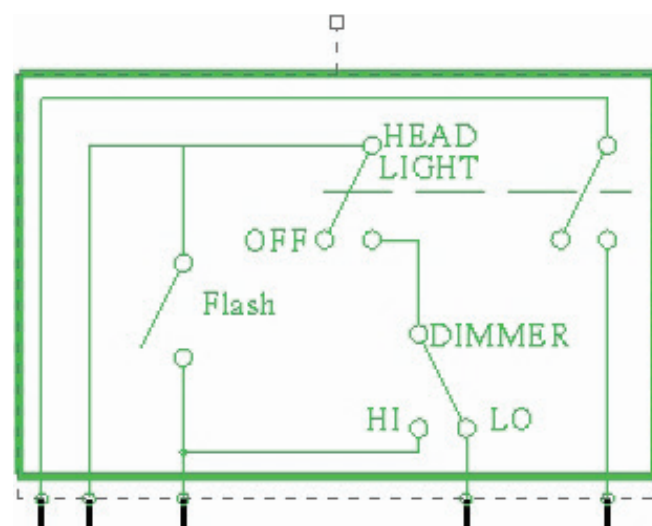
Relocate and rotate objects faster and more easily with drag handles in the software.

ptc.com

Features and Specifications

Diagram types

- P&ID
- Block
- Wiring
- HVAC
- Functional
- Schematic
- Hydraulic
- Pneumatic

Data exchange

- Supported export formats: CSV, CGM, DWG, DXF, Medusa, PDF, XML, ECAD, and CON
- Supported import formats: EDS, CSV, CGM, DWG, DXF, Medusa, and XML
- Support for legacy Pro/DIAGRAM™ data

Design manipulation

- Windows® Explorer-style interface
- Context-sensitive, right mouse button pop-ups
- Define any user property
- Fast navigation through multiple sheets
- Update catalogs
- Merge design sheets

Integral product data management

- Enable management of schematic data within PTC's Product Development System (PDS), including Windchill® PDMLink® and Windchill ProjectLink™
- Access Windchill and open, check out, and check-in designs directly from within Creo Schematics

Flexible catalog management

- Central catalog provides a single source for company design libraries
- Free symbol library includes ANSI, CSA, and IEEE standards
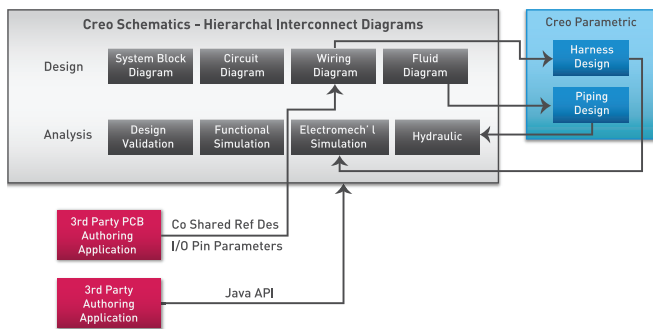
Properties and parameters

- Parameters are fully user-definable and may be attached to: Folders, Sheet Sets, Sheets, Blocks, Fibers, Groups, Ports, Formats
- Parameters values may be defaulted in the catalog, modified upon instancing, updated by selection from a data set, edited from a multi-selection, or allocated automatically
- Graphical display of properties available on: Sheets, Formats, Blocks, Fibers, Groups, Ports
- Automated assignment of connector terminator information
- Import signal information from PCB applications

Display characteristics

- Any number of attributes
- Any sub-string of any attribute value
- Any fixed strings, delimiters
- True Type font support
- Any layer, color
- Customizable labels
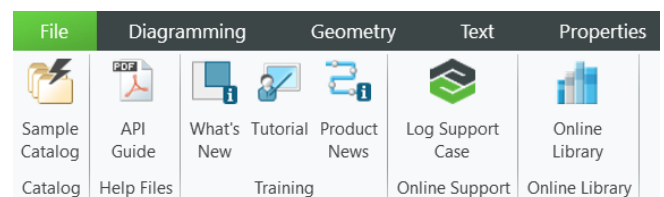
Get up to speed quickly with easy access to tutorials, online symbol catalogs, and quick links to PTC.com and support resources.

Fast, Configurable Reporting

- Report types: Parameters, Inventory, Connection

- Reporting classes: Design, Catalogue, Block, Group, Fiber, Port

- Criteria:

  - Integer and real parameters

  - String parameters

  - List parameters

  - Sheet parameters

  - Type parameters

- Report destination: Sheet, Dialog Box, File Java Read API

Electrical simulation

eSimulate Lite for analyzing various current and voltage properties between components (not available with Creo Schematics Lite*)

*Free download at PTC.com/support

Tutorials

- Free tutorials are included to help new users get up to speed quickly with Creo Schematics

- Free electrical simulation tutorials for new users of eSimulate Lite

Language support

- English, German, French, Japanese, and Simplified Chinese

Platform support and system requirements

Please visit the PTC support page for the most up-to-date platform support and system requirements.

For more information, visit: PTC.com/product/creo or contact your local sales representative.

>>> THE CREO ADVANTAGE:

Creo is the 3D CAD solution that helps you accelerate product innovation to build better products faster. Easy-to-learn Creo uses a model-based approach to seamlessly take you from the earliest phases of product design to manufacturing and beyond. Combining powerful, proven functionality with new technologies including generative design, real-time simulation, advanced manufacturing, IIoT and augmented reality, Creo helps you iterate faster, reduce costs and improve product quality. Creo is also available as a SaaS product, providing innovative cloud-based tools for real-time collaboration and streamlined license management and deployment. The world of product development moves quickly, and only Creo delivers the transformative tools you need to build competitive advantage and gain market share.

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