SOLIDWORKS Electrical

	SOLIDWORKS SCHEMATICS STANDARD	SOLIDWORKS SCHEMATICS PROFESSIONAL	SOLIDWORKS ELECTRICAL 3D	SOLIDWORKS ELECTRICAL PROFESSIONAL
Single-line Schematics	✓	✓		✓
Multi-line Schematics	✓	✓		✓
Mixed Schematics	✓	✓		✓
2D Cabinet Creation	✓	✓		✓
Electrical Component & Symbol Library	✓	✓		✓
Design & Reuse	✓	✓		✓
Automated Terminal Drawing Creation	✓	✓		✓
Automated Contact Cross-referencing	✓	✓		✓
Advanced Formula Manager	✓	✓		✓
Electrical Component & Symbol Library Management	✓	✓		✓
SOLIDWORKS Electrical Content Portal	✓	✓		✓
Enhanced SOLIDWORKS PDM Connector	✓	✓		✓
Report Generation	✓	✓		✓
Report Generation Customized		✓		✓
Link to SOLIDWORKS 3D CAD		✓		✓
Common ECAD and MCAD Database		✓		✓
PLC Tools		✓		✓
Dynamic Connector Tools		✓		✓
Real-time Collaboration		✓		✓
Real-time Synchronization		✓		✓
Deferred Update Mode		✓		✓
Custom Part Library Classifications		✓		✓
Excel Automation		✓		✓
User Rights Management		✓		✓
Collaborative Electrical-Mechanical Development			✓	✓
Electrical Design in 3D CAD			✓	✓
Auto-Routing			✓	✓
Electrical Harness Design Planning			✓	✓
Embedded Electrical System Design Planning			✓	✓
3D Electrical Cabinet Design			✓	✓

SOLIDWORKS Electrical & PCB

PCB by **Altium**
ECAD-MCAD Project Collaboration Services
ECAD-MCAD ECO Process Management
Support for Native SOLIDWORKS® Files Format
PCB Design Engine
Streamlined Schematic Editing
Library Management
Real-Time Design Rule Checking
PCB Connector

SOLIDWORKS Electrical Schematic	SOLIDWORKS Electrical 3D*	SOLIDWORKS Electrical Professional*
A powerful, easy-to-use schematic design tool that helps with rapid development of embedded electrical systems for equipment and other products.	Add-in to SOLIDWORKS to integrate Electrical Schematic Design data into the 3D model and create Wiring, Cabling, Harness Runs.	Bundles the Schematic and 3D products into a single licensed product for the convenience of users performing both 2D and 3D designs.

Powerful Schematic Tool `SCHE` `PRO`
The powerful schematic tools available in SWE Schematic allows users to easily and efficiently create single line drawings, multiline and mixed schematics. The schematics can be linked, so that information such as symbol attributes can easily be automatically propagated into different schematic pages, reducing manual work required.

Design Rule Checks `SCHE` `PRO`
Users can gather feedback on design integrity using the Design Rule Check tool available in the SWE Schematic. Errors such as voltage drops, empty terminal strips, symbols without manufacture parts etc. can be quickly located, thus eliminating possible errors and inconsistencies within the project.

Macros `SCHE` `PRO`
Enable easy reuse of designs across projects. Commonly used designs can be saved as a Macro, and when required can be easily pulled out and inserted into the new design.

Smart Search and Filter `SCHE` `PRO`
Capability to simplify element search within and across the project.

Generate eDrawings `SCHE` `PRO`
Project documents can be saved as eDrawings, providing seamless integration with mobile devices, allowing rapid sharing of information.

Generate DWG, DXF, PDF `SCHE` `PRO`
Project documents can be easily exported out as DWG, DXF or smart PDF documents with navigational capabilities.

Automated Generation of Terminal Strips `SCHE` `PRO`
A single-button action can completely draw and document a terminal strip, complete with wiring details.

3D Electrical Cabinet Design `3D` `PRO`
SOLIDWORKS Electrical 3D provides a design environment enhanced for electrical 3D cabinet design. This cohesive environment is synchronized in real time without the use of external files and can utilize existing CAD designs. With SOLIDWORKS automation tools, SOLIDWORKS Electrical 3D provides comprehensive electrical 3D cabinet design and documentation capabilities.

*Requires a SOLIDWORKS Standard, Professional or Premium CAD license

Customisable Libraries
`SCHE` `3D` `PRO`

SWE database contains a large database of standard-specific symbols, footprints, cable and manufacture part reference, title blocks and macro. These libraries can be easily customized via the library managers.

Automated Generation of Project Documentation
`SCHE` `3D` `PRO`

Project documents such as BOMs, wire lists, cables lists are automatically created, and any changes made to the project will be instantly reflected in the reports. These reports can be customized according to company preference. And once created they can be exported out as Microsoft Excel or text documents.

Support Industry Standards
`SCHE` `3D` `PRO`

Before starting a new project, the users have the option of selecting a specific template which adheres to a certain industrial standard, such as ANSI, IEC etc. Company specific template can also be created, with the settings adjusted to follow a specific company standard.

Collaboration
`SCHE` `3D` `PRO`

SWE enables multiple users to work in the same project simultaneously and communicate in real time.

Real-Time Synchronization
`SCHE PRO` `SCHE` `3D` `PRO`

Changes or update to the electrical schematics will propagate immediately to the 3D environment, where all the changes can be viewed in real time.

Integrate Schematics into 3D CAD Models
`3D` `PRO`

SOLIDWORKS Electrical 3D is a CAD-embedded interface that allows bidirectional communication between schematic design data from SOLIDWORKS Electrical Schematic and the SOLIDWORKS 3D CAD model.

3D Harness Development
`3D` `PRO`

3D harnesses can be created from 2D schematics, utilizing the real-time bidirectional functionality of SOLIDWORKS Electrical. The harness can be routed and flattened and the subsequent documentation will be auto-generated, without requiring any manual input from the users.

Auto Routing Technology
`3D` `PRO`

Designers can easily specify wire and cable routing throughout the electrical assembly. SOLIDWORKS will calculate these paths and instantly pass the length information into the reporting engine in SOLIDWORKS Electrical.

Single-line Schematics Electrical
`STAN`

system planning tool for creating complex embedded electrical system utilizing simple pictorial representations of electrical components and interconnectors.

Multi-Line Schematics
`STAN`

Schematic creation tool with a simplified user interface optimized for simplification of repetitive tasks.

Mixed Schematic
`STAN`

Combine both single-line and multiline drawings on the same schematic, while maintaining associativity.

2D Cabinet Creation
`STAN`

Generate 2D panel representations from an electrical schematic, with 2D outlines of electrical components.

Electrical Component and Symbol Library
`STAN`

Extensive library of industry-standard schematic symbols (IEC, ANSI, JIS, GB) combined with a database of manufacturer parts to provide an easily customizable and adaptable parts database through easy-to-use import tools.

Design and Reuse
`STAN`

Suite of integrated tools for intelligent cut and paste, an easy-to-access selection of "favorite" components and circuit design elements, and the ability to reuse non-SOLIDWORKS Electrical design elements though easy-to-use import wizards.

Automated Terminal Drawing Creation
`STAN`

Automatically generate terminal drawings based on and synchronized with the real-time design.

Automated Contact Cross-Referencing
`STAN`

Electrical contacts are automatically cross-referenced in real time and synchronized based on availability and type of contacts from manufacturer-specific components.

Advanced Formula Manager

From wire naming to project name formulas, SOLIDWORKS Electrical includes enhanced formula capabilities.

Electrical Component and Symbol Library Management
`STAN`

Integrated Symbol Library that provides easy access to electrical design elements and components.

SOLIDWORKS Electrical Content Portal
`STAN`

Web-based content portal providing access to an extensive library of industry-standard schematic symbols and a database of manufacturer parts.

Enhanced SOLIDWORKS PDM Connector
`STAN`

Enhanced PDM interface providing electrical and mechanical data management in one system based on proven SOLIDWORKS PDM capabilities.

Report Generation
`STAN`

Automatically generate reports based on real-time design database queries, with custom reports possible via integrated custom report creation tool

PCB by ALTIUM

SOLIDWORKS PCB helps electronic design engineers reduce the risk inherent in innovation and enable them to get products to market faster with less physical (ECAD-MCAD) prototyping; decreasing overall project costs and schedules. With a powerful and intuitive set of electronic design capabilities, and seamless integration with the SOLIDWORKS portfolio, designers can take advantage of intelligent ECAD-MCAD co-design early – and throughout – the design process and avoid costly design rework and eliminate or minimize potential defects saving time and money.

ALTIUM SOLIDWORKS PCB Connector

For existing Altium users, the SOLIDWORKS PCB Connector takes all guesswork out the ECAD-MCAD design collaboration process providing seamless, intelligent, bi-directional collaboration between Altium Designer and SOLIDWORKS .

CUSTOMER SUCCESS STORY

CONTROL BOX LTD.
ELECTRICAL ENGINEERING AND MANUFACTURING WITH SOLIDWORKS ELECTRICAL PROFESSTIONAL

Challenge:

Streamline the development of electrical control boxes, panels, and systems to better collaborate with mechanical OEM partners in the development of municipal and industrial water and wastewater control systems.

Solution:

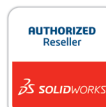Implement SOLIDWORKS Electrical Professional on top of SOLIDWORKS CAD Premium

Benefits:

- Cut electrical design time by 10 to 20 percent
- Improved quality with 3D schematics
- Increased accuracy of panel fits
- Eliminated rework and retrofits

"SOLIDWORKS Electrical is really good for making design changes because it quickly and automatically updates the 3D schematics whenever you make a change"

— Tim Corbin, Director

ASSOCIATE Mechanical Design — SOLIDWORKS
PROFESSIONAL Mechanical Design — SOLIDWORKS
EXPERT Mechanical Design — SOLIDWORKS
AUTHORIZED Reseller — SOLIDWORKS
CERTIFIED Advanced Services Provider — SOLIDWORKS
CERTIFIED Training & Support Provider — SOLIDWORKS
CERTIFIED Documentation Services Provider — SOLIDWORKS