AutoCAD® Electrical software is the leading 2D application built specifically to create and modify electrical controls designs. AutoCAD Electrical is a stand-alone application that contains the full functionality of AutoCAD® software and also offers significant productivity gains with a comprehensive set of electrical-specific features. It automates the tedious task of creating ladder and point-to-point style drawings. It tracks all wire numbers and component tags, and cross-references coil and contact information for increased drafting productivity. It generates automated reports, such as bills of materials and from-to wire lists, helping to eliminate errors associated with generating reports manually. And it saves time by passing wire connectivity information to and from AutoCAD Electrical and Autodesk® Inventor™ software applications.

AutoCAD Electrical—the only logical choice for electrical controls design.
Standards-Based Drafting
AutoCAD Electrical 2009 supports international standards and provides comprehensive libraries of manufacturer content and symbols, enabling users to easily create standards-based designs that comply with industry requirements.

Symbol Builder
Block Editor Environment
The symbol builder has a new interface to simplify the creation and editing of intelligent AutoCAD Electrical symbols in the AutoCAD block editor environment. Select an existing AutoCAD Electrical block to edit, or a generic AutoCAD block; select the component library you would like to add it to; specify the type of symbol; and then move into the block editor environment to make your geometry and attribute changes. An AutoCAD Properties palette enables you to quickly add and edit the necessary attributes, automatically audit your new block for discrepancies, and then save the updated block as an intelligent AutoCAD Electrical symbol.

Create Schematic Symbol
Create custom schematic symbols by using a schematic attribute template. All necessary attributes to make the symbol intelligent are provided, along with optional attributes that enhance the overall level of detail and functionality.

Just drag the main attributes from the tool palette into your block, and add the wire connection attributes and optional terminal and terminal description attributes. If your symbol links to a child component, you can add the optional link line attributes.

Once you have added the attributes, save the block using the suggested symbol name following the AutoCAD Electrical naming standards, or enter your own symbol name. If your symbol name does not follow the preferred naming convention, or has other problems, the software will alert you and provide an audit of inconsistencies that could affect the use of the symbol.

Create Panel Footprint
You can also create custom Panel Footprint symbols, using the same method as creating Schematic Symbols. Just add the necessary attributes, save the block, and run an audit on your symbol to view any potential issues.

Design and Drafting Productivity Tools
AutoCAD Electrical 2009 software offers controls designers immediate productivity gains with a complete set of specialized features and tools developed specifically for the creation of accurate, industry-standard electrical controls systems.

Circuit Builder
Motor Control Circuit
Use the Circuit Builder feature to dynamically generate motor control circuits and greatly reduce drafting time. By providing specific functional requirements, such as component type, wiring, ratings, and any other specifications, this rules-based design tool automatically creates the circuit for you. To get started, just select predefined motor circuits from a list and insert them directly into a drawing. AutoCAD Electrical builds the selected circuit dynamically—matching the rung spacing; adding wiring between components; and annotating the circuit based on motor horsepower, industry standards, and any additional specifications provided.
Custom Control Circuits
You can customize the Circuit Builder feature to build just about any circuit you need. The feature is driven by a spreadsheet and drawing templates, and helps in defining the available options for the circuit with defaults for each option. The template also assists in placement of the individual components and wiring. Once a custom circuit has been generated and inserted into a drawing, it is saved to the history field and available for future use.

Fit and Finish
The Fit and Finish project was created to identify the most prominent user issues encountered in everyday design tasks and to resolve any defective workflows. More than 80 issues identified by you, the customer, have been resolved.

PLC /IO from Spreadsheet New Drawing Support
You can now direct the Spreadsheet to PLC/IO utility to start a new drawing before generating the next module. Enter the keyword, NEW_DWG, in the CODE column of the spreadsheet at the point where you want to start a new drawing, and AutoCAD Electrical will create the new drawing prior to generating the next module in the spreadsheet.

PLC Module Annotation
Add additional detail to your PLC model by predefining other attributes on the module similar to the inline device fields. For example, to create a module with a Rack value of “2”, an Installation value of “MACH1”, and a Rating2 value of “HAZARDOUS DUTY”, you would annotate the RACK column in the spreadsheet to read “2;INST=MACH1;RATING2=HAZARDOUS DUTY”. When the PLC is generated, these extra attribute values are assigned to the new module.

Item Numbering
Assign item numbers on a per-part basis; multiple catalog assignments receive their own item numbers. The item numbers are then tracked across the project, so you can assign the same item number to the same catalog assignment. The Insert Balloon feature supports multiple balloons per component. Multiple balloons are inserted automatically if a component carries multiple item number assignments. When an item number is modified or removed, the item balloon is updated or deleted.

Item Number Surfing
Surfing by item number is now available. Simply right-click an item balloon and choose the Surf tool, or type the item number into the Surf dialog box. You can also surf on an item number in a report table by clicking directly on the item number text.

Cross-Reference Table Style
Customize the graphics used to represent each contact type in the table cross-reference style. A new cross-reference mapping table in the catalog lookup database enables you to assign a DWG™ file to a specific contact block file name. Wild cards are also allowed in this contact graphic mapping. When used, the assigned graphic drawing file is inserted as a block in the table cell within the TYPE column.
Three-Phase Wiring
Connecting three-phase wiring to a motor symbol is now as simple as connecting a single-phase component. When inserting a motor symbol onto existing three-phase wiring, just place the symbol on or near the wires, and they attach automatically, creating angled and trimmed wires to match the motor symbol.

Flip Component with Dashed Link Lines
The Flip Component command now enables you to apply the feature to a symbol with dashed link lines. Use this command to recalculate and reinsert dashed link lines.

Close Active Project
You can now close out the active project in the Project Manager. Just right-click the active project, choose Closed, and that project is removed from the list, with the next project in line becoming the active project.

Toggle Wire Number
When you toggle a wire number from above or below the wire to an in-line wire number, the wire number now keeps its original center point, rather than re-centering on the wire.

Trim Wire
You can now perform dynamic pan and zoom while using the Trim Wire command. Start the command, select the Fence option, select the first fence point, and pan the drawing to select the next fence point. All wires that cross the fence are trimmed rather than just the viewable wires on the screen.

Edit Wire Sequence
Assign wire sequencing to multiple wire networks with the enhanced Edit Wire Sequence command. The command now remains active until you choose to exit by not selecting a wire.

Cable Conductor Table
Adding a cable with many conductors is now more efficient with the use of hotkeys. Once you type in the conductor color, just press Ctrl+A to add the conductor to the list.

COPYTAG for Terminals
COPYTAG attributes are now supported within terminals. When AutoCAD Electrical updates a TAGSTRIP attribute, it also looks for and updates any COPYTAG attributes present on the symbol with a copy of the TAGSTRIP text. A special replaceable parameter “%T” can be encoded onto the prompt value of the COPYTAG attribute definition. This enables you to add a suffix, prefix, or both to the TAGSTRIP text. If you need multiple TAGSTRIP copies on a symbol, just name the attributes COPYTAG01, COPYTAG02, and so on.

Stand-Alone Cross Reference
The description field is now available in the Stand-Alone Cross Reference report. The DESC1 attribute is now supported on stand-alone cross-reference symbols by adding a value to this attribute within the Insert/Edit Stand-Alone Signal-Destination dialog boxes.
Common Look and Feel

Progressive Tooltips
Some of the most commonly used AutoCAD Electrical commands now provide an additional level of information within a progressive tooltip. Hold the cursor over the command icon, and the first level of information for that command is displayed. Continue to hover and the expanded level of detail is displayed in the tooltip. If you need more information about any command, press the F1 key while the tooltip is displayed to view the Help topic for the command.

Terminal Management
AutoCAD Electrical 2009 increases design accuracy and reduces the complexity of working with terminals in a design.

Table Objects and Table Generator

Multiple Table Sections
You can now split the terminal strip table into multiple sections, which you can then place on one or multiple drawings. Start by defining the number of rows per section, number of sections per drawing, placement, offset distance, and offset direction. When you update the terminal strip, table sections are added or removed as needed based on changes made to the terminal strip.

Preview Table Object
You can now preview how the terminal strip tables will look on your drawings at any time when defining the table settings. The preview includes the current settings for scale, angle, all settings for splitting the table into sections, and your drawing template.

Enhanced Terminal Jumper Support

Jumper Support
The Terminal Strip Editor now supports insertion, edits, and deletion of jumpers. To add a jumper, select the terminals, or levels within a multi-level terminal, and then select the Assign Jumper tool. You can add a catalog number to the jumper, and it will be included in a Bill of Materials report. Jumpers are also displayed graphically, making it easy to visualize which terminals are jumpered together.

Internal Jumpers
Multilevel terminals can be created with some or all levels jumpered together. By defining catalog assignments for internal jumpers, the levels are jumpered automatically. You can also define internal jumpers directly in the block properties of the terminal, although these internal jumpers will not receive a catalog assignment separate from the terminal.
Jumper Chart
Insert a jumper chart table to display your jumpered terminals graphically. You have the option to show all terminals in the chart, or only the terminals that are jumpered. You also can set the minimum number of circle columns to display in the chart. The jumper chart is updated automatically each time you update the graphical layout of the terminal strip.

Graphical Terminal Strip Generator
Wire Numbering Option
With the introduction of jumper support in the Terminal Strip Editor, some changes you make can affect current wire numbers. If you make jumper changes during the Terminal Strip Editor session, you will now have an option to be prompted to run wire numbering once the terminal updates are complete.

Data Management and Migration Tools
The fully integrated data management tools in AutoCAD Electrical 2009 make it easy to securely store and manage your work-in-process design data. In addition, you can save hours of rework with automatic conversion of data into intelligent AutoCAD Electrical designs without losing previous customizations.

Autodesk Productstream Property Writeback Support
Productstream Title Block Update
The Get Latest Item Properties functionality in Autodesk® Productstream® software is now fully supported in AutoCAD Electrical. The project descriptions and component property values in Productstream can now be written back to AutoCAD Electrical drawings. These values can be assigned to the AutoCAD Electrical project description values. Project descriptions can be used in the AutoCAD Electrical title block update and the drawing list report. If the project descriptions are out of date when these features are used, you are prompted to import the Productstream values into the project descriptions.

Migration Utility
Update Your Data to the Latest Release of AutoCAD Electrical
Easily migrate your previous version of AutoCAD Electrical to the latest release, and preserve data and settings. Using a simple dialog box, users can automatically migrate their data and folder structure to the latest release of AutoCAD Electrical.
Stay Up-to-Date
Autodesk gives you more. Gain access to technical expertise, utilize training and support programs direct from Autodesk, stay up-to-date with the latest product releases and give us your feedback. Not only does Autodesk want to help you use AutoCAD Electrical more effectively but we want to make sure AutoCAD Electrical is working effectively for you.

Subscription
Log into the Subscription Center to receive product updates, log and view support requests, or take eLearning courses. A valuable component of Autodesk® Subscription, eLearning provides a continually expanding curriculum of short training exercises.

Product Updates
If you experience an issue with AutoCAD Electrical 2009 that has already been solved in a service pack or hotfix, a dialog box will appear when you submit the problem to Autodesk, enabling you to immediately install the new service pack or hotfix.

Feedback
AutoCAD Electrical customers can provide feedback to the AutoCAD Electrical development team through several different avenues. For example:

• Provide tips or join newsgroups at www.autodesk.com/autocadelectrical
• Keep up-to-date on what’s happening in your industry, stay in touch with other industry professionals, and take advantage of a host of online resources at the Manufacturing Community Portal at mfgcommunity.autodesk.com
• Talk with your Autodesk Authorized Reseller and support staff

Your input is crucial to our success and we look forward to receiving your suggestions.

Conclusion
We thank you for your continued support of AutoCAD Electrical and hope you feel we are listening to your needs. We developed and added the new and enhanced functionality to AutoCAD Electrical 2009 to make you more productive, your company more competitive, and to return true value to your bottom line.