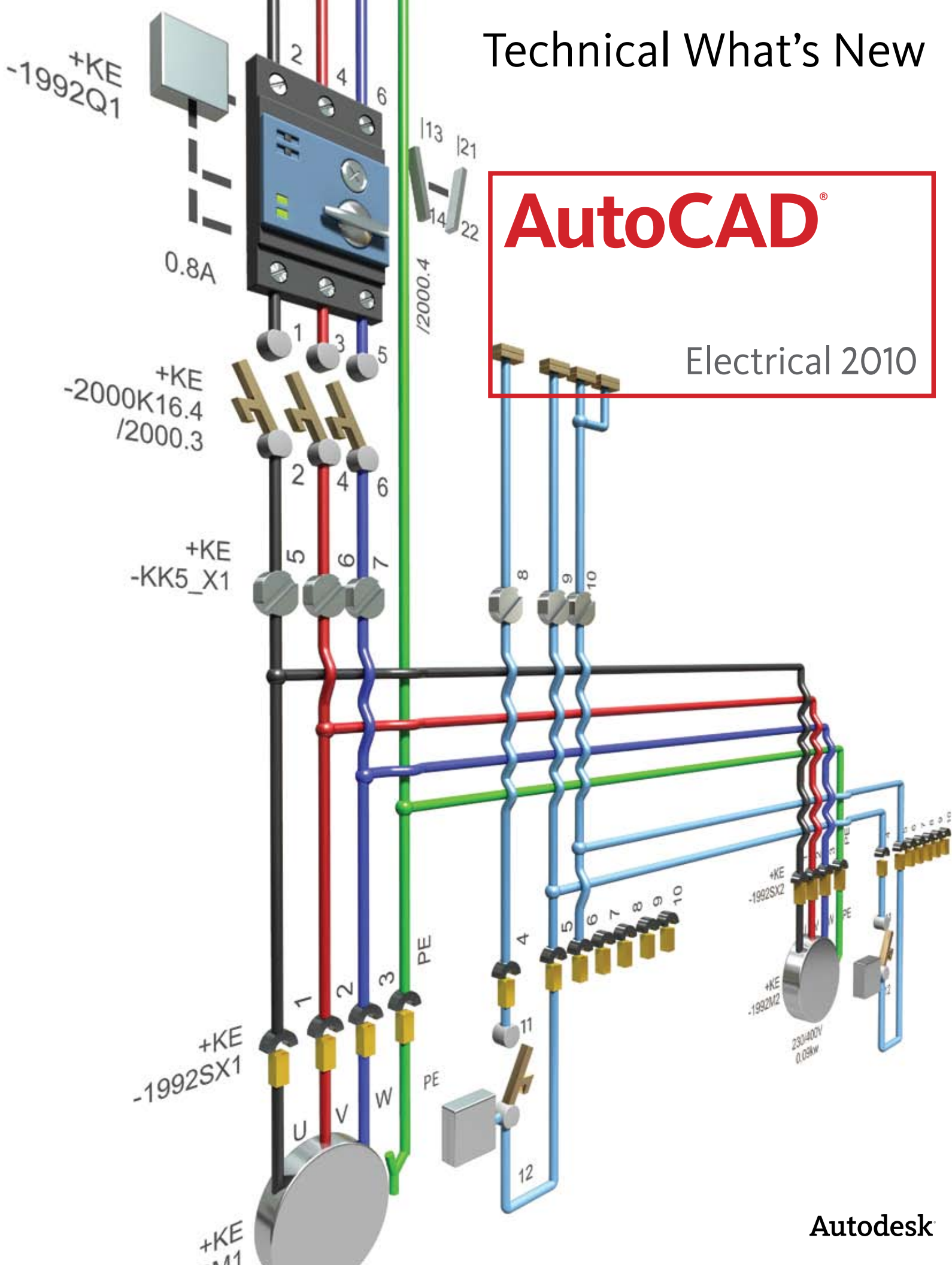


# Technical What's New

# AutoCAD®

## Electrical 2010



# Technical What's New

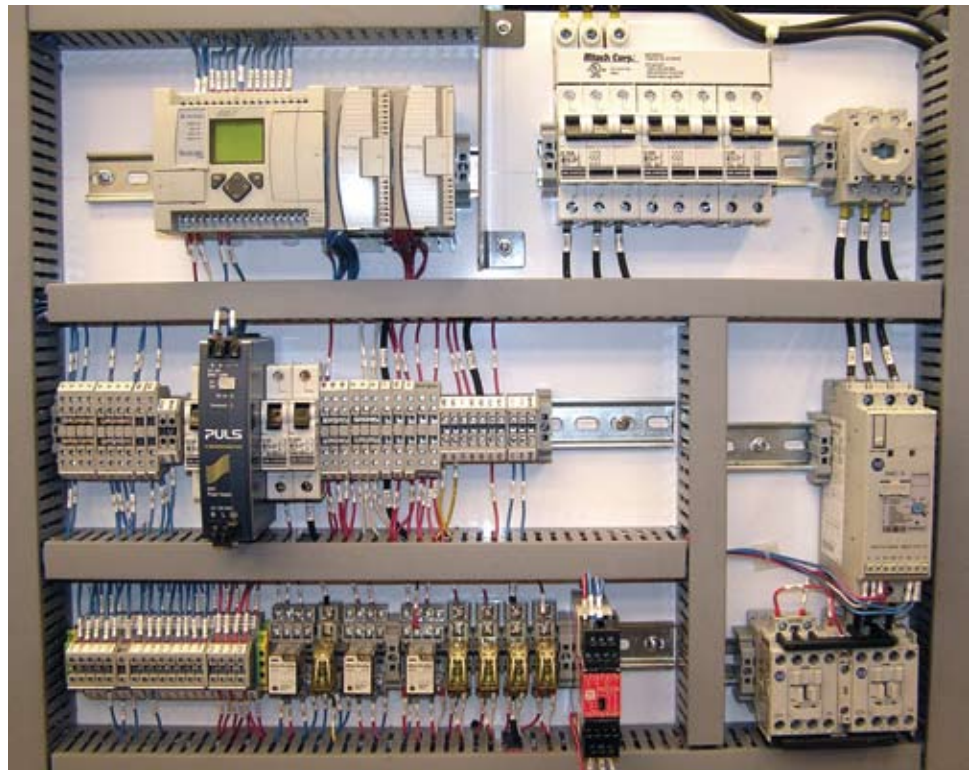
## Welcome to AutoCAD® Electrical 2010

### Contents

<b>Ease of Use</b> .....	3
Ribbon Interface .....	3
Workspaces .....	3
<b>Circuit Builder</b> .....	4
Green Design .....	4
Power Feed Support.....	4
Additional Circuit Builder Features.....	4
<b>Motor Control of One-Line Circuits</b> .....	5
<b>No Wire Numbering for Wire Layers</b> .....	5
<b>Electrical Audit</b> .....	5
<b>Help Updates</b> .....	5
<b>Proven Benefits</b> .....	6
<b>Conclusion</b> .....	6
<b>Stay Up to Date</b> .....	6
Subscription .....	6
Product Updates.....	6
Feedback.....	6

AutoCAD® Electrical is AutoCAD® software specifically designed to help controls designers quickly create and modify electrical control systems. It contains all the functionality of AutoCAD, plus a comprehensive set of electric-specific tools for automating tedious tasks such as building circuits, numbering wires, and creating highly accurate bills of material (BOMs) and from-to wire lists. AutoCAD Electrical provides a library of more than 650,000 electrical symbols and components, includes real-time error checking, and integrates closely with AutoCAD® Inventor® software.

AutoCAD Electrical 2010 includes new features and functionality designed to improve productivity while allowing you to maintain existing workflows. The software makes it even easier to save time, reduce errors, and create innovative electrical control designs.



# Technical What's New

## Ease of Use

Enhancements to the user interface and workspaces in AutoCAD Electrical 2010 make it easier than ever to use and learn.

## Streamlined Design Environment

AutoCAD Electrical 2010 features a streamlined user interface. Find your favorite tools and commands faster, locate lesser-used tools more efficiently, and discover relevant new features more easily. The result is less time searching through menus and toolbars, and more time getting your work done.

The AutoCAD-style ribbon interface is designed to make experienced users even more productive and to improve the ease of adoption for new users coming from basic AutoCAD. The ribbon interface has been optimized to offer easy access to common tools.

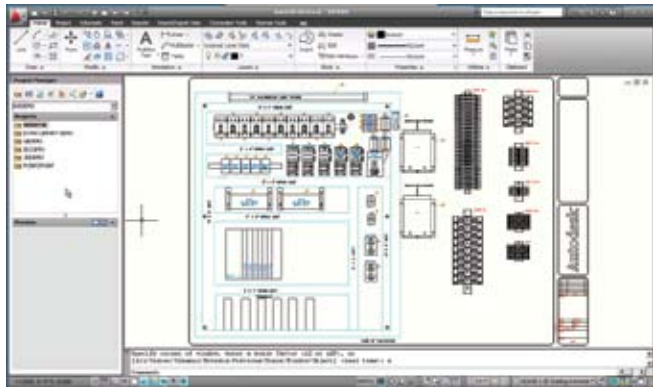
The ribbon houses task-based tools. Command buttons are displayed in a set of tabs, grouped according to task. File input/output operations such as New, Open, and Save are accessed via the Menu Browser. The Menu Browser search lists the location of found files in the ribbon, helping you become comfortable with the new user interface.



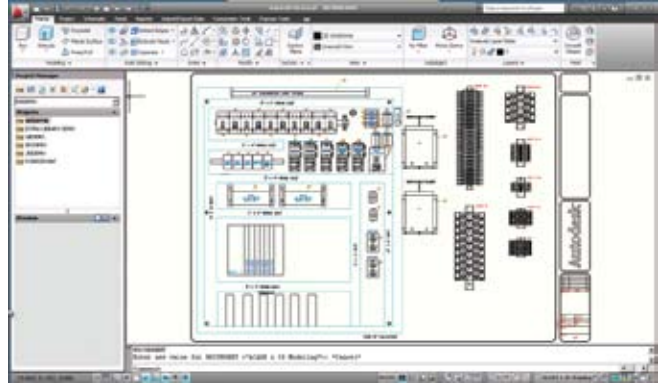
## Workspaces

Choose a workspace that fits your environment and workflow. It's easy to switch between workspaces—simply select the Workspace icon on the status bar. AutoCAD Electrical offers three workspaces:

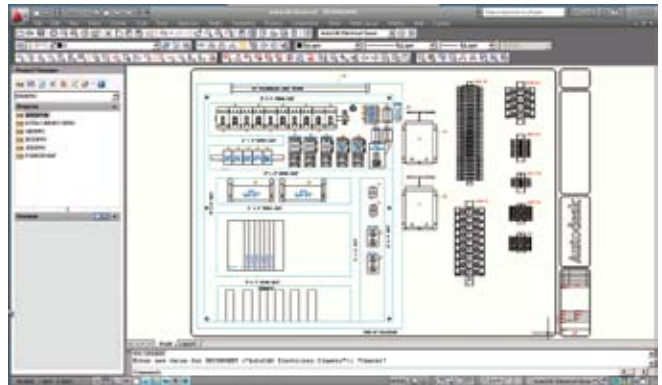
- AutoCAD Electrical and 2D Drafting and Annotation provides AutoCAD Electrical tools and AutoCAD 2D drafting and annotation tools through the ribbon interface.



- AutoCAD Electrical and 3D Modeling provides AutoCAD Electrical and AutoCAD 3D modeling tools through the ribbon interface.



- AutoCAD Electrical Classic provides AutoCAD Electrical and AutoCAD tools via toolbars and pull-down menus.



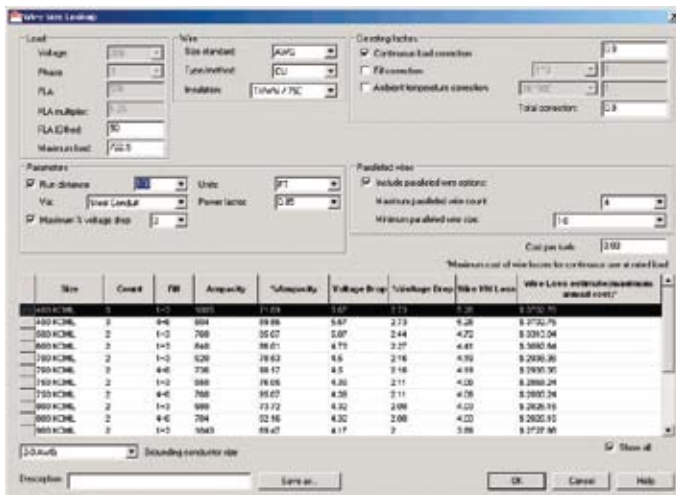
# Technical What's New

## Circuit Builder

AutoCAD Electrical 2010 facilitates the drafting of electrical circuits. It dynamically generates rules-based controls circuits based on defined functional requirements such as components, wiring, ratings, and catalog data.

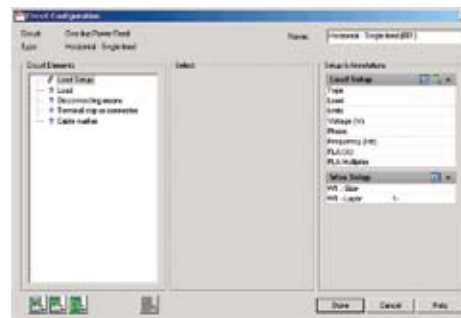
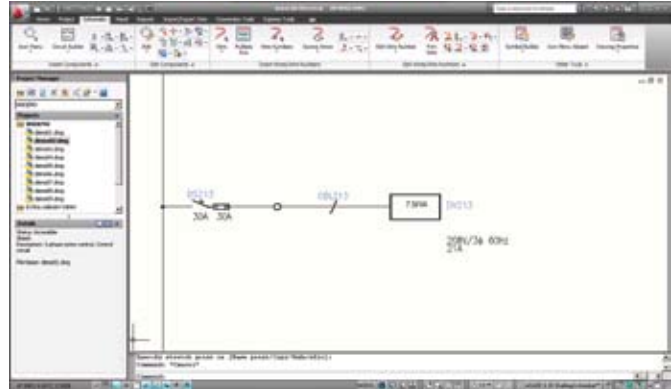
## Green Design

The Circuit Builder tool in AutoCAD Electrical 2010 lets you use calculations to analyze energy efficiency, meet code requirements, and make “green” engineering decisions. Circuit Builder displays parallel energy loss calculations for a range of conductor sizes against various installation and ambient factors. To create a green design, for example, you might choose to oversize a motor's conductors to reduce heating losses; Circuit Builder can tell you whether the resulting reduced energy loss over the life of the motor will recover or surpass initial materials and labor costs.



## Power Feed Support

Circuit Builder provides power-feed circuits for insertion into electrical controls design. Add a source arrow symbol or generic load box representation—or insert a user-created load symbol, such as a variable speed drive control, at the end of the power feed bus. Circuit Builder also allows you to adjust load representation based on rung spacing.



## Additional Circuit Builder Features

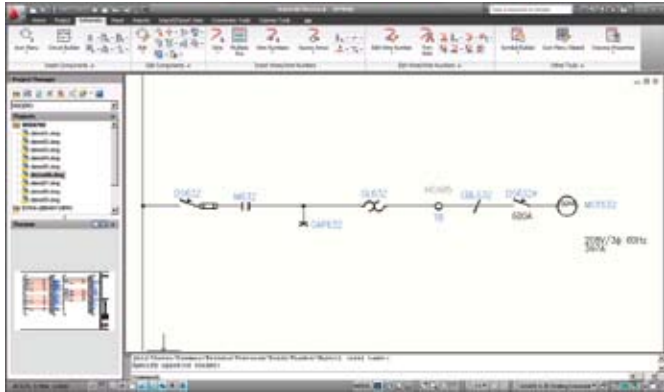
Other Circuit Builder features designed to increase productivity include:

- Wire conductor sizing based on electrical code requirements.
- Support for split-parallel conductor sizing—so you can substitute multiple smaller-diameter conductors to meet equivalent ampacity requirements of a single large-diameter conductor.
- Fuse, breaker, disconnect switch, and overload calculations based on electrical code requirements.
- The ability to define motor description text, installation, location, and text description for individual circuit components.
- The ability to insert a new circuit and reference an existing circuit—transferring the original values to the new circuit.
- An Electrical Standards Database Editor that lets you view, modify, and expand the ace\_electrical\_standards.mdb file.

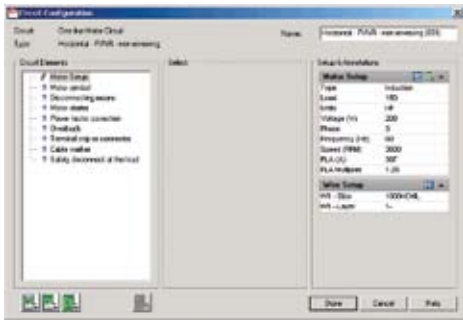
# Technical What's New

## Motor Control of One-Line Circuits

Use the new one-line symbol library to create intelligent motor control one-line diagrams that link back to other drawing types in a project drawing set. Access the library from the icon menu to build one-line circuits with component values and wire sizes that conform to a specific electrical code.



One-line component symbols can be related to parent/child counterparts on schematic and panel layout drawings. Switch between one-line and all related components; when a component is modified, all related components update automatically.



You can also tag schematic or panel components, using existing commands to reference a pick list that includes components pulled from your one-line diagrams.

AutoCAD Electrical also includes new reporting functionality that lets you select whether a report contains one-line, schematic, hydruant, pneumatic, or P&ID components.

## No Wire Numbering for Wire Layers

Wire layers now have a “no wire” numbering option. These wires behave normally for inserting, breaking, and scooting components, and show up in the From/To report. They do not receive wire numbers during the Insert Wire Numbers process.

## Electrical Audit

View electrical audit results for just your active drawing. Simply run an Electrical Audit, then click the Active Drawing button to display issues for that drawing. Open another drawing, and the display updates to show only results for the newly opened drawing.

## Help Updates

Reference topics that show command access have been updated to include command line and ribbon access. Change the location of a command, and ribbon and menu access for that command is automatically updated in the online Help system. (Note: This dynamic update works only when you use online Help within AutoCAD Electrical.)

# Technical What's New

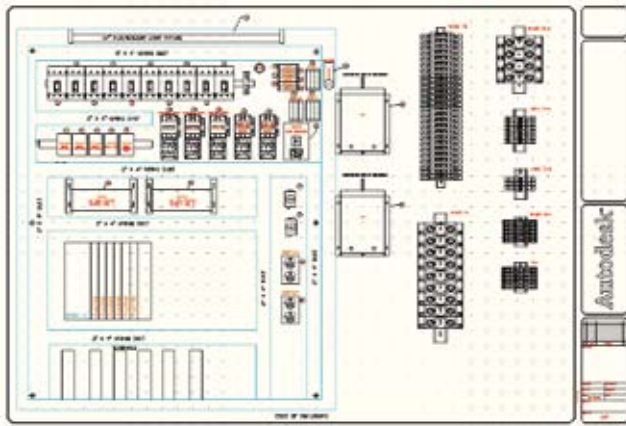
## Proven Benefits

An independent productivity study<sup>1</sup> comparing standard AutoCAD and AutoCAD Electrical concluded that when using AutoCAD Electrical:

- Creation of new designs was 84% faster.
- Editing existing designs are 77% faster.
- Risk of errors was greatly reduced because of a 30% reduction in number of commands used.

For the complete study, go to

[www.autodesk.com/autocadelectrical-productivity](http://www.autodesk.com/autocadelectrical-productivity).



## Conclusion

We thank you for your continued support of AutoCAD Electrical and hope you feel we are listening to your needs. We developed the new and enhanced functionality in AutoCAD Electrical 2010 to make you more productive, make your company more competitive, and return true value to your bottom line.

## 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—we want to make sure that 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 2010 that has 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 avenues:

- Provide tips or join newsgroups at [www.autodesk.com/autocadelectrical](http://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](http://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.

<sup>1</sup> Designed by Autodesk and commissioned to an independent consultant, this study explores 10 common design challenges and shows direct comparisons of the time and effort required to accomplish each specific task in AutoCAD and AutoCAD Electrical software. Read the complete study at [www.autodesk.com/autocadelectrical-productivity](http://www.autodesk.com/autocadelectrical-productivity)