

Contents

**Point-to-Point Drawing Creation**

Connector Generator .....2  
 Wire Collision Avoidance.....2  
 Splices.....2  
 Wire Number Placement.....2  
 Wire Connection Improvements.....2  
 Bend Wires .....2  
 Reposition Wire Number Leaders.....3  
 Link to Autodesk  
 Inventor Professional.....3

**Multidiscipline Symbol Libraries**

Hydraulic Symbol Library .....3  
 Pneumatic Symbol Library.....3  
 P&ID Symbol Library .....3

**Design Tools**

Real-Time Error Checking .....4  
 Multiple Wire Bus .....4  
 User-Defined Attributes .....4  
 Table Style Cross-Referencing .....4  
 Cross-Reference Updates .....4

**Reports**

Wire Label Report.....4  
 Enhanced Audit Report.....5

**Global Manufacturing  
Catalog Content**

Extensive Manufacturer's  
 Catalog Content.....5  
 Globalization Improvement.....5

**Performance and Ease of Use**

Improved Performance.....5  
 New Project Command .....5  
 New Drawing Command.....5  
 Simplified Wire Type Selection.....5  
 Simplified Configuration Settings .....5

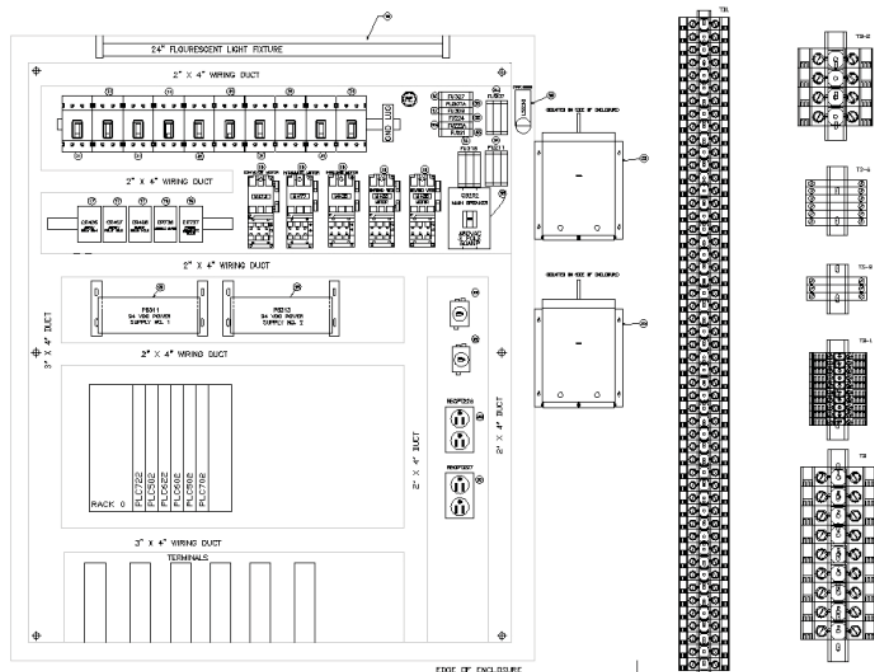
**Design Data Management**

Autodesk Productstream .....6  
 Autodesk Vault Integration.....6

**Other Benefits** .....6

**Conclusion**.....6

AutoCAD Electrical software is part of the AutoCAD® family of software products and is built specifically to create and modify electrical controls designs. Built-in reporting tools help eliminate errors and provide accurate information to manufacturing, allowing more time for designing and engineering. AutoCAD Electrical—the logical choice for electrical controls design.

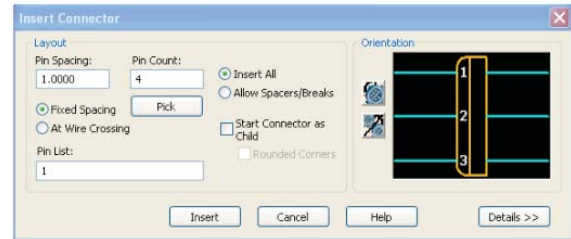


## Point-to-Point Drawing Creation

Quickly and easily generate accurate point-to-point style designs

### Connector Generator

Automatically generate a multipin connector on the fly with the new Insert Connector command. The user-configurable dialog box enables you to select number of pins, spacing, and orientation to quickly create block definitions in active drawing files without having to build or maintain a library of connector symbols. When you click Insert, an outline of the connector displays for placement on the drawing. The rounded corners are the plug side of the connector, the x indicates the connector insertion point, and the arrow indicates the plug-side wire direction. Change the connector orientation before insertion using the Tab, V key, or X key.



New connector editing commands add to the feature's versatility:

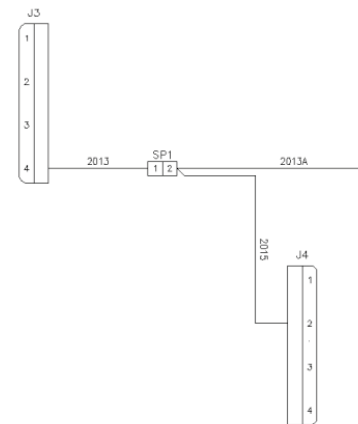
- **Scout (existing Scout feature)**—move the parametric connector horizontally or vertically, relative to the wires that are connected to the connector.
- **Flip, Rotate, Stretch, Split Connector**—flip a connector about its horizontal or vertical axis, rotate a connector about its insertion point at increments of 90 degrees, increase or decrease the connector's overall shell length, and split the connector into two separate block definitions.
- **Add, Delete, Move, Swap Connector Pins**—add, remove, or move the pins inside the connector.

### Wire Collision Avoidance

Instead of drawing each line segment between components on your point-to-point drawings, simply select the two connection points and let AutoCAD® Electrical do the rest. Using the existing Insert Wire command, select a connection point on each component and your wire is automatically routed, without running through your existing geometry.

## Splices

Use the new Splice tool to create up to two wire-to-wire connections per side while maintaining connectivity throughout your drawing and project.



### Wire Number Placement

AutoCAD Electrical now supports the automatic placement of wire numbers above, below, or directly in-line with the wire. You can set the wire number placement for all new wires inserted in a single drawing or for the entire project, without updating the placement of existing wire numbers.

Use the new Toggle Wire Number In-Line tool to switch the position of the wire number between, above or below, or in-line. If the selected wire number is in-line, it toggles to above or below the wire based on the default Wire Number Placement setting in the Drawing Properties>Wire Numbers dialog box. If it starts above or below the wire, the selected wire number toggles to in-line.

### Wire Connection Improvements

Generating point-to-point drawings using the Insert Wire command is now easier. Enhancements include the following:

- Temporary wire graphics change color to indicate when an electrical connection can be made.
- Wire connection points display as a green x at the wire connection point attributes' insertion point.
- Wires are drawn with an angled wire connection if a wire is already connected to the selected wire connection point.

### Bend Wires

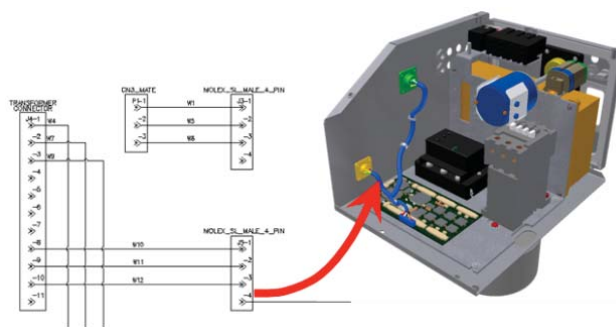
Bend a wire into a right angle turn to avoid or add geometry using the new Bend Wire tool. When a wire is defined at a right angle, you can modify the wire and create a new right angle bend while maintaining the original wire connections to the components.

### Reposition Wire Number Leaders

When defining wire number leaders, you can type “C” at the command prompt to collapse the wire leader back to the wire number block. You can do this immediately after inserting a leader if you determine that you don’t want the leader, or you can rerun the Wire Number Leader command to remove the leader from existing wire numbers.

### Link to Autodesk Inventor

You can now communicate your electrical designs bidirectionally between AutoCAD Electrical and Autodesk Inventor® Professional. AutoCAD Electrical users can pass electrical intent information for cables and conductors to Autodesk Inventor Professional for the automated creation of a 3D harness design. And Autodesk Inventor Professional users can now pass wire connectivity information to AutoCAD Electrical for the automatic creation of the corresponding 2D schematics. Employing the widely used XML language format, you can transfer design data back and forth while maintaining structure and organization.

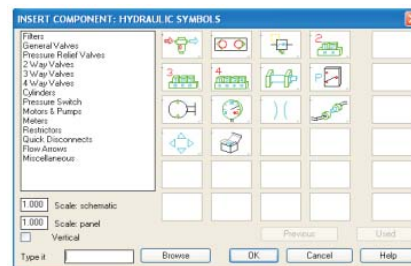


### Multidiscipline Symbol Libraries

In addition to the comprehensive electrical symbol libraries, AutoCAD Electrical now includes symbol libraries for creating pneumatic, hydraulic, and P&ID drawings.

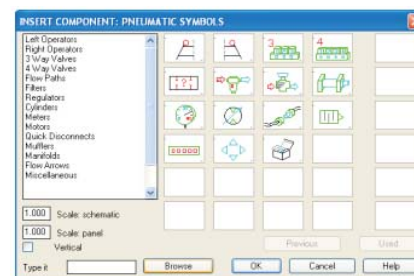
#### Hydraulic Symbol Library

AutoCAD Electrical’s hydraulic symbol library includes filters, valves, cylinders, pressure switches, motors, pumps, meters, restrictors, quick disconnects, flow arrows, and more, all adhering to the NFPA/T3.10.4R1-1990 and AS1101.1-1993 standards.



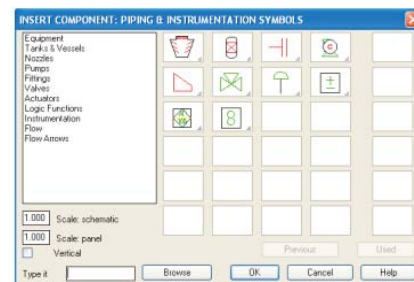
#### Pneumatic Symbol Library

AutoCAD Electrical’s pneumatic symbol library includes operators, valves, flow paths, filters, regulators, cylinders, meters, motors, quick disconnects, mufflers, manifolds, flow arrows, and more.



#### P&ID Symbol Library

AutoCAD Electrical’s P&ID symbol library includes equipment, tanks, nozzles, pumps, fittings, valves, actuators, logic functions, instrumentation, flow, and flow arrows, all strictly adhering to the ANSI/ISA’s S5.1 Instrumentation Standard.



## Design Tools

AutoCAD Electrical's design tools have been enhanced to help reduce mistakes and increase overall efficiency even further.

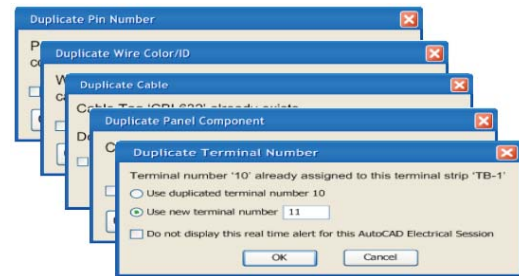
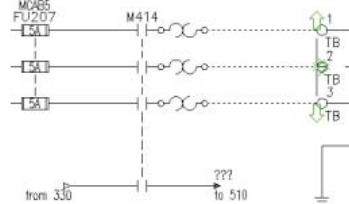
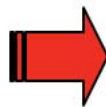
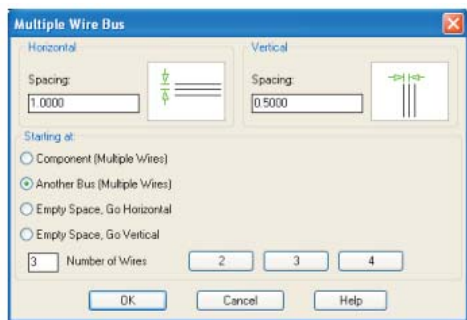
### Real-Time Error Checking

AutoCAD Electrical monitors and alerts users to potential design errors as they occur. Users can locate the problem component automatically by using the Surf command.

Identify and clean up problems that might affect an AutoCAD Electrical drawing using the improved Electrical Audit tool. This tool displays a report of detected problems for the active project. Save this file for reference, or surf the file to quickly view and correct the errors.

### Multiple Wire Bus

With a single command you can configure a new multiple wire bus that automatically routes from an existing multicontact component or bus or in empty space. While you are defining the wires, temporary display graphics appear on your cursor to indicate the direction and number of wires that will be placed in the drawing file.

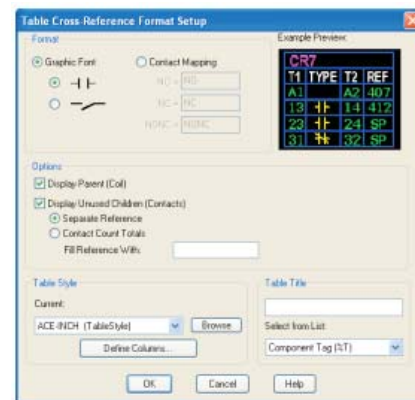


### User-Defined Attributes

Add and define your own attributes for existing AutoCAD Electrical symbols. The newly defined metadata is easily customized and can be extracted for various reports. Use the new User Defined Attribute List tool to selectively determine which non-AutoCAD Electrical attributes are allowed in the AutoCAD Electrical report generators; otherwise only those attributes defined inside AutoCAD Electrical for each component category are processed in the project database and subsequent reports.

### Table Style Cross-Referencing

Tabular cross-referencing styles now function at the same level as graphical and text styles. Create customizable tables, update your drawing in real time, and benefit from increased flexibility with in the way you display cross-referencing information.



### Cross-Reference Updates

Cross-reference settings are now supported at the project, drawing, and component level. Use the new Copy/Add Component Override tool to determine display settings for a specific component that are different from those of the drawing as a whole, or use the new Remove Component Override tool to remove component overrides so the cross-referencing commands use the settings for the drawing.

## Reports

New reporting functionality has been added to AutoCAD Electrical—further reducing the time required to manually generate and update reports while removing associated errors.

### Wire Label Report

Use the new wire label report to list wire and cable labels that exist in your drawing or project. The new, preformatted wire label report is ready for export and can be printed on any ASCII, Microsoft® Excel®, Access, CSV, or XML-compatible wire label printer. After the report has been generated, you can still edit the format or make changes to the data before exporting to your desired file format.

## Enhanced Audit Report

Use the Drawing Audit utility to clean up certain problems that might affect your design connectivity. The audit checks for wire gaps, bad wire numbers or colors, zero length wires, and wire number floaters, and visually verifies all wires in your display. Export this report as a script file for postprocessing, or send it directly to a printer.

## Global Manufacturing Catalog Content

Streamline the design process by using real manufacturer catalog data.

## Extensive Manufacturer's Catalog Content

AutoCAD Electrical ships with a manufacturer's catalog database that contains more than 45,000 components from the industry's most popular vendors. These components provide a full spectrum of input and output devices, including switches, sensors, lights, and numerous panel devices, such as wire way and panel enclosures.

## Globalization Improvement

To support the software's worldwide user base, the catalog database now includes a greater number of Asia Pacific and European vendors.

## Performance and Ease of Use

Improved performance enhancements enable you to complete designs even faster and more efficiently than ever before.

## Improved Performance

Improved memory management and script-based command reallocation have dramatically improved the performance of AutoCAD Electrical 2007.

## New Project Command

Creating new projects and applying project properties is now easier using the New Project tool. In a single dialog box you can define the minimum requirements to create an AutoCAD Electrical project definition file (WDP), the folder in which the project will be maintained, and the settings and options defined within the project. The new project automatically becomes the active project.

## New Drawing Command

When you are faced with multiple customers or many one-off designs, the New Drawing tool helps reduce the hassle of configuring new drawings to specific standards. In a single dialog box you can apply a template and add drawing name, border, drawing type, and descriptions, which are then stored and available for future use. The new drawing automatically becomes part of the active project.

## Simplified Wire Type Selection



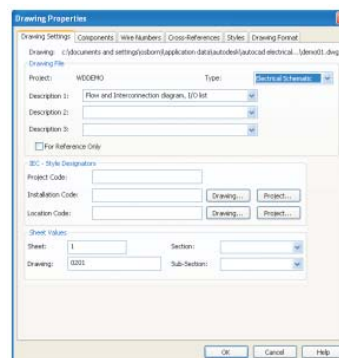
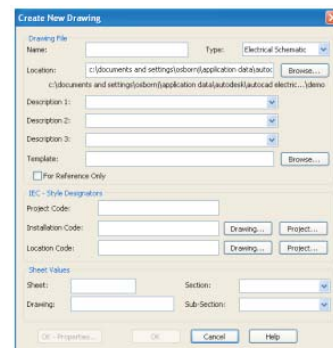
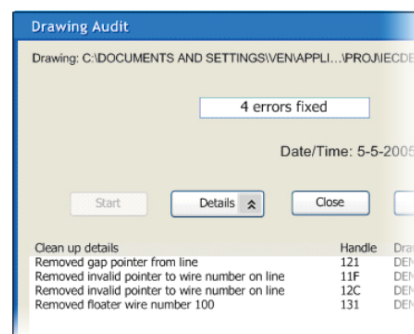
Managing wire properties from the Layer Manager is no longer necessary. During wire insertion, the current wire type displays at the command prompt. Now you can simply type in the hotkey "T" for immediate access to the Set Wire Type dialog box to quickly assign wire type. You can use this hotkey with the following commands:

- Insert Wire
- Insert Angle Wires (22.5, 45, or 67.5)
- Insert Multiwire Bus
- Add Rung
- Insert Ladder

You can also manage wire types by using the new Create/Edit Wire Type tool to create or edit existing wire types or use the new Change/Convert Wire Type tool to convert lines to wires.

## Simplified Configuration Settings

Configuration settings have been condensed into a centralized Properties dialog box, where you can view and edit project settings, format styles, and select default drawing settings for the entire project or a single drawing.



## Design Data Management

One of the most difficult tasks for any company, large or small, is managing design data. Integrating multiple users and various software platforms can create communication problems. Autodesk products provide a linked data management structure that greatly simplifies communication and management of design data.

### Autodesk Productstream

You can now use Autodesk® Productstream™ software to manage AutoCAD Electrical bills of materials (BOMs) by controlling the release and change of a design using the Change Order environment. Additional enhancements include the following:

- Productstream now supports AutoCAD Electrical components, quantities, catalog numbers, and balloon numbers.
- Productstream Explorer supports all Productstream and AutoCAD Electrical data.
- New controls in Productstream make it easier to navigate to and find AutoCAD Electrical data.

### Autodesk Vault Integration

Autodesk® Vault integration provides tools for running Vault operations on the entire project or individual drawing files listed within the project. It supports a single-user environment where the Vault working folder is local, or a multiple-user environment where the Vault working folder is shared by many users on a shared network resource. Additional enhancements include the following:

- You can now check out individual files as they are needed rather than having to check out the entire project at once while maintaining drawing file versioning.
- The multiuser environment now provides drawing status indicators and better control of projectwide commands when you are logged into Autodesk Vault.
- You can now get previous versions of the drawing or project file.

## Other Benefits

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 2007 that has already been solved in a service pack or hotfix, a dialog box appears 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:

- 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.

## Conclusion

We thank you for your continued support of AutoCAD Electrical and hope you feel we are listening to your needs. The new and enhanced functionality added to AutoCAD Electrical 2007 was done to make you more productive, your company more competitive, and return true value to your bottom line.