



AUTODESK UNIVERSITY 2015

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Hey, Sparky – AutoCAD Electrical is a Better Way to Go

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Learning Objectives

- Learn how to convert regular AutoCAD lines into wires
- Learn how to convert AutoCAD blocks with AutoCAD Electrical components while keeping the attribute data
- Learn how to automatically update existing title blocks with project information
- Learn how to run bill of materials, wire connections, and other reports on the upgraded files

Description

So you have hundreds, and maybe thousands, of standard AutoCAD software drawings that represent your electrical designs, and you are uncertain about moving to AutoCAD Electrical software because you think you will have to redraw all your electrical designs. Well, guess what? You don't have to. AutoCAD Electrical software ships with conversion tools that enable you to convert the standard AutoCAD entities into smart AutoCAD Electrical content. This class will show you how to use enough of the conversion tools to get you on the right circuit and energize those individual drawings into a project that recognizes all of the drawings that represent your product.

Your AU Experts

Todd is a graduate of Delaware Valley University in Doylestown, Pa. He has over 25 years' experience in the mechanical engineering field. Ten years of this time was spent as a documentation specialist/designer at Honeywell, Inc. where he worked on several government contracts which required strict drafting and design documentation in accordance with government standards. Additional experience comes from working in the technical ceramic, elevator, and specialty gas industries designing equipment for each of these fields. Todd joined Synergis in 2003 as a Solutions Engineer where he began providing assistance to customers through training and consulting, helpdesk support, as well as providing pre-sales support. The years spent as a CAD Supervisor has helped him make a smooth transition to his Synergis role. Todd is an Autodesk Inventor Certified Expert and a Manufacturing Solutions Implementation Certified Expert

The first project you need to complete in AutoCAD® Electrical is a variation of a design you already created in AutoCAD®. It's a large enough change that you would like to use the power of Electrical, and this design will likely be the basis for many future projects. What do you do now?

You could redo all your work from scratch in AutoCAD® Electrical, or you could convert your existing AutoCAD® drawings. Wait until after this session to make your decision. You will see how to take your existing work and make it into an intelligent AutoCAD® Electrical design, and will be shown the tools to create it from scratch using the AutoCAD® Electrical tools.

Convert regular AutoCAD lines into wires

In AutoCAD you would:

- Use the Line command
- Pick first point then second, etc.
- Then, insert the connection blocks, loops, etc.

In AutoCAD Electrical you would:

- Use the Wire, Insert Ladder, Add Rung, or **Change/Convert Wire Types** commands
 - Using the Wire command the connections, loops, etc. are place automatically
 - Insert Ladder/Rung you click once, and the wires, connections, loops, etc. are place automatically. Or, use the **Convert Ladder** tool
- Change/Convert Wire Types moves lines/wires to selected Layer

Converting blocks to electrical smart blocks

In AutoCAD you would:

- Create blocks with attributes
- Insert blocks with attributes onto lines
- Then, trim/extend as required

In AutoCAD Electrical you would:

- Create blocks with attributes, or convert AutoCAD blocks to electrical smart blocks using the **Convert to Schematic Component** tool
- Insert blocks with attributes onto wires using the Icon Menu tool
 - Wires trim automatically
 - Connections made automatically to electrical smart block



Update existing title blocks with project information

In AutoCAD you would:

- Double-click your AutoCAD title block with attributes, and edit them one at a time
- Something changes, you repeat the process

In AutoCAD Electrical you would:

- Add your drawings to an electrical project
- Run the Title Block Update... tool
 - Attributes in the title blocks are automatically updated with the project and drawing information, and property data

Run reports on the upgraded files

In AutoCAD you would:

- You would create a separate Excel file(s)
- Change the drawing(s), change/update the Excel file(s)

In AutoCAD Electrical you would:

- Run the Report tool on the project, or any of the drawings in the project
 - If you change the drawing(s) just run the Report tool again
 - Can save reports to other formats if required

In Conclusion:

During this session you have learned how to take a schematic as it was drawn in regular AutoCAD® and add AutoCAD® Electrical intelligence to it. This included how to convert wires, convert wire numbers, make wire connections, convert blocks, create blocks, and add project information to existing title blocks. Then, bill of materials and other reports were generated based on this intelligent data.

While this was only done on a portion of a drawing the same techniques could be used throughout an entire drawing. Several of the tools included the option to update the full list of drawings in a project.

