

Getting Started for FRC Teams with SolidWorks Electrical

SolidWorks Electrical Kit of Parts – Beta 1/22/2014

Apply for SolidWorks and SolidWorks Electrical at www.solidworks.com/FIRST

Download SolidWorks Electrical KOP at www.solidworks.com/FIRST to a separate folder.

Post any questions/comments about SolidWorks Electrical and Share your FRC SolidWorks 3D Model Image at www.solidworks.com/SWEducationFacebook [FIRST](https://www.facebook.com/FIRST).

SolidWorks Electrical Kit of Parts requires SolidWorks Electrical Schematic for 2D and SolidWorks for 3D. You can use SolidWorks Electrical Schematic independently. No other CAD system is required. Using SolidWorks Electrical Schematic provides information to your electrical and control team members through:

- Line Diagrams
- Power Schematic
- Control Schematic

SolidWorks Electrical 3D gives you the ability to bi-directionally connect your 2D schematic to your 3D SolidWorks model.

This is the start of something big. Thank you for being part of the development process.

Serial Number

If you have received SolidWorks, your initial sponsorship email contains your FRC SolidWorks Electrical serial number.

Downloading SolidWorks Electrical KOP

Place SolidWorks Electrical KOP in a separate folder. SolidWorks Electrical has been used in industry for 2 years. This is the first year it is part of FRC SolidWorks sponsorship.

SolidWorks Electrical KOP is in Beta. SolidWorks Electrical library has 500,000 standard parts including Rockwell International and other manufactures for commercial use. We had to define all pin-outs, power requirements, for FIRST Robotics from NI and other control components based on specs – this is what is new for SolidWorks Electrical. Each FIRST Robotics 2D symbol contains many intelligent attributes.

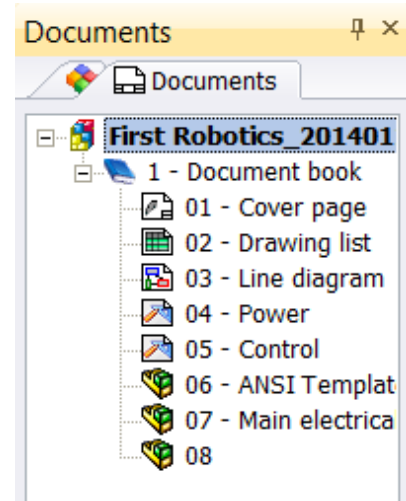
Do not use with your competition robot model at this time. Make a copy of your model and place in a separate folder when using the separate SolidWorks Electrical KOP.

If you are an experienced 3D CAD user, you begin in a 2D world.

SolidWorks Electrical KOP:

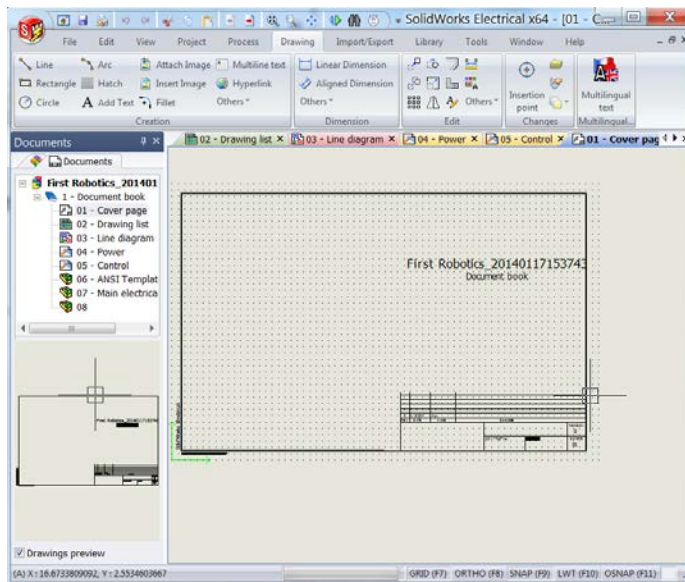
A) Install SolidWorks Electrical FIRST Robotics Project

1. Download the SolidWorks Electrical Kit of Parts from www.solidworks.com/FIRST
2. Double-click the file **First Robotics_SWE2013SP5.proj.tewzip**. SolidWorks Electrical project ends in .tewzip
3. Click **Next** (many times) to load the project and the symbols into your library. Click **Finish**.
4. First Robotics Project opens. Expand the **document**.

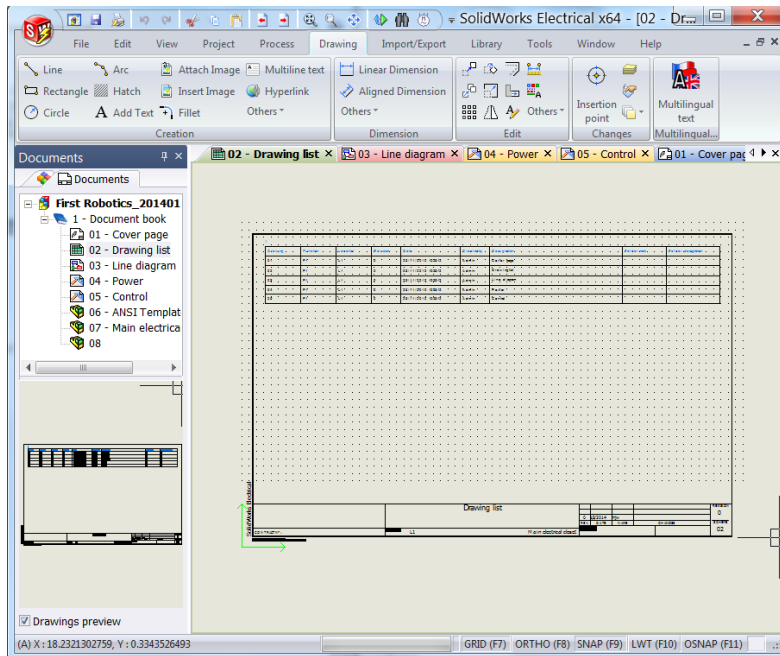


B) Review the Project

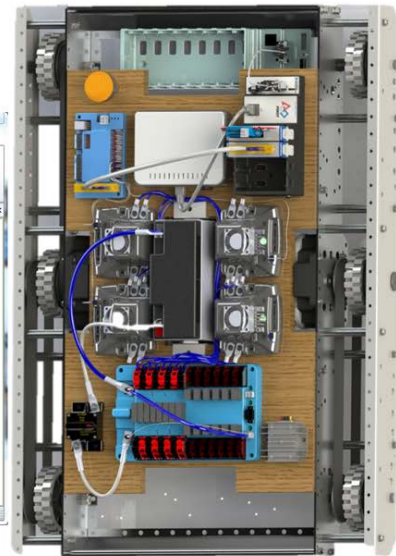
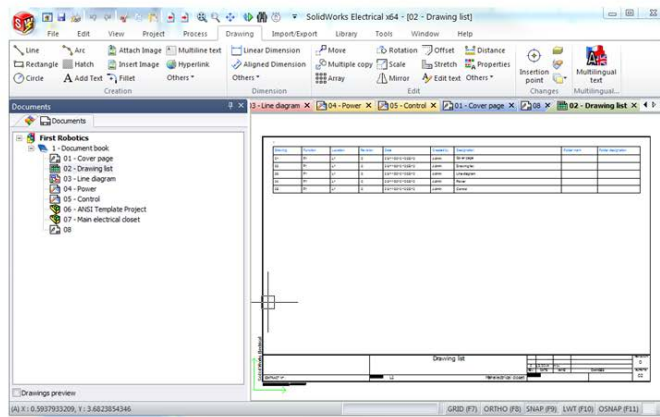
1. Click **Cover page**. This is the name of your document.



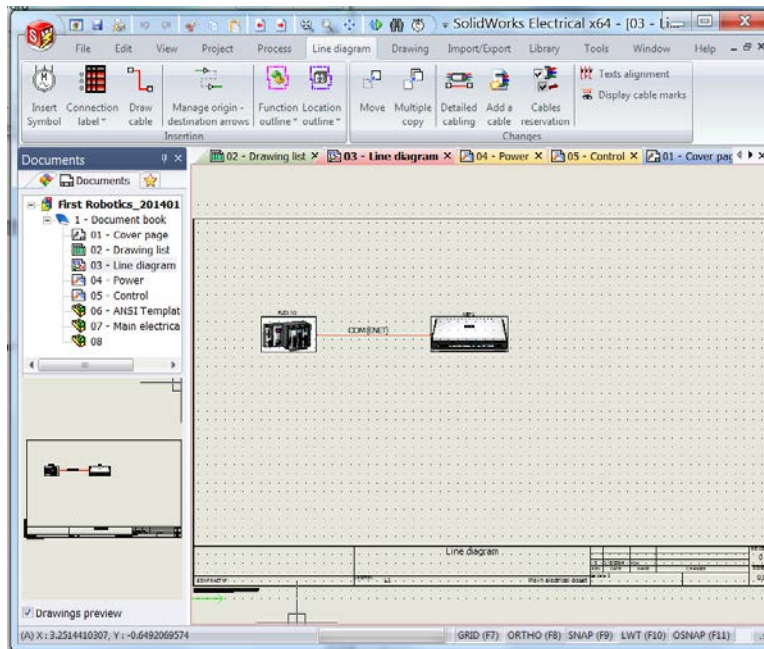
2. Click the **Drawing List**.



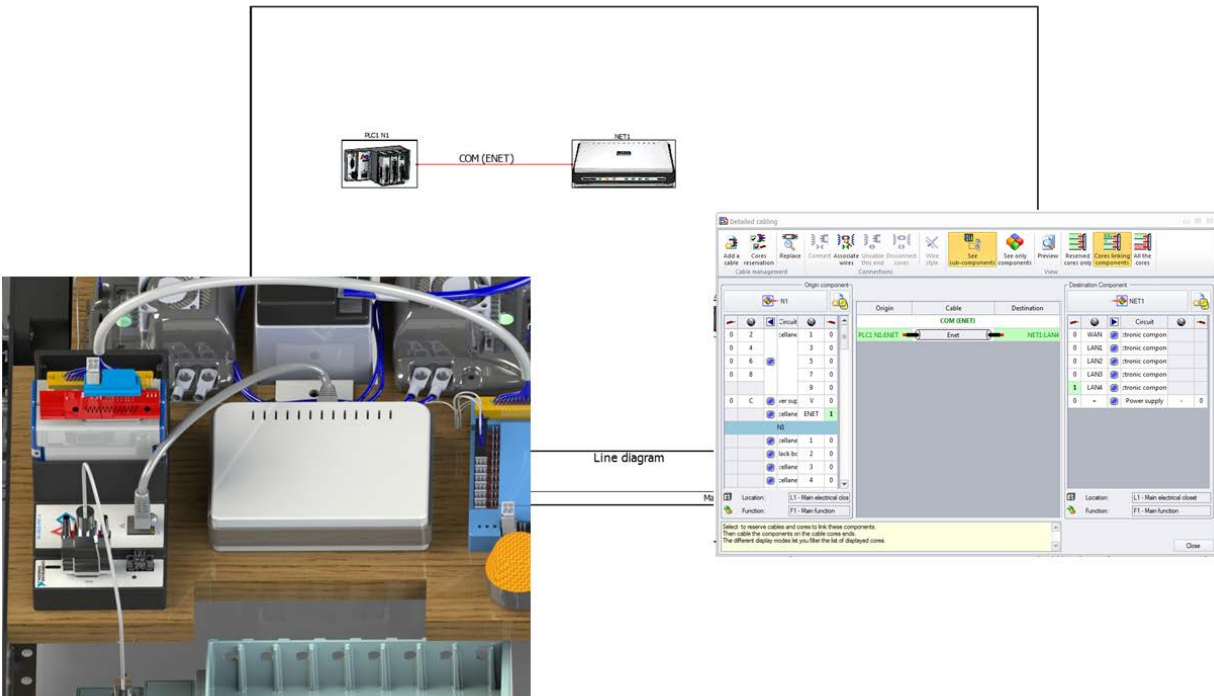
These are the names of the drawings in your project. The drawings correspond to components in your assembly.



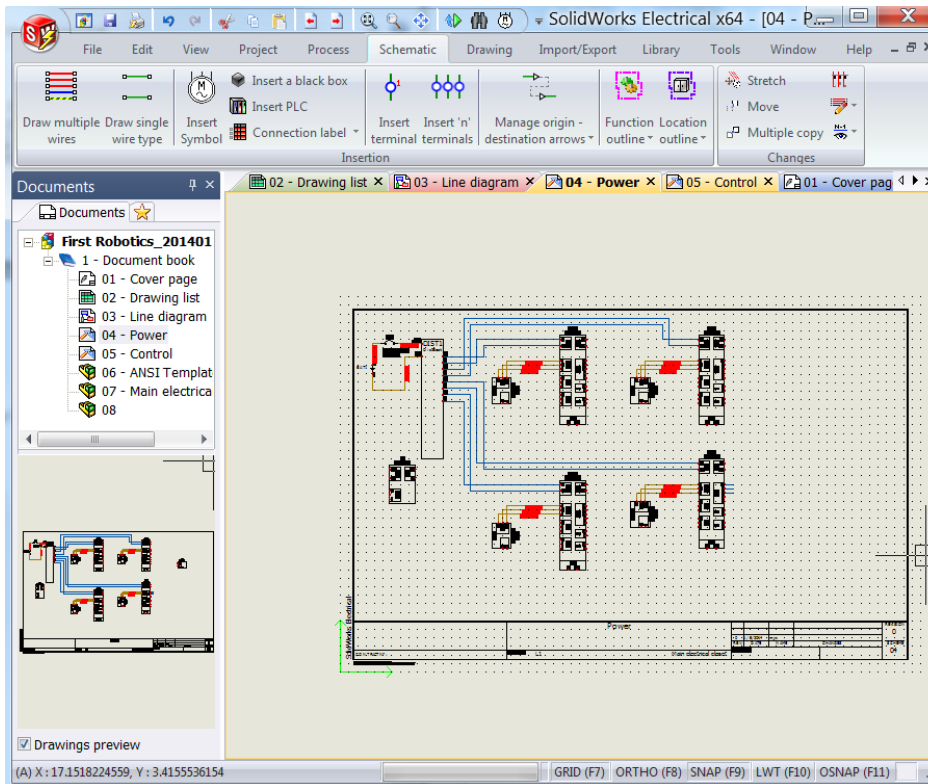
Click the **Line diagram**.



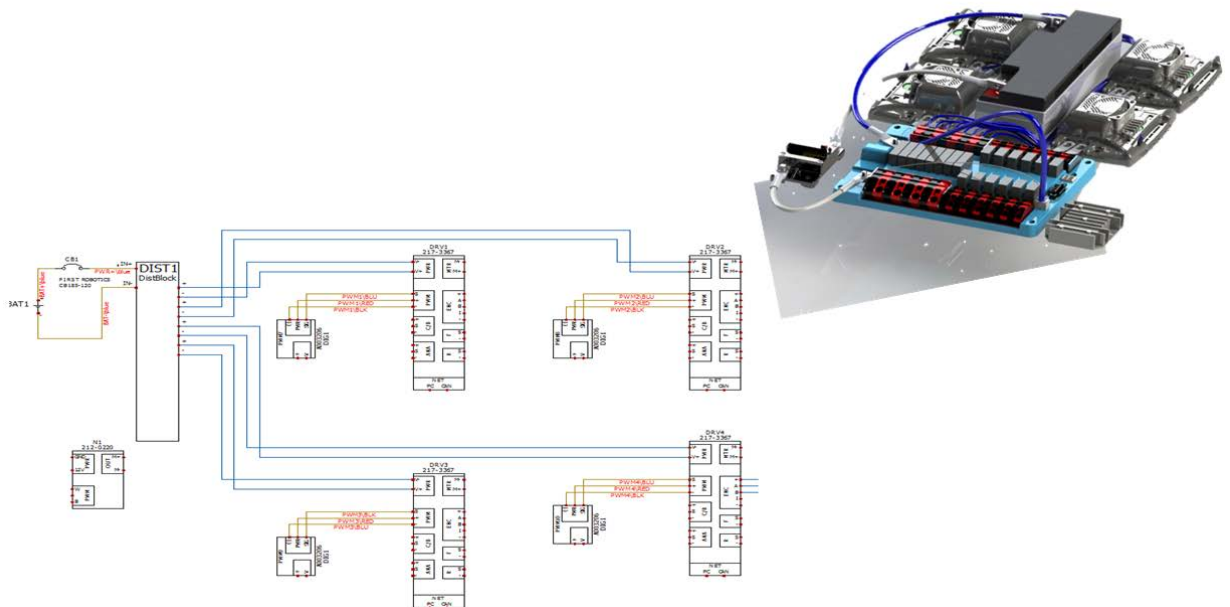
3. The Line diagram corresponds to these components.



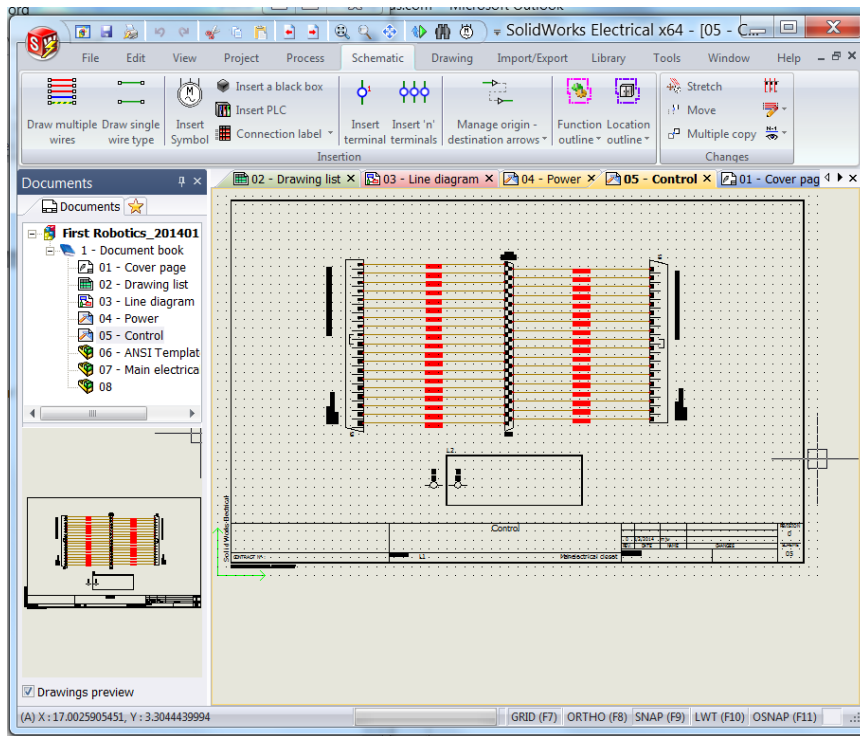
4. Click the **Power diagram**.



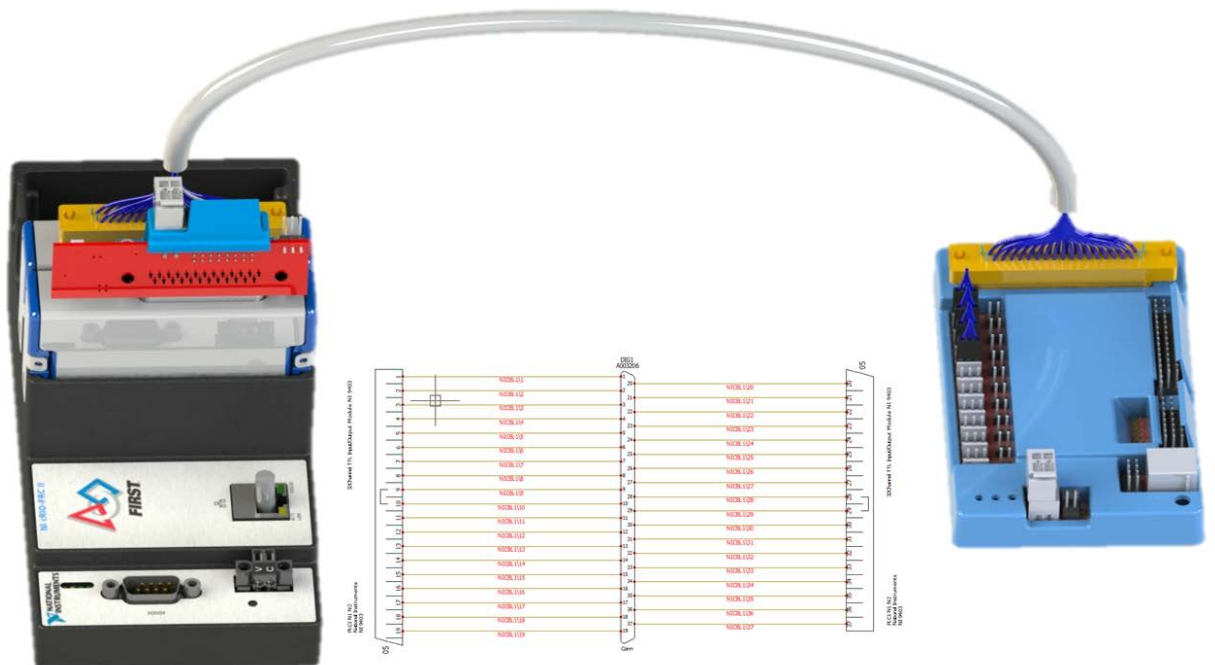
5. The Power diagram corresponds to these components.



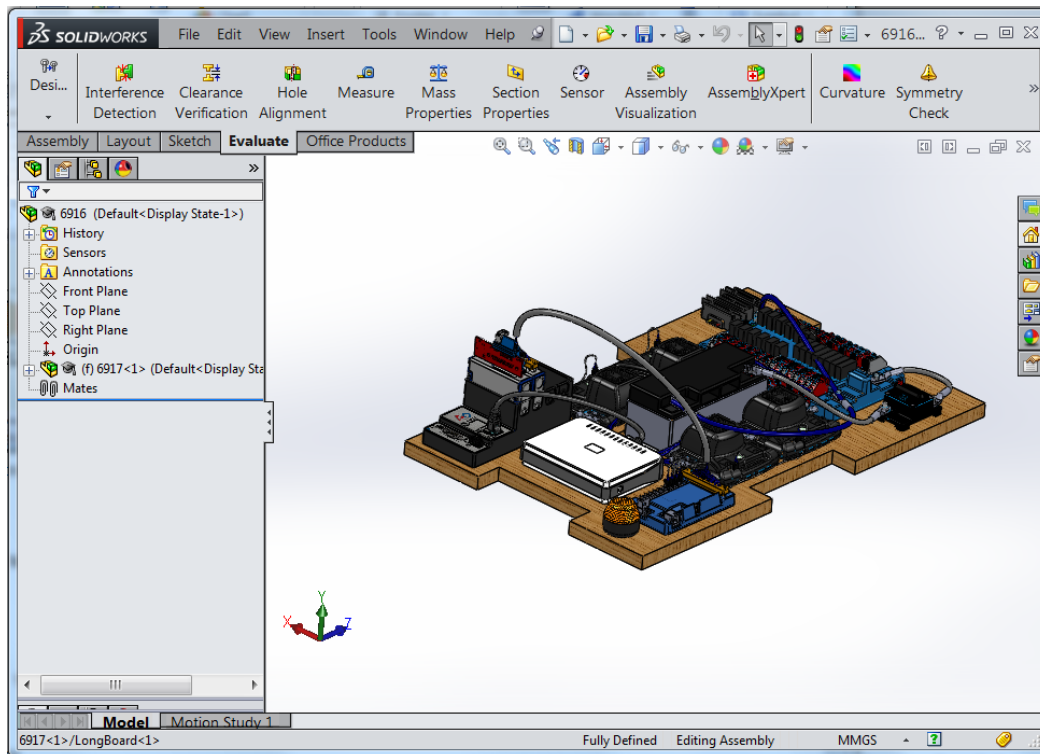
6. Click the **Control** diagram.



7. The **Control** diagram corresponds to these components.



9. Click the **Main Assembly** (SolidWorks required). SolidWorks opens. The 3D Model is displayed.



Congratulations! You just entered into the new Electro/Mechanical Control Systems World in both 2D and 3D.

C) Tutorials/Documents

These tutorials and documents will give you an overview. They are not FIRST specific.

SolidWorks Electrical Schematic

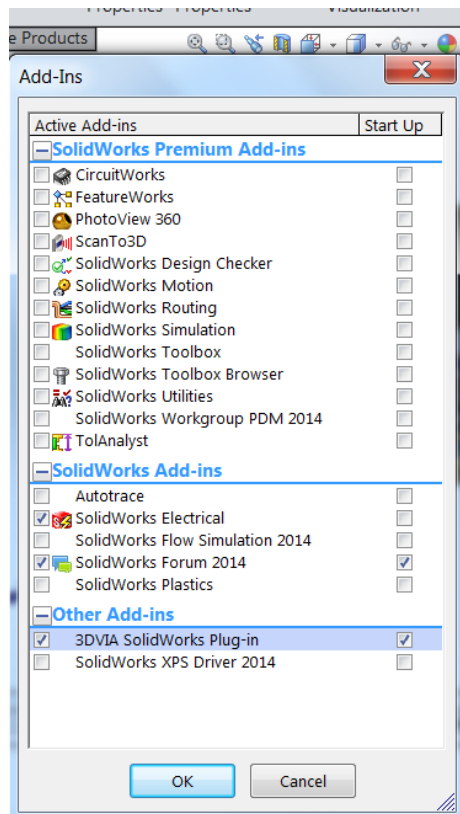
SolidWorks Electrical Schematic: **Help>Getting Started>SolidWorks Electrical**

SolidWorks Electrical Schematic: **Help>Tutorial Panel**

SolidWorks Electrical 3D

From SolidWorks (the one you know and love)

Click **Tools>Add Ins.** Check **SolidWorks Electrical.** Click **OK,**



Click **SolidWorks Electrical** from the Main Menu.

SolidWorks Electrical 3D: **Help>Documentation>Getting Started>SolidWorks Electrical**

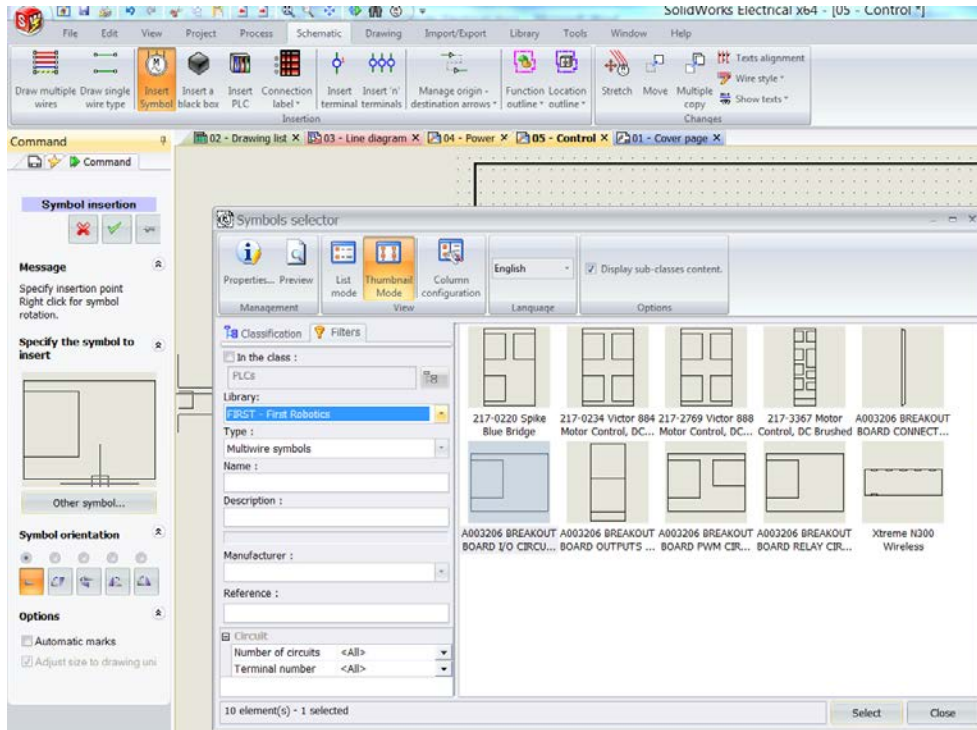
SolidWorks Electrical 3D: **Help>Tutorials>SolidWorks Electrical 3D.**

D) SolidWorks Electrical FIRST KOP Symbols

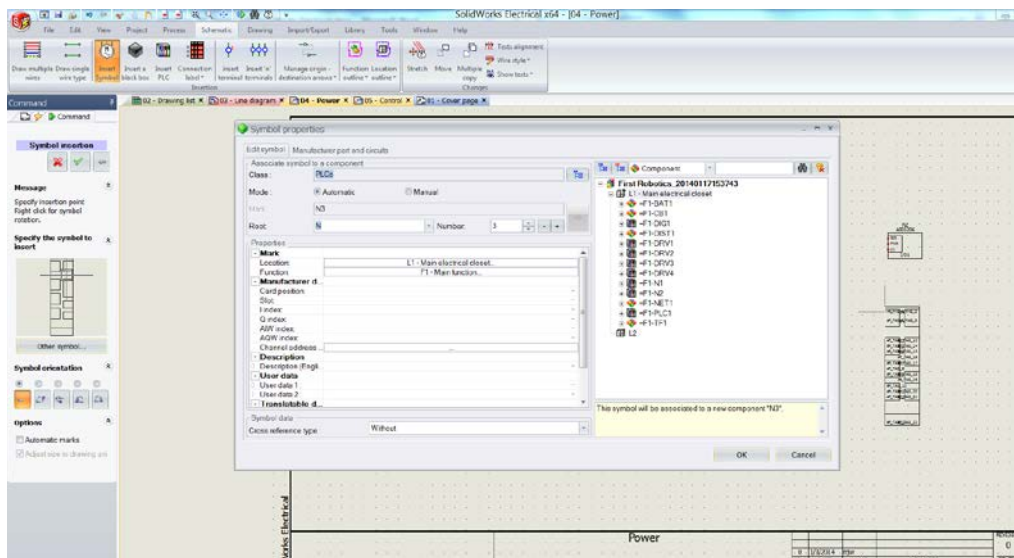
To review the SolidWorks Electrical FIRST KOP from SolidWorks Electrical 2D.

Click **Power** from SolidWorks Electrical Schematic.

Click **Schematic**. Click **Insert Symbol**. Browse and select **FIRST - First Robotics for Library**.



Double-click a **symbol**. Click **OK**. Click a **position** on the drawing. The symbol properties appear.



The SolidWorks EDU team thanks you for being part of the Beta process. We appreciate your feedback through www.solidworks.com/SWEducationFacebook FIRST.

Our goal is to develop tutorials around SolidWorks later this summer with the help of WPI.

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