

# Why CAD for Electrical

Electrical CAD is a new idea that we wish to implement in future seasons.

This past season we struggled with aligning the ideas of our design team with our electrical sub team which ultimately led to interfering issues.

Electrical CAD specifically is used for controlling aspects of Electrical including wire routing, device mounts, and overall inter-subteam communication.

In terms of device mounts, I would recommend using Onshape but for routing and overall communication with our design team I would highly recommend Solidworks. Regardless, you can use one or the other.

Specifically on Electrical CAD, you can either choose Solidworks or Onshape

If you can CAD on Solidworks, I would highly recommend that you do so over Onshape as you can easily reference top-level (we are a Solidworks team) and go from there. However, if you can't (which is totally fine) there are some ways to work around it.

On Onshape, you can ask you CAD team to give you a "box" that has specific measurements in which you can CAD and create any device mounts inside of.

It is important to understand that learning your CAD software is really important.

For Solidworks Electrical CAD, learning from the CSWA/CSWP course is sufficient (and taking the test for a license is pretty cool).

For Onshape there are varying courses that you can take based on your skill level.

The interface of both software's is similar but not entirely the same so be sure you know the difference before proceeding.

Resources:

Onshape courses

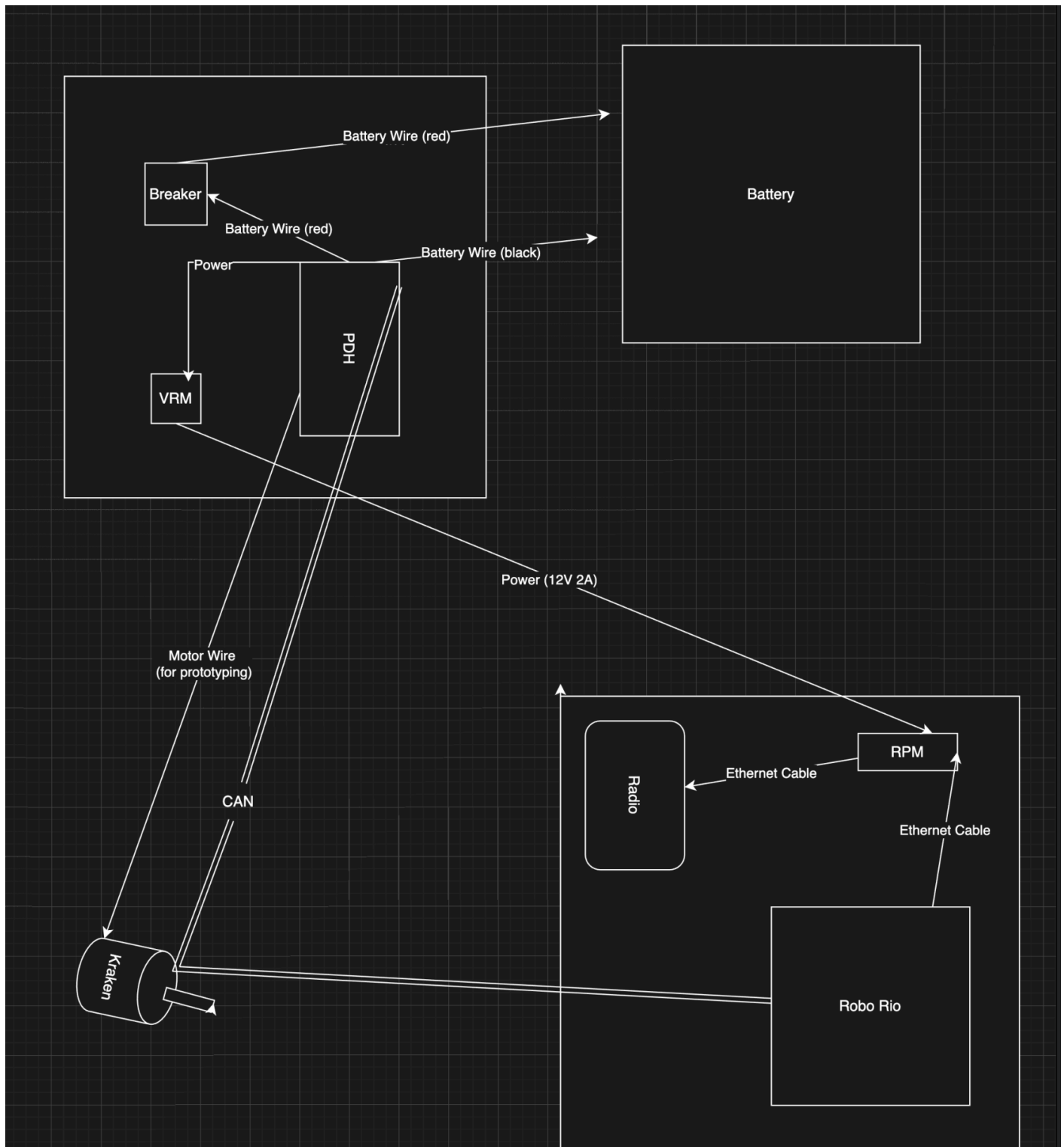
Solidworks (CSWA and/or CWSP)

<https://www.igus.com/> for electrical CAD

## Other online resources with 3d models of FRC Controls devices

Note: It is redundant to CAD each wire that goes to each component, so it is worth noting that we hopefully plan to plan wiring by drawings online/whiteboard.

Specific example I made for Cubey (possible compact prototype testing mechanism):



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