

# Wiring

## How to Wire

- The Wiring Process

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Throughout our subteam, we use a variety of wires that accomplish different things. The color and size of wires are very important and something that we need to pay attention to.

The CAN wire on our robot is the 20-gauge green and yellow wire.

It connects all of our

- Motors
- Encoders
- RoboRio
- Pigeon
- CANivore
- CANdle
- PDH

Essentially, it connects everything that needs some sort of information

CAN Cable - [mindsensors.com](http://mindsensors.com)

Pulse Width Modulation (PWN):

- 22 gauge
- Red - Positive
- Black- Negative
- White - Neutral/Signal

Power

- Usually a lower gauge wire (meaning greater thickness)
  - 10
  - 12
  - 14
- Crimped with Anderson crimps
- Connects components to power suppliers (PDH, VRM, etc)

## Battery Wire

- 4 or 6-Gauge Wire
- Special Anderson and crimping system
- Connect to Batteries

## Status Lights

If you are ever unsure about the condition of a device, always reference its Status Lights and/or Phoenix Tuner

For a quick reference on status lights for most electrical devices on an FRC Competition Robot, look at this: [Status Light Quick Reference — FIRST Robotics Competition documentation](#)

Phoenix Tuner is a way for a user to reference and control a device. From there, you can update its firmware and use it to test prototypes easily.

Please reference this for Phoenix Tuner: [Phoenix Tuner X](#) and its installation, [Installing Phoenix 6 \(FRC\)](#)

