



Electronics: Beginner Building Blocks

Welcome to the Electronics Resource Repository! While designing your robot, you'll want to leave room for electrical components. Then, after fabrication and assembly of the robot, it will be time to wire everything.

1. Introduction to Electronics

- Wire Gauges: [Read more about it here.](#)
- Voltage, Current, and Resistance: [Read more about it here.](#)

2. FRC Electrical Components

- [Brief descriptions and photos of each component is linked here.](#)
- RoboRIO
- Power Distribution Panel (PDP)
- Pneumatics Control Module (PCM)
- Voltage Regulator Module (VRM)
- Motor Controllers: Talon, Talon SRX, Talon SP, Victor 888/884, Jaguar, SD540C and SD540C, SPARK, Spike H-Bridge Relay
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- Servo Power Module
- OpenMesh OM5P-AN and OM5P-AC Radios
- 120A Circuit Breaker
- Snap Action Circuit Breakers
- Robot Battery

3. Commonly Used Electrical Tools

- Flush cutters
- Anderson Crimping Tool
- [Terminal Crimper](#)
- [Pulse Width Modulation \(PWM\) Crimper](#)
- Wire Strippers
- Soldering Iron
- Heat Gun
- Multimeter

4. Bringing it all together: Wiring

- FIRST provides step-by-step instructions and a schematic diagram for wiring robots with the above components and tools. [It is linked here.](#)