

Verification 2: Electrical

The electrical verification is a test of the quality of your wiring on the final robot plus your knowledge of how to debug electrical problems with the robot.

Verifications will take place during your lab section. Please read the checklist carefully, and be 100% prepared to demonstrate your robot when asked.

Wiring quality (1 point)

All connections are secured and stress-relieved when necessary. It would be relatively straightforward to replace a wire if needed (traces between components are clear).

Components are mounted securely to the robot and do not run the risk of falling off or otherwise becoming disconnected.

Debugging knowledge (3 points)

For the following parts, complete a debugging manual:

MOSFET

Voltage Regulator

Solenoid

Servomotor

Reed Switch

For each part, your guide should describe:

- What symptom(s) your robot will have if the part is broken. At least one symptom per part. (1 point)
- How to test whether the part is working correctly. Including at least one test and one electrical diagram per part of how to perform these tests. (1 point)

In addition, the TA will give you one of the above parts along with the appropriate testing equipment (multimeter, oscilloscope, power supply, and a working arduino) and you will have two minutes to determine if the part is working. (1 point)

Presentation (1 point)

You presented your robot on time and within the allotted time given. You convinced the TAs that you have a working autonomous robot.