GNG1103

Engineering Design

Deliverable H

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Prototype III and Customer Feedback

Prototype plan

For this prototype, we have attached a wire to an AC outlet and had also arranged it in its case/metal box. We also wired all the necessary connector wires so we have what we need to create a circuit from the inverter. Based off of our prototype sketch, we made sure that the wires that we made are the correct length to install in the shed. We then installed the wiring into the shed and attached it to the inverter. Our previous prototype involved constructing a wiring system for the outlets and testing them for voltage and current. We were able to use what we made in the previous prototype and implement into this third prototype.



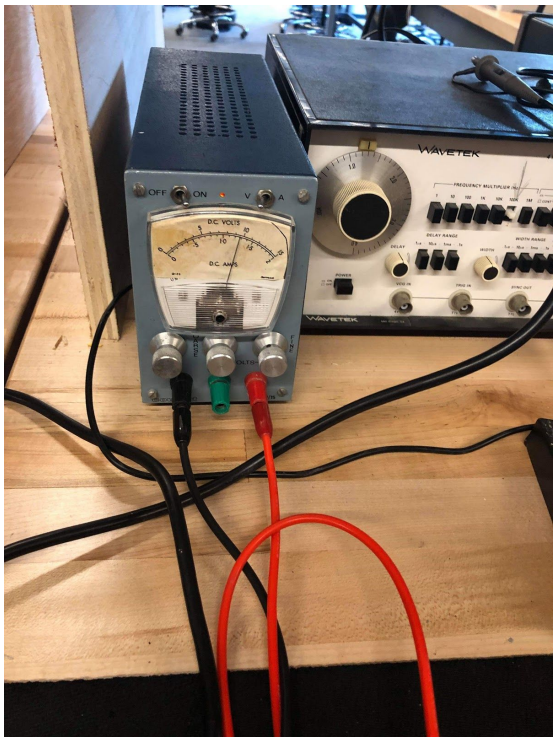
Objectives

The objective of this prototype is to put all of the components together and start testing its capacities and functionality. Through the assembly of this prototype, we were able to verify that everything works according to plan except for the inverter. We can use this wiring system to run the necessary voltage and current with negligible resistance. Now we have a near fully functioning prototype to show on design day.

Testing Plan

For this prototype, we tested for faulty wiring, as well as ensuring that there was no resistance in our prototype. We used a DC power supply to provide power to our outlet for preliminary

testing. The stopping criteria for this prototype was to ensure that each separate part was working and it still worked when we combined all the components.



We also needed to test the battery/inverter/solar panel set-up. This caused problems as an unforeseen error came up with the inverter. Whenever it was connected to the battery, the screen would flash red. This was not in the troubleshooting guide, and I assume that it means that we are dealing with a faulty inverter. We will continue the installation and see if we can fix this problem along the way.

Client Feedback

There was a change in how we were setting up for design day, now all the sheds will be put together and ours will be in the middle. Since this is the case, we needed to change the locations of our outlets. We needed to adapt t the situation at hand because we need to put the outlets in the corner. This requires different lengths of wires in the ceiling.

The professor mentioned that the connectors that we will be using do not meet proper safety standards in a regular home, however, we were given the approval to use them anyways. We now have all the connectors ready to go and we didn’t change our design.