Project Identity

UConn Health Center Wire Tester
Week 9: 3/28/07-4/3/07
Scott Michonski

Work Completed

The first thing that I did this week was make sure that we could purchase a box from Bud Industries that would cater to our needs. I realized that we definitely did not have time for Bud to build us a custom box, as customizing a box takes at least two weeks for them to manufacture. Instead I searched through there online catalog and found a box that was the appropriate size for our needs.

The box that I found was a polycarbonate box that had dimensions of 3.74”x7.28”x10.43”. This was the closest size to what we needed in an electrical enclosure. It was also the specific type of box that we would need. They have many different types that we could not use. The Newark in One part number was 91F3913.

I placed a purchase order for our box on Friday and Bill was able to get the purchase order set on Monday. The purchase order went through the UConn Health Center and our box was ordered. It should arrive this coming Friday, which will allow us plenty of time to make sure that everything is set up.

I also placed the purchase order for our PCB board on Friday. The board contains 11 connections for the ground and the voltage connection. There are extra connections for the voltage since we are only going to be utilizing 7 of the inputs. There will be 3 voltage connections for the motors 2 for the sensors 1 for the RS485 converter and then the input voltage. There is 11 connections for the ground 2x3 motors, 2x1 RS485 converter, 1x2 sensors and the input ground. The A- and B+ connections have 3 connections for the motors and 1 output to the RS485 converter. An image of the board that we will be receiving is shown on the following page.
PCB Board for our device

The A- and B+ are connections that allow all of the motors to send signals through the RS485 converter. The V is the voltage which is going to be a value of 13.8. The GND is the ground connection for the board.

I also have set up the wiring for the sensors. The transducer cables coming from the sensor will connect to the transducer connector which will then be wired to our USB 6211. I have soldered all of the wires to the transducer connector and it is ready to be integrated with our USB box. An image of the connector is shown below.

Figure 1.2.2.7: Connector Pin Out- Amphenol #703-91T-3635-01
The pins that I soldered wires to are the K, J, G, F, E, D, C and B connections, which is shown on the previous page. The other pins are not needed. The K connection is the voltage input, the J connection is the ground. The 6 other connections G-B are the signals that the transducer will send to our USB box which in turn will then be sent to the computer. The soldered connection between the pins and the wire has been covered using the polyolefin tubes that we have in the lab. They are the heat shrink tubes and have been secured over the soldering. This guarantees that the metal wires will not touch each other shorting themselves out.

I also contacted Yarde materials and spoke with Jeff Robillard regarding pickup of our steel. He said that they have finished cutting our material and that we could pick it up in Southington whenever we wanted to. All we need is to say that we have an order from the University of Connecticut. Beth is planning on picking this up tomorrow and driving it down to Mike Brault’s machine shop.

Project Review

Right now it seems like we are going to be able to finish everything by the deadline of next Friday. We will be pressured for time but we are going to be able to complete everything. This is however contingent on whether Mike Brault is able to finish machining everything for us by then. If the mechanical aspect of our base is completed by next week, it will just be matter of putting everything together.

Future Work

When our box comes in this Friday I will be able to attach our RS485 converter, the USB 6211 and the PCB Board (which hopefully will also be in on Friday) to the inside of the box. Next I need to connect the transducer connections to the box and then plug the wires into the USB 6211. Over the next week I will work on making sure that all of our electrical connections are set for this project.

Time Worked: 12 hours