Project Identity

UConn Health Center Wire Tester
Week8: 2/21/07-2/28/07
Scott Michonski

Work Completed

This week I submitted the purchase order for the piece of stainless steel from Yarde Materials. The purchase order was for a block of steel with the dimensions 0.5x19.5x30.5 and was type 316L. The final cost was $488.00 and does not include shipping. We did not submit an order for shipping because we are planning on going up to Yarde Materials to pick up the piece of metal after it has been purchased.

We want to pick it up so we can then immediately drive it down to Mike Brault’s machine shop. In this manner we can make sure that everything is received in a timely fashion. Hopefully we will be able to do this by the end of this week.

I also have set up the PCB board that we will need to use using PCB Express. The board is a simple setup which supplies connections for the communication of motors to the computer and also supplies the voltages and a ground.

As shown in the following image the board has four inputs for A- and B+. This is because there will be one A- for each of the three motors, one B+ for each of the three motors and then an input for A- and B+ which will go to the computer. Each motor will be able to connect to the same connection because it operates off a differential signal. Every time the computer needs to communicate with a motor it sends out a signal specific to that motor. So even though all three motors are connected to the same input the computer will only communicate with them one at a time. This function was extremely helpful in reducing the amount of wiring for our project.

Next we will have seven voltage connections. All of our parts will operate off of a 13.8 voltage source. This was the perfect voltage because it allowed us to connect everything to one source and not have to utilize a transformer. There is one voltage connection for each
motor, one connection for the RS485 converter, two for the sensors and then the input of the voltage source.

There are ten ground connections on the board. This is because the motors need two ground connections, then the RS485 needs a ground, the two sensors need a ground and then the ground input.

The size of the motor will be 1.30'' by 1.41'', this will allow for easier packing into our electrical enclosure that we will have mounted onto our base. I got a quote for the PCB board and it will cost $69.70 and that includes shipping. It will take approximately two to three days to arrive to Connecticut.

We are going to need a box to put all of our electrical components into. This is going to hold the USB 6211, the RS485 converter and the PCB board. The dimensions that we will need for the inside of the box are 7.5''x6''x1.5''. This will allow everything to fit nicely together with a small amount of excess room.

The company that we are looking at purchasing boxes from is Bud Industries. They are the main supplier for Newark in One and can custom make plastic boxes. The turn around time for the custom made boxes can take awhile however if we order them next week we still should be able to get them in in time. I am still waiting on a price quote from bud industries.

**Project Review**

The project is coming along nicely. As long as we get our steel soon and get it to Mike Brault this week to get machined we should be able to get everything done on time. The purchase order still hasn’t gone through the UConn Health Center yet and it is critical that it does so soon so we can get everything in order.

**Future Work**

We need to get a price quote for the custom made box and find out how long it will take for them to ship it to UConn. If everything is able to get done in a timely manner we will get a purchase order ready as soon as I hear back from them.