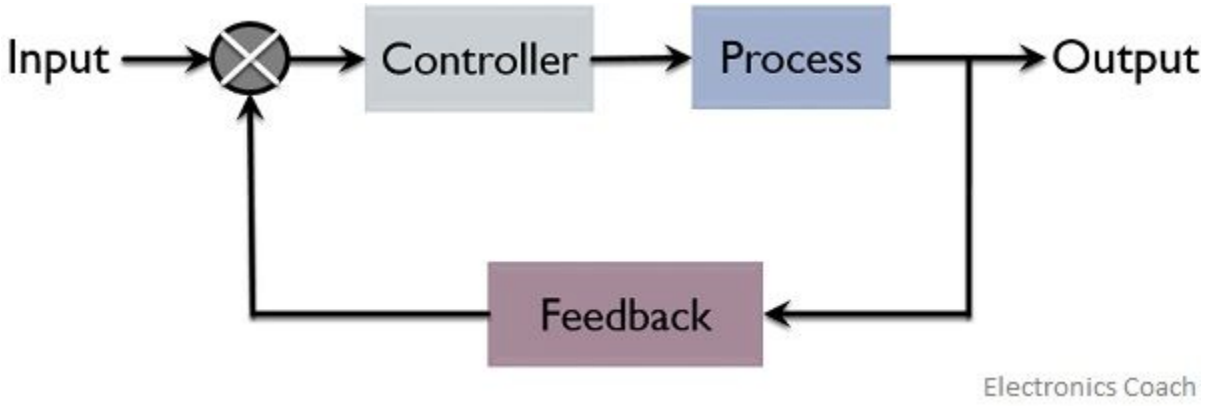
Arduino	I/O	Analog/digital	Auto/Manual
Temp Sensor 1	input	analog	Automatic
Temp Sensor 2	input	analog	Automatic
Temp Sensor 3	input	analog	Automatic
Temp Sensor 4	input	analog	Automatic
TEM Power	out	PWM 0-255 mapped to 0-100	Adjustments should eventually be automatic after manual input of a desired temperature, currently we are setting the power manually

4. A closed feedback loop should be utilized to maximize efficiency of the TEM. The input of the system will be a desired temperature. The controller will likely be a constant gain value that we have not yet determined. This will determine the power of the TEM, or the process. Then, the output of the process will be sent back into the system by the sensors. The error will be calculated, then this will again determine the new power of the system.



6. After increasing the desired power of the TEM by 10%, it took about 4 minutes for the temperature to stabilize. This usually results in a temperature increase/decrease of about 1.5 degrees Celsius. So far this is all the testing we have done, more tests will need to be obtained to get more useful and accurate data.

Data sheets

TEA:
https://lairdthermal.com/products/thermoelectric-cooler-assemblies/peltier-air-conditioners/AA-480-24-44

H-Bridge:
https://www.pololu.com/product/2994

Power Supply (SE-1000-24):
https://www.meanwell.com/productPdf.aspx?i=475

Temperature Sensors:
https://www.te.com/usa-en/product-CAT-HSA0001.html