**New project requirements.**

**System Functionality Summary** :

Get data from an online temperature monitoring portal and replicate that temperature in a small to medium sized water (or air) filled vessel at a remote location. The system should be able to control a heating element rated at 1500W though PI control (although on-off control might work too). The system is connected to a power outlet rated from 100VAC to 220VAC and should be managed with AC power control.

**Suggested design and components :**

For the AC power control, see if its possible to use solid state relays to adjust the duty cycle of the sinewave in a uniform manner by looking at the zero-crossing.

System should let the user input wifi information to connect to the internet, and then the persons username and password to get sensor data from their portal. Maybe use a screen and keypad on the machine or set it up via Bluetooth with an app, let me know which is more convenient.

Also the system should be designed with a possible gsm extension in mind for the future. For use with IOT sims where wifi is not available.

Use a waterproof version of the DS18B20 temperature sensor.