



Non ROV Device Document

Non-ROV overcurrent protection:

One motor 3.0 amps

Arduino 0.3 amps

Total Amps: $3.3 \text{ amps} \times 150\% = 4.95 \text{ amps}$



Our team designed an innovative float that functions autonomously to collect data for multiple vertical profiles by utilizing a buoyancy engine designed with a Syringe and Linear actuator. The Syringe is used to intake water in order to lower the buoyancy of the overall device. The water acts as added weight to offset the buoyancy of the device. A linear actuator is used to operate the syringe by pulling the water in to descend and pushing the water out to return to the surface. By design, the Float is positively buoyant to be suspended at the surface when there is no water involved.

There is an SD card wired to an Arduino, which collects data readings every 5 seconds as it travels. The data feeds into the SD card during its profile, and once it reaches the surface, it is able to transmit all the data it has collected to the computer's dashboard via a wifi connection, where we can then graph it to better show the relationship between temperature, depth, and water pressure.

Inside the tube, the Arduino is placed at the top to ensure that it does not lose connection as we are deploying it. The rest of the electrical components are stored at the bottom of the tube so that the weights of the batteries, motor driver, and converters do not affect the weight distribution.