

AURITA

Non-ROV Device Documentation - DOC-004

Aurita begins the mission at the surface and transmits the time via wifi from the ESP32 microcontroller to the axis point in the RPS. After transmitting the time, the float ingests water, decreasing the buoyancy, and causing it to sink. A servo motor and lead screw work together to adjust the volume of the syringe and ingest and expel water in the syringe. When the pressure sensor detects that the pressure has stopped increasing, the float has reached the bottom of the pool.

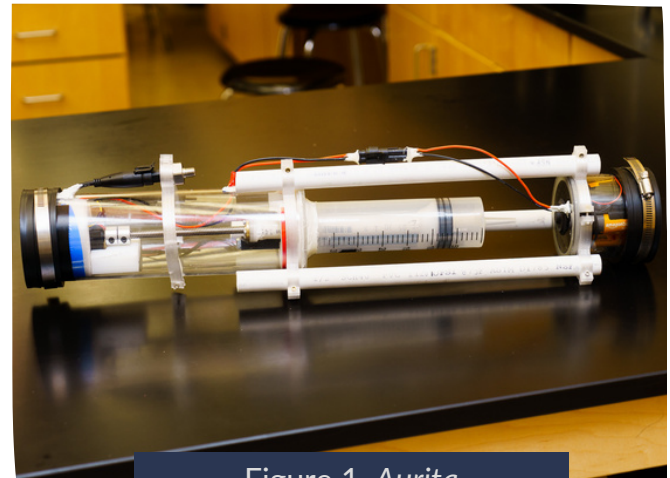


Figure 1. Aurita

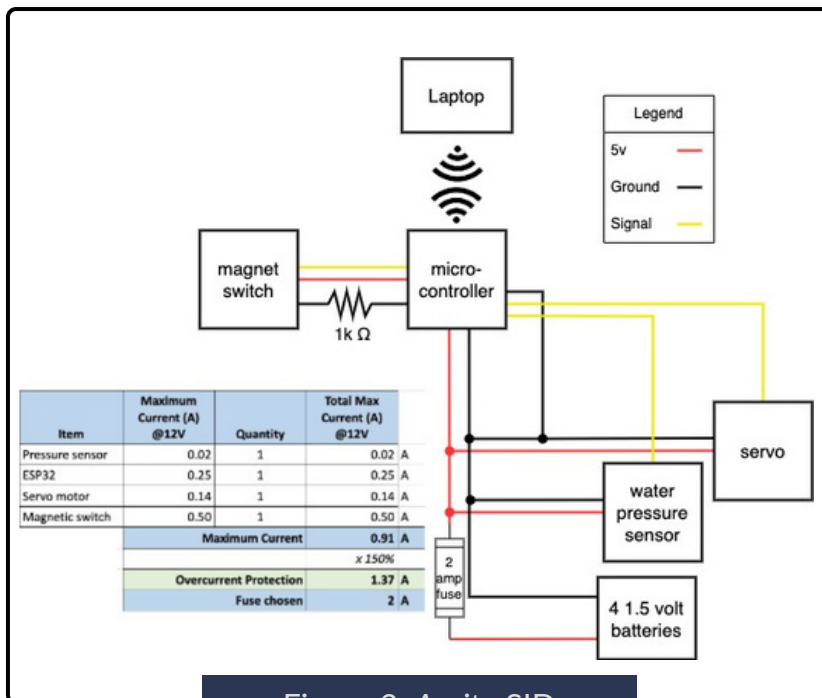


Figure 2. Aurita SID

The ESP32 triggers the servo to move the plunger and expel water from the syringe, increasing the buoyancy and bringing the device to the surface. When the buoyancy engine reaches the surface, the ESP32 transmits the time of surfacing in UTC which can be read from the monitor. This cycle repeats twice.

When designing the storage compartment, Geneseas chose to separate the batteries from the control electronics for serviceability. This separate, watertight enclosure for batteries allows Geneseas to easily replace batteries and features a pressure relief plug in case of excessive pressure. A 2 amp fuse is also used to ensure the safety of the electronics.