# PROFILING FLOAT

Our profiling float used in task *4 MATE Floats!* Uses a buoyancy engine to complete two vertical profiles while transmitting the second since the profiling float was turned on then uploaded to the onboard Arduino (time), temperature, pressure, depth, and altitude to one of the laptops on the surface side of the pool. Four AAA batteries are used inside the enclosure and are secured by a container for four AAA batteries as shown in Fig. 1 and are further secured by wrapping with electrical tape. A 7.5A fuse is attached within 5 cm of the battery pack as shown in Fig. 2. After this point, power goes to switches and is then distributed to the MKR WAN 1310 which controls the buoyancy engine and radio communication. The enclosure used is a Blue Robotics 3” enclosure with standard end caps which act as pressure relief plugs. These are >2.5cm in diameter as shown in Fig. 3 and will pop off of the enclosure if the pressure inside the enclosure exceeds exterior pressure.


Fig. 1: Four AAA batteries secured - Makenna Reilly

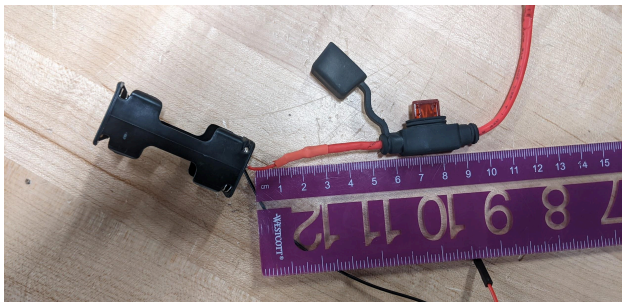

Fig. 2: Fuse within 5 cm of power - Makenna Reilly

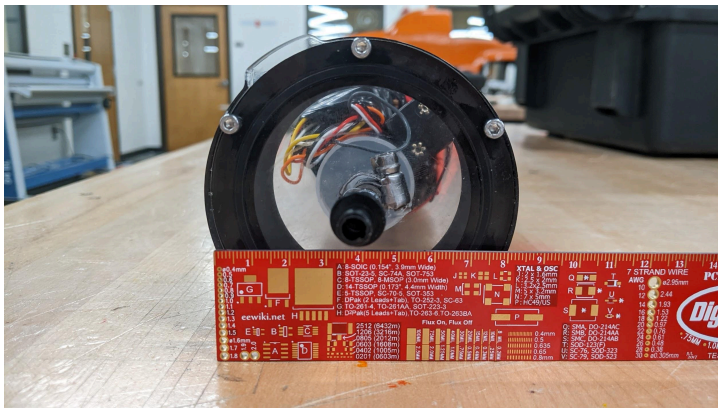

Fig. 3: End cap/pressure relief - Makenna Reilly

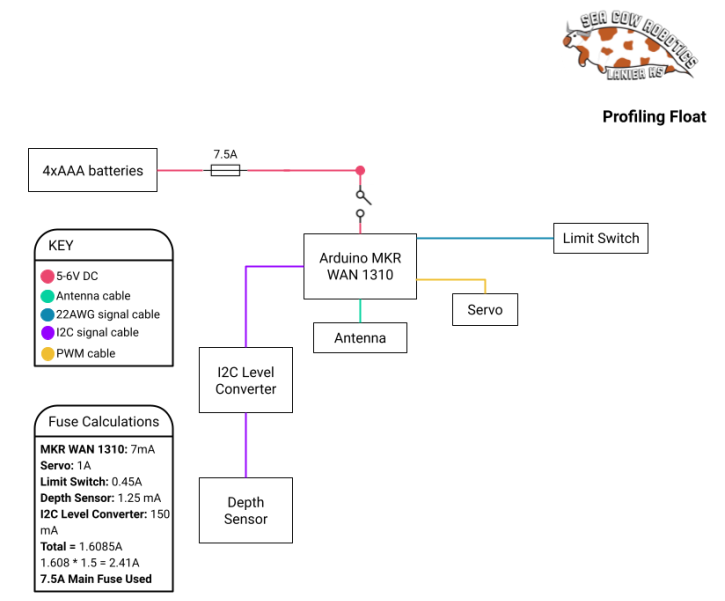


Fig. 3: Float SID - Estrella Mendez Lozano

Fig. 4: Profiling float  - Makenna Reilly