









Devices

Electrical Devices

This page contains a list to each of the electrically connected devices on the submarine that are relevant to the mechanical team. Whether or not elements are connected to the ethernet or USB network is also noted.

Device	Count	Description	Computer Interface
CPU	1	Intel NUC running an i5 Skylake processor with an internal SSD and embedded GPU.	USB and Ethernet
 Ethernet Switch	1	Ethernet switch for routing ethernet signals.	Ethernet
Camera	3	Flea3 GigE camera.	Ethernet
 USB Port	1	7-Port USB Hub.	USB
 Depth Sensor	4	BlueRobotics high precision depth sensor.	N/A
IMU (Opt 1), IMU (Opt 2)	1	Sensor-fusion orientation device consisting of magnetometer, accelerometer, and gyroscope.	USB
 CPU UPS	1	Uninterruptable Power Supply for keeping the CPU powered.	USB
Zybo	1	Zynq FPGA-microprocessor for hydrophone localization.	Ethernet
Interface Converter	4	Custom interface converter for USB \leftrightarrow (UART/SPI).	USB
Battery Monitor	1	Custom battery monitoring hardware.	USB
Depth Reader	1	Custom depth reading microcontroller.	USB
Pneumatics Controller	1	Custom serial-controlled pneumatics controller.	USB
UPS Battery	1	Battery powering the CPU UPS.	N/A
Main Battery	1	Main submarine battery	N/A
Bulkhead Relay	1	Power relay to the bulkhead.	N/A
 Thruster Relay	1	Power relay to the thrusters	N/A
 ESC (Option 1), ESC (Option 2)	8	Electronic Speed Controller for controlling thrusters.	N/A
 Thruster	8	BlueRobotics T200 AC thruster.	N/A
ESC Controller	1	MiniMaestro 12-Channel USB/TTY servo controller.	USB
Hydrophone	4	Hydrophone sensor.	N/A
 Fuse Box	2	Thruster fuse box.	N/A

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