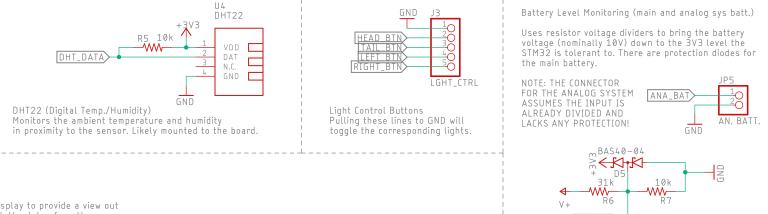
ASME 2020 Schematic V3.1 Blue Shift - HPVDT UofT

Based largely on TITAN (WHPSC 2019/20)

Circuit Design / PCB Layout: Catherine Kucaba / Savo Bajic

Ethan Baron / Yvonne Yang / Savo Bajic



Functional range proven to be up to 1.1km.

Connected to the digital camera and display to provide a view out of the vehicle. This view is overlaid with the datas from the sensors

Communicates with the system over USART (serial), with protection. SHDN button pulls down a pin to signal the RPi to shutdown properly.

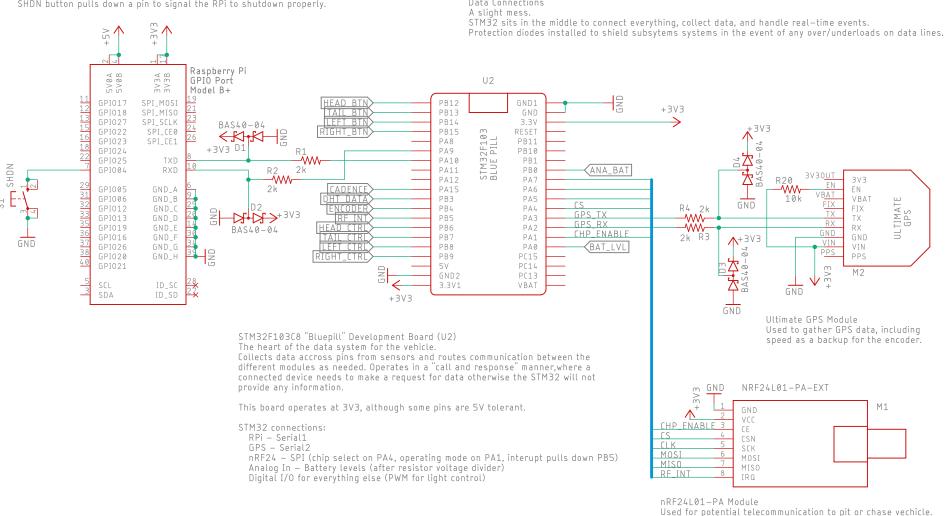


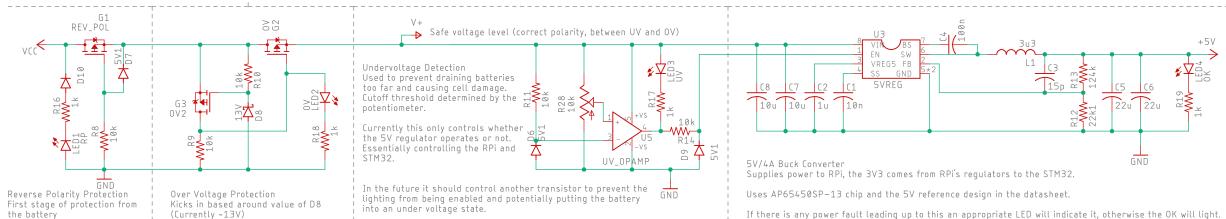
Rotational Speed Encoders Used to determine the rotational speed of either the pedals (cadence) or wheel (encoder), using a digital interupt to pull down pins on the STM32.

Power connections and test points

- One connector to the battery.
- Another to pass power to the monitor used. - One connector for an external 5V supply if the built in one is non-functional or 5V is needed

Test points are for the power buses.





Lighting Lines
Constant current boost converters. Take in the battery voltage and boost it to generate a desired current through the LEDs.

Current set by resistors downstream of LEDs, I = 0.2/R. The 0.2 can be tweaked using the potentiometer and solder the jumper. Solder to ground to decrease the 0.2. $\pm V$ to raise the 0.2.

Dimming is achieved though software by applying an approximately1kHz PWM signal to the control pin.

