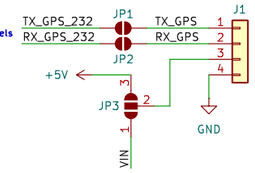
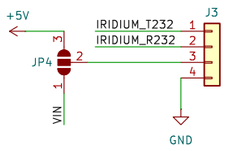
Board to board connections

Depending on jumper settings, this port either provides access to a 3.3VTTL UART or the same UART but shifted to RS232 levels

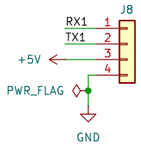
Short SJs when using RS232 levels



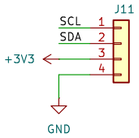
Rs232 level shifted UART for use with Iridium modem. Power rail select jumper for 5v regulator or raw VIN



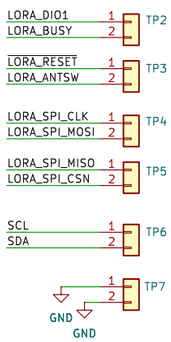
3.3V TTL UART for connection to other subsystems or use as GPIO if no serial port needed.



I2C Header, Intended to go to I2C mux for pressure sensors



Test Pads



Interrupt Test Pads

The interrupt and sync signals from the IMUs and H3LIS100 are broken out here for probing. There is no electrical connection from these pins to the main MCU due to pin limitations.

Battery and power connections

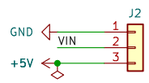
Testpoints for system voltages

VIN is the high voltage pack positive node after being switched by the photoMOS

VIN_PRE is the high voltage pack positive node before being switched by the photoMOS

5V is the output node of the 5V regulator.
The photoMOS must be enabled to supply this rail

Connection to external 5v regulator



Connection to 3S lithium battery pack.

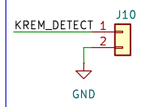
Optional connection to external power input

On this connector, the wires for pin 1 and 2 should go to the power source's voltage output and ground.

Pins 3 and 4 should be shorted out by a wire on the connector. This will keep the photoMOS off and prevent back-feeding power into the battery while the connector is present.

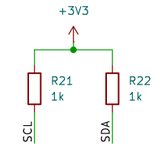
Mounting Holes

External activation header

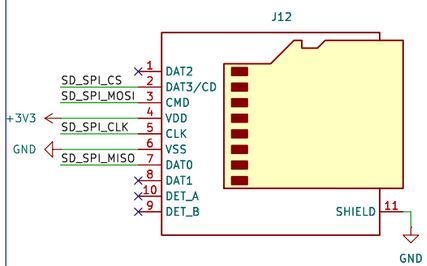


This two pin header serves as a connection point to the spring steel pieces that stick out of the backshell and make contact with the KREM. When the KREM is intact, KREM_DETECT shorted to to ground. When the KREM separates, KREM_DETECT is pulled to VIN_PRE by a weak pull-up resistor

I2c pull-up resistors

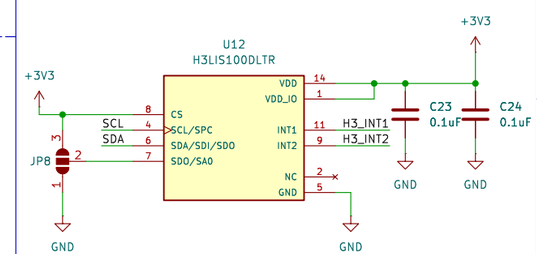


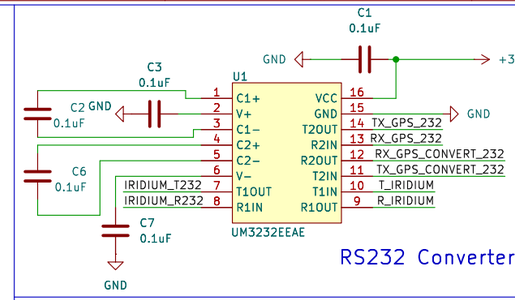
MicroSD Card



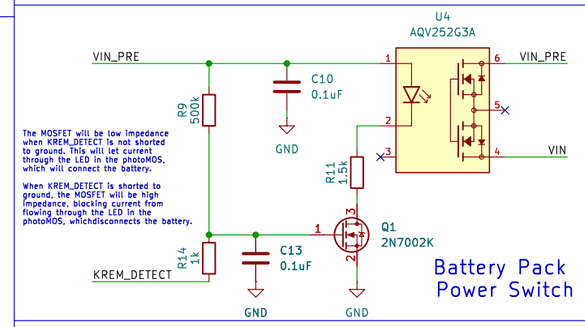
H3LIS100 +/- 100g 3 axis accelerometer

Solder jumper selects LSB of I2C address (low=0, high=1)



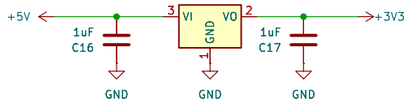


RS232 Converter

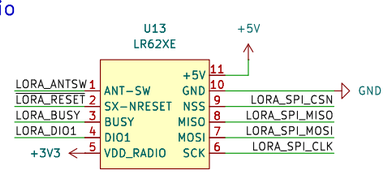


Battery Pack Power Switch

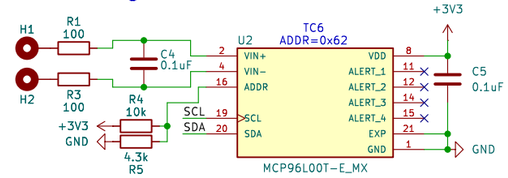
3.3V Step Down Voltage Regulator

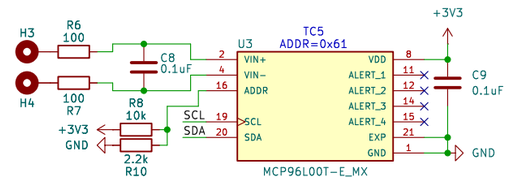


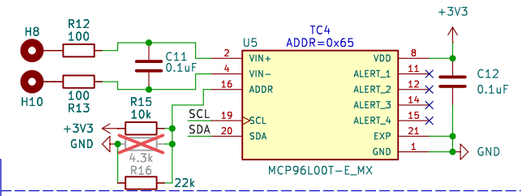
1W LoRa Radio

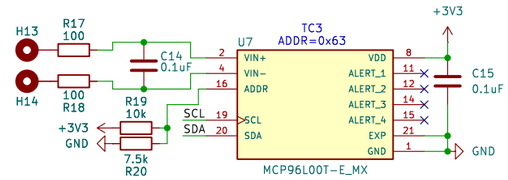


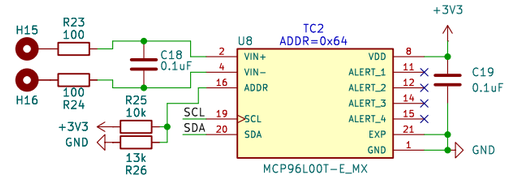
TC to Digital Converters

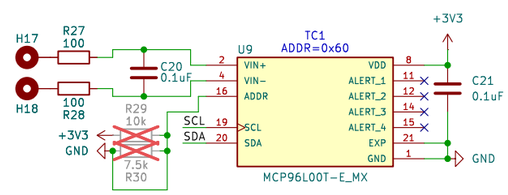




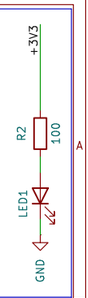




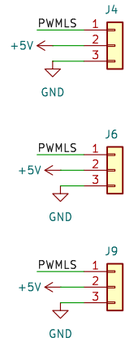




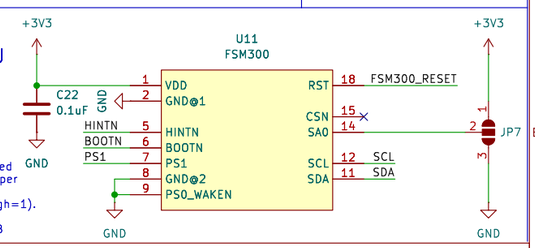
Indicator LEDs



Headers for Parachute Deployment System



FSM300 9-axis IMU



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Size: A3	Date: 2025-04-20	Rev:
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