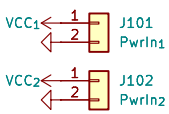
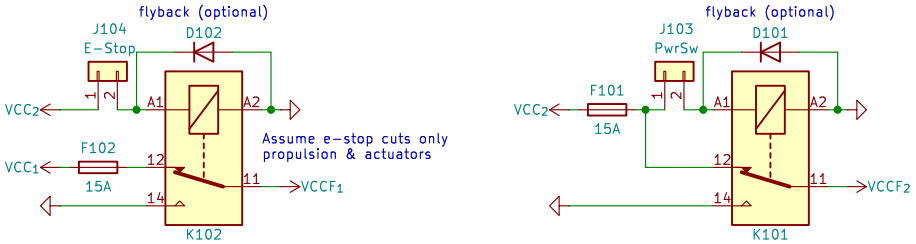
Power In



PwrIn connectors: (XT60)
Currect Max: 30A (Cont)

Proposed Future features:
1. Over & Under & Reverse & Voltage & Short Circuit Protection
2. Power Meter in-built
3. Relay protection (via optocoupler)
4. Allow VCC1 to be on/off by mcu too

Power Control



Q: Assume VCC_2 powers relay switch?
Without it, powering on propulsion is useless

PwrOut1

File: PwrOut1.kicad_sch

PwrOut2

File: PwrOut2.kicad_sch

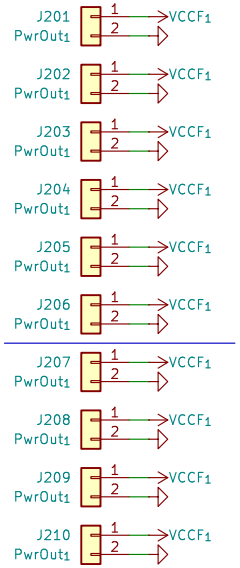
PDU Phase 1
for NTU-Mecatron
Scott CJX

Sheet: /
File: mecatron-power-distribution-unit.kicad_sch

Title: Power Distribution Unit

Size: A4	Date: 2024-07-17	**Rev: 1**
KiCad E.D.A. 8.0.2-1		Id: 1/3

Power Connectors (Propulsion & Actuators)



PwrOut connectors: (XT60)
Currect Max: 30A (Cont)

Pwr1 Out:
- 6x Thrusters (Propulsion)
- 4x Add-Ons

Potential Feature:
- Individual Fuse per ESC
- Slots for Buck Convertors for servo voltages

PDU Phase 1
for NTU-Mecatron
Scott CJX

Sheet: /PwrOut1/
File: PwrOut1.kicad_sch

Title: Power Distribution Unit

Size: A4	Date: 2024-07-17	**Rev: 1**
KiCad E.D.A. 8.0.2-1		Id: 2/3

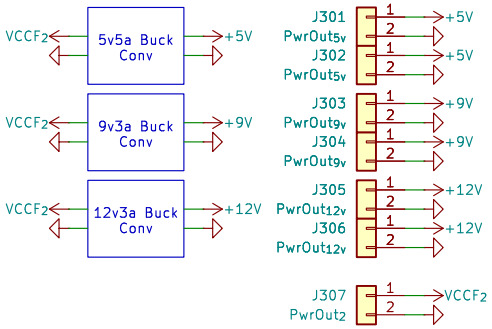
Power Connectors (Propulsion & Actuators)

PwrOut connectors: (JST XH2.54mm)
Currect Max: 3A (Cont)

Proposed Pwr2 Out:
- 1x Network Switch (9V)
- 1x Jetson Orion (12v)
- 2x Camera (5v)
- 1x Lights (12v)

Features:
- Slots for Buck Convertors per Voltage

Notes:
- This line will be heavily regulated as controllers are sensitive and require stable power source



PDU Phase 1
for NTU-Mecatron
Scott CJX

Sheet: /PwrOut2/
File: PwrOut2.kicad_sch

Title: Power Distribution Unit

Size: A4	Date: 2024-07-17	**Rev: 1**
KiCad E.D.A. 8.0.2-1		Id: 3/3