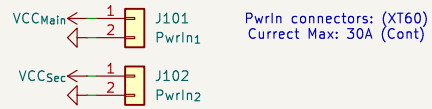


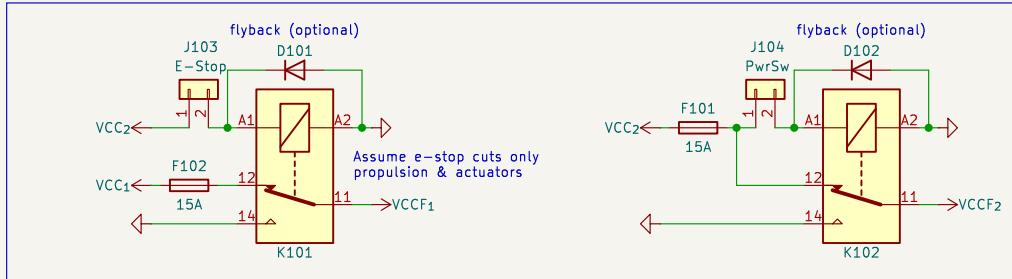
Power In



PwrIn connectors: (XT60)
 Current 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



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

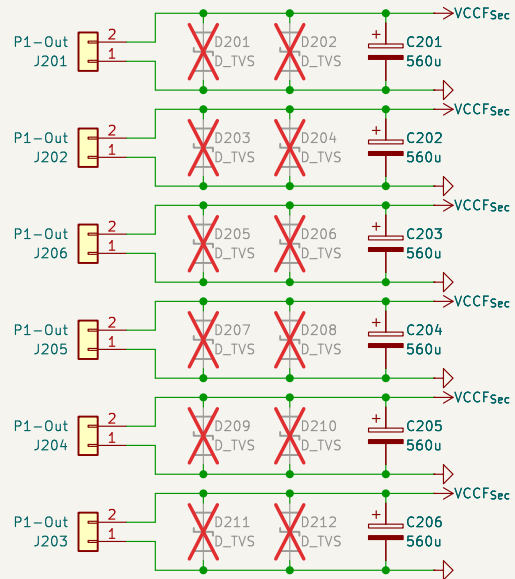
Size: A4 Date: 2024-07-29

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Rev: 1

Id: 1/3

Power Connectors (Propulsion & Actuators)



Power 1-Out connectors: (XT30)
Current Max: 30A (Cont)

Power 1-Out Ports:
- 6x Thrusters (Propulsion)
- 4x Add-Ons

Features:
- TVS Protection for Surge Protection
- High Powered Capacitor for Sudden Voltage Drop Protection

Potential Features:
- 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: 2024-07-29

Rev: 1

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Id: 2/3

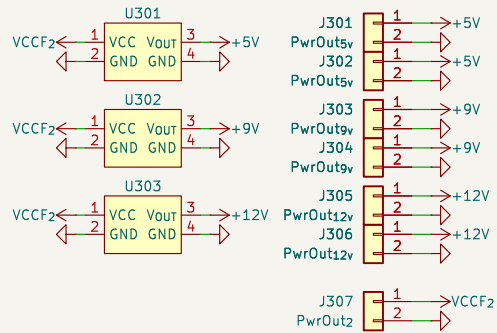
Power Connectors (Computing)

PwrOut connectors: (JST XH2.54mm)
Current 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: 2024-07-29

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Rev: 1

Id: 3/3