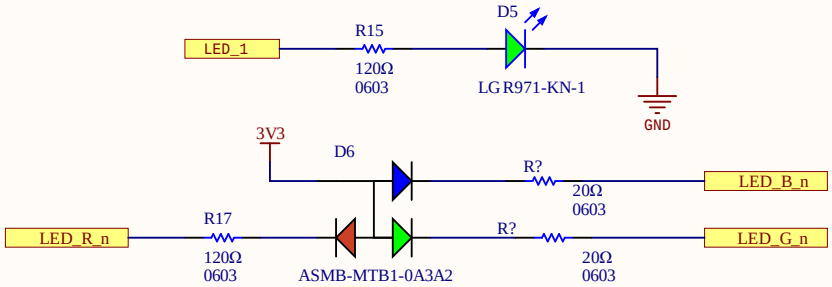
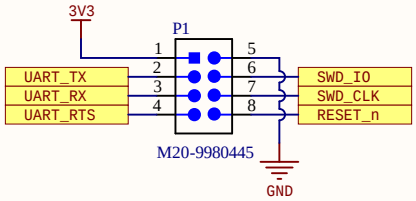
Debug/Programming



Current Calculations

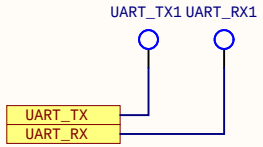
Green LED voltage drop: 2.2V
- I = (3.3-2.2V)/120 = 10.83mA

RGB LED voltage drops:
- Red: 2.1V: I = (3.3-2.1V)/120 = 10mA
- Blue: 3.1V: I = (3.3-3.1V)/20 = 10mA
- Green: 3.1V: I = (3.3-3.1V)/20 = 10mA



ADD DEBOUNCING FOR BUTTONS

Testpoints



Test Button

I²C Pullups

Stemma has internal pullups; these may not be necessary but will be left for now.

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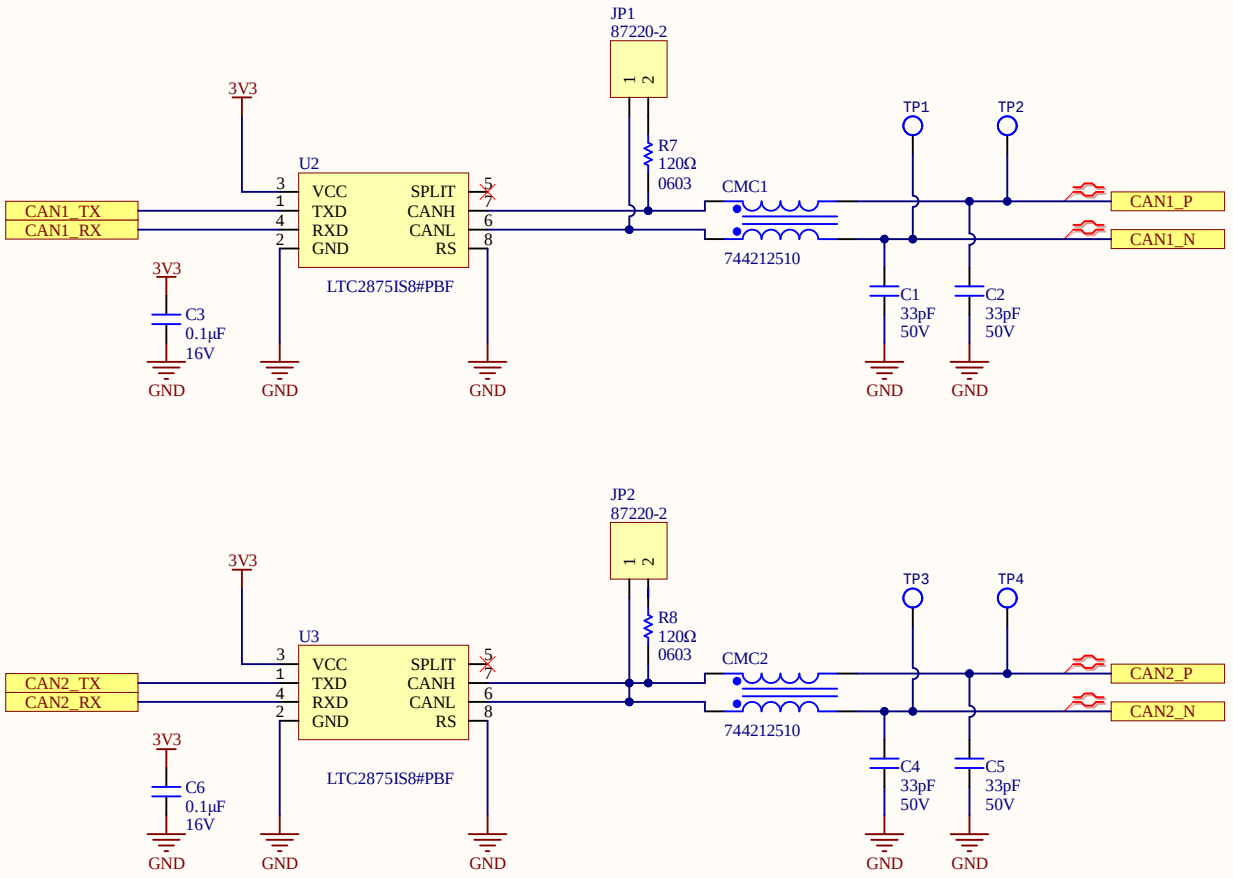
CAN Transceivers



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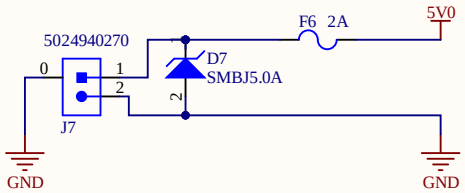
REPLACE POWER CONNECTOR



REPLACE LDO WITH BUCK CONVERTER

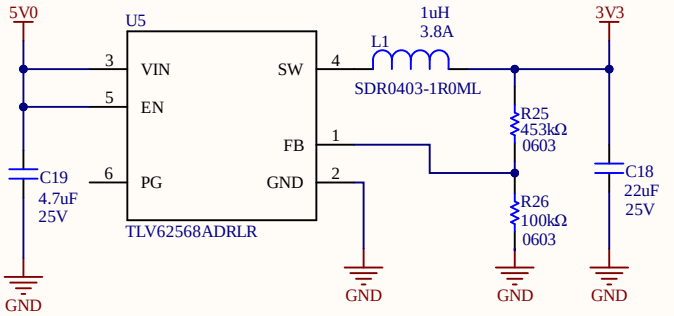
5V - 3.3V Buck Converter

Designed for 3.3V - 5V input

Route for 1A in

Inductor: SDR0403-1R0ML
1uH, 20%, 33mOhm DCR (max)
3.8A (rms), 5.5A (sat), 3.2mm tall

Route for 3A out



Maximum output power = 6.6W
Expected efficiency at 1A = 94.3%

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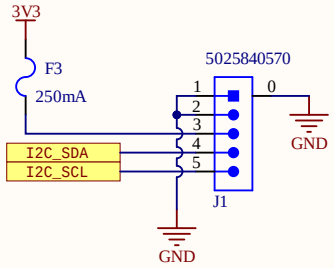
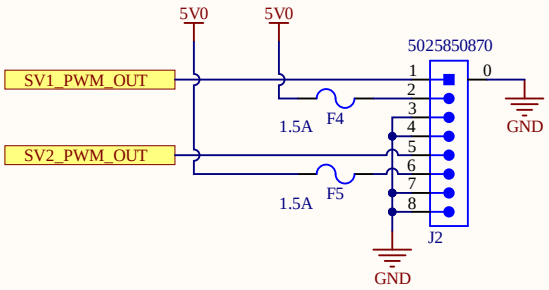
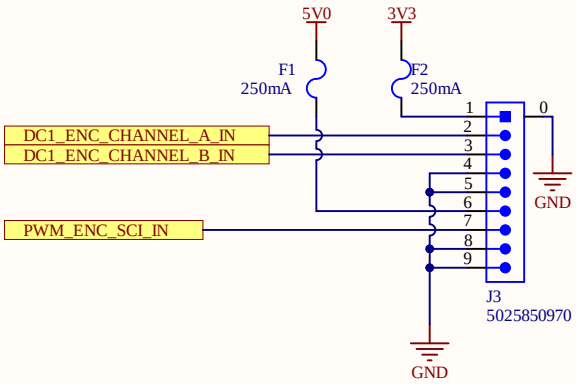
I²C Sensors



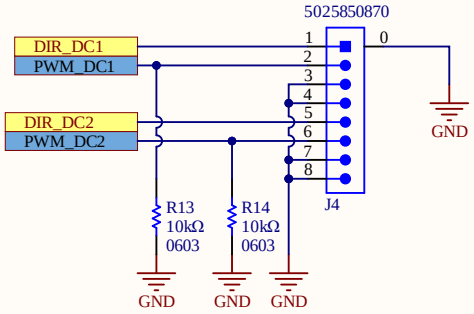
Servos



Encoders

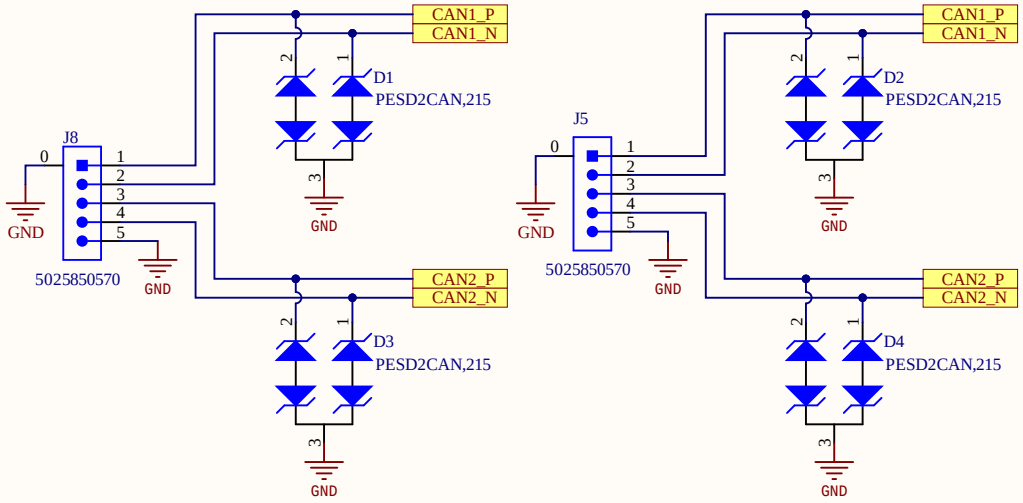


DC Motors

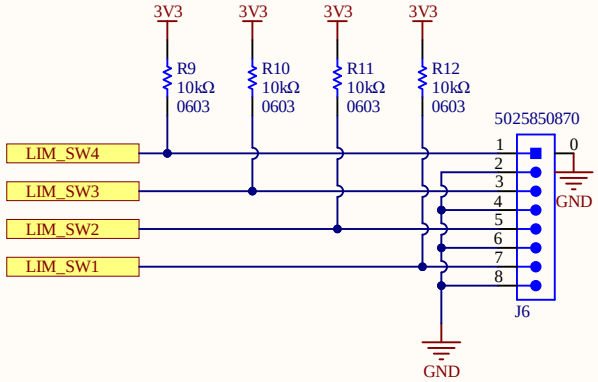


SEPARATE CAN IN AND CAN OUTPUT CON

CAN



Limit Switches



Title Science - 5_Integrated-Connectors			UW Robotics 200 University Avenue Waterloo Ontario Canada N2L 3G6
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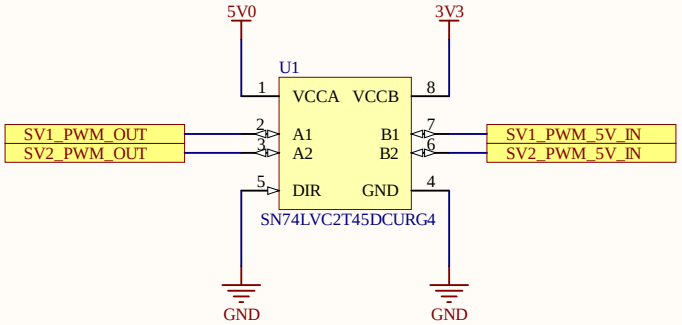
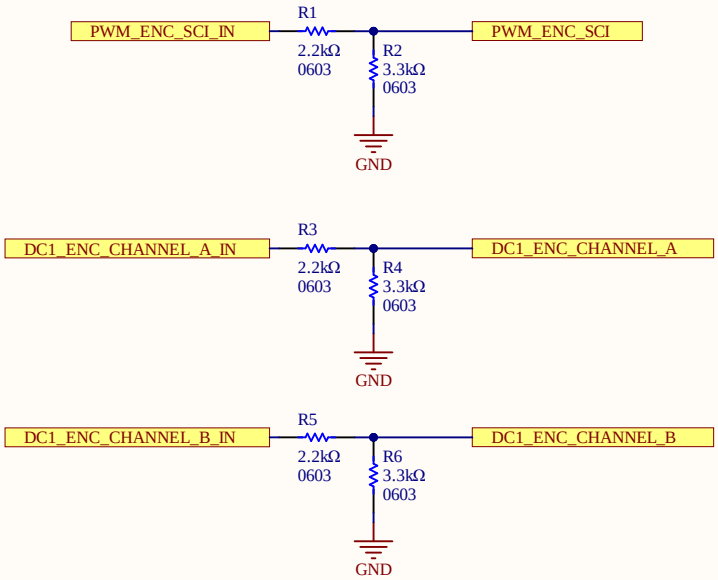
Servo Level Shifters



Encoder Voltage Dividers

5V - 3V Conversion



Title Science - 6_Servo_and_Encoders		UW Robotics 200 University Avenue Waterloo Ontario Canada N2L 3G6	UW ROBOTICS TEAM
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