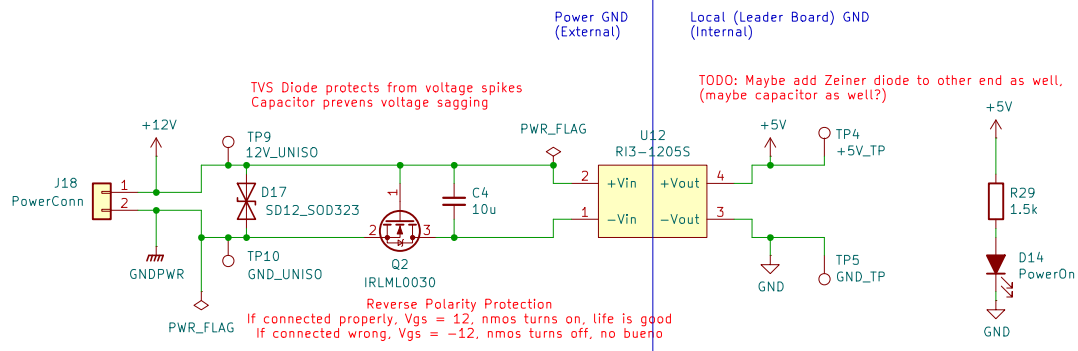
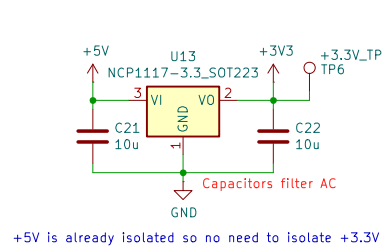


ISOLATED

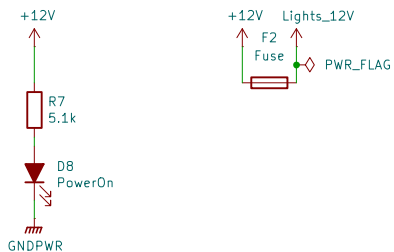


Isolated DC-DC Converter to step down +12V power to an isolated +5V. The input gnd (Power GND) is different from the output gnd (Local GND)



Linear Regulator to step down +5V to +3.3V.
An isolated converter was not used for the +3.3V line because of price and space. May need to change this to DC-DC converter if we really want to make the BPS more energy efficient.

Linear Regulator is about 50 cents
DC-DC converter would be 11 dollars
Doesn't seem like it would be a worthwhile investment, unless we have leftover budget that we have nothing to spend on



Sheet: /PowerDist/
File: PowerDist.kicad_sch

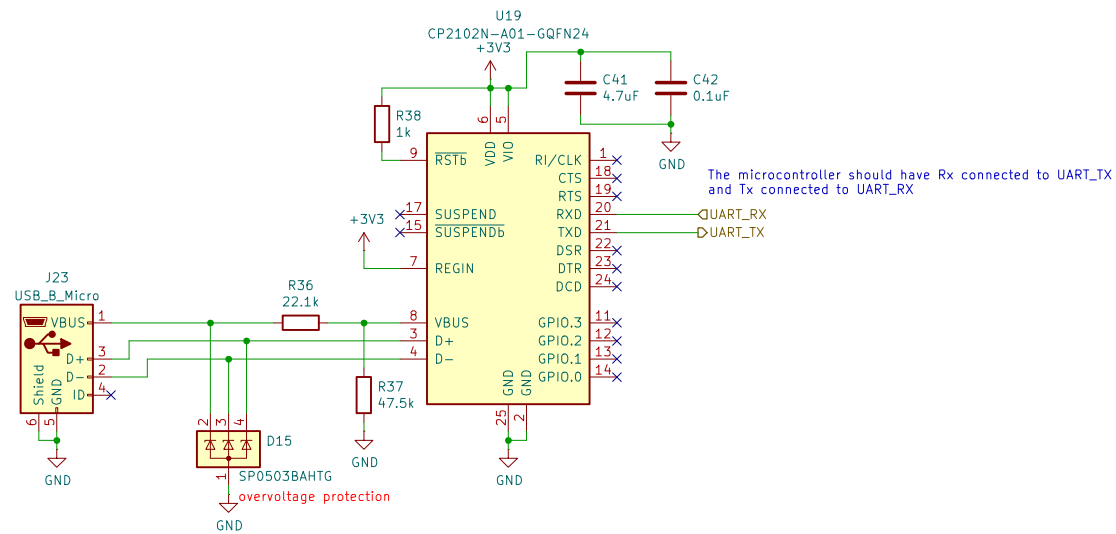
Title:

Size: A4
KiCad E.D.A. 8.0.5

Date:

Rev:

Id: 2/10



No changes made

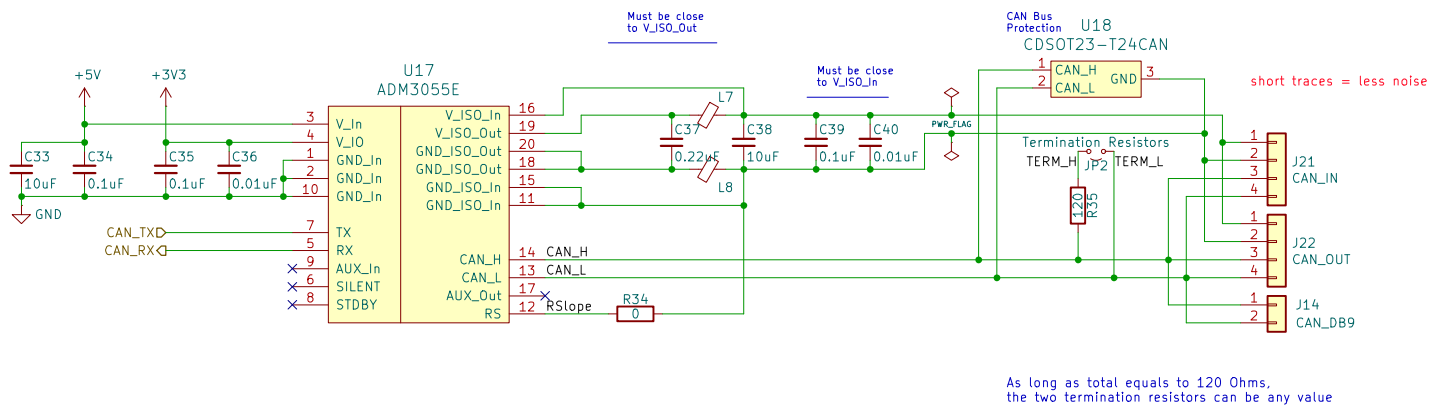
Sheet: /USB/
File: USB.kicad_sch

Title:

Size: A4
KiCad E.D.A. 8.0.5

Date:

Rev:
Id: 5/10



Added J14 CAN_DB9

Sheet: /Car_CAN/
File: CAN.kicad_sch

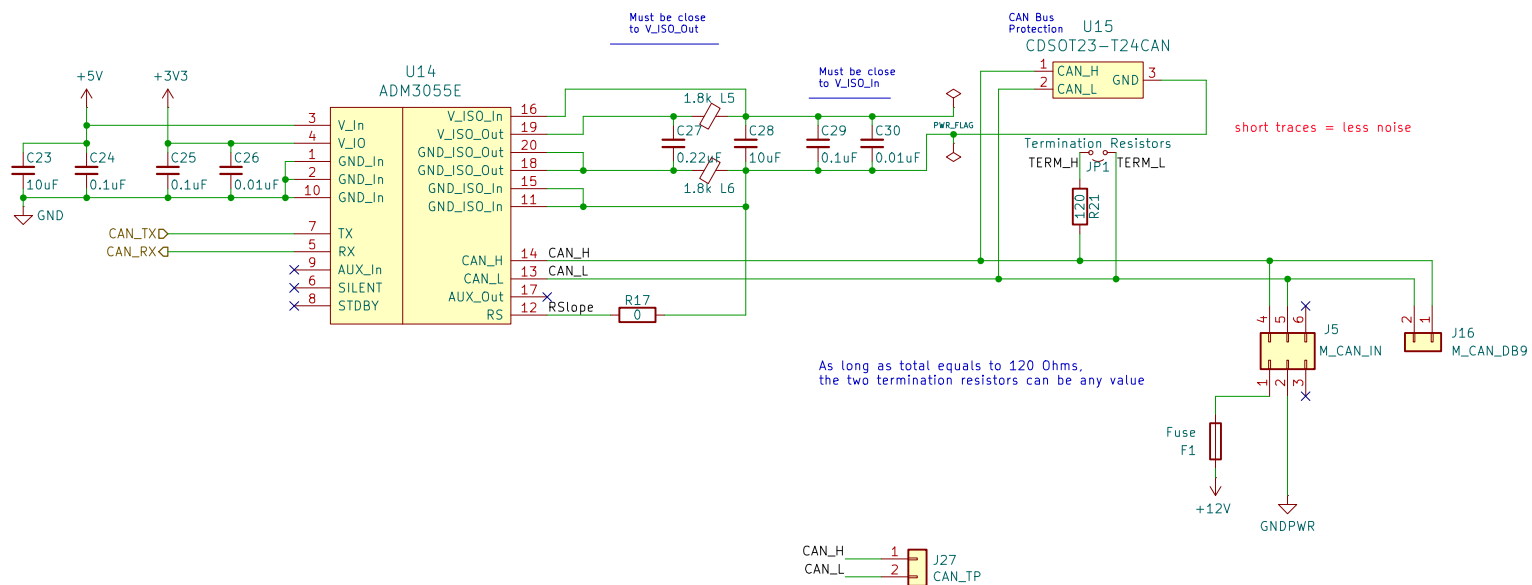
Title:

Size: A4
KiCad E.D.A. 8.0.5

Date:

Rev:

Id: 6/10



Added fuse, J16 M_CAN_DB9

Sheet: /Motor_CAN/
File: Motor_CAN.kicad_sch

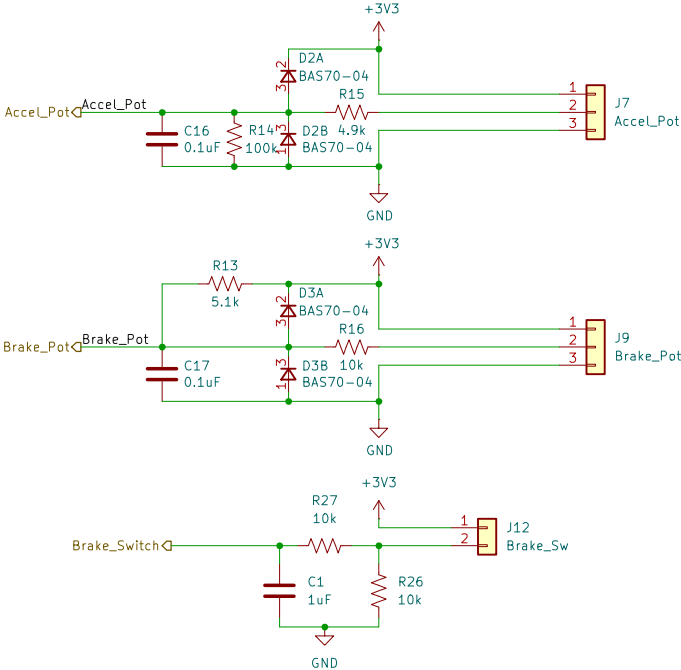
Title:

Size: A4
KiCad E.D.A. 8.0.5

Date:

Rev:
Id: 7/10

Potentiometers



Added brake pot, updated accel pot resistor values

Sheet: /Potentiometers/
File: Potentiometers.kicad_sch

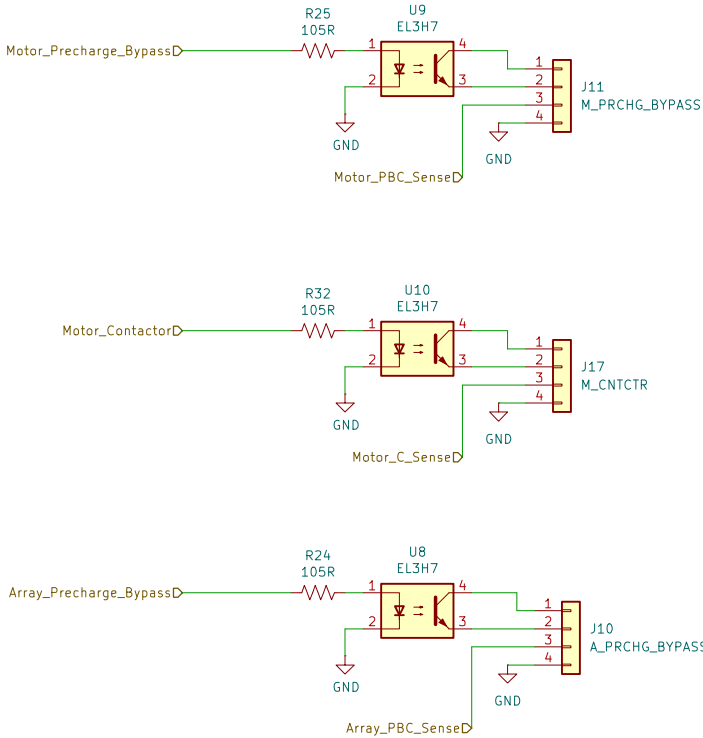
Title:

Size: A4
KiCad E.D.A. 8.0.5

Date:

Rev:
Id: 8/10

Contactors



Added Motor_Contactor

Sheet: /Contactors/
File: Contactors.kicad_sch

Title:

Size: A4
KiCad E.D.A. 8.0.5

Date:

Rev:
Id: 9/10

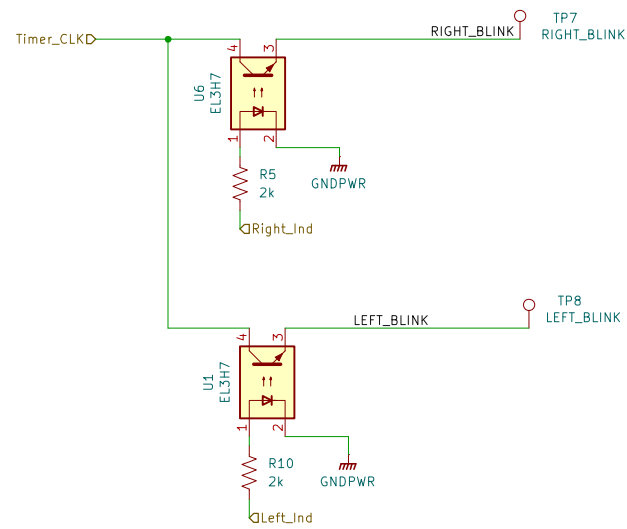
Lights Drivers

BRAKELIGHT < QBrake
R_BLINK < RIGHT_BLINK
L_BLINK < LEFT_BLINK

File: Lights_Drivers.kicad_sch

Version History

- v1.0
 - Created Lighting Board with outputs to all external & internal lights
 - All buttons/switches on driver dashboard are debounced and sent to Control Leader Board
- v1.1
 - Added opto-isolators to external lights output
 - Change TVS diode to be SMD
 - Changed reverse polarity protection to MOSFET instead of diode



Sheet: /Lights/
File: Lights.kicad_sch

Title:

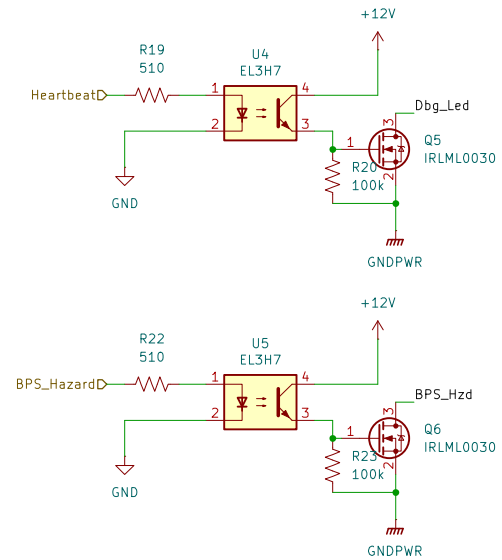
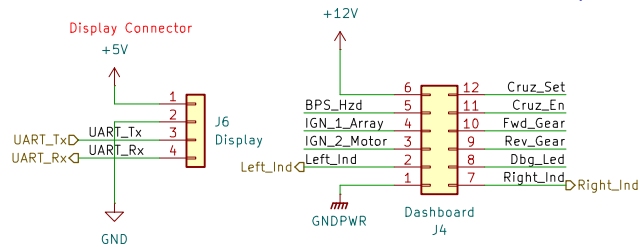
Size: A4 Date:

KiCad E.D.A. 8.0.5

Rev:

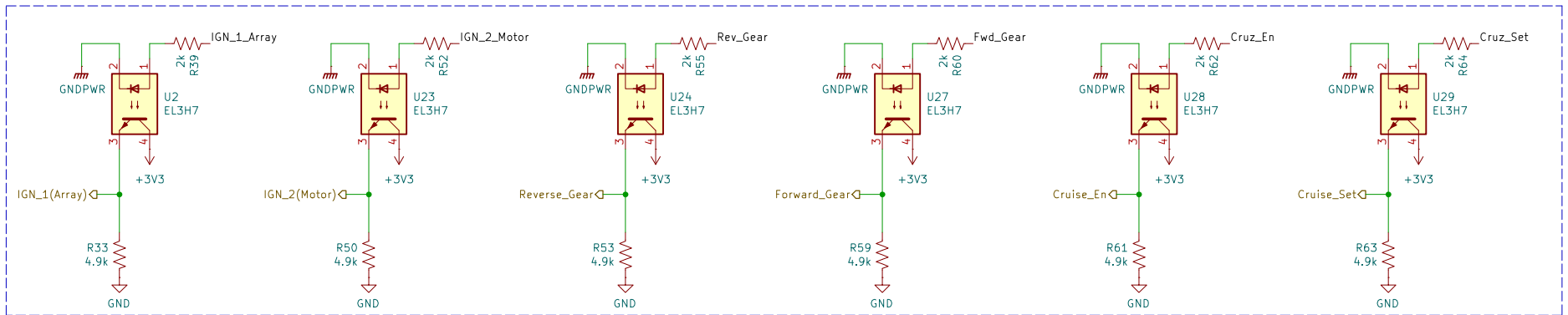
Id: 9/10

Connectors + Optoisolators



Optoisolator has abs max If of 60mA. This 2k r should give a current of ~6mA.

Inputs from dashboard



Sheet: /DashAndDisplay/
File: MinionBrdInterface.kicad_sch

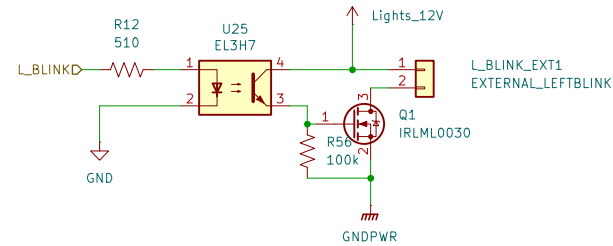
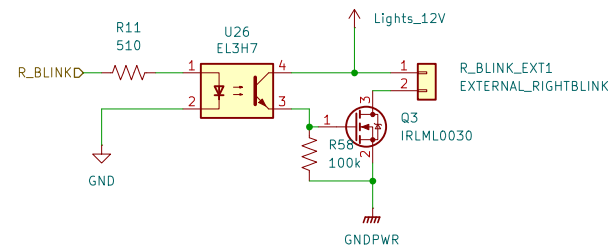
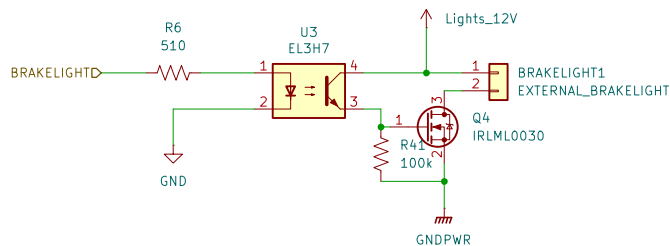
Title:

Size: A4
KiCad E.D.A. 8.0.5

Date:

Rev:
Id: 10/10

Assuming that all external
lights have I-Lim Res



Sheet: /Lights/Lights Drivers/
File: Lights_Drivers.kicad_sch

Title:

Size: A4
KiCad E.D.A. 8.0.5

Date:

Rev:

Id: 10/10