

Robot LEGO Controller

PCB Pages

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Power Rail

+3.3V	3V3 Power Supply (LDO 4V2)
+5V	5V Power Supply (Boost 4V2)
+9V	9V Power Supply (Boost 4V2)
+4.2V	4V2 Main Power Supply Rail
VBUS	[5-12]V USB Input Supply
+BATT	Battery Voltage 3.7V-4.2V
GND	Ground

PCB Revision

ID0	ID1	Revision
0	0	PCB Rev A

Variant

Var	Description
V1	Production

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Sheet: / File: RobotLegоАController.kicad_sch

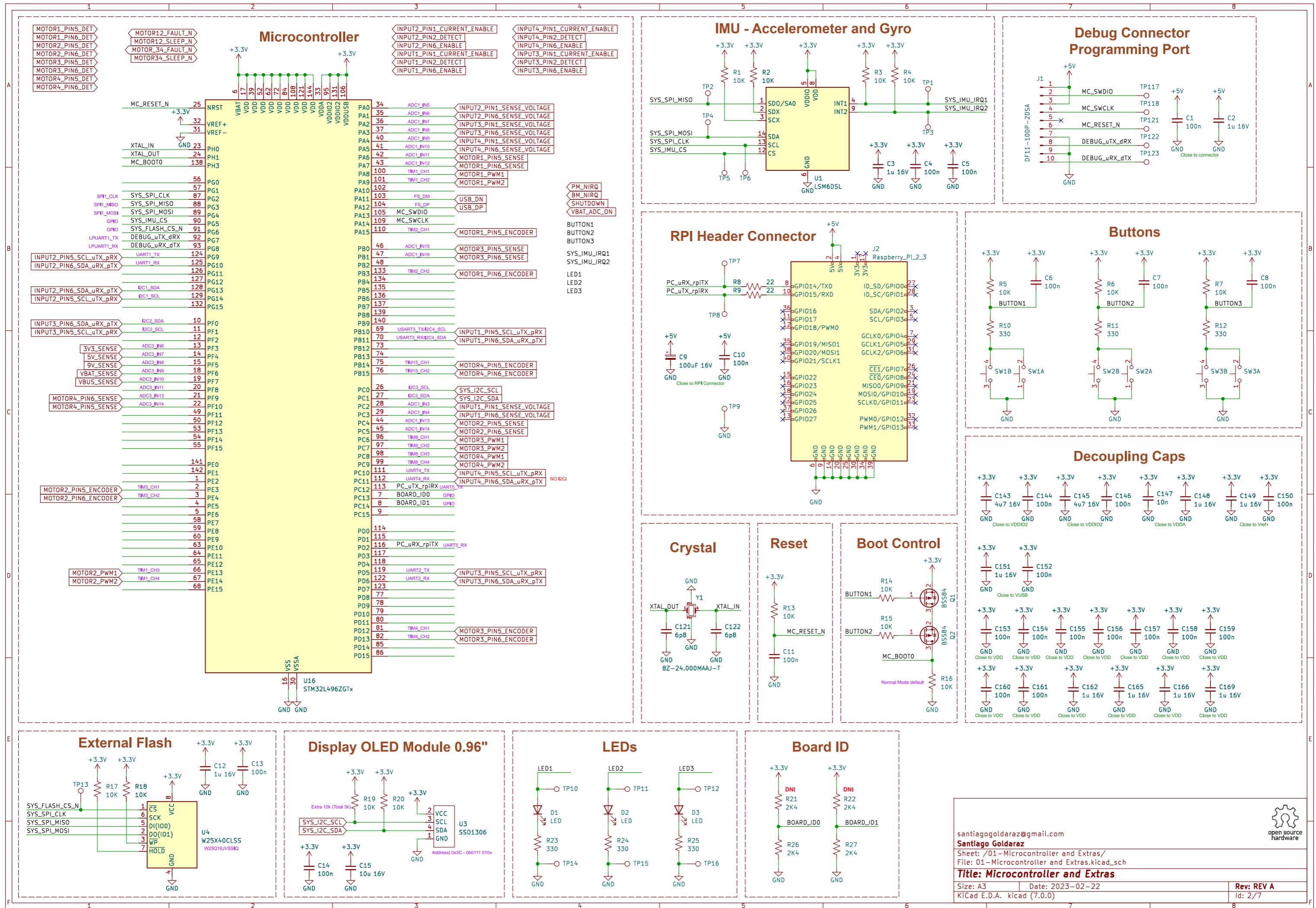
Title: Robot Lego Controller

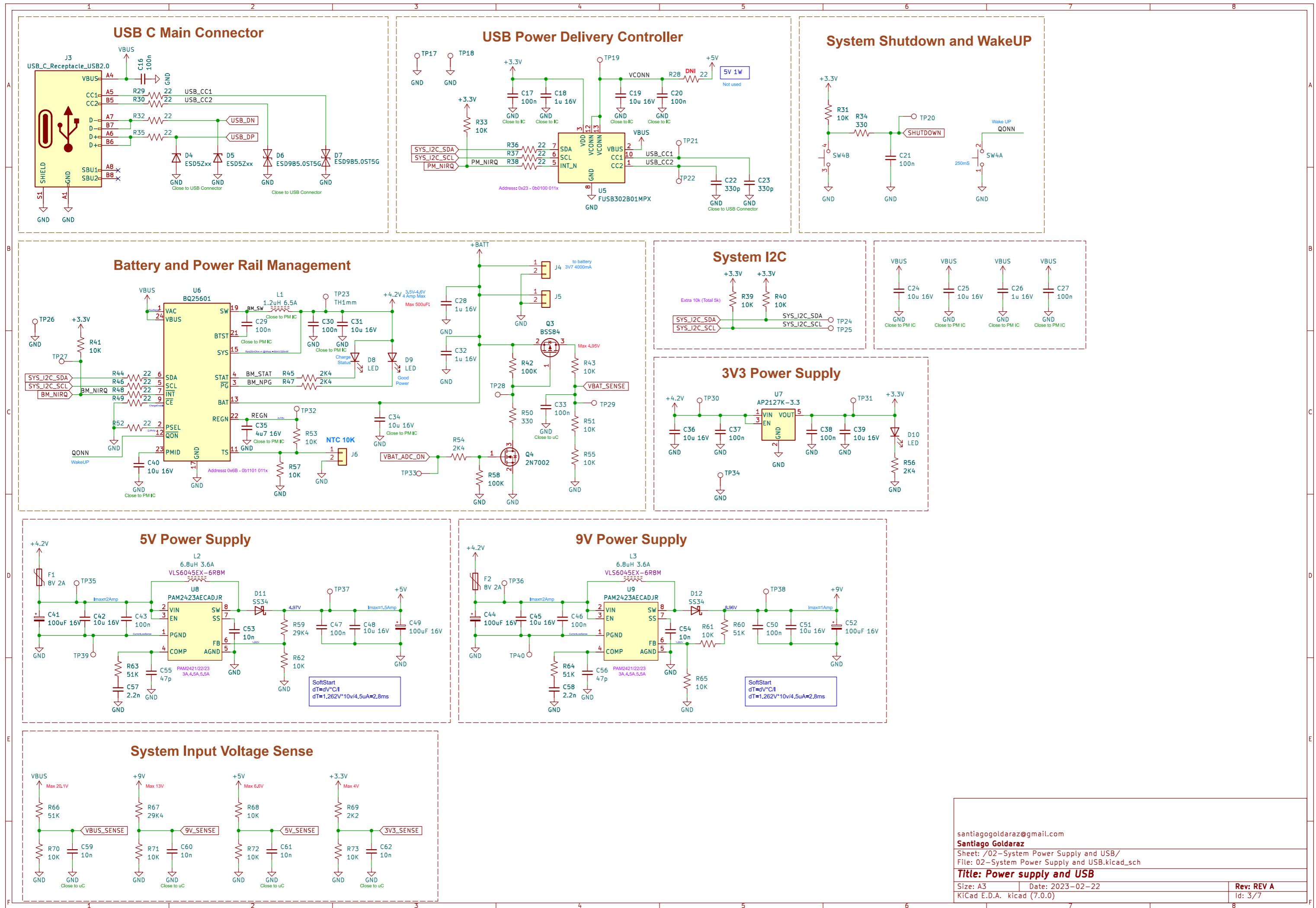
Size: A3 Date: 2023-02-22

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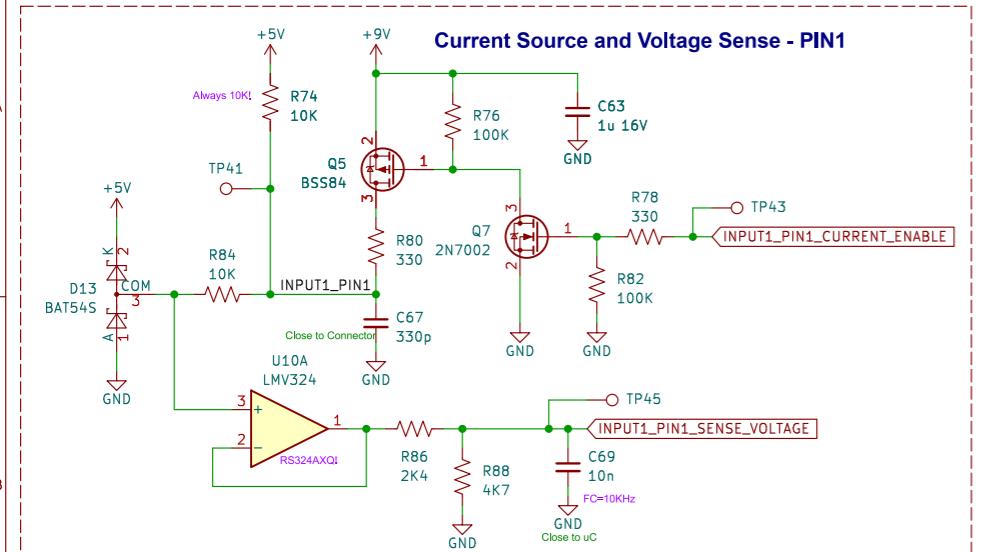
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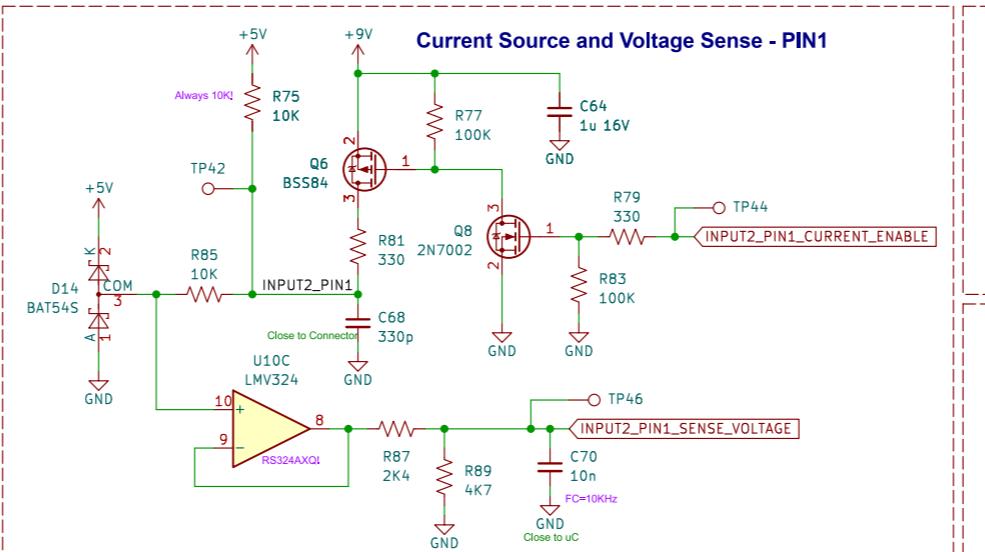




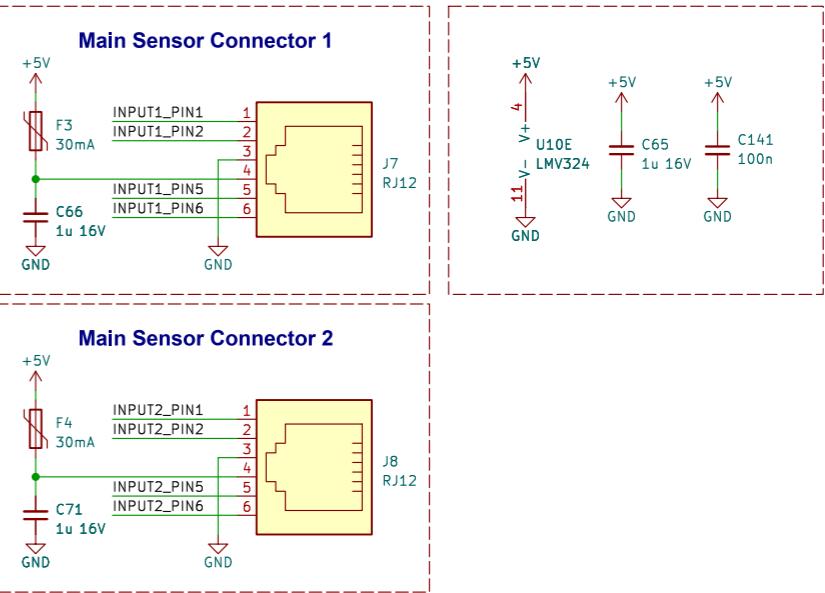
General INPUT 1



General INPUT 2

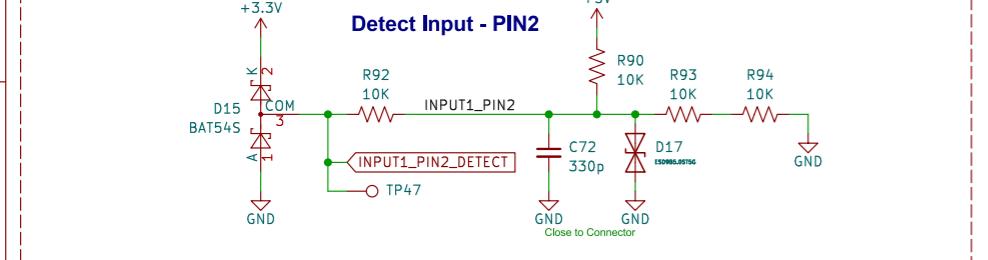


Main Sensor Connector 1

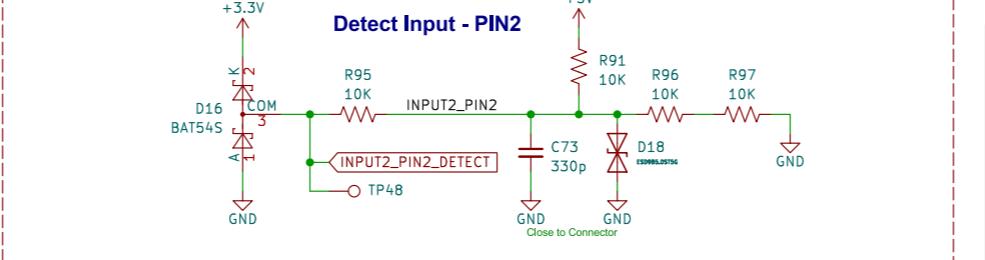


Pin 1. ADC@5 V ref, 9V With resistor limiter
 Pin 2. GPIO, Auto ID functionality
 Pin 3. Ground
 Pin 4. VCC 5 V
 Pin 5. Digital I/O, SCL (I₂C), UART RX
 Pin 6. Digital I/O, SDA (I₂C), ADC@5 V ref, UART TX

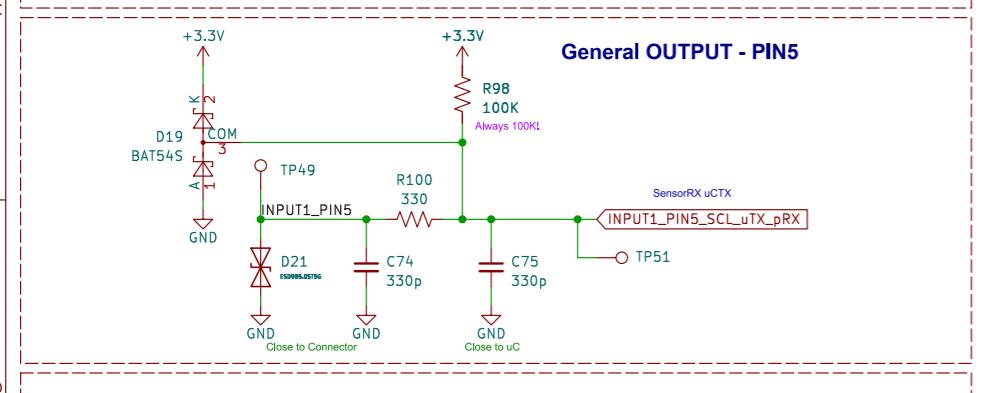
Detect Input - PIN2



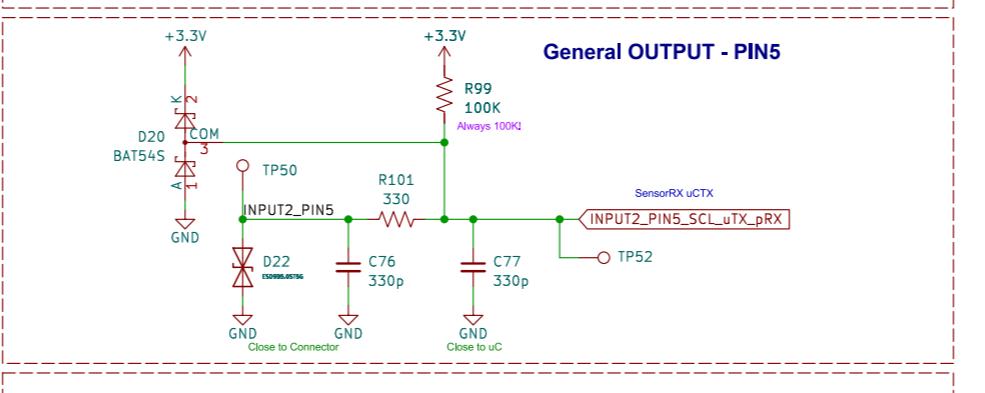
Detect Input - PIN2



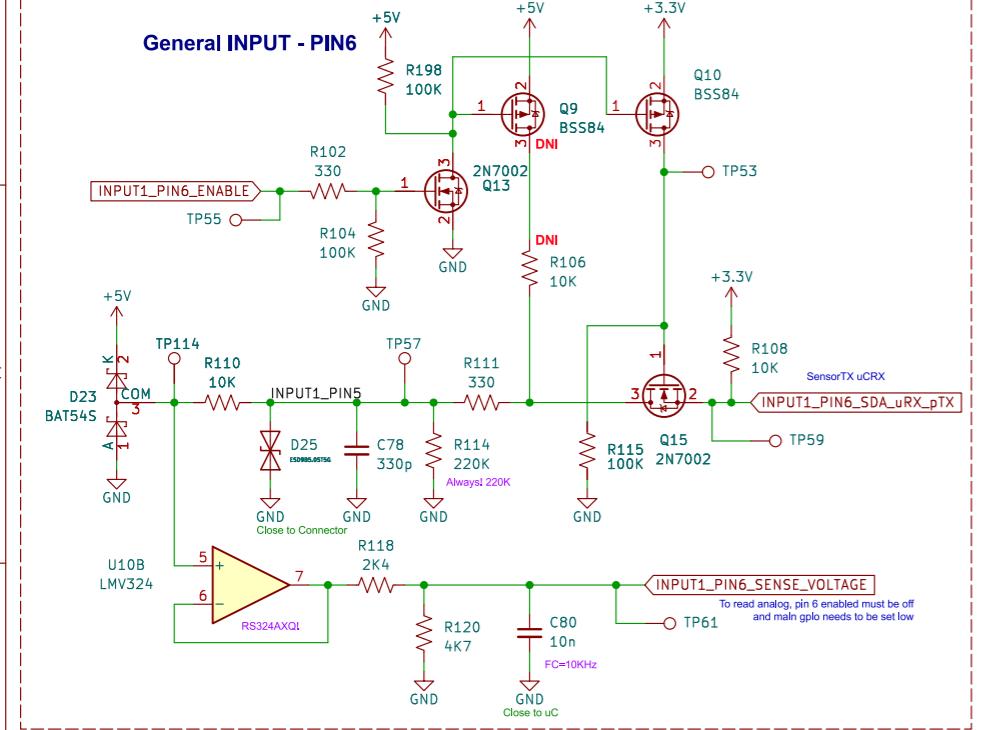
General OUTPUT - PIN5



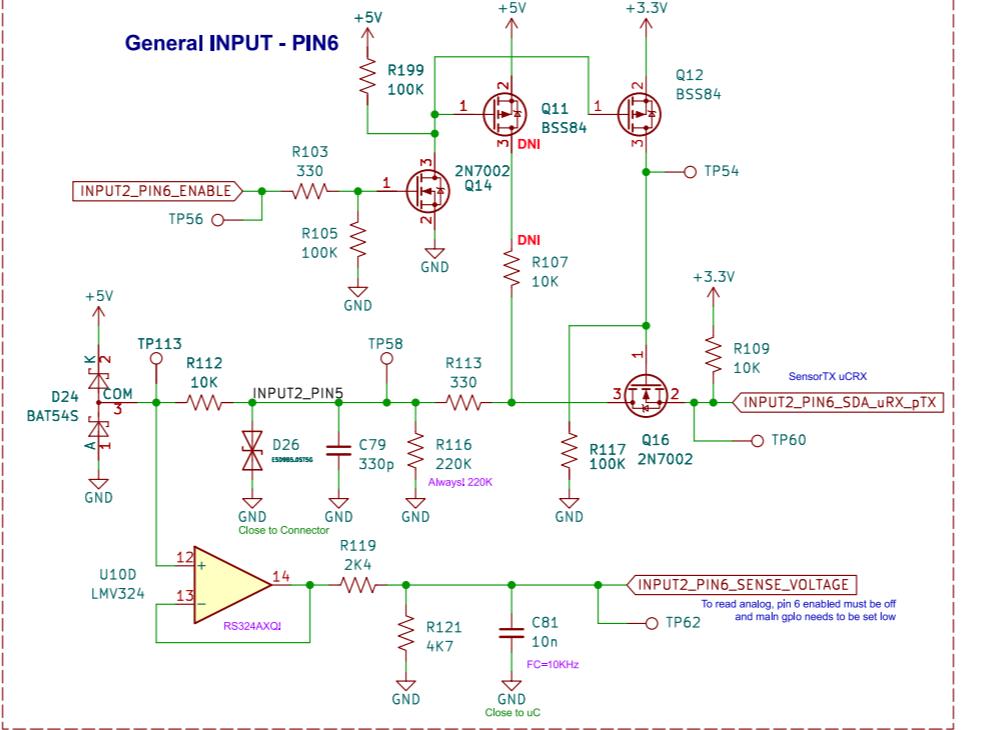
General OUTPUT - PIN5



General INPUT - PIN6



General INPUT - PIN6



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Sheet: /03-System Inputs A/

File: 03-System Inputs A.kicad_sch

Title: System Inputs

Size: A3 Date: 2023-02-22

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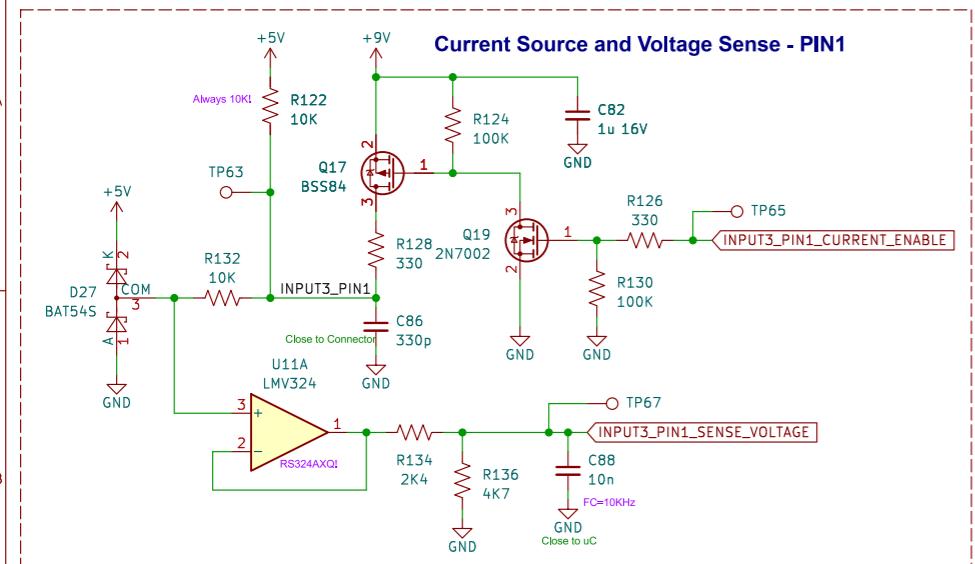
open source

hardware

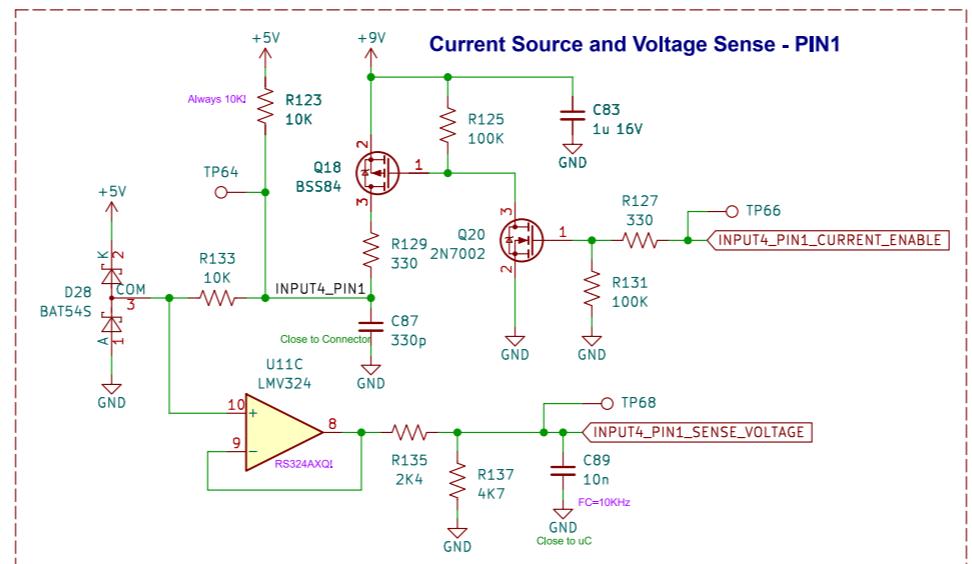
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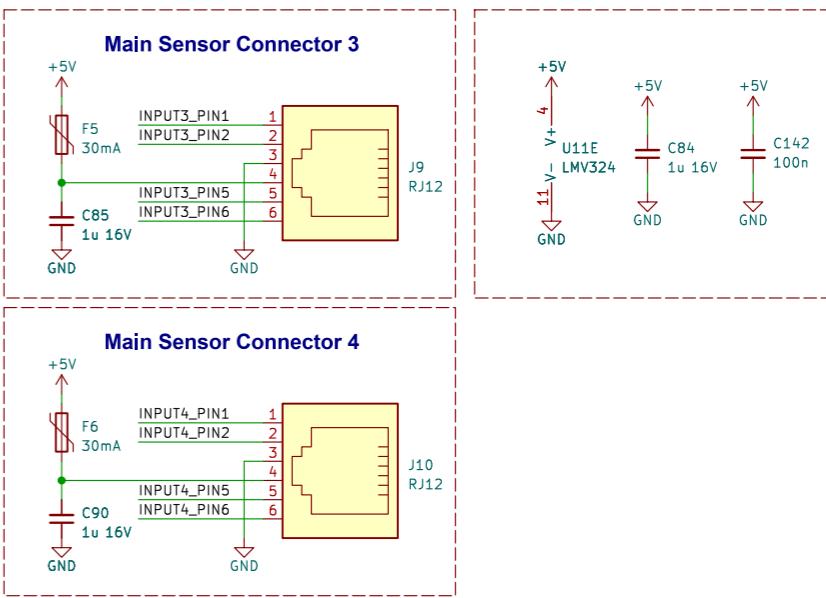
General INPUT 3



General INPUT 4



Main Sensor Connector 3

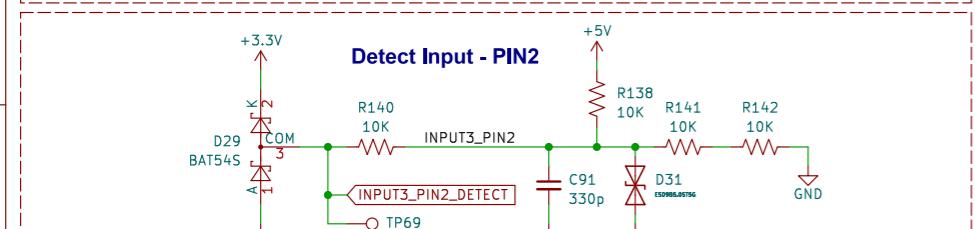


Main Sensor Connector 4

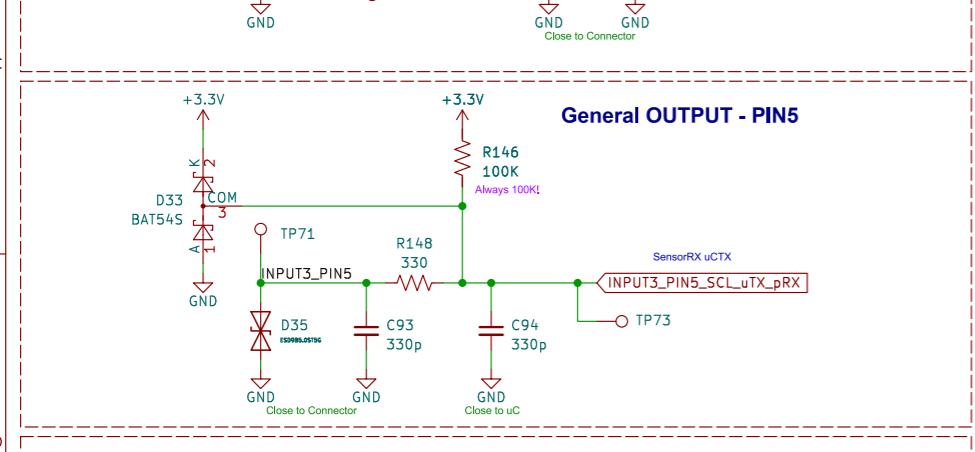


Pin 1: ADC@5 V ref. 9V With resistor limiter
 Pin 2: GPIO, Auto ID functionality
 Pin 3: Ground
 Pin 4: VCC 5 V
 Pin 5: Digital IO, SCL (I2C), UART RX
 Pin 6: Digital IO, SDA (I2C), ADC@5 V ref, UART TX

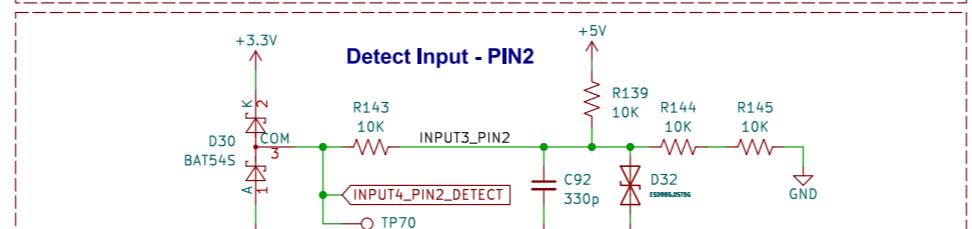
Detect Input - PIN2



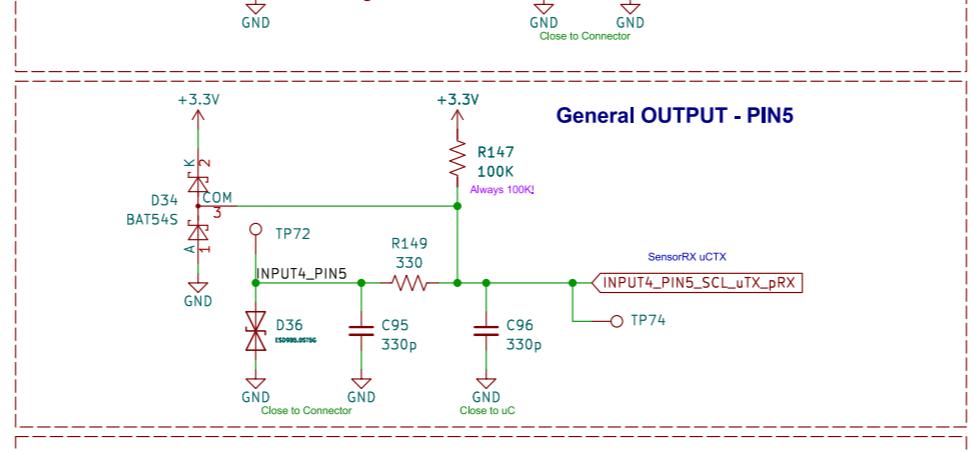
General OUTPUT - PIN5



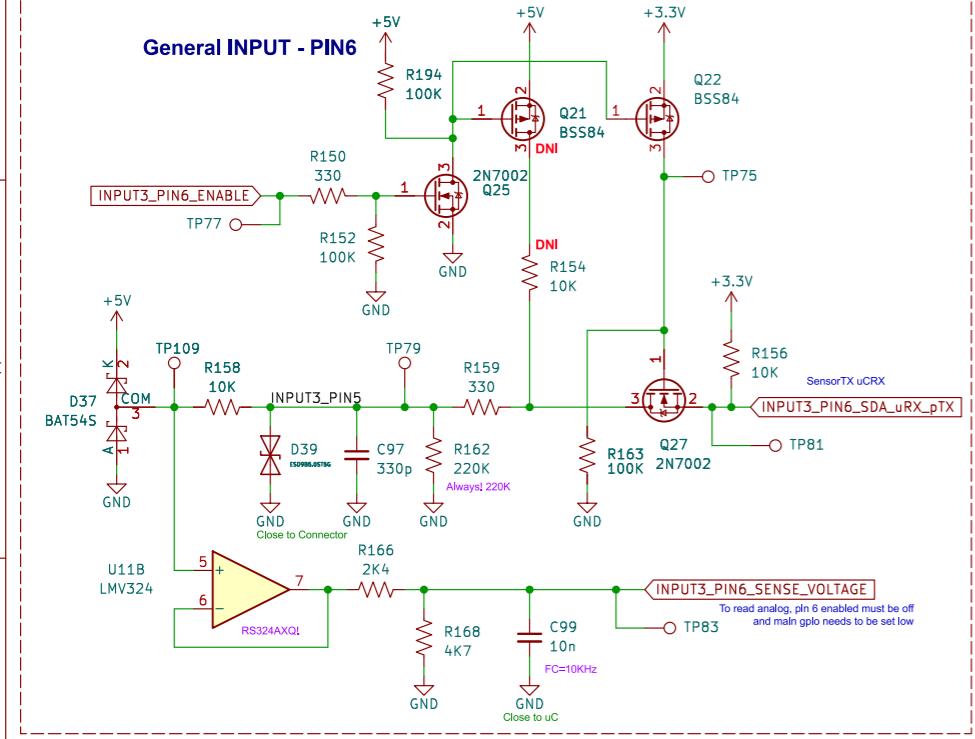
Detect Input - PIN2



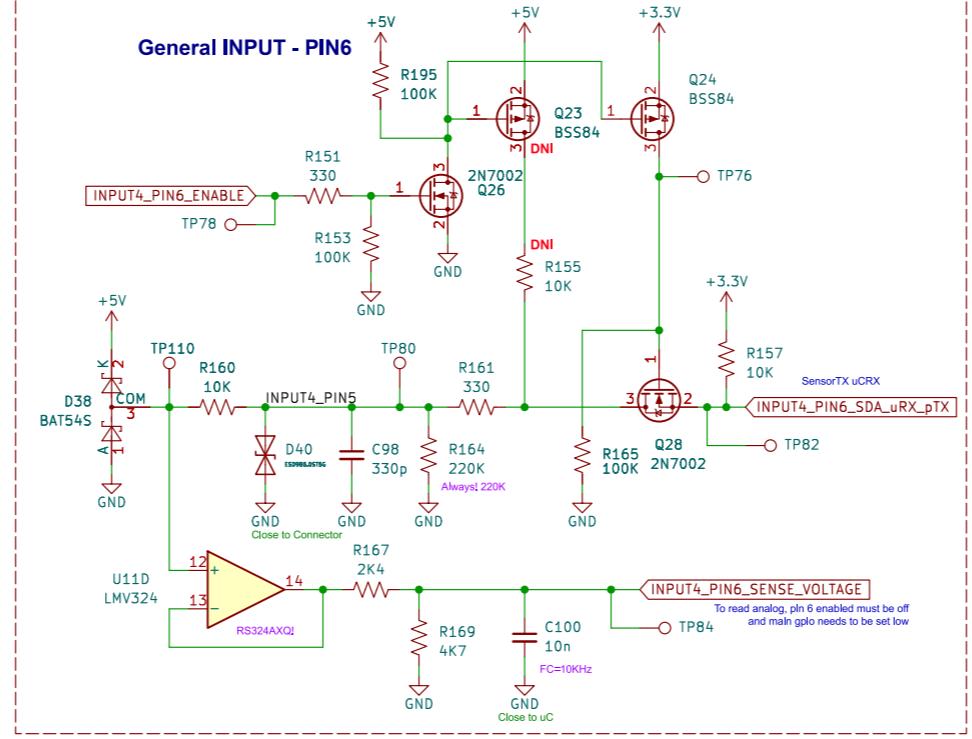
General OUTPUT - PIN5



General INPUT - PIN6



General INPUT - PIN6



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Sheet: /04-System Inputs B/
File: 04-System Inputs B.kicad_sch

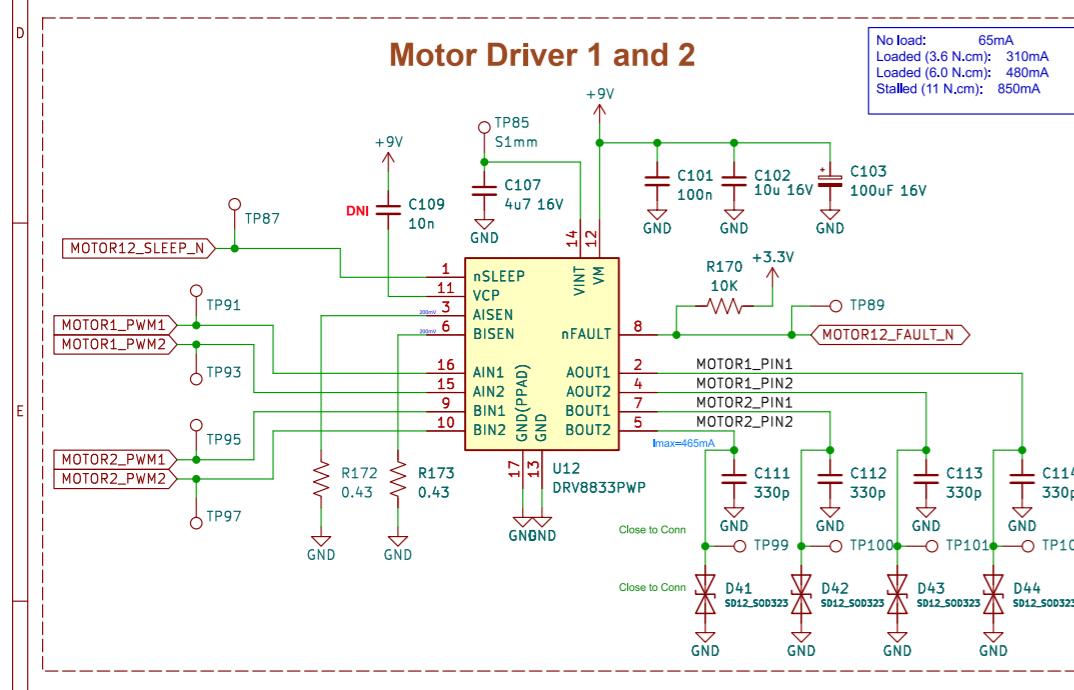
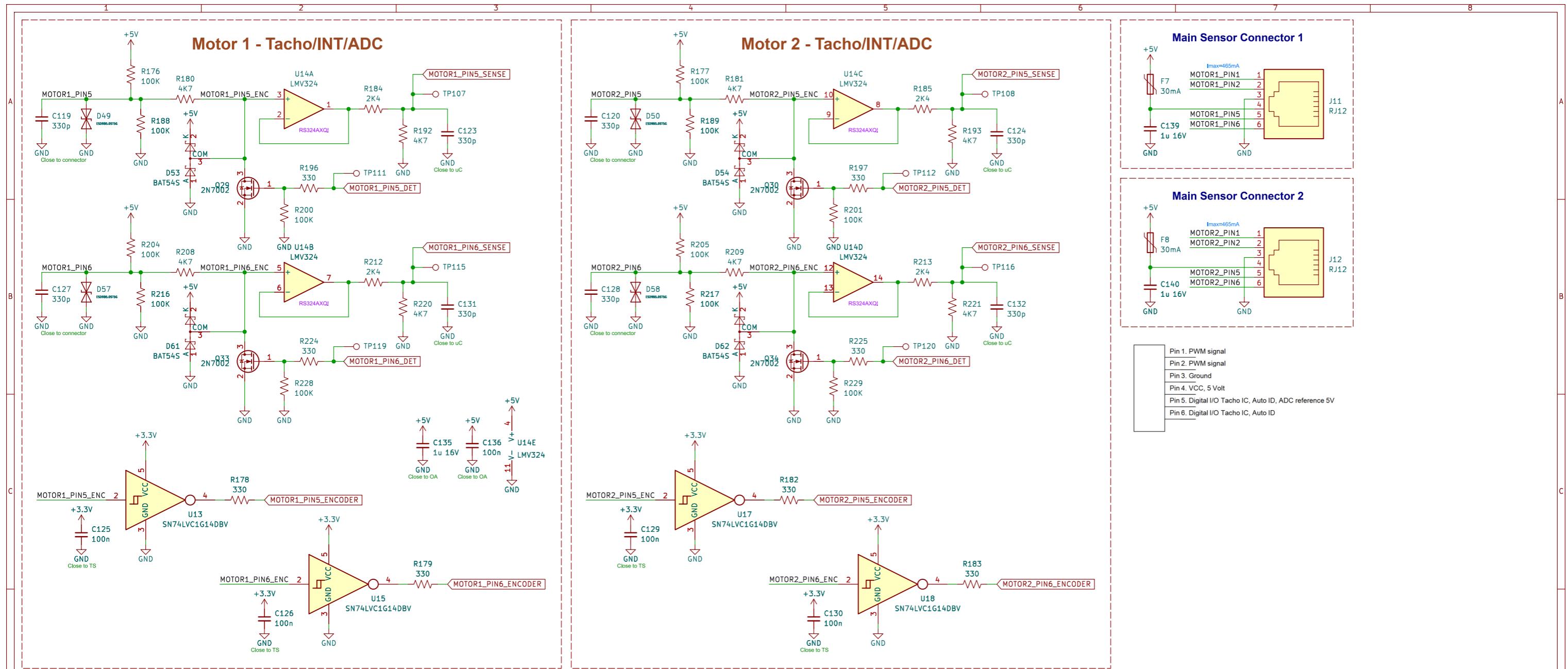
Title: System Inputs

Size: A3 Date: 2023-02-22
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open source
hardware

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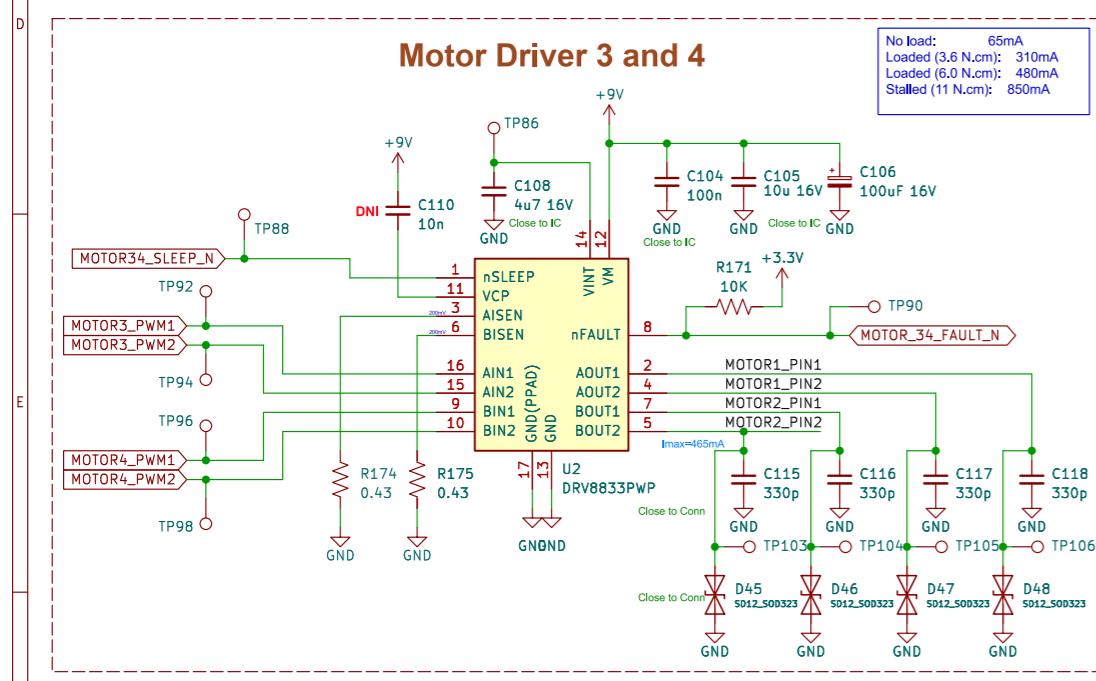
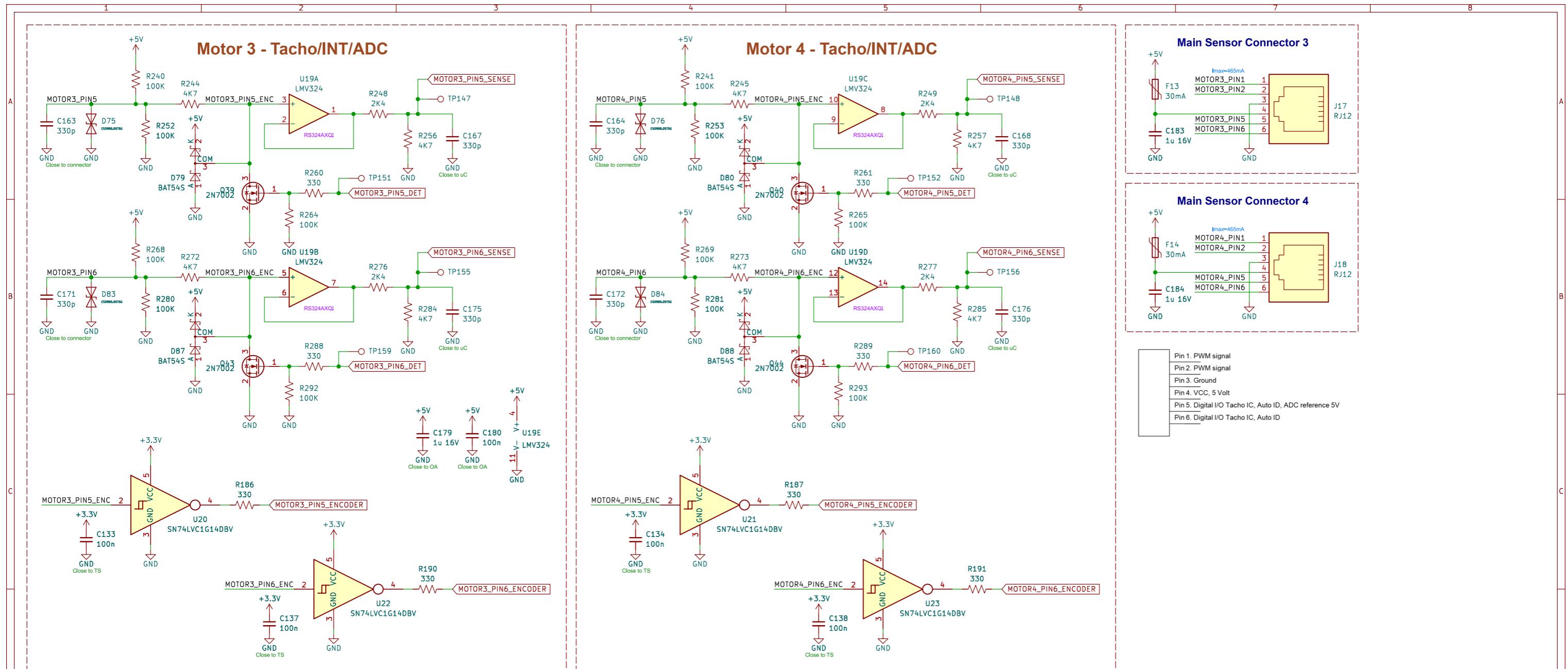


Sheet: /05-System Outputs A/
File: 05-System Outputs A.kicad_sch

Title: System Outputs

Size: A3 Date: 2023-02-22
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Sheet: /06-System Outputs B/
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Title: System Outputs

Size: A3 Date: 2023-02-22
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