CANBUS OUTPUT CONNECTOR TO CONTROL BOARD
INTERFACES TO OUTSIDE WORLD

J14
Conn_02x10_Counter_Clockwise
CAN_JUMPER_B 1 20
CAN_JUMPER_A 2 19
3 18
CAN_24V_OUT 4 17
5 16
CAN_LOW 6 15
CAN_HIGH 7 14
CAN_GND 8 13
9 12
10 11

J7
TBP02R2W-381-08BE
8 CAN_GND
7 CAN_HIGH
6 CAN_LOW
5
4 CAN_24V_OUT
3
2 CAN_JUMPER_A
1 CAN_JUMPER_B

J1
TBP02R2W-381-06BE
6 +5V_V
5
4 REGEN_THROTTLE_V
3 SPARE_V
2 THROTTLE_V
1 GND_V

HEATSINK_TMP_V
R13
10k
GND_V
+5V_V
4 3 2 1
J4
TBP01R1-508-04BE

ADC_2
GND_V
SPARE_V
REGEN_THROTTLE_V
THROTTLE_V
HEATSINK_TMP_V
+5V_V
GND_W
HALL_PH_U_W
HALL_PH_V_W
HALL_PH_W_W
MTR_TMP_W
+5V_W
ADC4_GND_C
SPARE_C
REGEN_THROTTLE_C
THROTTLE_C
IGBT_TMP_C
ADC4_+5V_C
ADC3_GND_B
HALL_PH_U_B
HALL_PH_V_B
HALL_PH_W_B
MTR_TMP_B
ADC3_+5V_B
ADC4_CS_A
ADC3_CS_A
SPI_SCK_A
SPI_TX_A
SPI_RX_A
GND_A
+12V_A
+3.3V_A
SPI2_ADC4_CS_A
SPI2_ADC3_CS_A
SPI2_SCK_A
SPI2_TX_A
SPI2_RX_A
GND_A
+12V_A
+3.3V_A
File: ADC2.kicad_sch

Power
+3.3V_A
+12V_A
GND_A
+3.3V_OUT_A
+12V_OUT_A
GND_A
VIN_Z
GND_Z
1
2
J3
TBP01R2W-508-02BE
File: Power.kicad_sch

CONNECTOR FROM MAIN BOARD TO CONTROL MODULE ABOVE
ADC SPI INPUTS / POWER TO ADCS / GATE DRIVE SIGNALS

J13
Conn_02x10_Counter_Clockwise
+3.3V_A 1 20 SPI1_SCK_A
+12V_A 2 19 SPI1_TX_A
GND_A 3 18 SPI1_RX_A
+3.3V_A 4 17 SPI1_CAN_CS_A
+12V_A 5 16 SPI1_CAN_INT_A
GND_A 6 15 PH_U_H
RESET 7 14 PH_U_L
READY 8 13 PH_V_H
FAULT 9 12 PH_V_L
PH_W_LD 10 11 PH_W_H

J2
TBP02R2W-381-06BE
6 +5V_W
5 HALL_PH_U_W
4 HALL_PH_W_W
3 HALL_PH_V_W
2 MTR_TMP_W
1 GND_W

Control
+3.3V_A
GND_A
+3.3V_A
GND_A
SPI1_CAN_INT_A
SPI1_CAN_CS_A
SPI1_RX_A
SPI1_TX_A
SPI1_SCK_A
SPI2_ADC1_CS_A
SPI2_ADC2_CS_A
SPI2_ADC3_CS_A
SPI2_ADC4_CS_A
SPI2_RX_A
SPI2_TX_A
SPI2_SCK_A
SPI1_CAN_INT_A
SPI1_CAN_CS_A
SPI1_RX_A
SPI1_TX_A
SPI1_SCK_A
SPI2_CS_ADC1_A
SPI2_CS_ADC2_A
SPI2_CS_ADC3_A
SPI2_CS_ADC4_A
SPI2_RX_A
SPI2_TX_A
SPI2_SCK_A
PH_U_H_A
PH_U_L_A
PH_V_H_A
PH_V_L_A
PH_W_H_A
PH_W_L_A
PH_U_H
PH_U_L
PH_V_H
PH_V_L
PH_W_H
PH_W_L
RELAY_1_A
RELAY_2_A
RELAY_3_A
RELAY1_A
RELAY2_A
RELAY3_A
GATE_DRIVER_FAULT_A
GATE_DRIVER_READY_A
GATE_DRIVER_RESET_A
FAULT
READY
RESET
File: Control.kicad_sch

CONNECTOR FROM MAIN BOARD TO CONTROL MODULE ABOVE
ADC SPI INPUTS / POWER TO ADCS

J12
Conn_02x10_Counter_Clockwise
+3.3V_A 1 20
GND_A 2 19
+12V_A 3 18
+3.3V_A 4 17
GND_A 5 16
+12V_A 6 15
+3.3V_A 7 14 SPI2_ADC2_CS_A
GND_A 8 13 SPI2_ADC1_CS_A
+12V_A 9 12 SPI2_SCK_A
SPI2_RX_A 10 11 SPI2_TX_A

CONNECTOR FROM MAIN BOARD TO CONTROL MODULE ABOVE
CONTROL INPUTS + POWER TO RELAY SUBSYSTEM/GATE DRIVERS

J11
Conn_02x10_Counter_Clockwise
RELAY_1_A 1 20
RELAY_2_A 2 19
RELAY_3_A 3 18
DRIVE_ENABLE_A 4 17
5 16
+12V_A 6 15 GND_A
GND_A 7 14 +12V_A
+12V_A 8 13 GND_A
GND_A 9 12 +12V_A
+12V_A 10 11 GND_A

CONNECTION FROM MAINBOARD TO CONTROL MODULE ABOVE
PROVIDES RELAY OUTPUTS + GATE DRIVER INTERLOCK

J5
Conn_02x10_Counter_Clockwise
RELAY3_NO 1 20
2 19
3 18
RELAY3_COM 4 17
RELAY2_NO 5 16
6 15
7 14
RELAY2_COM 8 13
RELAY1_NO 9 12 RELAY1_COM
10 11

J8
TBP02R2W-381-08BE
8 RELAY1_NO
7 RELAY1_COM
6 RELAY2_COM
5 RELAY2_NO
4 RELAY3_COM
3 RELAY3_NO
2
1

Sheet: /
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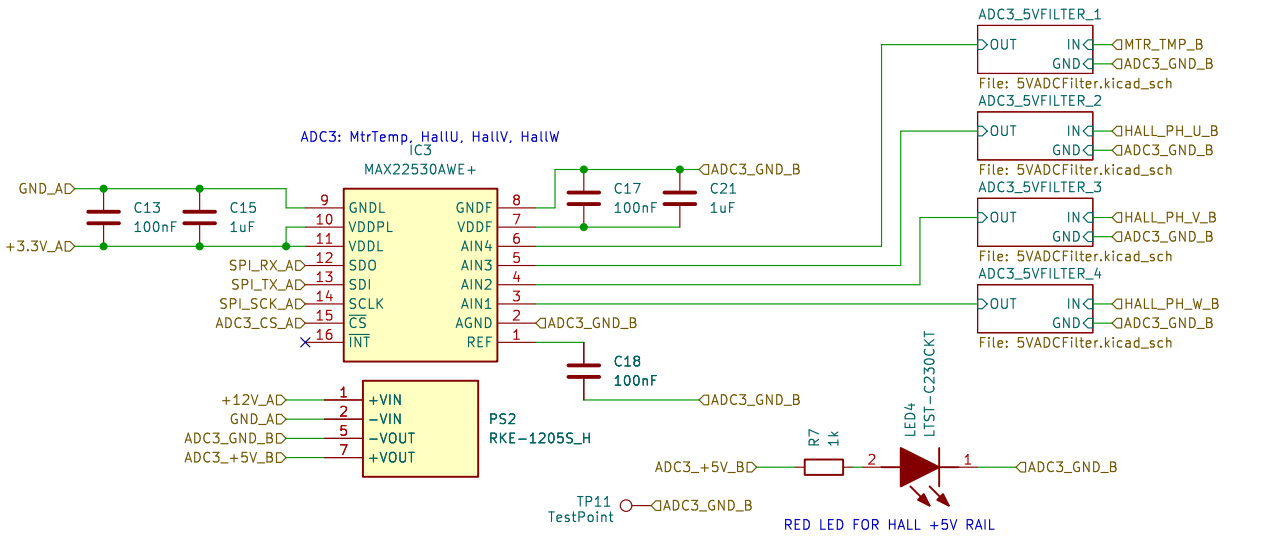
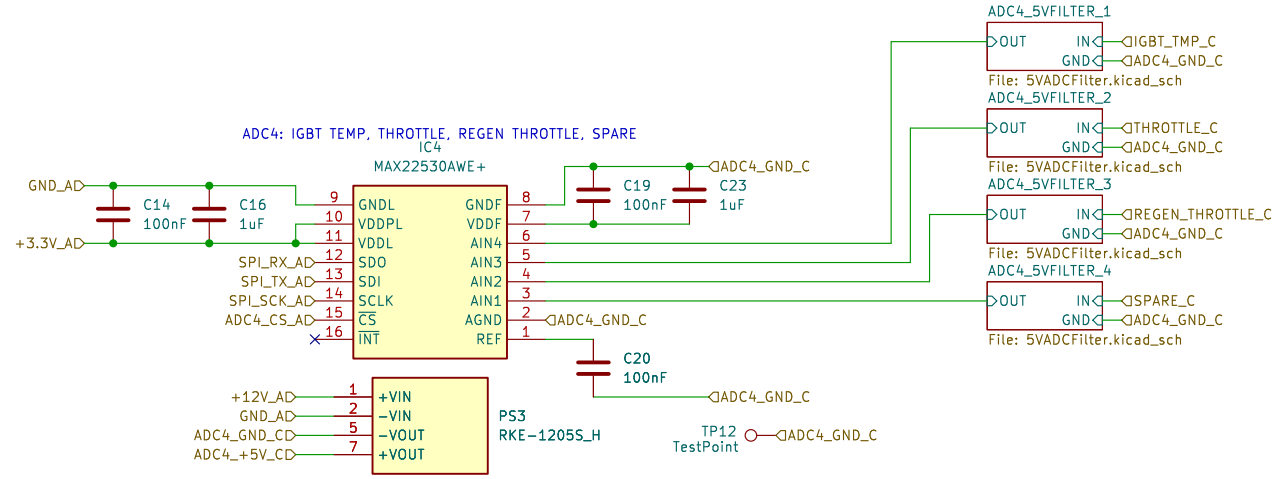
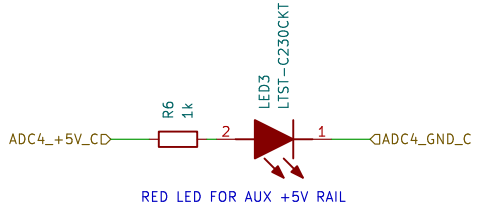
Title:
Size: A4
Date:
Rev:
KiCad E.D.A. 9.0.1
Id: 1/12







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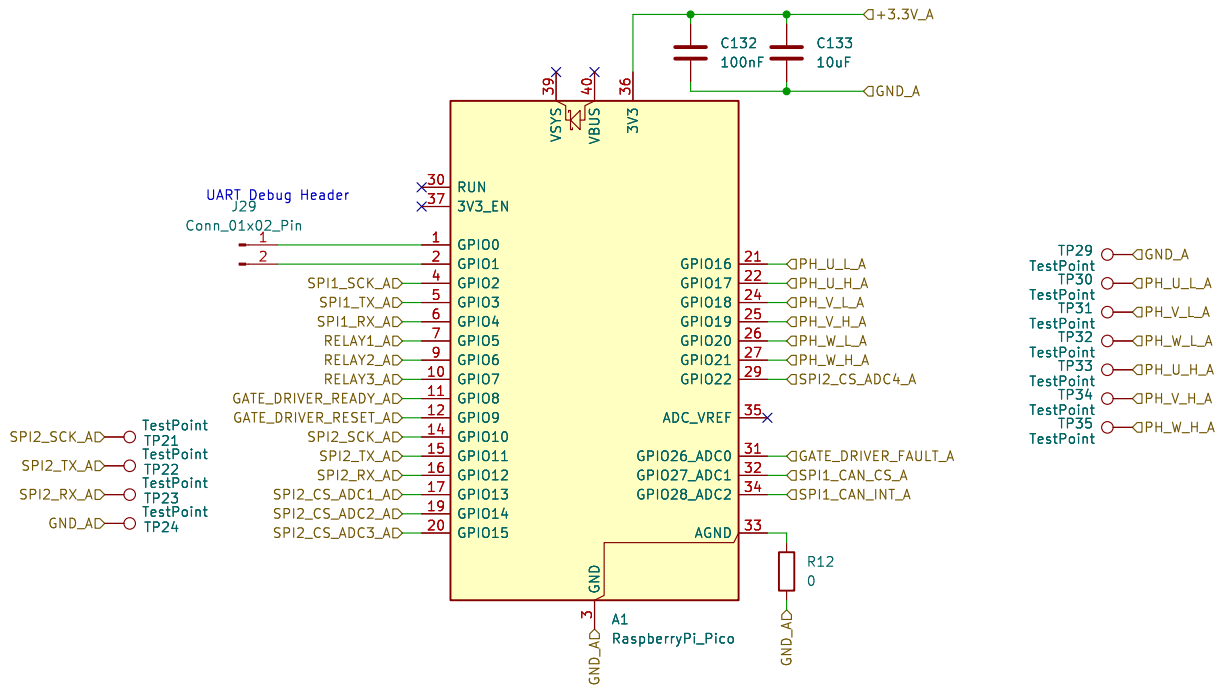
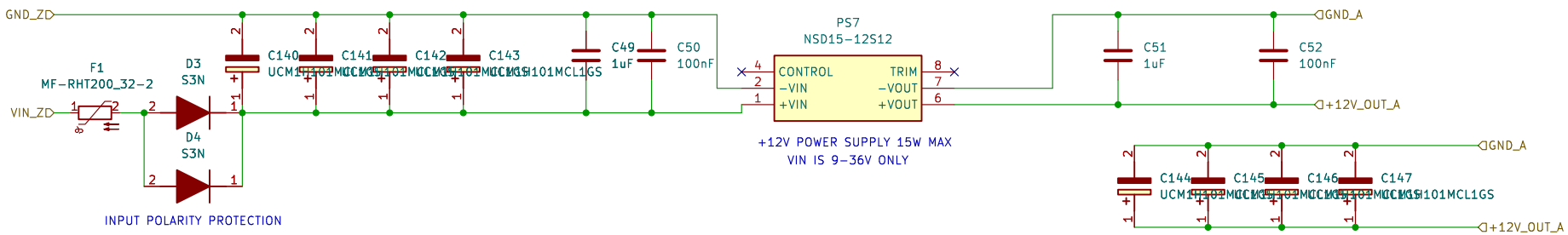
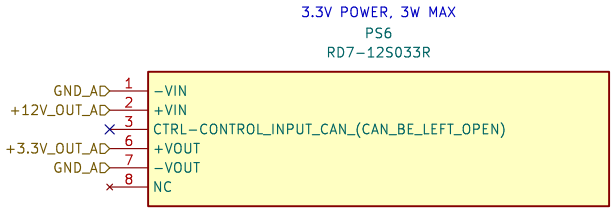
Title:

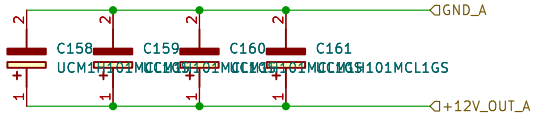
Size: A4	Date:	**Rev:**
KiCad E.D.A. 9.0.1		Id: 4/12

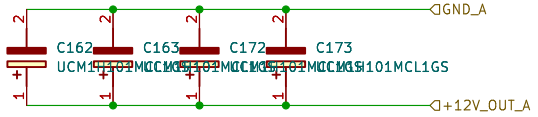


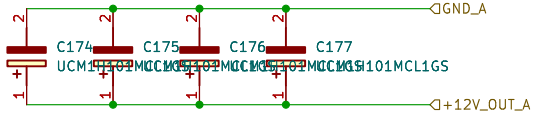
Sheet: /Control/		
File: Control.kicad_sch		
Title:		
Size: A4	Date:	**Rev:**
KiCad E.D.A. 9.0.1		Id: 8/12

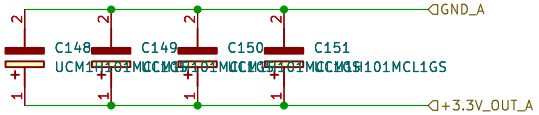


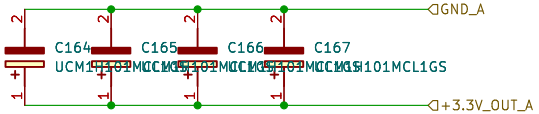


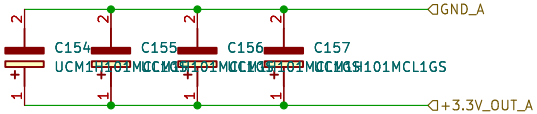


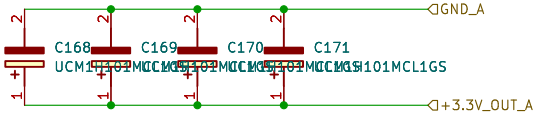












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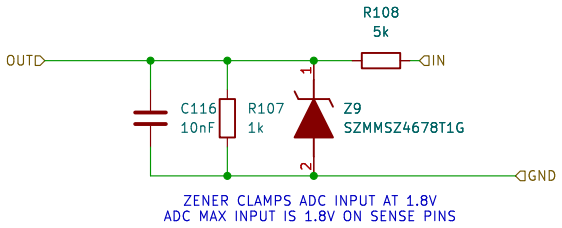
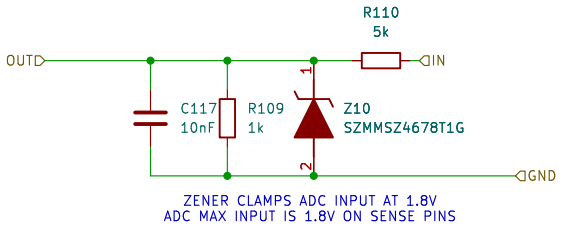
Size: A4	Date:	**Rev:**
KiCad E.D.A. 9.0.1		Id: 9/12



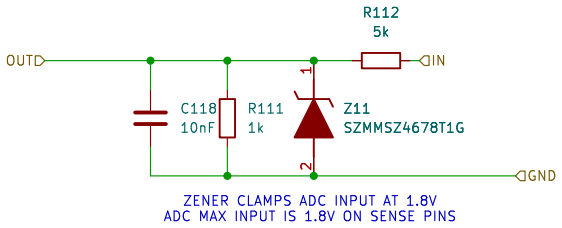
Sheet: /ADC_2/ADC4_5VFILTER_1/
File: 5VADCFilter.kicad_sch

Title:

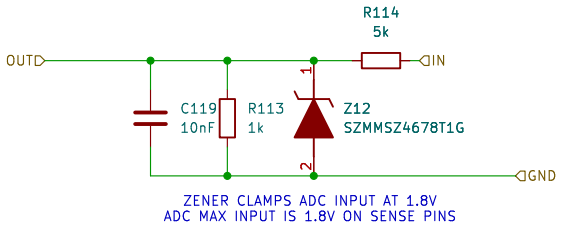
Size: A4	Date:	**Rev:**
KiCad E.D.A. 9.0.1		Id: 24/12



Sheet: /ADC_2/ADC4_5VFILTER_2/		
File: 5VADCFilter.kicad_sch		
Title:		
Size: A4	Date:	**Rev:**
KiCad E.D.A. 9.0.1		Id: 25/12



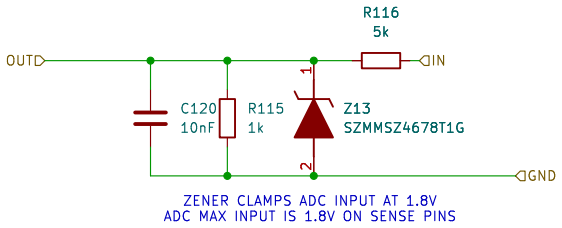
Sheet: /ADC_2/ADC4_5VFILTER_3/		
File: 5VADCFilter.kicad_sch		
Title:		
Size: A4	Date:	**Rev:**
KiCad E.D.A. 9.0.1		Id: 26/12



Sheet: /ADC_2/ADC4_5VFILTER_4/
File: 5VADCFilter.kicad_sch

Title:

Size: A4	Date:	**Rev:**
KiCad E.D.A. 9.0.1		Id: 27/12



Sheet: /ADC_2/ADC3_5VFILTER_1/
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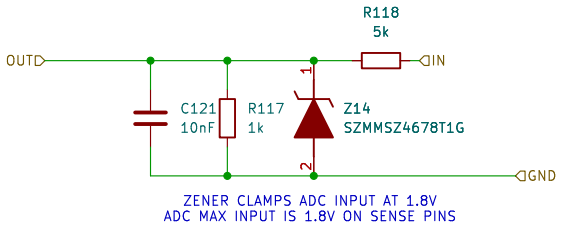
Title:

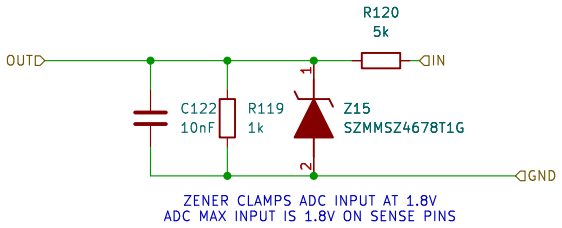
Size: A4	Date:	**Rev:**
KiCad E.D.A. 9.0.1		Id: 28/12



Sheet: /ADC_2/ADC3_5VFILTER_2/
File: 5VADCFilter.kicad_sch

Title:

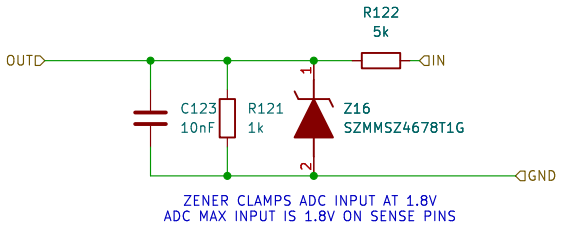
Size: A4	Date:	**Rev:**
KiCad E.D.A. 9.0.1		Id: 29/12



Sheet: /ADC_2/ADC3_5VFILTER_3/
File: 5VADCFilter.kicad_sch

Title:

Size: A4	Date:	**Rev:**
KiCad E.D.A. 9.0.1		Id: 30/12



Sheet: /ADC_2/ADC3_5VFILTER_4/
File: 5VADCFilter.kicad_sch

Title:

Size: A4	Date:	**Rev:**
KiCad E.D.A. 9.0.1		Id: 31/12