Batteries

STBD_BAT/2.1E

PORT_BAT/2.1E

GND

Actuator

+12V

ACTUATOR

V+/2.8B

39-30-04?   GND

ESC

MOTOR_POWER/2.4D

7+ 7+ 7- 7-
6+ 6+ 6- 6-
5+ 5+ 5- 5-
4+ 4+ 4- 4-
3+ 3+ 3- 3-
2+ 2+ 2- 2-
1+ 1+ 1- 1-

GND

Administrative Info

Notes

Refer to definitive connector list for combined connectors

GND

MCU80N06A-TP
Q3

MCU80N06A-TP
Q2

LIGHTING

LIGHTING_1

LIGHTING_2

+12V

Backplane

+5V   +3V3

12V_ON/2.5D

5V_ON/2.5C

3V3_ON

LIGHTING_1   LIGHTING_2

5V   3.3V

BOARD_SDA
BOARD_SCL
SENSOR_SDA
SENSOR_SCL

PWM_1
PWM_2
PWM_3
PWM_4
PWM_5
PWM_6
PWM_7
PWM_8

KILL_SWITCH
SWITCH_1
SWITCH_2
SWITCH_3
SWITCH_4
SWITCH_5

GND

ACOUSTIC_ON/OFF
12V_ON/OFF
5V_ON_OFF
MOBO_ON/OFF
3.3V_ON/OFF
JETSON_ON/OFF

PLTA_SWITCH/2.1D

SPARE1
SPARE8
SPARE2
SPARE7 +3V3
SPARE3
SPARE6
SPARE4
SPARE5

SENSOR_SDA/2.2C

SENSOR_SCL/2.2C

KILL_SWITCH/2.4E

GND

XAVIER_SWITCH/2.2D

Camera Housing Connector

Mynt Camera

GND

+12V

+3V3

+5V   39-30-08?

XAVIER_ALT/2.2D

PLTA_ALT/2.1D

12 V

+12V

Fans

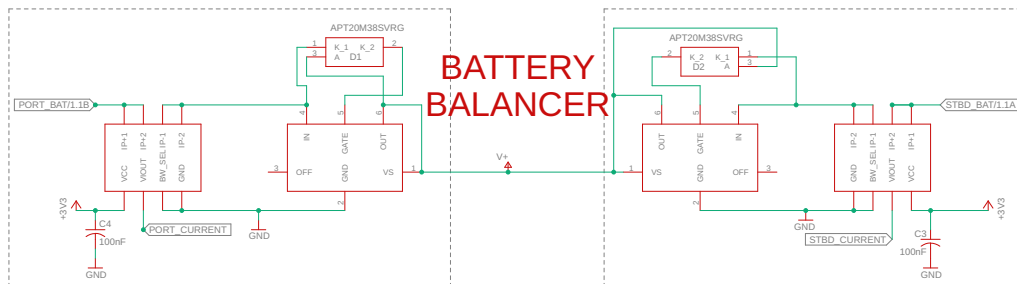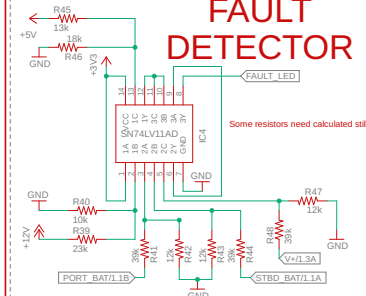12VOLT_CONN

39-30-04?

GND

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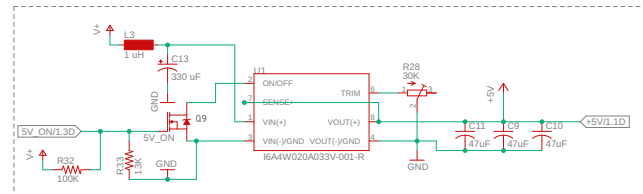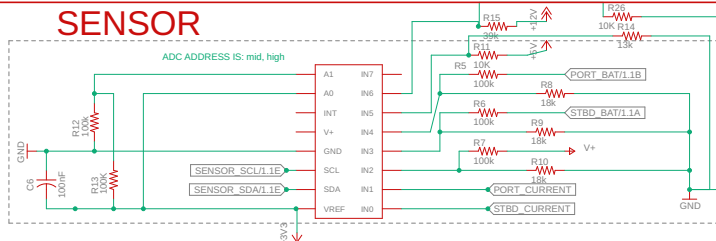
Electrical Team
Titan_Balancer
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BATTERY BALANCER

APT20M38SVRG

K_1 K_2
A D1

PORT_BAT/1.1B

VCC IP-1
VIOUT IP-2
BW_SEL IP-1
GND IP-2

IN GATE OUT
OFF GND VS

V+

APT20M38SVRG

K_2 K_1
D2 A

OUT GATE IN
VS GND OFF

GND IP-2
BW_SEL IP-1
VIOUT IP-2
VCC IP-1

STBD_BAT/1.1A

+3V3
C4
100nF
GND
PORT_CURRENT
GND

GND
STBD_CURRENT
C3
100nF
GND
+3V3

FAULT DETECTOR

R45
13k
+5V
R46
18k
GND
+3V3

FAULT_LED

SN74LV11AD
IC4

Some resistors need calculated still

GND
R40
10k
+12V
R39
23k

GND

R47
12k

R48
39k
GND

V+/1.3A

PORT_BAT/1.1B
STBD_BAT/1.1A

R41 12k
R42 12k
R43 39k
R44

GND

SENSOR

R15
39k +12V
R26
10K R14
13k
R11
R5 10K
100k
R8
18k
R6
100k
R9
18k
R7
100k
R10
18k

V+

ADC ADDRESS IS: mid, high

A1 IN7
A0 IN6
INT IN5
V+ IN4
GND IN3
SCL IN2
SDA IN1
VREF IN0

PORT_BAT/1.1B
STBD_BAT/1.1A

R12
100k
GND
R13
100k
C6
100nF
GND

SENSOR_SCL/1.1E
SENSOR_SDA/1.1E

PORT_CURRENT
STBD_CURRENT

+3V3

SWITCHES

PLTA_ALT/1.5D
+5V
Q1
IPD06P03L3GATMAL
R20
10k
T1
PLTA_SWITCH/1.3E
GND

XAVIER_ALT/1.5D
+12V
Q4
C1
47uF
R25
10k
IPD068P03L3GATMA1

R24
10k
T3
GND
XAVIER_SWITCH/1.3E

SQM120P06-07L_GE3
MOTOR_POWER/1.4B
Q5

V+
Q7
SQM120P06-07L_GE3
R4
10k
Q8
310mA/60V/1.6Ω
KILL_SWITCH/1.2E
+3V3
R18

CONVERTERS

V+
L3
1 uH
C13
330 uF
GND
Q9
U1
ON/OFF TRIM
SENSE-
VIN(+) VOUT(+)
VIN(-)/GND VOUT(-)/GND
I6A4W020A033V-001-R
R28
30K
+5V
C11 C9 C10
47uF 47uF 47uF
GND

5V_ON/1.3D
V+
R32
100K
R33
13k
5V_ON
GND

+5V/1.1D

V+
L2
1 uH
C12
330 uF
GND
Q6
U3
ON/OFF TRIM
SENSE-
VIN(+) VOUT(+)
VIN(-)/GND VOUT(-)/GND
I6A4W020A033V-001-R
R1
30K
+12V
C15 C16 C17
47uF 47uF 47uF
GND

12V_ON/1.2D
V+
R2
100K
R3
13k
12V_ON
GND

+12V/1.8D

IC1
REG1117
VOUT VIN
GND
+3V3
+5V
C2
47uF
GND
Converts 5V into 3V3

LEDs

+3V3
R19
50
R21
50
R22
50
R23
50
PORT
RED
STBD
RED
2V
RED
RED

PORT_BAT/1.1B
STBD_BAT/1.1A
+12V/1.8D
+5V/1.1D

GND
FAULT_LED
GREEN
R16
95
FAULT_LED

KILLSWITCH
GREEN
R17
68
KILL_SWITCH/1.2E
+3V3

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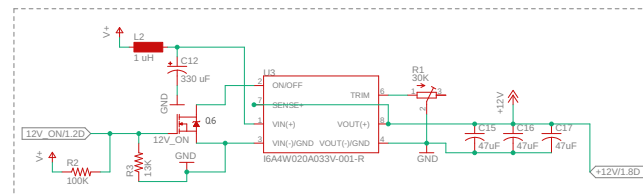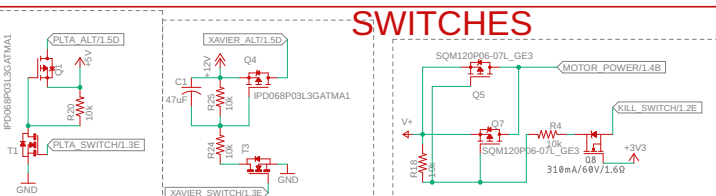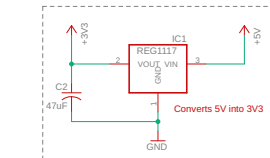Electrical Team
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PARTS	Quantity	Web Address
39-30-16?	1	https://www.allegromicro.com/~/media/Files/Datasheets/ACS722-Datasheet.ashx
39-30-02	1	
39-30-10	1	https://www.ti.com/product/LM5050-1
39-30-04	3	https://www.mouser.com/ProductDetail/Microchip-Microsemi/APT60DQ60SG?qs=T3oQrply3y%2FxiTR%252BTuJEjQ%3D%3D
14PIN-VERT	1	
FDD8453LZ	2	https://www.ti.com/product/REG1117
APT60DQ60SG	2	https://www.digikey.com/en/products/detail/microchip-technology/APT60DQ60SG/12375469
ACS722	2	https://www.digikey.com/en/products/detail/allegro-microsystems/ACS722LLCTR-40AU-T/4915374
ADC128D818	1	https://www.ti.com/product/ADC128D818
I6A4W020A033V-001-R	2	https://www.mouser.com/ProductDetail/TDK-Lambda/I6A4W020A033V-001-R?qs=GZwCxkjl%252BU1cf1n9r1aH9w%3D%3D
LM5050	2	https://www.digikey.com/en/products/detail/texas-instruments/LM5050QDMKX-1-NOPB/4457757?s=N4IgjCBcpgTAnBaIDGUBmBDANqZwKYA0IXANIgAsADAKxUDMEAuoQA4AuUIAypwCcAIgDoASAC%2Bi4oqAMgFkt9GiBaSgA
REG1117	1	https://www.digikey.com/en/products/detail/texas-instruments/REG1117/251211
MS85	2	
R-TRIMM3103	2	
MOSFET-NCH-AO3404A	2	
NMOSSOT23	2	
SPD30P06PTO252	2	
LEDSML0603	8	
5530843-EDGE	1	
MOSFET-NCH-AO3404A	2	
SPB80P06P	2	
MOSFET-NCH-2N7002PW	1	

PARTS	Quantity	Web Address
SN74LV11AD	1	https://www.mouser.com/ProductDetail/Texas-Instruments/SN74LV11ADGVR?qs=D5pVkbrsqqI4FTBReXbKzw%3D%3D

PARTS	Quantity
NPN-TRANSISTOR_SOT23	5
CPOL-US153CLV-0810 330 uF	2
C0603 47 uF	8
C0603 0.1 uF	3
R0603 10k	5
R0603 13k	2
R0603 470 Ohm	1
R0603 90 Ohm	1
R0603 18k Ohm	3
R0603 100k Ohm	9
R0603 5 Ohm	1
R0603 2k Ohm	6

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