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Projectdefinition :

Projectnumber : 10025060

Client : klantnaam tel.no. : tel klant
Contact : eindgebruiker tel.no. : tel eindgebruiker
Department : locatie/ faculteit
Location : lab / ruimte no.
Path : \\wtbfiler\Control Systems Technology\FAST_1\Elektronics\Eplan\Team Fast.elk

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By :

Checked by :

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Date :

Number of pages 23

KLEURCODE BEDRADING SCHAKELPANELEN

WISSELSTROOM CIRCUIT

FASE	400 VOLT	BRUIN (ZWART)
NUL	400 VOLT	LICHTBLAUW
FASE	230 VOLT	BRUIN (ZWART)
NUL	230 VOLT	LICHTBLAUW
FASE	≤50 VOLT	GROEN (veilige spanning)
NUL	≤50 VOLT	PAARS

VREEMDE SPANNING ORANJE

VREEMDE SPANNING = Andere voeding (potentiaal) dan de hoofdvoeding die de kast binnen komt !!

PLC INGANGEN GEEL

PLC UITGANGEN WIT

GELIJKSTROOM CIRCUIT

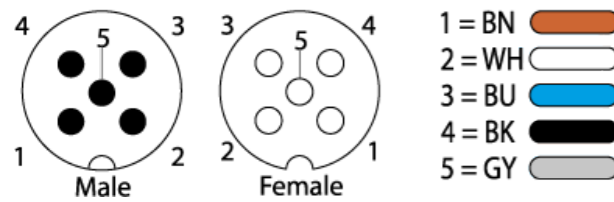
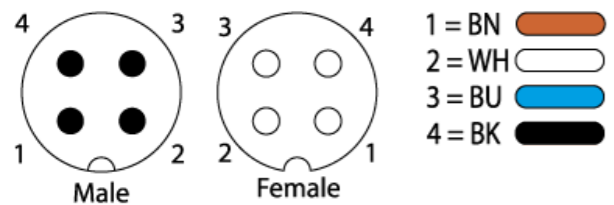
+	≤120 VOLT	ROOD (veilige spanning)
0	≤120 VOLT	DONKERBLAUW
-	≤120 VOLT	GRIJS

SCHAKELDRADEN :
kleur vervolgen

Communicatie kabels:

Ethernet GEEL
Ehercat GROEN

M12 PINOUT



MINIMALE DOORSNEDE van koperen aders :

Buiten omhulsel : Voeding -draad = 1 mm² -kabel = 0,75 mm²
: Stuurstroom -draad = 1 mm² -kabel = 0,5 mm²

Binnen omhulsel : Voeding -draad = 0,75 mm²
: Stuurstroom -draad = 0,2 mm²

Data-kabel = 0.08 mm²

PVC isolatie

STROOMTABEL

IN GOOT (+ REDUCTIE)

0,14 mm ²	1,5 A
0,25 mm ²	3 A
0,50 mm ²	7,1 A
0,75 mm ²	8,7 A
1 mm ²	12 A
1,5 mm ²	15,5 A
2,5 mm ²	21 A
4 mm ²	28,5 A
6 mm ²	36 A
10 mm ²	50 A
16 mm ²	69 A
25 mm ²	88 A
35 mm ²	111 A
NIET IN GOOT	
50 mm ²	141 A
70 mm ²	178 A
95 mm ²	220 A
120 mm ²	254 A

Meerdere koperen aders
(/kabel) Tomg. 30° C

Andere isolatie :

XLPE of EPR = 1,25 x PVC
(bv : YMKV of Neopreen)

Uitzondering :

i.v.m. korte leidingen
in besturingskasten
I x1,05

KLEUR: CODE:

wit	WH
bruin	BN
groen	GN
geel	YE
grijs	GY
roze	PK
blauw	BU
rood	RD
zwart	BK
paars	VT
oranje	OG
turquoise	TQ
geel/groen	GNYE
zilver	SR

Code voor kleurafkortingen:
vlgs. IEC 757

DIN47100 kleurcodetabel

Kabel aderkleuren

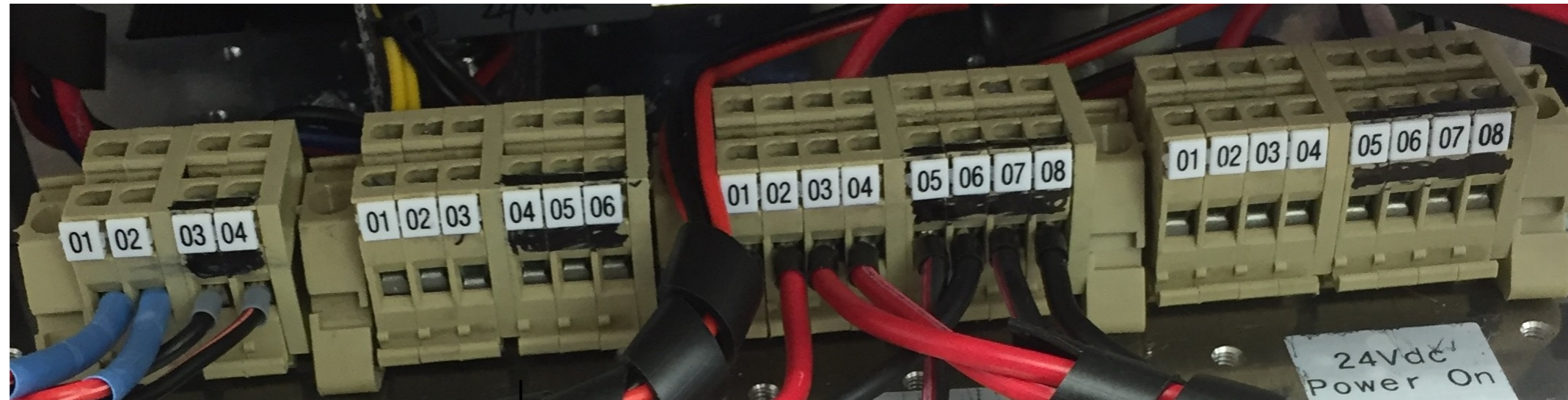
- WIT
- BRUIN
- GROEN
- GEEL
- GRIJS
- ROSE
- BLAUW
- ROOD
- ZWART
- PAARS

- GRIJS/ROSE (ORANJE)
- BLAUW/ROOD
- WIT/GROEN
- BRUIN/GROEN
- WIT/GEEL
- GEEL/BRUIN
- WIT/GRIJS
- GRIJS/BRUIN (GEEL/GROEN)
- WIT/ROSE (WIT/ORANJE)
- ROSE/BRUIN (WIT/BRUIN)

- WIT/BLAUW
- BRUIN/BLAUW
- WIT/ROOD
- BRUIN/ROOD (ZWART/ROOD)
- WIT/ZWART
- BRUIN/ZWART
- GRIJS/GROEN
- GEEL/GRIJS
- ROSE/GROEN (GRIJS/BLAUW)
- GEEL/ROSE (WIT/PAARS)

- GROEN/BLAUW
- GEEL/BLAUW
- GROEN/ROOD
- GEEL/ROOD
- GROEN/ZWART
- GEEL/ZWART
- GRIJS/BLAUW (ZWART/BLAUW)
- ROSE/BLAUW
- GRIJS/ROOD
- ROSE/ROOD
- GRIJS/ZWART
- ROSE/ZWART
- BLAUW/ZWART
- ROOD/ZWART
- WIT/BRUIN/ZWART
- GEEL/GROEN/ZWART
- GRIJS/ROSE/ZWART
- BLAUW/ROOD/ZWART
- WIT/GROEN/ZWART
- GROEN/BRUIN/ZWART
- WIT/GEEL/ZWART
- GEEL/BRUIN/ZWART
- WIT/GRIJS/ZWART
- GRIJS/BRUIN/ZWART
- WIT/ROSE/ZWART
- ROSE/BRUIN/ZWART
- WIT/BLAUW/ZWART
- BRUIN/BLAUW/ZWART
- WIT/ROOD/ZWART
- BRUIN/ROOD/ZWART
- ZWART/WIT

Laatste wijziging: 06-07-2017



12Vdc | 0Vdc

5Vdc | 0Vdc

24Vdc | GND

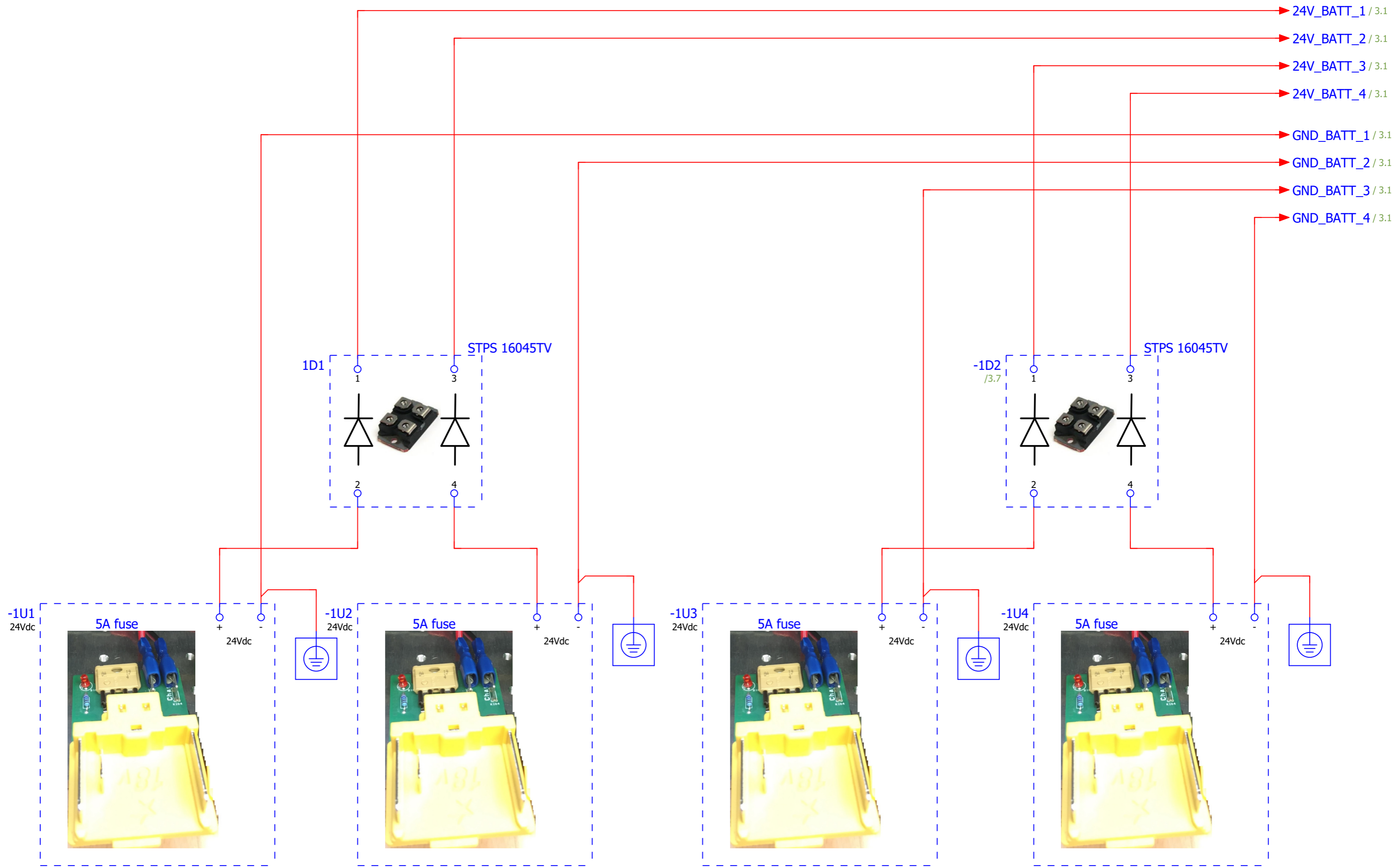
24Vdc | GND

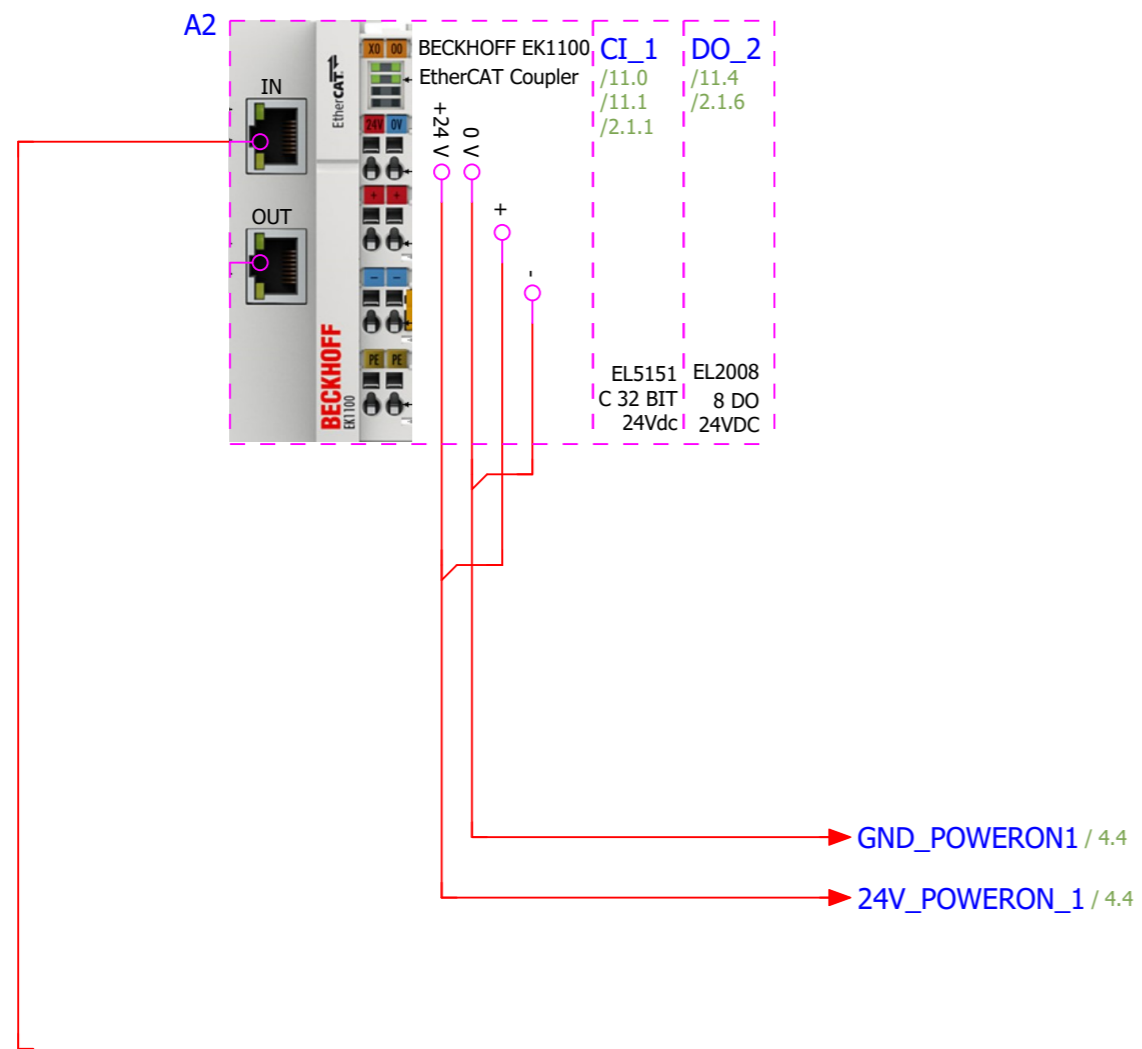
12Vdc

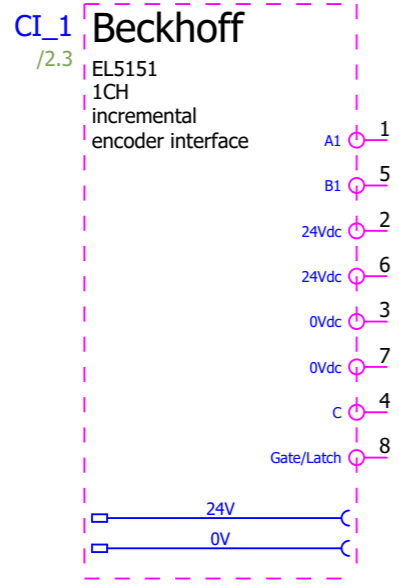
5Vdc

24Vdc
Battery
In

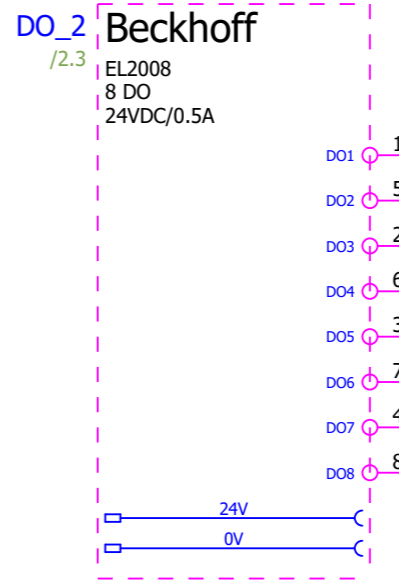
24Vdc
Power On
Switched via
Switch 4S1



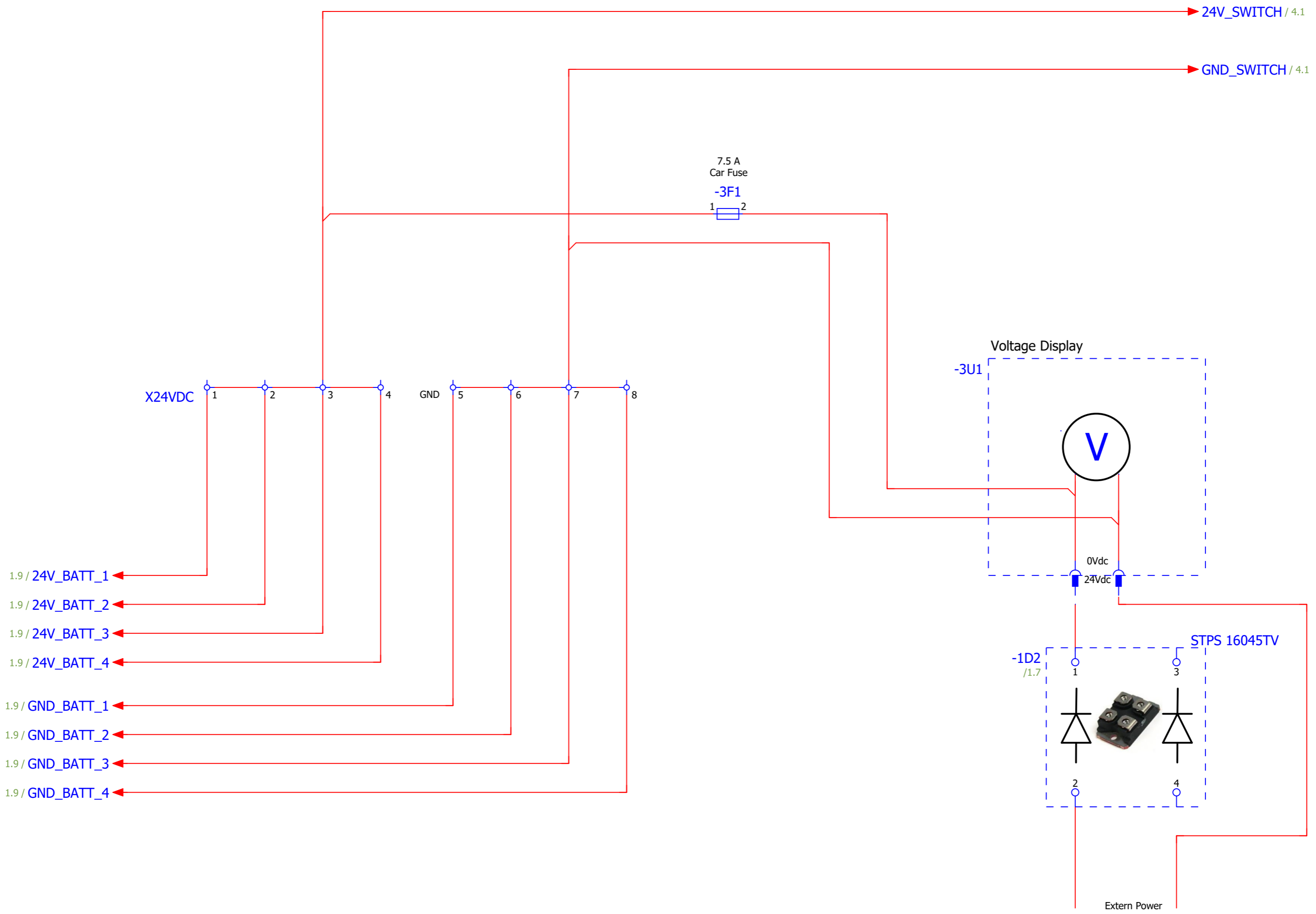




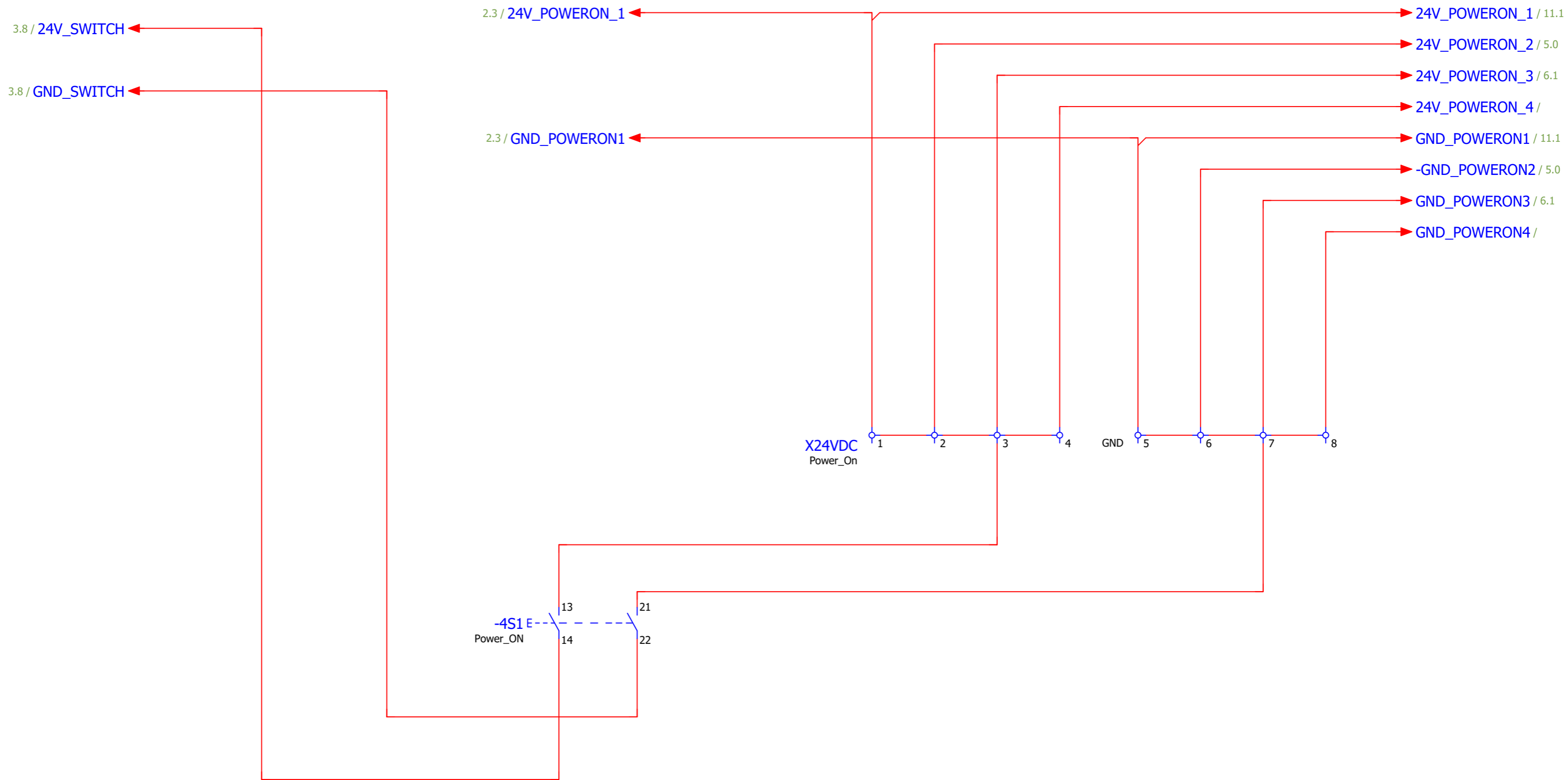
Encoder A-puls
Encoder B-Puls

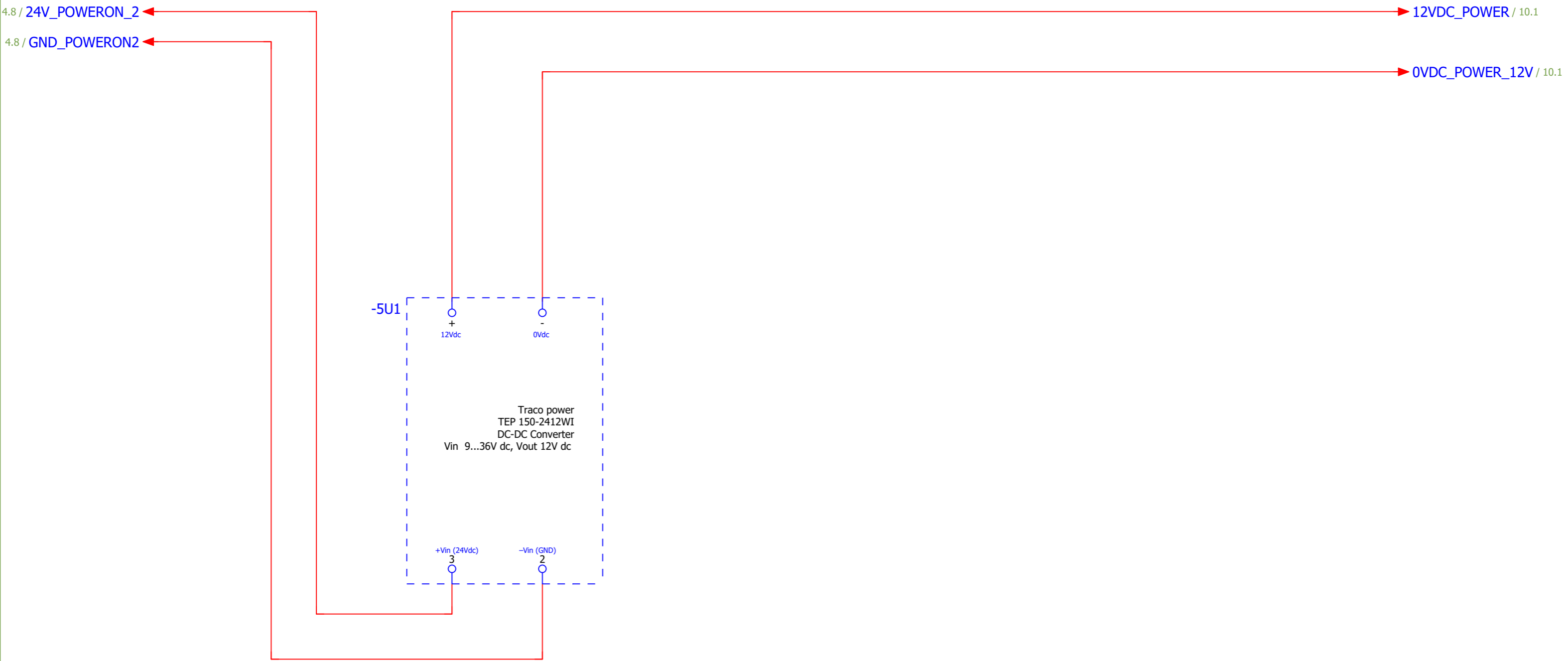


UP
DOWN



- 1.9 / 24V_BATT_1
- 1.9 / 24V_BATT_2
- 1.9 / 24V_BATT_3
- 1.9 / 24V_BATT_4
- 1.9 / GND_BATT_1
- 1.9 / GND_BATT_2
- 1.9 / GND_BATT_3
- 1.9 / GND_BATT_4



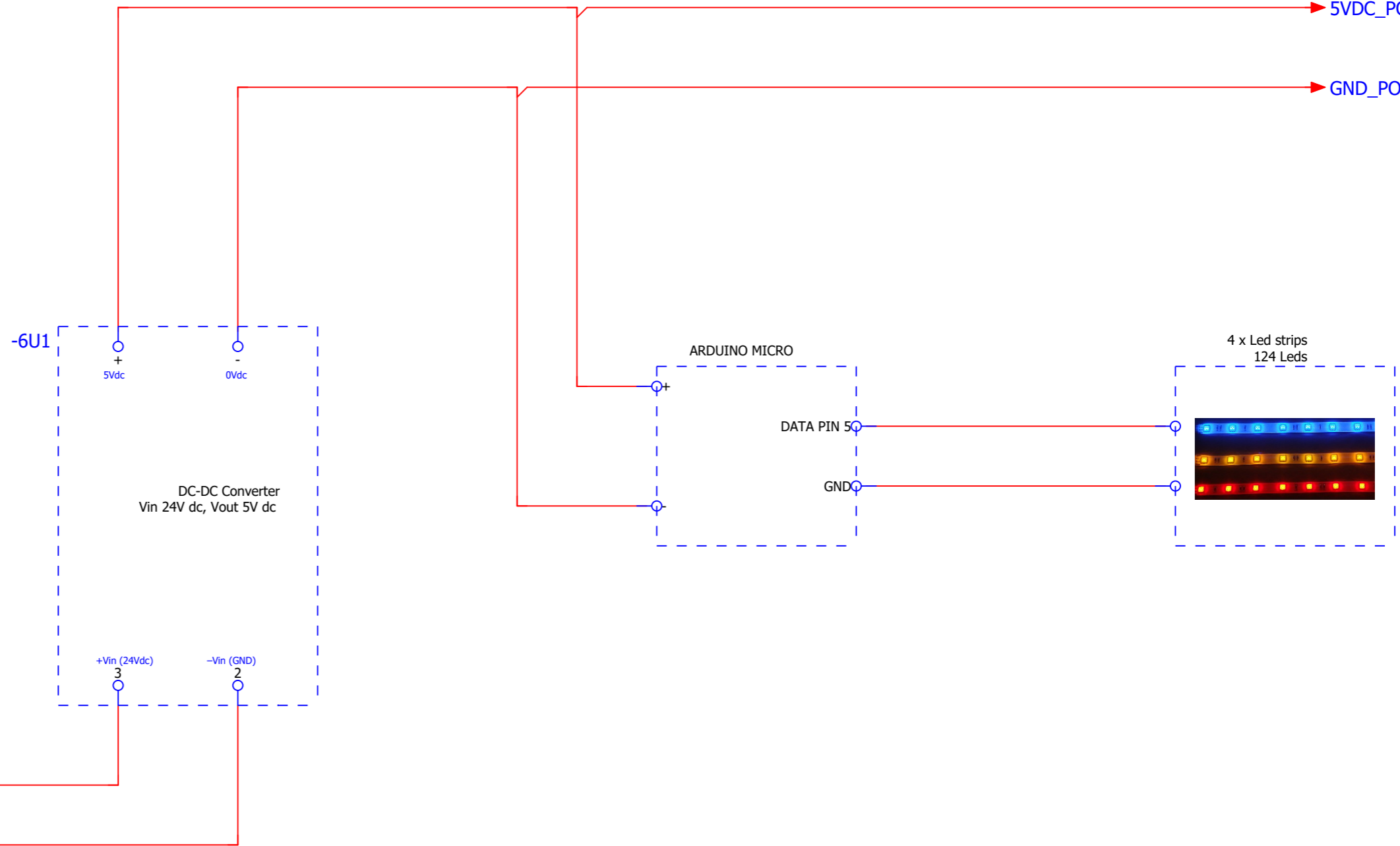


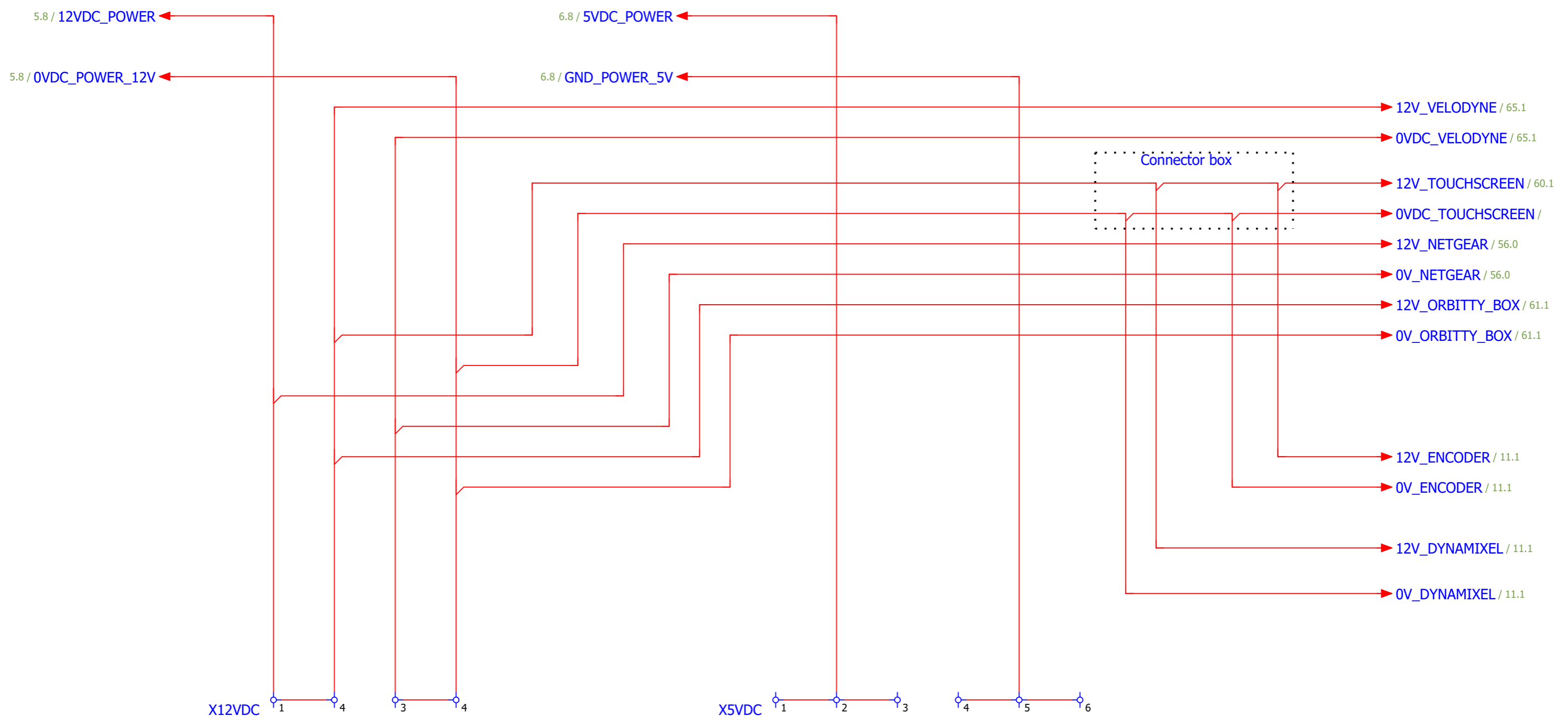
4.8 / 24V_POWERON_3

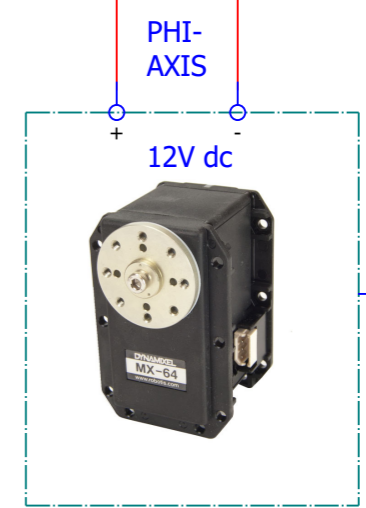
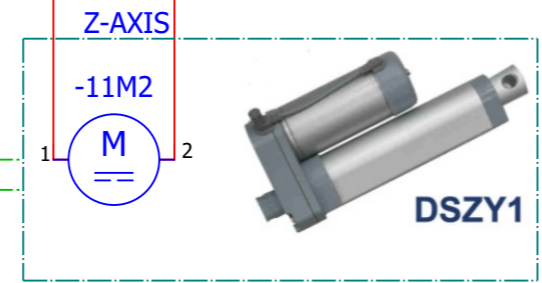
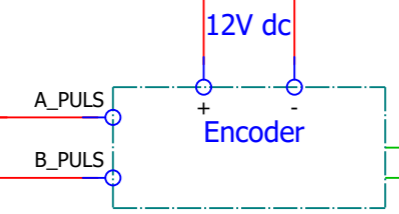
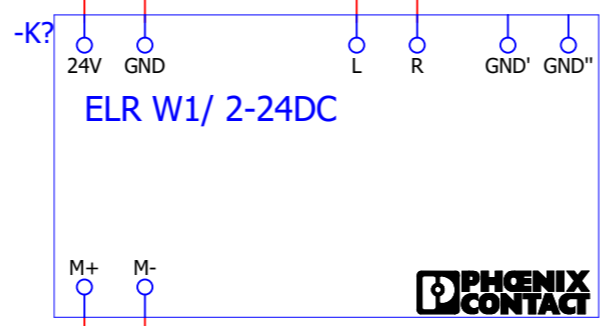
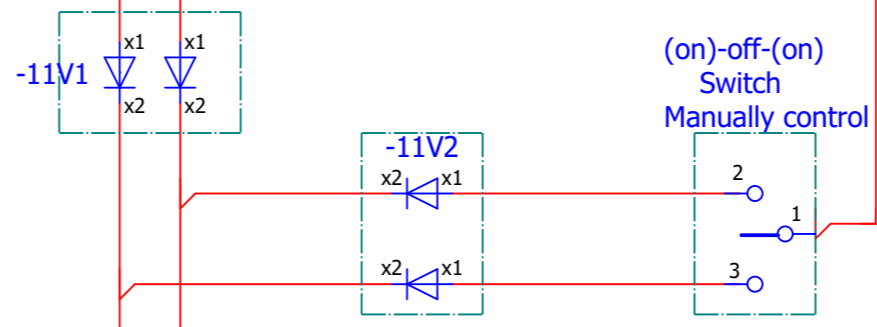
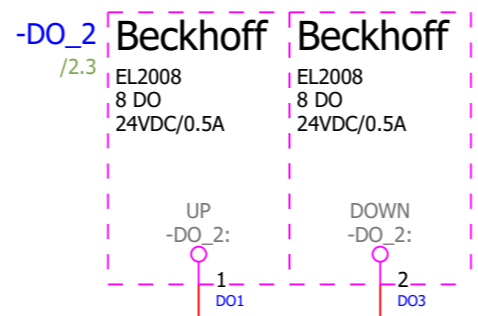
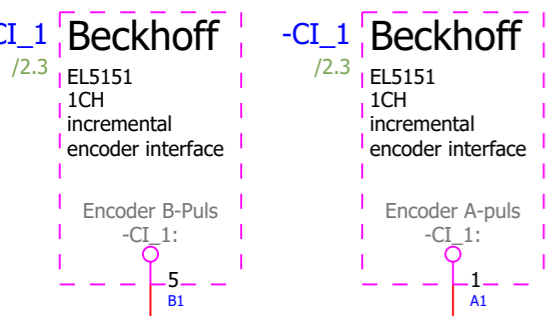
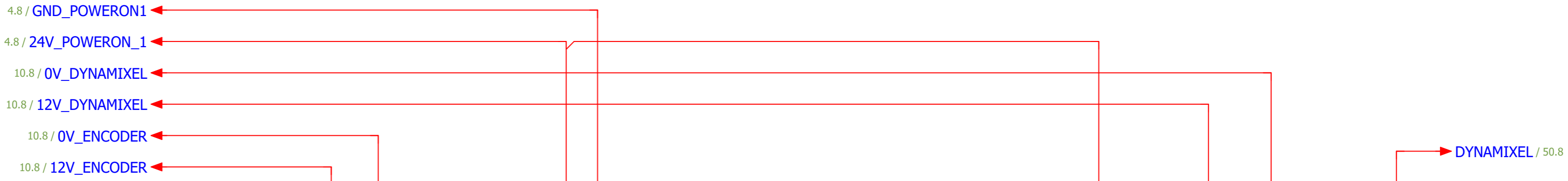
4.8 / GND_POWERON3

5VDC_POWER / 10.4

GND_POWER_5V / 10.4







/ 24V_POWERON_1

/ GND_POWERON1

-55U1
/55.3

FG V- V+
POWER-IN

USB2-1

USB2-2

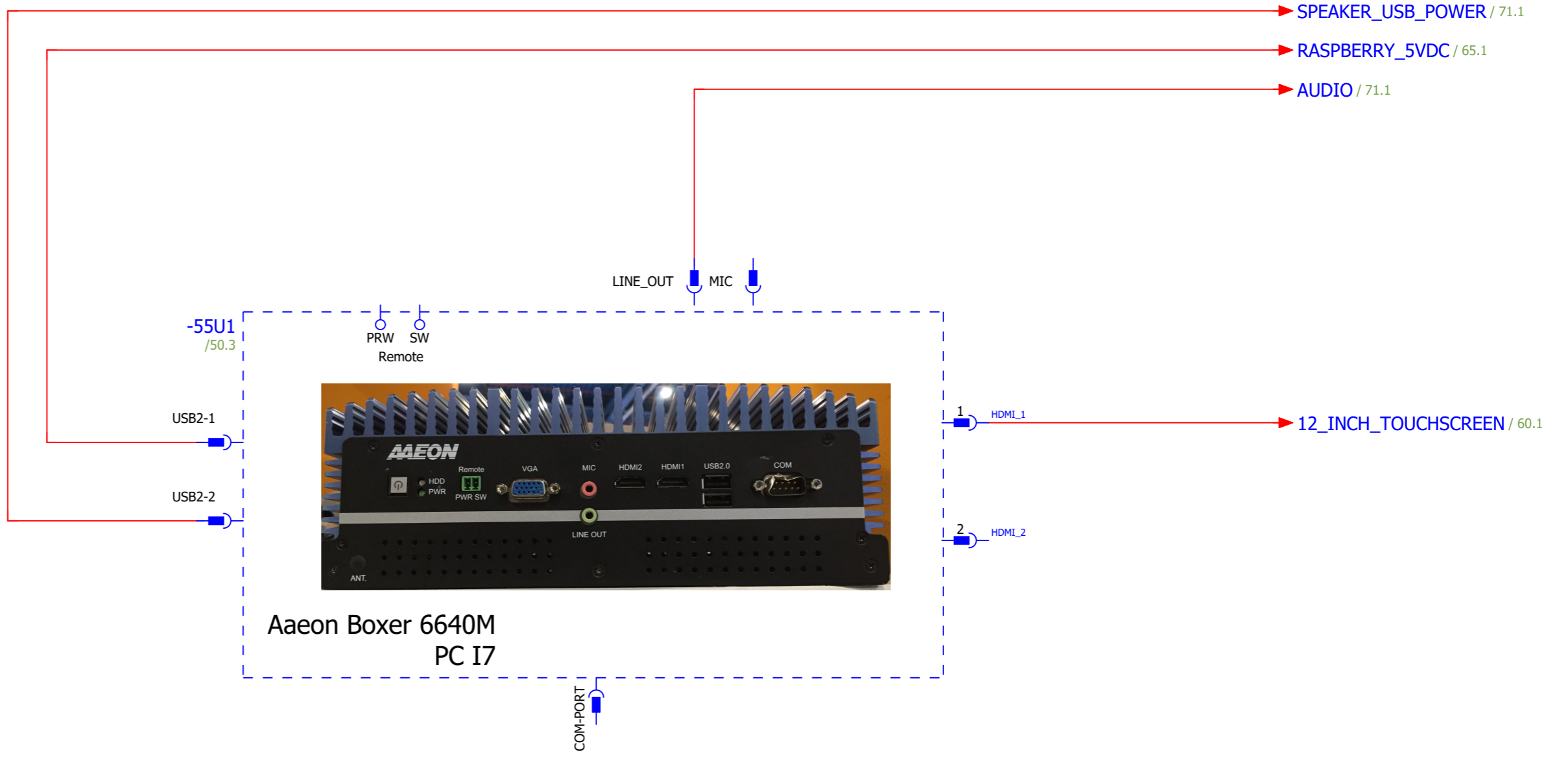
Aeon Boxer 6640M
PC I7



- 1 ETHERNET 1 → NETGEAR_ROUTER / 56.0
- 2 ETHERNET 2 → VELODYNE_VLP_16 / 65.1
- 3 ETHERNET 3 → RASPBERRY_PI / 65.1
- 4 ETHERNET 4 → EK1100 /
- 5 ETHERNET 5
- 6 ETHERNET 6
- 7 ETHERNET 7
- 8 ETHERNET 8
- ETHERNET 9

- USB-1
- USB-2
- USB-3
- USB-4
- USB-5
- USB-6
- USB-7
- USB-8

- SPARE_USB /
- WIRELESS_KEYBOARD /
- XSENS / 60.1
- FLIR_RIGHT / 60.1
- FLIR_LEFT /
- DYNAMIXEL / 11.8
- REALSENSE 2 / 70.1
- REALSENSE 1 / 70.1

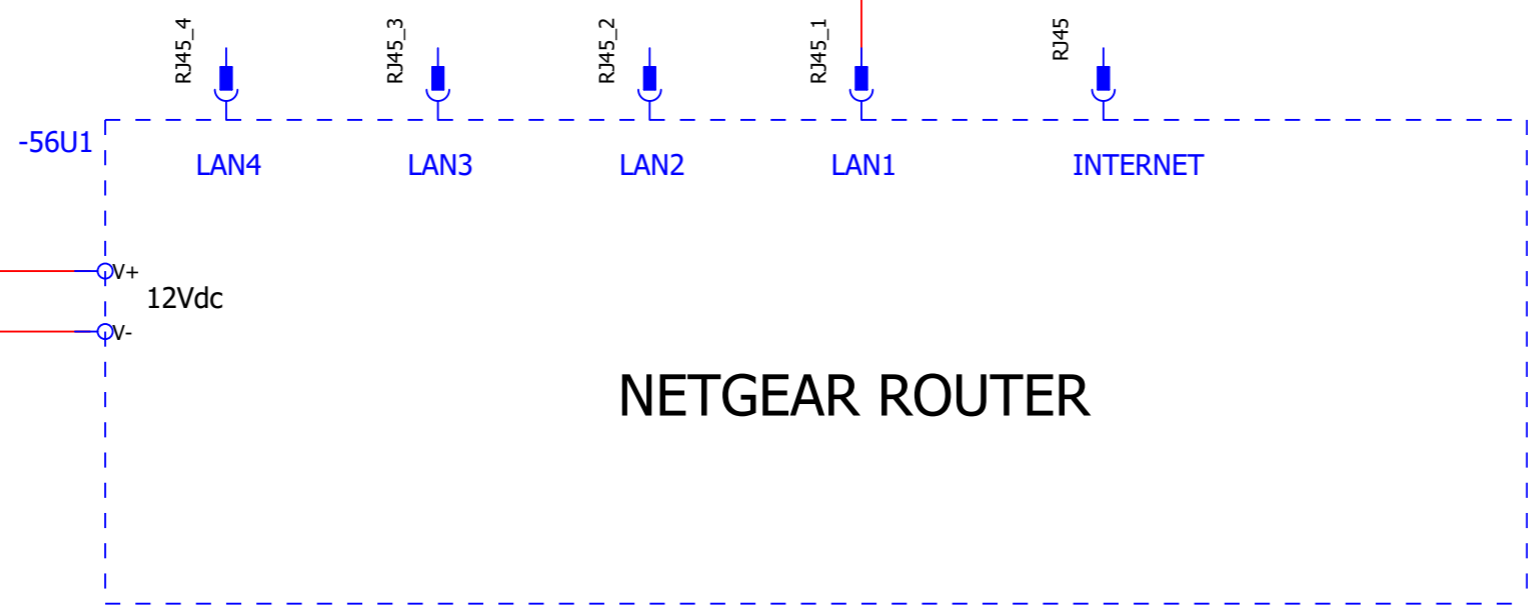


Aaeon Boxer 6640M
PC I7

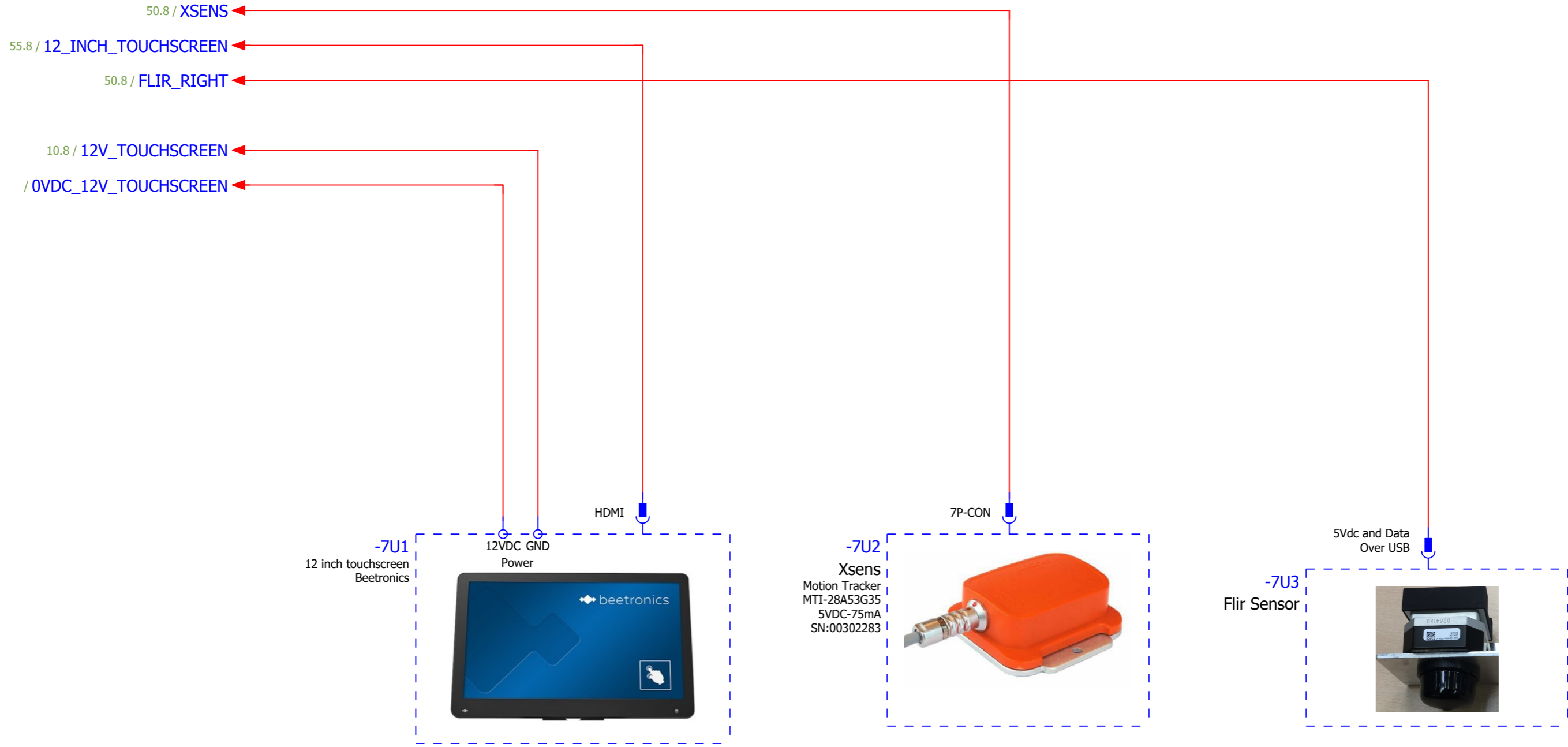
8 / NETGEAR_ROUTER

10.8 / 12V_NETGEAR

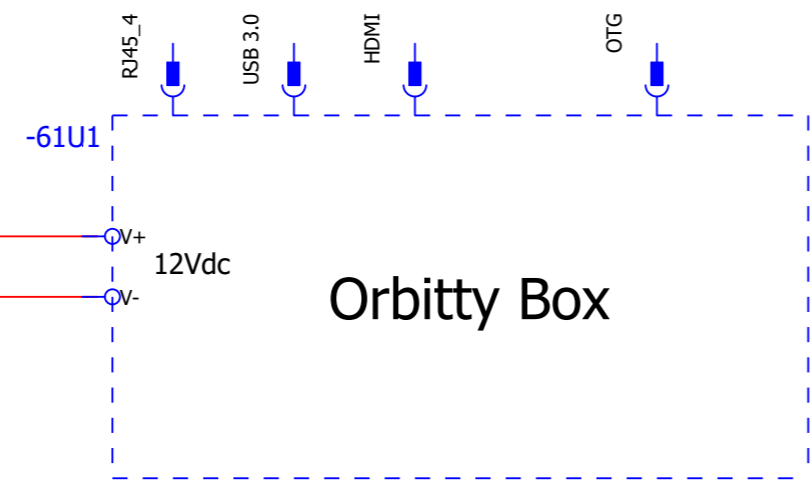
10.8 / 0V_NETGEAR



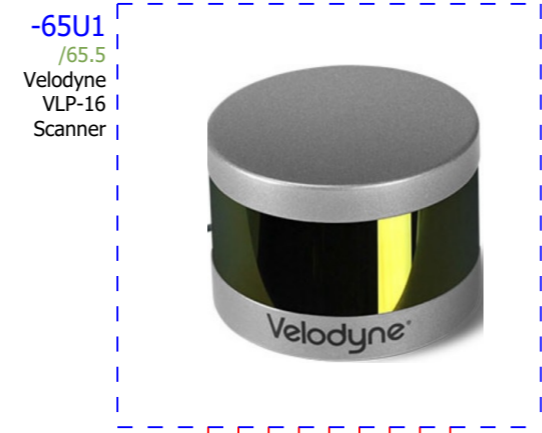
NETGEAR ROUTER



10.8 / 12V_ORBITTY_BOX
 10.8 / 0V_ORBITTY_BOX



55.8 / RASPBERRY_5VDC
 50.8 / RASPBERRY_PI
 50.8 / VELODYNE_VLP_16
 10.8 / 12V_VELODYNE
 10.8 / 0VDC_VELODYNE

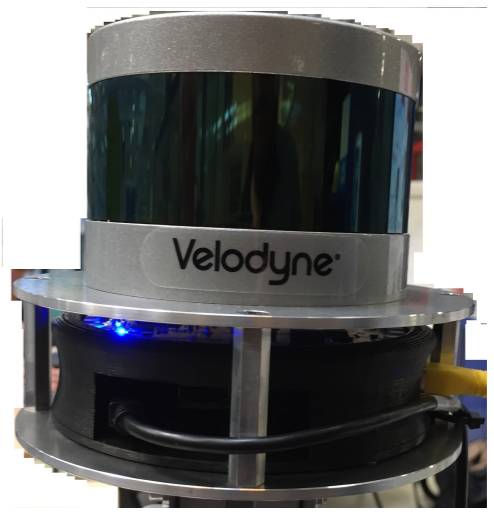
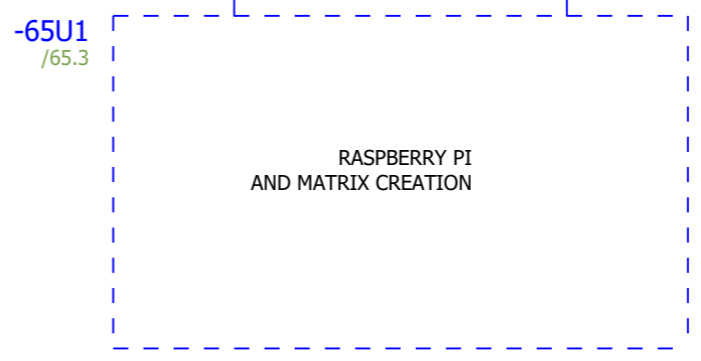


-65W1



12VDC GND

Pin	Function
1	1PPS
2	Trigger 1
3	Wheel Speed 1
4	Trigger 2
5	Wheel Speed 2
6	Digital Ground
7	Digital Ground
8	Digital Ground
9	Digital Ground



Velodyne
and
Raspberry

50.8 / REALSENSE 1
 50.8 / REALSENSE 2

-70U1
 Intel Realsense
 J72479-100
 model D435
 5V 700mA



LINE_OUT

Left Side

-70U2
 Intel Realsense
 J72479-100
 model D435
 5V 700mA



LINE_OUT

Right Side

