Top

Conn_Batt

Vin: 18~25V (LiPo 6S)

Etage d'Entr ée

option de souder
les câbles directement

"BATT"
(+polarité)

J1

Batt_P

20A
20A

support fusible+fusible
F1

F2 30A

Fusible de remplacement: 20A
Court https://goo.gl/LnxCil
Droit https://goo.gl/74h6Xi

protection
inv. polarité
Surtension

DT2
824540241

Banque capacitive

C2
220 uF
50V

C3
10 uF
50V

C4
100nF
50V

VBATT

GND

en bord de carte (10mm max) pour
compatibilité avec 691313510002

SW_PWR

Mosfet P, signal de commande: ON: high

SW_AU

R3
10k

IRLML0040TRPBF

C49
100nF
50V

R5
10k

Q2

R4
10k

VBATT 20A

R1
10k

C1
1uF
50V

Q1

20A PWR

IPD50P04P4L11ATMA1

faire un bon plan de dissipation avec vias

Vgs_max:16V

GND

Capa

reserve pour
les moteurs

PWR

D12
HTA5U100

R2
1k
2W

C5
10 mF
25 Vdc

GND

PWR CAP
Carte_Alim_2019_CAP.SchDoc
PWR_CAP
5L
5L_CAP

PWR MOT
Carte_Alim_2019_MOT.SchDoc
PWR_MOT

VBATT CLAVIER
Carte_Alim_2019_CLAV.SchDoc
VBATT
5L
5L_CLAV
LED_AU
SW_AU
SW_L

VBATT TRACO
Carte_Alim_2019_TRACO.SchDoc
VBATT
SW_AU
SW_L
5L
5P
12V

Conn_Mot

PWR

20A

C6
35V
330 uF

C7
330 uF

J2

"MOT"
(+polarité)

GND

LED Arret d'Urgence (AU)

ne s'allume que si tout les traco et le switch à bien démarré
(si l'un des traco est flottant, LED_AU est tiré GND)

VBATT PWR

R8
10k

R9
1k

LED_AU

Q3 Q4 Q5

GND

5L R10 1k

5P R11 1k

12V R12 1k

R14 10k

R15 10k

R16 10k

R13
10k

Q6

Vgs_max:16V

GND GND GND GND

Conn_Clavier

SW_AU: en NC à SW_L (évite la puissance si logique:OFF)
LED_AU: anode de la lampe intégré à l'AU
SW_L: ON=Batt

VBATT

J3

SW_AU
LED_AU

SW_L

GND

"Ctrl_Alim"
+detail pinout

LED power

PWR

R6
2.7k

R7
1k

4.5-5.9mA

D1

Vert
"MOT"

GND

Function title

Routing note
Warning note
Info note

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Traco

VBATT 12V 5P 5L

CMD Traco

commande propre des "remote" des traco

SW_AU → D2 → 12V_EN
R20 10k, C11 100nF 50V, GND

SW_AU → D4 → 5P_EN
R23 10k, C15 100nF 50V, GND

SW_L → D6 → 5L_EN
R26 10k, C19 100nF 50V, GND

Alimentation_12V

13.1V 4.58A

VBATT
C8 220 uF 35V
DC1 TEN 60-2412WIN
+Vin, -Vin, Remote, +Vout, -Vout, Trim
12V_EN
5A
C9 470 uF 16V, C10 470 uF 16V
R18 2.7k, R19 2.7k
12V
GND
open/high=ON, GND=OFF
trim 5.4k => ~13.1V

Alimentation_5P

6V 5A

VBATT
C12 220 uF 35V
DC2 THN30-2411WI-A1
+Vin (Vcc), -Vin (GND), Remote On/Off, +Vout, Trim, -Vout
5P_EN
5A
R22 10k, GND
C13 470 uF 16V, C14 470 uF 16V
5P
GND
open/high=ON, GND=OFF
trim 10k => ~6.06V

Alimentation_5L

5V 3A

VBATT
C16 220 uF 35V
DC3 Traco 5V 3A
+Vin, -Vin, Remote, +Vout, Trim, -Vout
5L_EN
R25 DNI 10k, GND
C17 470 uF 16V, C18 470 uF 16V
5L
GND
open/high=ON, GND=OFF
no trim

Charge

charge resistive pour ne pas laisser les traco à vide à peupler par des résistances traversante au besoin

ou connecteur de sortie alternatif

J4 DNI
J9 DNI
J11 DNI

Conn Puissance

vers la carte Mère et le reste du robot

Multiprise Dynamixel
DNMXL_DATA
J5, J6, J7
12V
GND
prise: 691361100002
conn alternatif.: 691321100002

J8 "5P" (+polarité)
J10 "5L" (+polarité)

LEDs

R17 1.8k, 4.9mA, D3 Vert "12V"
R21 1k, 2.8mA, D5 Vert "5P"
R24 1k, 1.8mA, D7 Vert "5L"

Function title

Routing note
Warning note
Info note

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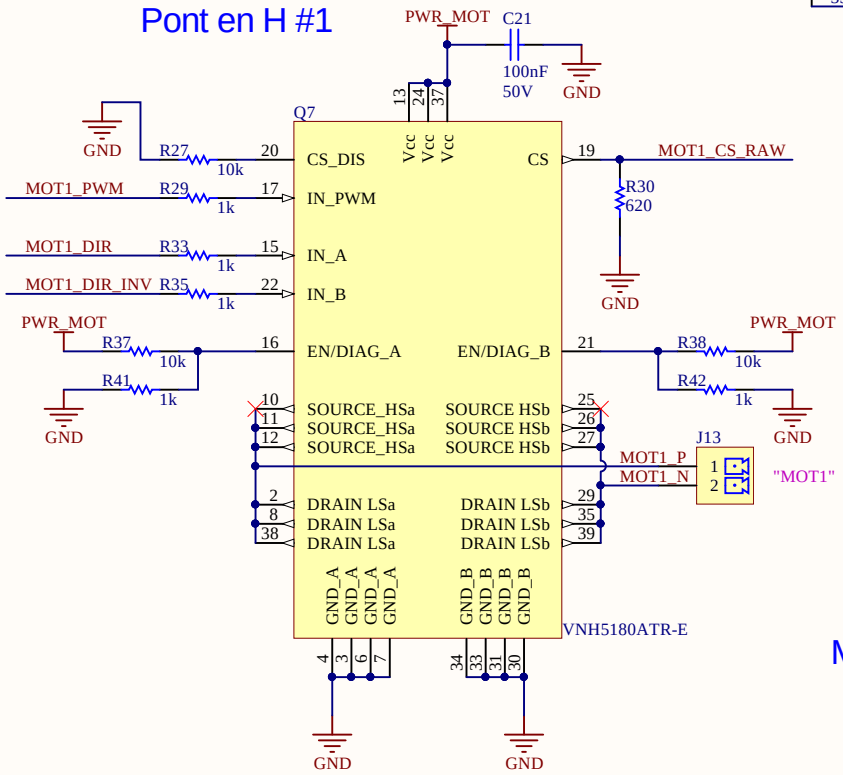
MOT

Double pont en H

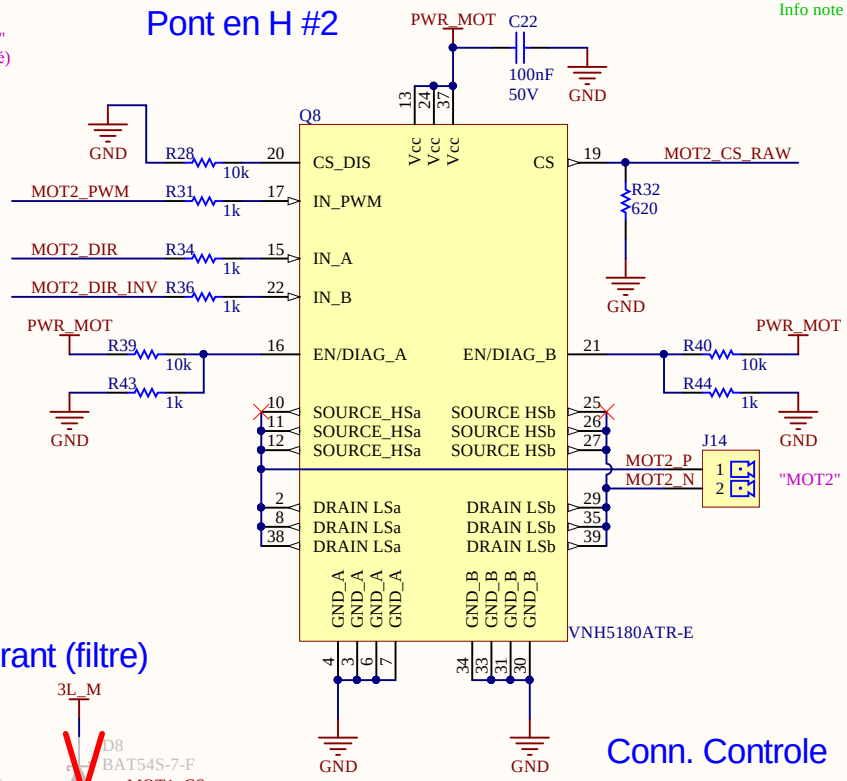
Function title

Routing note
Warning note
Info note

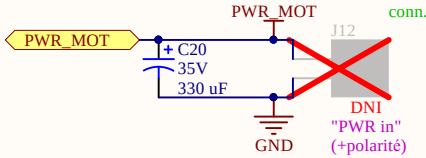
Pont en H #1



Pont en H #2

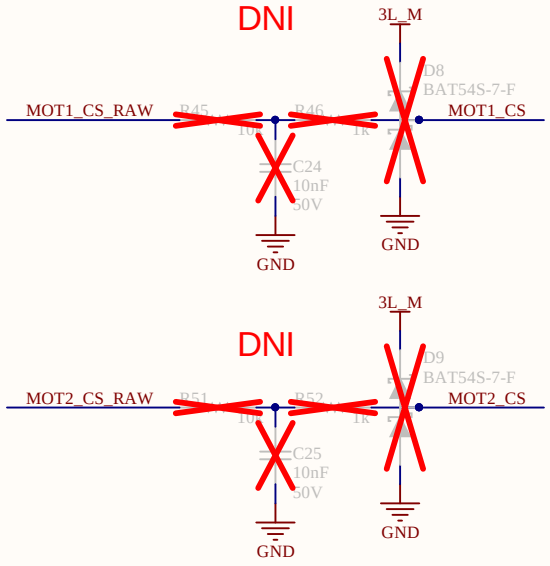


PWR_MOT

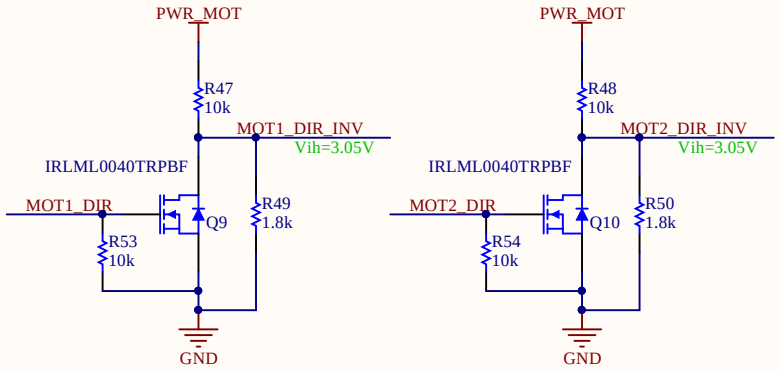


conn. opt.° si carte séparée

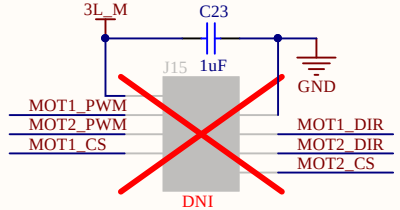
Mesure de courant (filtre)



Controle de DIR



Conn. Controle



option sans current-sense:
connecteur 6pin (690367280676)

Alim 2019

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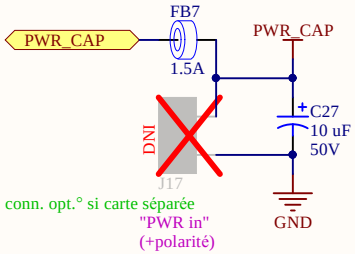
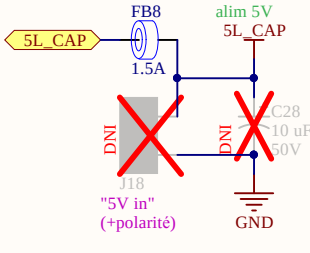
Capteurs

pour 6 capteurs (par groupe de 2)



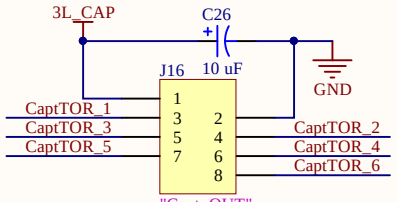
conn. opt.° si carte séparée
"PWR in"
(+polarité)



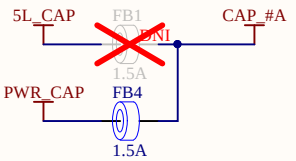
"5V in"
(+polarité)

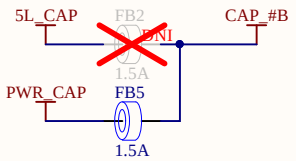
CAPTEUR	NPN Industriel	micro-switch
alim:	PWR_CAP	5L_CAP
pin #		
1	marron (VDD)	NC
2	blue (GND)	NO (optionnel)
3	black (NPN)	COM
detection:	out=3.3V	out=3.3V
circuit		DNI PU 10k

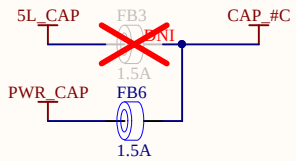
il est possible d'utiliser les micro-switch avec l'alim PWR_CAP:
remplacer R 1.8k et 68 par deux 10k pour faire un pont div.



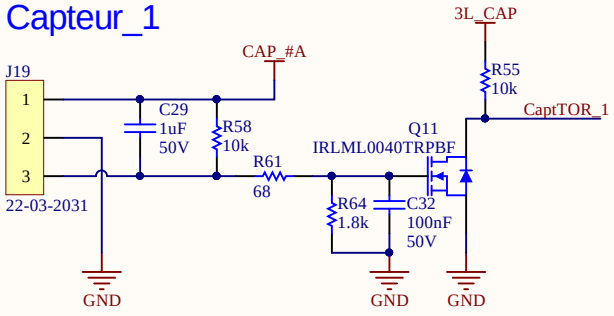
"Capt_OUT"
+detail pinout



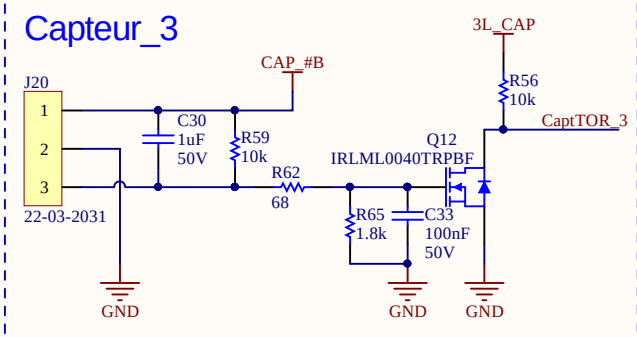




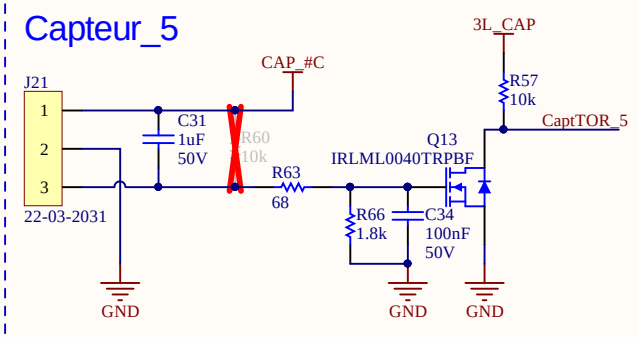
Capteur_1



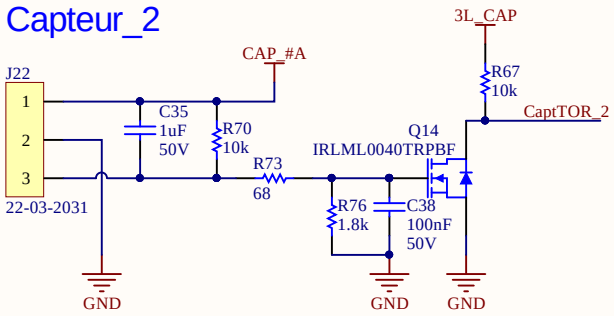
Capteur_3



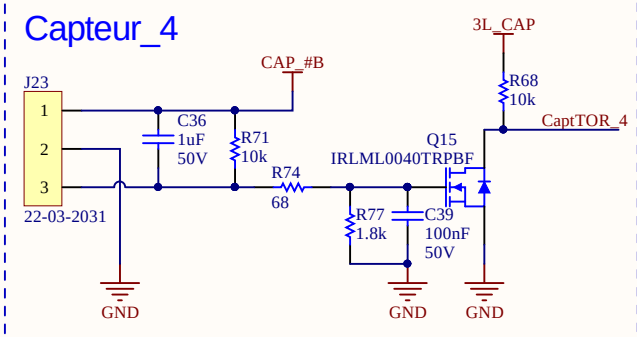
Capteur_5



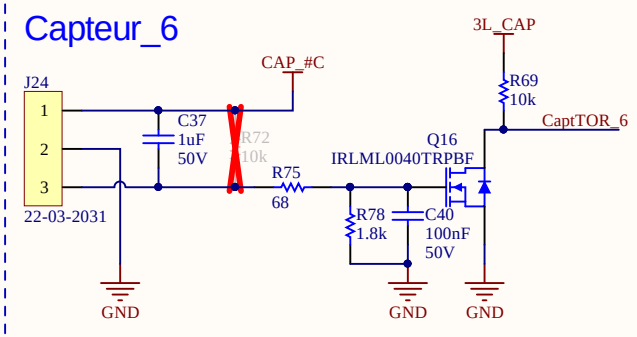
Capteur_2



Capteur_4



Capteur_6



Function title

Routing note
Warning note
Info note

Placer les 2 connecteurs d'un même groupe cote à cote (2.54mm d'interval)
+detail pinout

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Clavier

situé en haut du robot

VBATT_CLAV
FB9
VBATT
1.5A
5L_CLAV
FB10
5L_CLAV
1.5A
SW_AU
SW_AU
LED_AU
LED_AU
SW_L
SW_L

Conn. Carte Alim

SW_AU: en NC à SW_L (évite la puissance si logique:OFF)
LED_AU: anode de la lampe intégré à l'AU
SW_L: ON=Batt

VBATT_CLAV
5L_CLAV
J26
C42
1uF
50V
LED_AU
SW_L
SW_AU
C50
100nF
50V
"Ctrl_Alim"
+detail pinout
GND
GND

Conn. Nucleo

3L_CLAV
C41
1uF
50V
J27
NRST_NUCLEO
SW_1
SW_3
SW_TIRETTE
SW_2
"Conn_Nucleo"
+detail pinout
GND

Conn AU

mettre les connecteurs cote à cote (pas 2.54)

J25
LED_AU
ALIM_AU
SW_AU
Switch AU
Lampe AU
VBATT_CLAV
J30
ALIM_AU
SW_L
J28
"AU"
+detail pinout
GND
22-03-2031
jumper de selection de la sécurité AU (non PSSC sans L)

Interrupteurs Généraliques

3L_CLAV
R79
10k
S1
R82
68
SW_1
C44
100nF
50V
GND
GND

3L_CLAV
R80
10k
S2
R83
68
SW_2
C45
100nF
50V
GND
GND

3L_CLAV
R81
10k
S3
R84
68
SW_3
C46
100nF
50V
GND
GND

LED

permet un retour d'état sur le panneau utilisateur

5L_CLAV
C43
100nF
50V
R85
1k
R86
1k
GND
D10
Vert
"3L"
D11
Vert
"5L"
GND
3L_CLAV
Q17
R87
68
R88
10k
IRLML0040TRPBF
GND

Conn. Tirette

connecté au µSW de la tirette

(connecteur identique aux autres micro-switch)

3L_CLAV
R89
10k
J29
NC
COM
R90
68
SW_TIRETTE
C48
100nF
50V
22-03-2031
"TIR"
+detail pinout
GND
GND

Bouton RESET

NRST_NUCLEO
C47
100nF
50V
S4
GND

Interrupteur Alim Logique

VBATT_CLAV
S5
SW_L
GND

Function title

Routing note
Warning note
Info note

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