DRIVERS MOTEURS

MOT_ARG
- 5 MotAR_G_EN
- 4 MotAR_G_IN1
- 3 MotAR_G_IN2
- 2 MotAR_G_IS
- 1
- C8
- GND / GND

MOT_ARD
- 5 MotAR_D_EN
- 4 MotAR_D_IN1
- 3 MotAR_D_IN2
- 2 MotAR_D_IS
- 1
- C9
- GND / GND

MOT_AV
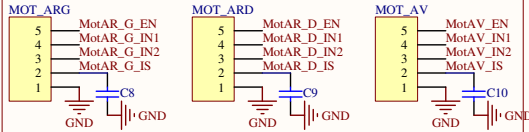- 5 MotAV_EN
- 4 MotAV_IN1
- 3 MotAV_IN2
- 2 MotAV_IS
- 1
- C10
- GND / GND

MotAR_G_EN : PC10
MotAR_D_EN : PC11
MotAV_EN : PC12

MotAR_G_IN1 : PA8 : TIM1_CH1
MotAR_G_IN2 : PA7 : TIM1_CH1N
MotAR_D_IN1 : PA9 : TIM1_CH2
MotAR_D_IN2 : PB0 : TIM1_CH2N
MotAV_IN1 : PA10 : TIM1_CH3
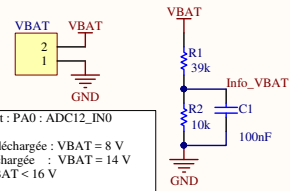MotAV_IN2 : PB1 : TIM1_CH3N

TIMER1

Les hacheurs fonctionnent en 12 V

MotAR_G_IS : PA4 : ADC12_IN4
MotAR_D_IS : PA5 : ADC12_IN5
MotAV_IS : PC0 : ADC12_IN10

ADC sur 12 bits pleine echelle 3.3V

Tension fonctionnement des moteurs 6V !!!

CONNECTEUR OPTION

OPTION
- PB6 1   2 PA2
- PB7 3   4 PA3
- PC13 5   6 PB2
-      7   8
-      9 10
- PB4 11 12
- PB5 13 14
-      15 16 GND
- 5V   5V

OPTION
PB6 : TIM4_CH1 : USART1_TX
PB7 : TIM4_CH2 : USART1_RX
PC13 : USER BUTTON

PB4 : TIM3_CH1/PB4
PB5 : TIM3_CH2
PA2 : USART2_TX)/ADC12_IN2/TIM2_CH3
PA3 : USART2_RX)/ADC12_IN3/TIM2_CH4
PB2 :

MESURE TENSION BATTERIE

VBAT
- VBAT
- 2
- 1
- GND

VBAT
- R1 39k
- Info_VBAT
- R2 10k
- C1 100nF
- GND

info_Vbat : PA0 : ADC12_IN0

Batterie déchargée : VBAT = 8 V
Batterie chargée   : VBAT = 14 V
8 V < VBAT < 16 V

Info_VBAT = 0.2 x VBAT

ADC sur 12 bits pleine echelle 3.3V

AUTO-MAINTIEN ALIMENTATION

Alimentation de service

PA6 = 1 auto-maintien alimentation

CMD
- 3 5V
- 2 OPTCMD
- 1
- GND

START (manuel)

Q1 2N2222
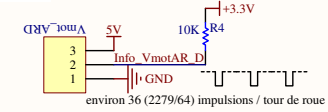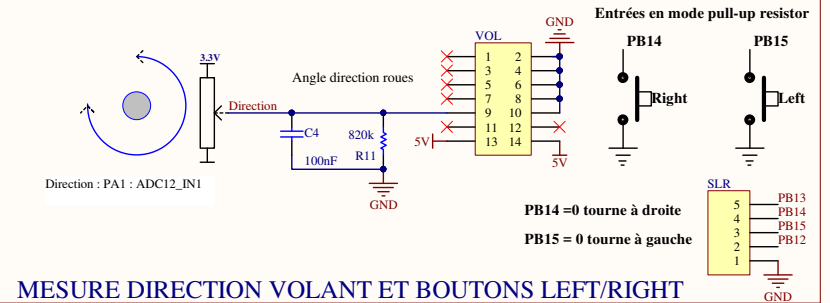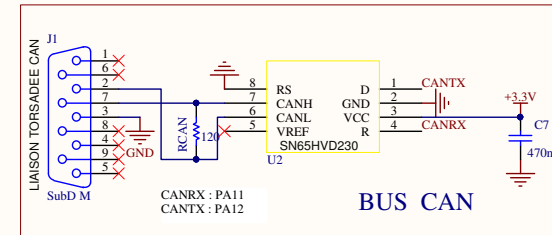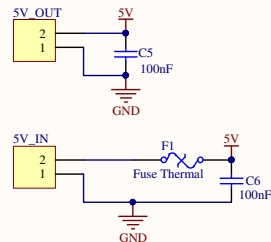R8 2.2k PA6
R9 47k
GND

V_Batterie

CAPTEURS MAGNETIQUES DE VITESSE

+3.3V
Vmot_ARG 5V 10K R3
- 3
- 2 Info_VmotAR_G
- 1
- GND
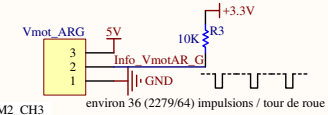
Info_VmotAR_G : PB10 : TIM2_CH3
Info_VmotAR_D : PB8 : TIM4_CH3

TIMER2 & 4

environ 36 (2279/64) impulsions / tour de roue

+3.3V
Vmot_ARD 5V 10K R4
- 3
- 2 Info_VmotAR_D
- 1
- GND

environ 36 (2279/64) impulsions / tour de roue

MESURE DIRECTION VOLANT ET BOUTONS LEFT/RIGHT

3.3V
Angle direction roues
Direction
C4 100nF
820k R11
5V
GND

VOL
- 1 2
- 3 4
- 5 6
- 7 8
- 9 10
- 11 12
- 13 14
- GND
- 5V

Direction : PA1 : ADC12_IN1

Entrées en mode pull-up resistor

PB14 Right
PB15 Left

SLR
- 5 PB13
- 4 PB14
- 3 PB15
- 2 PB12
- 1
- GND

PB14 = 0 tourne à droite
PB15 = 0 tourne à gauche

BUS CAN

J1
- 1
- 6
- 2
- 7
- 3
- 8
- 4
- 9
- 5
SubD M
LIAISON TORSADEE CAN

RCAN 120
GND

U2 SN65HVD230
- 8 RS   D 1 CANTX
- 7 CANH   GND 2
- 6 CANL   VCC 3
- 5 VREF   R 4 CANRX

+3.3V
C7 470nF
GND

CANRX : PA11
CANTX : PA12

CARTE NUCLEO

EXTENSIONS

Cavalier JP5 en position E5V

CN7
- MotAR_G_EN PC10 1   2   PC11 MotAR_D_EN
- MotAV_EN   PC12 3   4
-                   5   6   GND   E5V
-                   7   8   5V
-                   9   10
-                   11 12
-                   13 14
-                   15 16 +3.3V
-                   17 18   GND
-                   19 20   GND
- PB7   21 22
- PC13   23 24
-                   25 26 PA0   Info_VBAT
-                   27 28 PA1   Direction
-                   29 30 PA4   MotAR_G_IS
-                   31 32 PB0   MotAR_D_IN2
- US_AV_Centre_Trig PC2 33 34 PC1 US_AV_G_Trig
- US_AV_D_Trig   PC3 35 36 PC0   MotAV_IS
-                   37 38

CN10
- Info_VmotAR_D PB8 1   2   PC9   PC8
-                PB9 3   4   PC6   PC6
-                     5   6   PC5   US_AR_Centre_Trig
-                     7   8   GND
- MotAR_D_IS   PA5 9   10 PA12 CANTX
- MotAR_G_IN2   PA6? PA7 13 14 PA11 CANRX
-                PB6 15 16 PB12
- US_AR_D_Trig   PC7 17 18 PB11 GND
- MotAR_D_IN1   PA9 19 20
- MotAR_G_IN1   PA8 21 22 PB2
- Info_VmotAR_G PB10 23 24 PB1 MotAV_IN2
-                PB4 25 26 PB15 Left
-                PB5 27 28 PB14 Right
-                     29 30 AGND PB13
- MotAV_IN1   PA10 31 32 PC4 US_AR_G_Trig GND
-                PA2 33 34
-                PA3 35 36
-                     37 38

STM32nucleo -F103RB

5V alimentation

5V_OUT
- 2 5V
- 1
- C5 100nF
- GND

5V_IN
- 2 F1 5V
- 1 Fuse Thermal
- C6 100nF
- GND

Title: **Interface Carte NUCLEO**

Size	Number	Revision
A3		

Date: 30/09/2019
File: D:\Altium\..\interfaceVers2.SchDoc
Sheet: of
Drawn By: