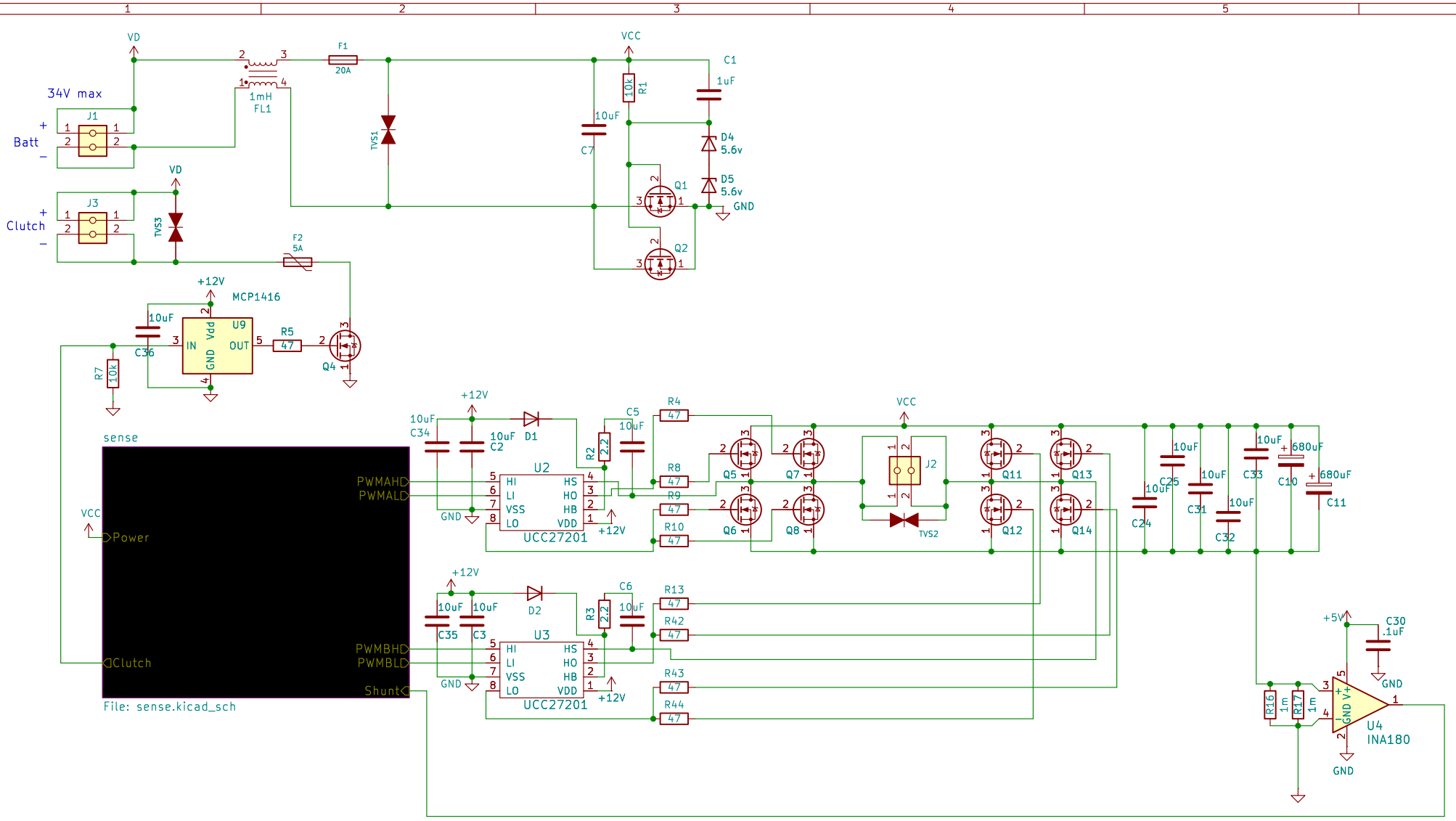

PYPILOT was imagined and designed by Sean D'EPAGNIER
Thanks to him for this fantastic boat autopilot

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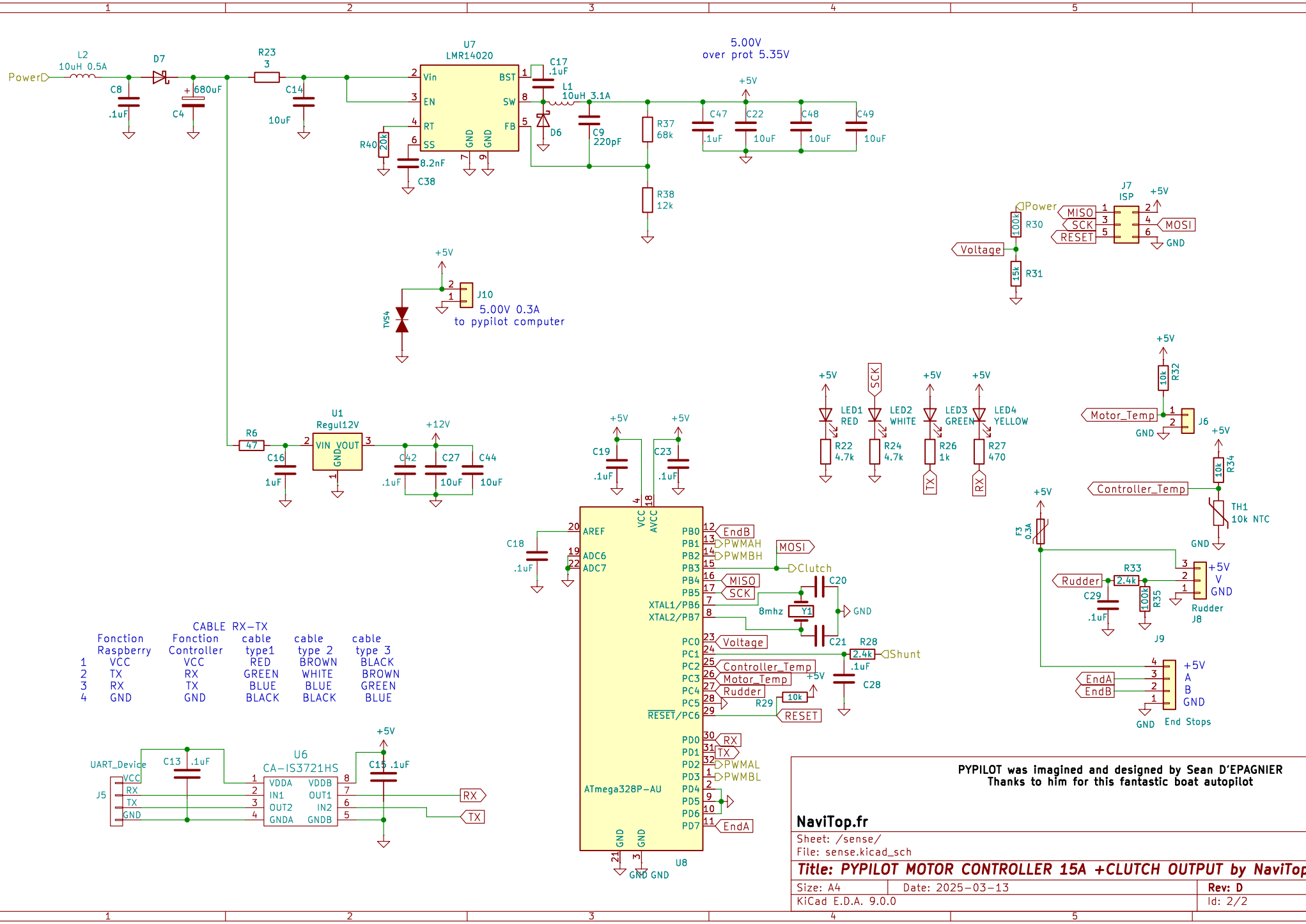
Sheet: /
File: 15A-controllerV3.1P.kicad_sch

Title: PYPILOT MOTOR CONTROLLER 15A +CLUTCH OUTPUT by NaviTop

Size: A4	Date: 2025-03-13	**Rev: D**
KiCad E.D.A. 9.0.0		Id: 1/2


L2
10uH 0.5A
Power
D7
C8
.1uF
C4
680uF
R23
3
C14
10uF
U7
LMR14020
Vin
EN
RT
SS
BST
SW
FB
GND
GND
C17
.1uF
L1
10uH 3.1A
D6
C9
220pF
R40
20k
C38
8.2nF
R37
68k
R38
12k
5.00V
over prot 5.35V
+5V
C47
.1uF
C22
10uF
C48
10uF
C49
10uF
TVS4
J10
5.00V 0.3A
to pypilot computer
U1
Regul12V
VIN
VOUT
GND
R6
47
C16
1uF
+12V
C42
.1uF
C27
10uF
C44
10uF
J7
ISP
Power
MISO
SCK
RESET
MOSI
GND
R30
100k
Voltage
R31
15k
LED1
RED
LED2
WHITE
LED3
GREEN
LED4
YELLOW
R22
4.7k
R24
4.7k
R26
1k
R27
470
TX
RX
SCK
R32
10k
Motor_Temp
J6
R34
10k
Controller_Temp
TH1
10k NTC
F3
0.3A
Rudder
R33
2.4k
C29
.1uF
R35
100k
J9
Rudder
J8
EndA
EndB
A
B
End Stops
C19
.1uF
C23
.1uF
C18
.1uF
AREF
ADC6
ADC7
VCC
AVCC
PB0
PB1
PB2
PB3
PB4
PB5
XTAL1/PB6
XTAL2/PB7
PC0
PC1
PC2
PC3
PC4
PC5
RESET/PC6
PD0
PD1
PD2
PD3
PD4
PD5
PD6
PD7
ATmega328P-AU
U8
EndB
PWMAH
PWMBH
MOSI
Clutch
MISO
SCK
8mhz
Y1
C20
C21
Voltage
R28
2.4k
Shunt
C28
.1uF
Controller_Temp
Motor_Temp
Rudder
R29
10k
RESET
RX
TX
PWMAL
PWMBL
EndA
CABLE RX-TX
Fonction Raspberry
Fonction Controller
cable type1
cable type 2
cable type 3
1 VCC VCC RED BROWN BLACK
2 TX RX GREEN WHITE BROWN
3 RX TX BLUE BLUE GREEN
4 GND GND BLACK BLACK BLUE
UART_Device
J5
VCC
RX
TX
GND
C13
.1uF
U6
CA-IS3721HS
VDDA
VDDB
IN1
OUT1
OUT2
IN2
GNDA
GNDB
C15
.1uF
RX
TX
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