Hall Sensor Interface

Programming Port

ST_LINK
1 +3V3
2 SWCLK
3 GND
4 SWDIO
5 NRST
6 GND

HALLS
1 HI1
2 HI2
3 HI3
4 +5AUX
5 GND

+5V
+3V3
120R R6
R40 10K
R41 10K
R42 10K
BAT46JFILM D5
BAT46JFILM D6
BAT46JFILM D7
HALL1
HALL2
HALL3
R39 10K
R37 10K
R38 10K
C27 100n 50V
C22 1n0 50V
C23 1n0 50V
C24 1n0 50V
GND

CAN Bus Interface

U10
TCAN332DR
CAN_TX 1 TXD
GND 2 GND
+3V3 3 Vcc
CAN_RX 4 RXD
NC 8
CANH 7
CANL 6
NC 5
C9 100n 50V
C8 100n 50V
R3 120R
CANT
CAN_TERM
CANH 1 A
GND 2 B
CANL 3 C
CAN 3WP DSC

FAN+
+12 1
GND
GND 1
FAN-
1
FAN2 1 R45 10K 2
FAN_GD 1 R44 10K 2
Q13 DMG3402L SOT23
Q16
FAN-
GND

OSC_IN 1
OSC_OUT 3
GND 2
GND 4
X1
C20 10pF
C21 10pF
GND

+3V3 GND PB9 PB8-BOOT0 HALL3 HALL2 HALL1 FAN2 SWCLK SWDIO
64 63 62 61 60 59 58 57 56 55 54 53 52 51 50 49
VDD VSS PB9 PB8-BOOT0 PB7 PB6 PB5 PB4 PB3 PD2 PC12 PC11 PC10 PA15 PA14 PA13

+3V3 1 VBAT
2 PC13
3 PC14-OSC32_IN
4 PC15-OSC32_OUT
OSC_IN 5 PF0-OSC_IN
OSC_OUT 6 PF1-OSC_OUT
NRST 7 PG10-NRST
V_U 8 PC0
V_V 9 PC1
V_W 10 PC2
1T4 TIM1_CH4 11 PC3
VBUS 12 PA0
POT 13 PA1
U2_TX 14 PA2
GND 15 VSS
+3V3 16 VDD

U1
STM32G431RB
LQFP64

48 VDD +3V3
47 VSS GND
46 PA12 CAN_TX
45 PA11 CAN_RX
44 PA10 TIM1_CH3
43 PA9 TIM1_CH2
42 PA8 TIM1_CH1
41 PC9
40 PC8
39 PC7
38 PC6
37 PB15 TIM1_CH3N
36 PB14 TIM1_CH2N
35 PB13 OPAMP3INP
34 PB12
33 PB11 FAN_GD

PA3 17 U2_RX
PA4 18 DAC1_OUT
PA5 19 LED1
PA6 20
PA7 21 TIM1_CH1N
PC4 22 TEMP
PC5 23
PB0 24
PB1 25 OA3_OUT_ADC1_IN2
PB2 26 OPAMP3INM
VSSA 27 GND
VREF+ 28 +3V3
VDDA 29 +3V3
PB10 30 +3V3
VSS 31 GND
VDD 32 +3V3

U 1 R25 102K 1%
V 2 R24 102K 1%
W 3 R23 102K 1%
VM 4 R21 102K 1%
RT1 NTCG103JF103FTDS Use NCU18XH103F60RB
TEMP
R33 10K 1%
R32 10K 1%
R31 10K 1%
R34 10K 1%
R5 4k7 1%
C15 100n 50V
C16 100n 50V
NRST
GND

+3V3
R36 10K 1%
U6 74HC1G14GV
U2_TX
GND
U4 O
R8 470R
COM
+3V3 1
COMTX 2
COMRX 3
GND 4
U5 74HC1G14GV
+3V3
U2_RX
VCC VCC
GND GND
R43 10K
C17 100n 50V

DAC
R10 470R
L1A
LED1 Not Blue
GND
ISENSE
R15 2k55 1%
R16 2k55 1%
R7 WSL2726
OPAMP3INP
OPAMP3INM
R20 102K 1%
R22 102K 1%
R14 51k 1%
GND
OA
OA3_OUT_ADC1_IN2

POT
2
GND 1
3 +3V3
Pot 10k
R1 POT-M61P

+3V3
C10 100n 50V
C12 100n 50V
C13 100n 50V
C14 100n 50V
GND
C25 EEHZV1V391UP 390uF 35V
VM
C52 56uF 35V
C53 56uF 35V

D2 BAT46JFILM
U2 L6387ED
C32 CL21Y475KBB 0805 4u7F 50V
TIM1_CH1N 1 LIN
TIM1_CH1 2 HIN
+GD 3 Vcc
GND 4 Gnd
Vboot 8
HGV 7 GHU
OUT 6
LGV 5 GLU
C16 C0603 2u2 35V
VBU
U

D3 BAT46JFILM
U3 L6387ED
C33 CL21Y475KBB 0805 4u7F 50V
TIM1_CH2N 1 LIN
TIM1_CH2 2 HIN
+GD 3 Vcc
GND 4 Gnd
Vboot 8
HGV 7 GHV
OUT 6
LGV 5 GLV
C17 C0603 2u2 35V
VBV
V

D4 BAT46JFILM
U4 L6387ED
C34 CL21Y475KBB 0805 4u7F 50V
TIM1_CH3N 1 LIN
TIM1_CH3 2 HIN
+GD 3 Vcc
GND 4 Gnd
Vboot 8
HGV 7 GHW
OUT 6
LGV 5 GLW
C18 C0603 2u2 35V
VBW
W

Q1 STL160N10F8_B
Q2 STL160N10F8_B
Q3 STL160N10F8_B
Q4 STL160N10F8_B
Q5 STL160N10F8_B
Q6 STL160N10F8_B
Q7 STL160N10F8_B
Q8 STL160N10F8_B
Q9 STL160N10F8_B
Q10 STL160N10F8_B
Q11 STL160N10F8_B
Q12 STL160N10F8_B
R51 12R
R52 12R
R53 12R
R54 12R
R55 12R
R56 12R
R57 12R
R58 12R
R59 12R
R60 12R
R61 12R
R62 12R
GHU
GLU
GHV
GLV
GHW
GLW
ISENSE

BS
C5 100n 50V
U7 SY21034 U
FB 1 BS
GND 2 GND
3 FB
LX 6
IN 5 VM
EN 4 EN
L2 SDE0805A 100uH
R2 R1206 1R0 0W25 5% +GD
R12 R0805 6R8 +12V_A
R26 102K 1%
V+
V-
R13 51K
R35 10K
R4 N.F.
R30 10K
D1 STPS1H100MF
C1 C0805 680nF 50V
C2 C0805 680nF 50V
C3 C0805 680nF 50V
C6 C0805 680nF 50V
C28 CL21Y475KBB 0805 4u7F 50V
U8 AP7381-50Y-13 AP7381133Y13
+5V
VOUT 2
GND_1
VIN 3
GND_2
C4 100n 50V
C29 C0603 2u2F 35V
C30 C0603 2u2F 35V
C11 100n 50V
PWRLED
R7 470R R0603
LED2 Blue
Power LED

+3.3V Linear Regulator
VIN 3
GND 1 GND
VOUT 2 +3V3
MCP1700T-3302E_TT
U9
C31 C0603 2u2F 35V
C26 CL21Y475KBB 0805 4u7F 50V

C35 CL21Y475KBB 0805 4u7F 50V
VM
GND
C36 C0805 680nF 50V

Jon Freeman
2026 m03 d10
D5914 Baby Deltic
Motor Controller
202603EMC.sch

C70 C0805 680nF 50V
C71 C0805 680nF 50V
C72 C0805 680nF 50V
C73 C0805 680nF 50V
C74 C0805 680nF 50V
C75 C0805 680nF 50V