Power

+12V
PWR_IN
D1 2A
C2 100uF/16V
U2 TPS62160
VIN SW EN VOS AGND PG PGND FB
PWR_EN
C4 10uF
L1 2.2uH
R1 100K
R3 953K
R5 178K
C8
+5V_SERVO
C11 22uF/16V
+6V
U6 MCP1703-5.0
Vin GND GND Vout
C13 1uF
+5V

GNDPWR
U3 TPS62160
VIN SW EN VOS AGND PG PGND FB
+12V
C5 10uF
L2 2.2uH
R2 100K
R4 1M13
R6 178K
C9
+6V
C10 22uF/16V
+6V
U5 MCP1703-3.3
Vin GND GND Vout
C12 1uF
+3.3V
GNDPWR_6V

Net Tie
GNDPWR
Net Tie
GNDPWR_6V

12V   max 2A
6V SERVO max 800mA
5.0V   max 250mA
3.3V   max 250mA

I2C EEPROM

+3.3V
C15 100nF
U7 24AA16
Vcc SCL SDA Vss WP
R9 1K8
R10 1K8
SCL
SDA

Detect

DETECT1A
DETECT1B
DETECT2A
DETECT2B
DETECT3A
DETECT3B
DETECT4A
DETECT4B
5K1 R17
5K1 R18
J7

CAN

J1 CBUS-CONNECTOR
VDD CAN_L CAN_H GND
PWR_IN
C6 100nF
+5V +3.3V
C7 100nF
DUAL_TVS D8
U4 MCP2562-E/SN
CANL CANH VDD Vio RXD TXD VSS STBY
CAN_RX
CAN_TX

uProcessor

U8 STM32F042K6
PWR_EN
R16 100K
PB3
PA0 PA1 PA2 PA3 PA4 PA5 PA6 PA7
DETECT1A DETECT1B DETECT2A DETECT2B DETECT3A DETECT3B DETECT4A DETECT4B
PA14/SWCLK PA13/SWDIO NRST
PB4/TM3_CH1 PB5/TM3_CH2 PB0/TM3_CH3 PB1/TM3_CH4
SERVO1 SERVO2 SERVO3 SERVO4
PB6/SCL PB7/SDA PB8
PA8 PA9 PA10 PA15
RELAY1 RELAY2 RELAY3 RELAY4
SCL SDA
PA11/CANRX PA12/CANTX
OSC_IN
CAN_RX CAN_TX
VDD VDDA VDDIO
VSSA VSS
OSC_OUT
Y1 8Mhz
C19 27pF
C20 27pF
R11

J6 SWD-HEADER
VDD SWDCLK SWDIO NRST SWO GND
+3.3V
R7 150R
R8 150R
D2 Green
D3 Yellow
FLIM
SW1
C14 100nF
C16 100nF
C17 100nF
C18 4.7uF

Relays

+12V
U9 PMGD175XN
G1 D1 G2 D2 S1 S2
RELAY1 RELAY2
R12 100K
R14 100K
D4 1A
D5 1A
K1
K2
RELAY_CO
RELAY_CO
J9 CONN_6

U10 PMGD175XN
G1 D1 G2 D2 S1 S2
RELAY3 RELAY4
R13 100K
R15 100K
D6 1A
D7 1A
K3
K4
RELAY_CO
RELAY_CO
J10 CONN_6

SERVOS

+3.3V +5V
U1 SN74LVC2T45
VCCA VCCB DIR A1 B1 A2 B2 GND
SERVO1 SERVO2
+3.3V +5V
U11 SN74LVC2T45
VCCA VCCB DIR A1 B1 A2 B2 GND
SERVO3 SERVO4
+5V_SERVO
J2 CONN_3
J3 CONN_3
J4 CONN_3
J5 CONN_3
C21 100nF C22 100nF C1 100nF C3 100nF

Mounting Holes

4mm M1 4mm M3 4mm M5 4mm M7 4mm M9 4mm M11 4mm M13 4mm M15
M2 3.8mm M4 3.8mm M6 3.8mm M8 3.8mm M10 3.8mm M12 3.8mm M14 3.8mm M16 3.8mm