## Dark Passenger Wiring Interconnect **MCU Motor Shield** GPS GY-NEO6MV2 BATTERY INPUT RIGHT WHEEL ASSEMBLY GPIO6 (RIGHT WHEEL SW) MOTOR TERMINAL A MOTOR TERMINAL B 6 GPIO5 (LEFT WHEEL ENC) 7 GPIO4 (LEFT WHEEL SW) Dark Passenger Power Distro PCB (Needs pullup resistor) WHEEL DROP SW 5 20W 2AH Dewalt Battery **MPU9250 IMU** DC-DC Converter 20V to 12V (DC MOTORS) LEFT WHEEL ASSEMBLY 20W 2AH Dewalt Battery MOTOR TERMINAL A MOTOR TERMINAL B 2 3.3V or 5V Logic (Needs pullup resistor) WHEEL DROP SW 5 2-Channel Motor Driver Toggle Switches GPIO10 (PWM1) 3 GPIO11 (DIR1) GPIO12 (PWM2) GPIO13 (DIR2) B- BATTERY IN -M2A RIGHT MOTOR RED M1B RIGHT MOTOR BLK GPIO14 (PWM3) 3.3V or 5V Logic 7 GPIO21 (DIR3) 8 GPIO20 (PWM4) 9 GPIO19 (DIR4) DC-DC Converter 20V to 5V (SBC) 5V INPUT Dedicated traces for 5V distro 3.3V or 5V Logic **COB LED Yellow** 3.3V Logic **USB Speaker** COB LED Red 5V, 0.6A, 3W **AFT LED Relay LIDAR Sensor** <u>Usage</u> 2x SCL/SDA 28x GPIO **RPLIDAR** AUDIO AUX **Chamelon Camera** CM3-U3-13S2C-CS Teledyne **Depth Camera MPU9250 IMU** USB 3.0 IN Stereo Labs HUB1 USB POWER 1 5V INPUT Dedicated traces for 3.3V or 5V Logic **Motor MCU** Arduino Mega / Due USB HUB1 Turret MCU ESP32 USB 3.0 IN **Turret LED Relay** 3.3V or 5V Logic TMC2209 Stepper Driver 1 (INDEX) GPIO7 **Cooling Fan Relay** 5V or 12V, TBD (MS1) Jumper (MS2) Jumper (PDN) GPIO18 1 (CLK) GPIO11 (STEP) GPIO12 1 NEMA 17 Stepper 1 2A, 12V, 59N-cm YAW BLK, A, C1 GRN, C, C1 RED, B, C2 BLU, D, C2 J17 Stepper 1 BLK, A, C1 2 GRN, C, C1 2 RED, B, C2 BLU, D, C2 B4 BLU, D, C2 3.3V or 5V Logic **2A, 12V, 59N-cm**PITCH BLK, A, C1 GRN, C, C1 RED, B, C2 BLU, D, C2 BLU, D, C2 BLU, D, C2 BLK, A, C1 CRN, C, C1 CRN, C, C1 BH CRN, C, C1 CR TMC2209 Stepper Driver 2 1 BLK, A, C1 2 GRN, C, C1 3 RED, B, C2 4 BLU, D, C2 (PDN) GPIO40RX, GPIO41TX (PDN) GPIO39 1 (CLK) GPIO38 11 Stepper 2 1 BLK, A, C1 2 GRN, C, C1 3 RED, B, C2 4 BLU, D, C2 (STEP) GPIO37 1 (DIR) GPIO36 9 **Turret Gearbox** M1A Turret Motor RED M1B Turret Motor BLK 3.3V or 5V Logic 2x SCL/SDA 7 12VDC 8 5VDC 9 3.3VDC 29x GPIO (4x PWM)