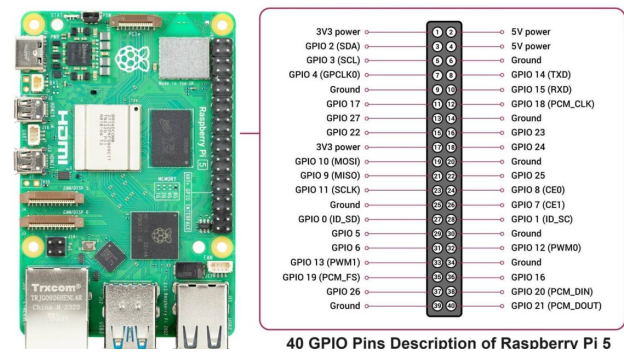
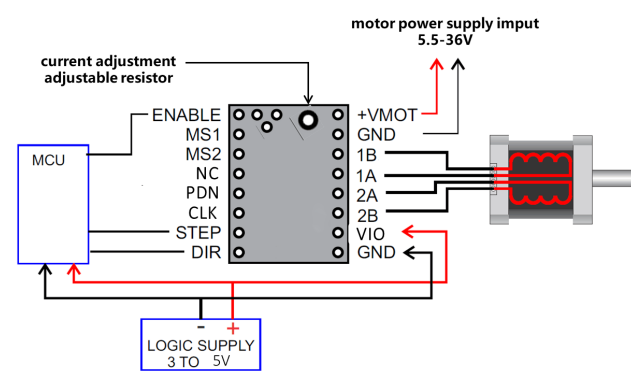


Wiring Summary for TMC2208:

TMC2208 Pin	Description	Connection to Raspberry Pi
STEP	Step signal (Pulse)	step_pin (GPIO 17, Pin 11)
DIR	Direction signal	dir_pin (GPIO 27, Pin 13)
EN	Enable signal (Low = Enable the driver to work)	connect to ground
VIO	Logic voltage (3.3V)	Connect to 3.3V (Raspberry Pi 3.3V Pin)
VCC	Motor supply voltage	Connect to 12V external power supply
GND	Ground	Connect to Raspberry Pi GND (Pin 6)
A1, A2, B1, B2	Motor Coil connections	Connect to stepper motor coils A+ / A-, B+ / B-



Make sure the buck converter output voltage is set to 5V before connecting the servo.

Component	Connection
Power Supply (7.4V-12V)	- Positive (+) connects to Vin+ of the buck converter. - Negative (-) connects to Vin- of the buck converter.
Buck Converter (Output)	- Vout+ (5V) connects to the Red (Vcc) wire of the servo motor. - Vout- (GND) connects to: - Brown (GND) wire of the servo motor. - GND pin of the Raspberry Pi.
MG996R Servo Motor	- Red (Vcc) connects to Vout+ (5V) of the buck converter. - Brown (GND) connects to Vout- (GND) of the buck converter. - Orange (Signal) connects to GPIO12 (PWM) pin of the Raspberry Pi.
Raspberry Pi 5	- GPIO12 connects to the Orange (Signal) wire of the servo motor. - GND pin connects to Vout- (GND) of the buck converter.