



Arduino Gear Motor with Wheel - 12V 130RPM 130mm

Overview

This is a 12V DC gear motor with a 130mm diameter wheel, rated for 130 RPM (revolutions per minute). This type of motor is commonly used in robotics and automation projects where controlled movement is required.

Key Specifications

- **Voltage:** 12V DC
- **Speed:** 130 RPM (no load)
- **Wheel Diameter:** 130mm
- **Motor Type:** Geared DC motor (provides more torque than non-geared)
- **Current Draw:** Typically 0.5-2A (depends on load)

Arduino Connection

To control this motor with an Arduino, you'll need:

1. A motor driver (like L298N, L293D, or TB6612FNG)
2. External 12V power supply (Arduino can't provide enough current)
3. Appropriate wiring

Basic Connection Diagram

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Arduino Motor Driver Motor

PWM Pin ---> Input 1

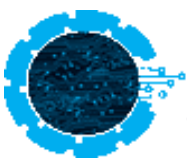
Digital Pin --> Input 2

Output 1 -----> Motor +

Output 2 -----> Motor -

GND ---> GND

Power:



12V ---> Motor Driver Power In

GND ---> Motor Driver GND

Example Arduino Code

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```
// Pins for motor control

const int motorPin1 = 9; // PWM pin for speed control

const int motorPin2 = 8; // Direction control

void setup() {

  pinMode(motorPin1, OUTPUT);

  pinMode(motorPin2, OUTPUT);

}

void loop() {

  // Rotate forward at full speed

  digitalWrite(motorPin2, HIGH);

  analogWrite(motorPin1, 255); // Full speed

  delay(2000);

  // Stop

  analogWrite(motorPin1, 0);

  delay(1000);
```

```
// Rotate backward at half speed

digitalWrite(motorPin2, LOW);

analogWrite(motorPin1, 128); // Half speed

delay(2000);

// Stop

analogWrite(motorPin1, 0);

delay(1000);

}
```

Important Notes

1. **Power Supply:** Never power the motor directly from Arduino's 5V pin - it can't provide enough current.
2. **Flyback Diodes:** If your motor driver doesn't have built-in protection, add flyback diodes to prevent voltage spikes.
3. **Current Rating:** Check if your motor driver can handle the current requirements of your motor.
4. **Encoders:** For precise control, consider adding an encoder if your motor has encoder outputs.

Applications

- Robot wheels
- Conveyor systems
- Automated guided vehicles
- DIY mobility projects

