Chipsmall

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With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

Contact us

DC Micro Metal Gear Motor 75:1 w/Driver   SKU: DFR0399

Micro Metal DC Geared Motor w/Driver

Contents

Introduction

An ordinary DC motor requires an H Bridge to work with a microcontroller such as an UNO. For newcomers to electronics, the process of finding the right motor driver, connecting it to the MCU and learning the relevant electronic theory can be confusing and frustrating when you just need something to work quickly. We hope that using the DC Micro Metal gear motor changes this. The new micro DC geared motor is easy to operate - using the DFRobot "Gravity" interface, you are able to control the motor using only one control signal. Easily implement forward/reverse control and speed control via PWM. This motor also combines the features of a DC motor and 360 degree servo. We have also increased the stop range and reduced standby power consumption, so the current draw is less than 1mA without signal control. Ideal for DIY projects!

Specification

- Operating voltage: 3.5V - 8V
- Reduction ratio: 75:1
- No load current: 40mA@6V (approx)
- Static current: <1mA (no PWM control signal input)
- Interface: Gravity 3-Pin
- PPM signal resolution: 1us
- PPM signal pulse width range: 500us-2500us
- Clockwise pulse width range: 500us-1400us (500us speed maximum)
- Stop pulse width range: 1400us-1600us
- Anticlockwise pulse width range: 1600us-2500us (2500us speed maximum)
- PWM frequency: 500 Hz.

| No.	Label	Description			
1	Signal	PWM signal input			
2	Power	-	3	GND	GND

Motor Overview
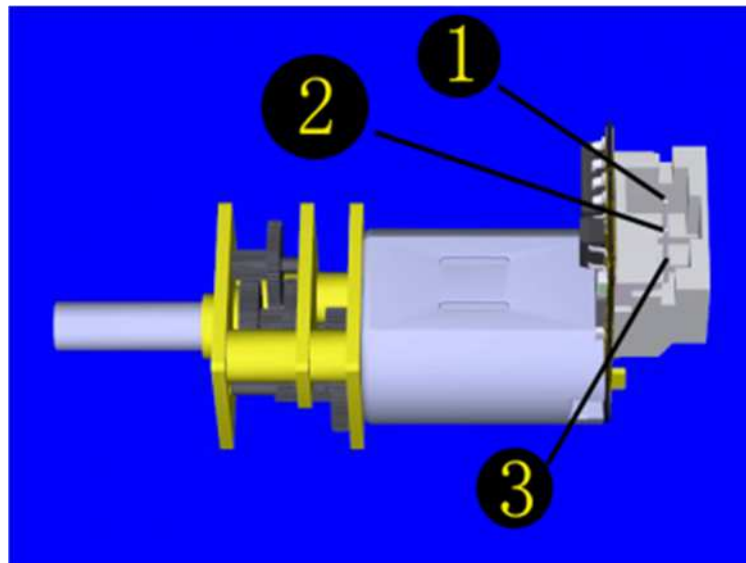
DFR0399

Tutorial

The motor works similar to a 360 degree rotation servo, using the servo library (Arduino IDE included).

Requirements

- **Hardware**
  DFRduino UNO x1
  DFR0399 Gear Motor x1

- **Software**
  Arduino IDE Click to Download Arduino IDE from Arduino®
  https://www.arduino.cc/en/Main/Software

Connection Diagram
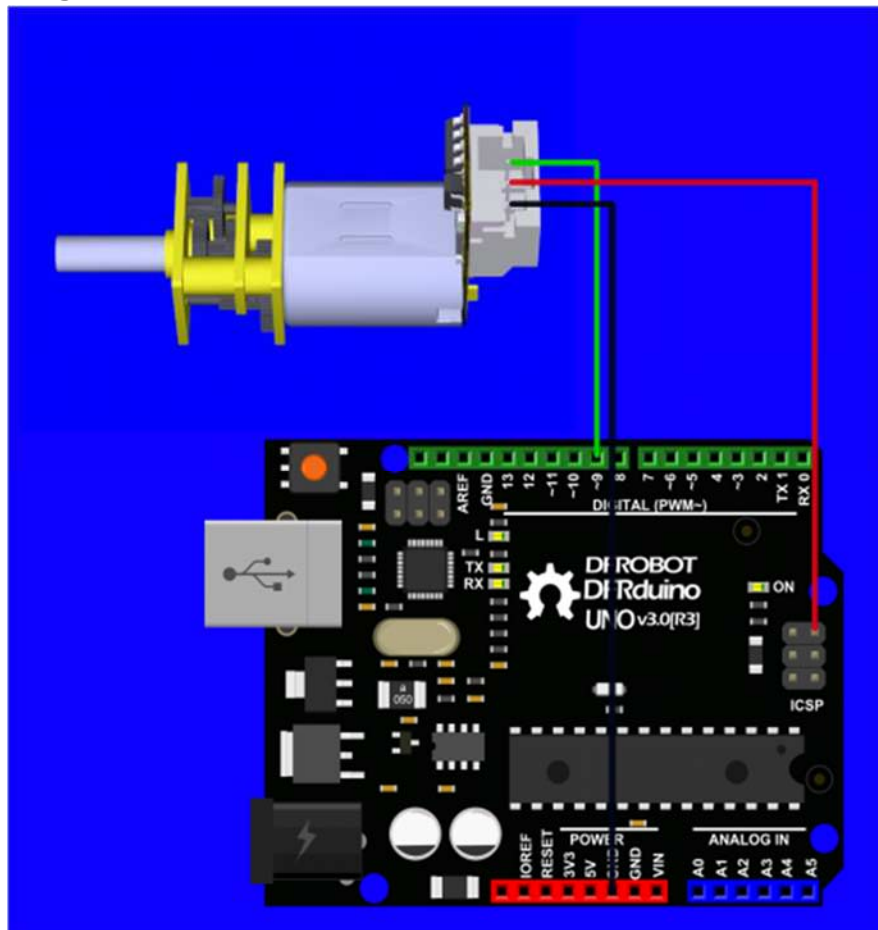
Micro Metal DC Geared Motor w/Driver

Sample Code

```
1 #include <Servo.h>

2

3 #define speed_maxP 0   //Clockwise rotation (Max speed)

4 #define speed_maxN 180 //Anticlockwise rotation (Max speed)

5 #define speed_stop  90 //Stop

6

7 Servo  mymotor;  // create servo object to control a servo (my motor)

8                  // twelve servo objects can be created on most boards

9

10 int pos=0;

11 void setup()

12 {

13   mymotor.attach(9);  //attaches the motor on pin 9 to the servo object

14 }

15 void loop()

16 {

17   /**********Using 180 degree servo library to control N20 motor**********
********************/

18   mymotor.write(speed_stop);     //Stop

19   delay(1000);                   //delay 1s

20   mymotor.write(speed_maxP);     //Clockwise rotation

21   delay(2000);                   //delay 2s

22   mymotor.write(speed_maxN);     //Anticlockwise rotation

23   delay(2000);                   //delay 2s

24   for(pos=speed_maxP;pos<speed_maxN;pos++)  //slow down, change the direct
ion and speed up

25   {

26     mymotor.write(pos);

27     delay(50);

28   }
```

29 }

Note

"**0~180**" degree corresponds to the pulse width signal "**500us~2500us**".
When we give a value between 81~99° (1400~1600us), the motor will stop;
When we give a value less than 81° (1400us), the motor rotates clockwise, the smaller the value, the faster the speed, 0° (500us) is the maximum speed;
When we give a value greater than 99° (1600us), the motor rotates anticlockwise, the larger the value, the faster the speed, 180 ° (2500us) is the maximum speed;
Since every motor has a little difference, we enlarge the stop range to ensure that the motor can be stopped correctly.