

# 2x1.2A DC Motor Driver (TB6612FNG)

## SKU: DRI0044

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### Introduction

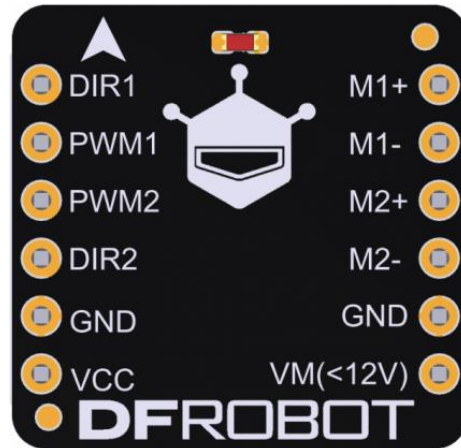


This DFRobot micro dual way DC motor driver is design based on TB6612FNG motor driver IC. It inherits DFRobot L298N motor control logic, which only need four pins to drive 2 motors. Compared with the IC Breakout, it saves two precious GPIO resource, especially in Arduino UNO board. TB6612FNG is a dual-channel full-bridge drive chip. The maximum continuous drive current of single channel can reach 1.2A, peak value 2A/3.2A (continuous pulse / single pulse) , which can drive some micro DC motors. The control logic is similar to L298n, and the code can be directly compatible with the DFROBOT L298N motor driver. Standard XH2.54 pin can be inserted directly into the breadboard. It is a good choice for DIY project or product developments.

### Specification

- VCC Operating Voltage: 2.7V~5.5V
- VM Input Power: 2.5V~12V
- Output Current: 1.2A (single-channel continuous drive current)
- Start / Peak Current: 2A (continuous pulse) / 3.2A (single pulse)
- Dimension: 0.79 x 0.77(in) / 20 x 19.50(mm)

# Board Overview



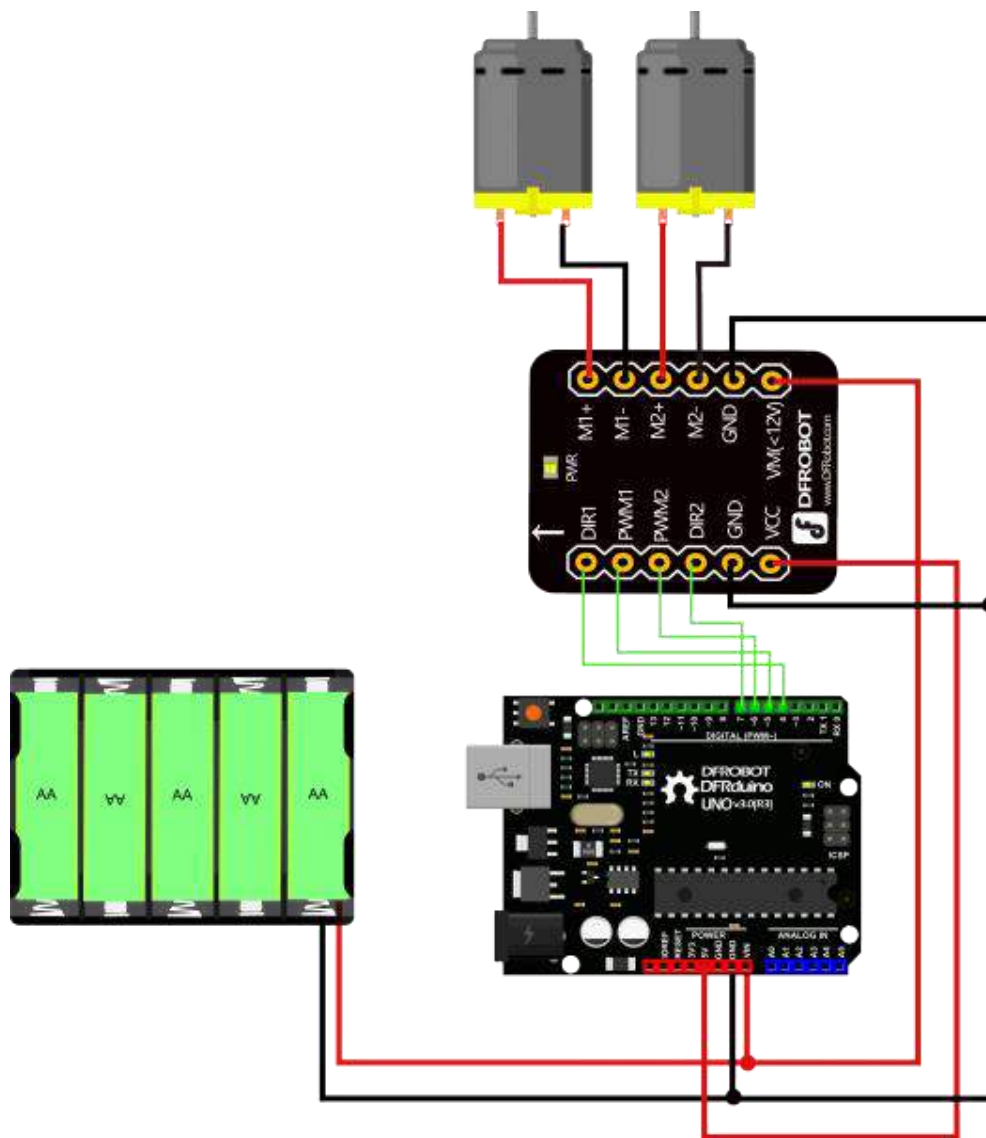
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Label	Number	Description
	1	DIR1 M1 Direction Control
	2	PWM1 M1 Speed control(PWM)
	3	PWM2 M2 Speed control(PWM)
	4	DIR2 M2 Direction Control
	5	GND Negative power supply
	6	VCC Power 3.3V-5V or IO port output high
	7	M1+ A Output 1
	8	M1- A Output 2
	9	M2+ B Output 1
	10	M2- B Output 2
	11	GND Negative power supply
	12	VM(<12V) Motor drive power 3.3V-12V

# Tutorial

## Connection Diagram

- Hardware
- 1 x DFRduino UNO R3
- 1 x Dual Motor Driver (TB6612)
- 8 x Breadboard Jumper Cables
- 2 x DC Motor
- 5 x AA Battery



Arduino Connection

## Sample Code

- Software
- Arduino IDE [Download Arduino IDE](#)

```
int PWM1 = 5;
int DIR1 = 4;
int PWM2 = 6;
int DIR2 = 7;
void setup()
{
  pinMode(DIR1, OUTPUT);
  pinMode(DIR2, OUTPUT);
}
void loop()
{
  int value;
  for(value = 0 ; value <= 255; value+=5)
  {
    digitalWrite(DIR1, HIGH);
    digitalWrite(DIR2, HIGH);
    analogWrite(PWM1, value); //PWM Speed Control
    analogWrite(PWM2, value); //PWM Speed Control
    delay(30);
  }
}
```

## Result

Two motor speeds change from 0 to maximum, cycle.

For any questions, advice or cool ideas to share, please visit the [DFRobot Forum](#).

## More Documents

- [TB6612 datasheet](#)
- [Schematic](#)
- [SVG Files](#)