

# **DUAL MOTOR DRIVER (ELECTRONIC 5 AMP) [RKI-1004]**

## 1. Introduction:

Dual motor driver is dual H-bridge module which can control 2DC motors with 5A capacity each and 1 Stepper motor 5A/Phase. This module supports high speed PWM signal. This module easily connects with microcontroller to control the motors in bipolar mode. It is a module which works with any module which gives output voltage 3-5V. This driver module can control any small to big motors.

## 2. Features of board:

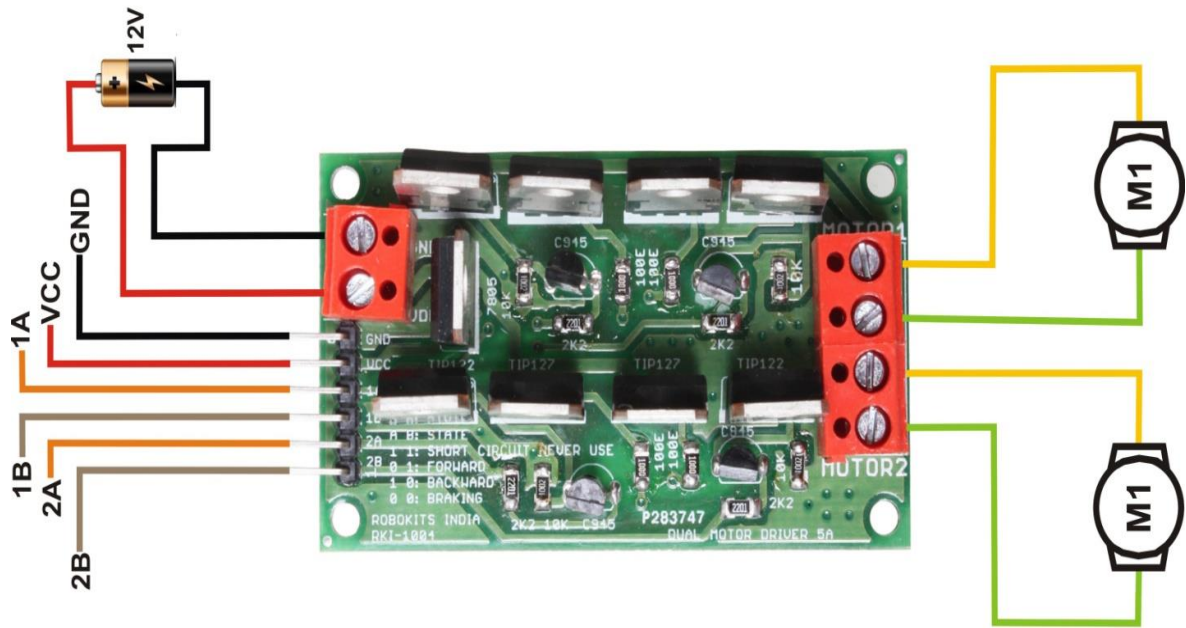
**Robot control board provides the following features:**

- Can control 2DC motors at a time or one stepper motor
- With the help of battery/power supply to circuit it will drive the motors as per the input from RC circuit / Microcontroller / PC output or any other circuit it can control motor in bipolar mode.
- Supports high PWM signal
- Soft Start and Stop provides long life to gearboxes.

## 3. Driver Specifications:

Parameter	Min	Max
Input voltage	12V	18V
Output voltage	3V	5V
Output current rating per Motor(2 DC Motor / 1 Stepper Motor)	0	5A
Dimensions	66mm x 33mm x 21mm	

#### 4. Pin Specifications:

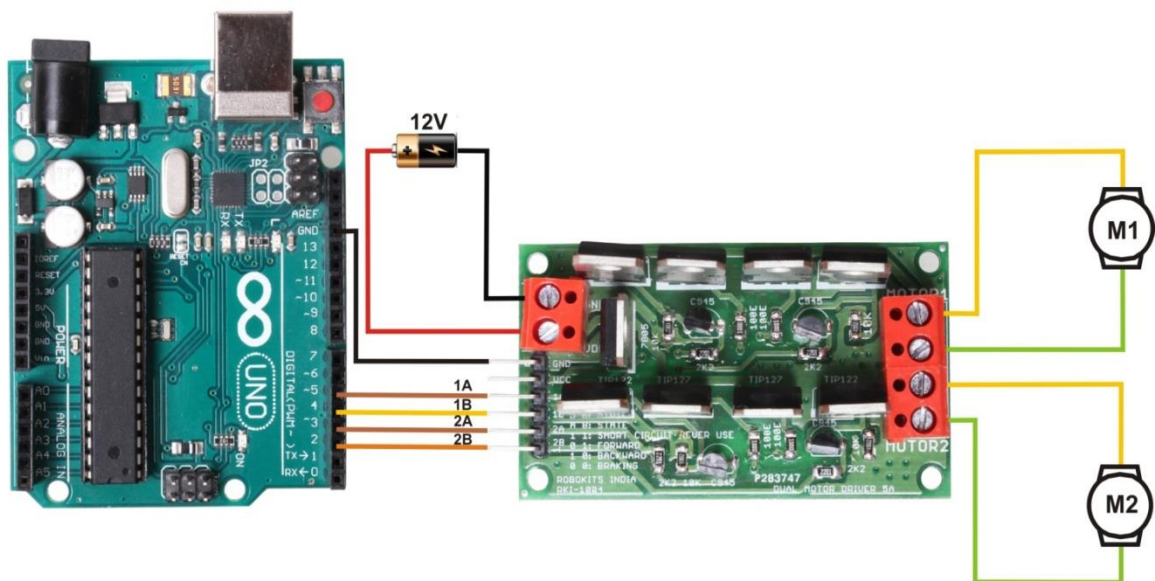


PIN	Description
VCC	Supply voltage to any other circuit which gives output voltage 3-5V
VDD	For external power supply like battery.
GND	Ground Reference
Motor 1 (Screwed connector)	Motor + and Motor-
Motor 2 (Screwed connector)	Motor + and Motor-
1A and 1B (Male header)	Motor 1 Signal pins
2A and 2B (Male header)	Motor 2 Signal pins

## 5. Steps for program IDE sketch:

- Step 1. Install PL2303 driver
- Step 2. Open Arduino IDE
- Step 3. Select com port
- Step 4. Select Board (Arduino UNO)
- Step 5. Open sample code
- Step 6. Burn/Upload

## 6. Connection with Arduino and Motors:



## 7. Reference Code:

```
// connect motor controller pins to Arduino digital pins

// motor one
int in1 = 9;
int in2 = 8;

// motor two
int in3 = 7;
int in4 = 6;

void setup()
{
    // set all the motor control pins to outputs
    pinMode(in1, OUTPUT);
    pinMode(in2, OUTPUT);
    pinMode(in3, OUTPUT);
    pinMode(in4, OUTPUT);
}

void demoOne()
{
    // Run the motors in both directions at a fixed speed
```

```
// turn on motor A
digitalWrite(in1, HIGH);
digitalWrite(in2, LOW);

// turn on motor B
digitalWrite(in3, HIGH);
digitalWrite(in4, LOW);
delay(2000);

// now change motor directions
digitalWrite(in1, LOW);
digitalWrite(in2, HIGH);
digitalWrite(in3, LOW);
digitalWrite(in4, HIGH);
delay(2000);

// now turn off motors
digitalWrite(in1, LOW);
digitalWrite(in2, LOW);
digitalWrite(in3, LOW);
digitalWrite(in4, LOW);
}
```



```
void demoTwo() {
```

```
    // Run the motors across the range of possible speeds
    // Maximum speed is determined by the motor itself and the
    // operating voltage by your hardware
```

```
    // turn on motors
    digitalWrite(in1, LOW);
    digitalWrite(in2, HIGH);
    digitalWrite(in3, LOW);
    digitalWrite(in4, HIGH);
```

```
    // accelerate from zero to maximum speed
    for (int i = 0; i < 256; i++)
    {
        delay(20);
    }
```

```
    // decelerate from maximum speed to zero
    for (int i = 255; i >= 0; --i)
        for (int i = 255; i >= 0; --i)
        {
            delay(20);
        }
```

```
    // now turn off motors
    digitalWrite(in1, LOW);
    digitalWrite(in2, LOW);
    digitalWrite(in3, LOW);
```

```
        digitalWrite(in4, LOW);  
    }  
  
    void loop()  
    {  
        demoOne();  
        delay(1000);  
        demoTwo();  
        delay(1000);  
    }
```

**Note: DO NOT GIVE HIGH LOGIC IN BOTH MOTOR SIGNAL PINS AT A SAME TIME.**