

# L298 MODULE

## Description:

This is a low cost motor controller. Although it's not an Arduino Shield, it can be used with Arduino or any other microcontroller platforms. This module allows you to connect 2 DC motors and have total control of them from the arduino. It also can be used to control one 4-wire stepper motor. Due to its high current rating, it's perfect for a single channel heavy duty stepper motor controller.

It allows you to move each DC motor

- Clockwise
- AntiClockwise
- Stall
- Control motor speed

A 4-way stripped wire is included.

This motor controller uses a L298 H-bridge IC deliveries output current up to 2 A each channel. The speed control is achieved through conventional PWM which can be obtained from Arduinos PWM output Pin 5, 6, 9 and 10.

## Specs:

Peak Output Current (each Channel)

- Non Repetitive (t = 100 ms): 3 A
- Repetitive (80% on -20% off; ton = 10 ms): 2.5 A
- DC Operation: 2 A

Analog voltage input:

Vcc input:

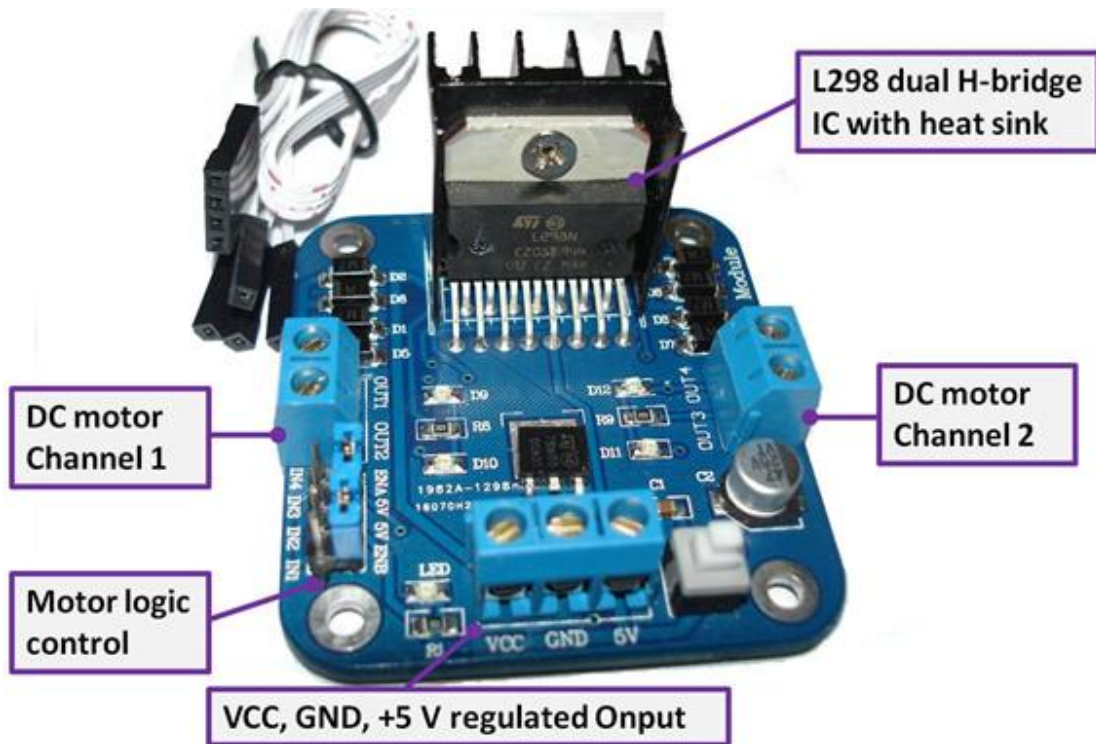
7 - 35 V with jumper J3 short circuit, which gets regulated to 5 V and it's available on the +5 V terminal.

5 - 35 V with jumper J3 open circuit, a separate 5 V input is needed to the +5 V terminal.

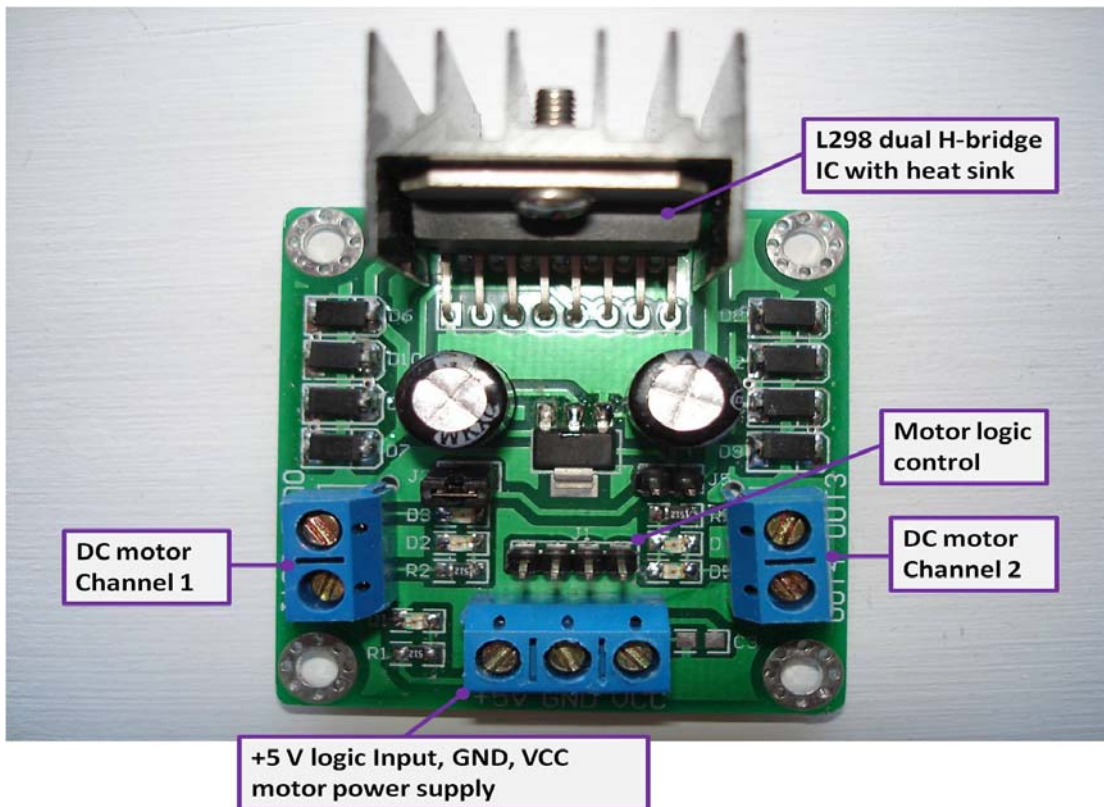
Digital voltage input: VD = 5 V (7 V max), this is output 5 V when jumper J3 is short circuit, and input 5 V when J3 is open circuit.

Max power dissipation: 20 W

There is a voltage regulator that regulates the Vcc to 5 V for digital use.



## How to use L298 motor controller



This article explains how the +5 V and Vcc of this motor controller work.

All motor controller circuits have two voltage levels. One is a high voltage (typ. 12 or 24 V) that use as the motor supply voltage, that is, the voltage that drives the motors. The other voltage level is typically a 5 V, which powers the electronics of on the motor controller, including the H-bridge, diodes, and LEDs etc. Depending on the connection of the two jumpers J3 and J5, there are three operating modes of using this motor controller. When working with this motor controller we strongly encourage you to check the voltage lines with a multimeter before connecting it to anything, otherwise a faulty motor controller may damage the devices connecting to it.

### **Mode 1, jumper J3 and J5 open circuit**

In this mode, Vcc is the motor supply voltage, accepting a voltage range from 5 to 35 V. When the supply voltage is connected, the LED D1 is off. (if the LED is on, the controller may be faulty). The terminal +5 V is an input, a +5 V power source is needed to connect to it in order to power the electronics of the controller.

### **Mode 2, jumper J3 short circuit, J5 open circuit**

In this mode, Vcc is the motor supply voltage, accepting a voltage range from 7 to 35 V. When the supply voltage is connected, the LED D1 is on. The Vcc voltage gets regulated to 5 V to power all the onboard electronics. The terminal +5 V , is an output.meaning that it makes a +5 V power source available for other electronics that need it, e.g. the Arduino microcontroller board.

### **Mode 3, jumper J3 open circuit, J5 short circuit**

In this mode, Vcc is the motor supply voltage, accepting a voltage range from 7 to 35 V. When the supply voltage is connected, the LED D1 is on. The Vcc voltage gets regulated to 5 V to power all the onboard electronics. The terminal +5 V is output, but its voltage is **equal** to the Vcc voltage, so it on longer to be +5 V as labeled on the board. This mode is **not** recommended.

To understand how to control the motors, please see [link](#) where an example code is available.

<http://www.hobbyist.co.nz/?q=terminator-tutorial>