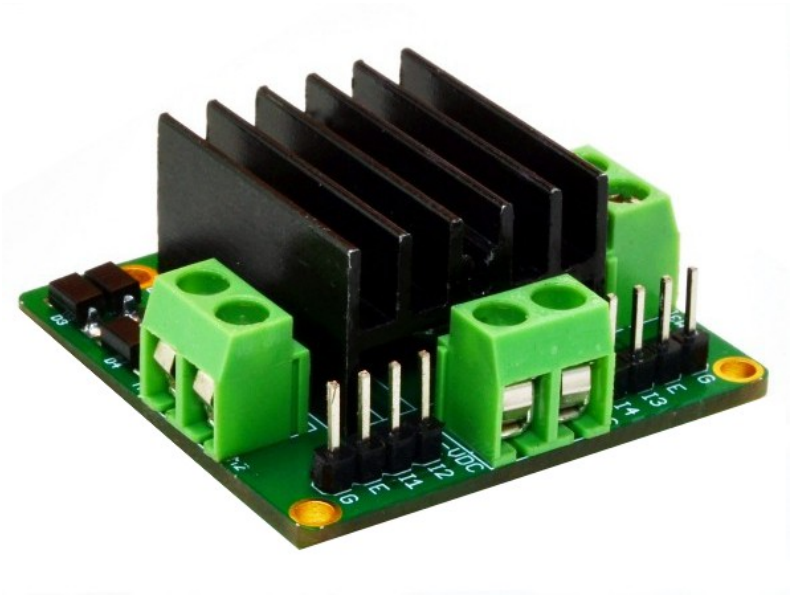

L298 2A Dual H-Bridge Motor Driver

User Guide

NUMATO LAB

www.numato.com

Rev 9

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Introduction

Numato Lab's L298 2A Dual H-Bridge Motor Driver is very popular Motor controller L298. L298 can drive up to two DC motors simultaneously while sourcing 2A to each motor. Both the motors can be controlled independently using a microcontroller or Arduino. This board comes with heat sink pre installed for L298. This helps in case the driver needs to be run at full load for long time. Each Bridge is protected from back emf by four diodes. L298 require a +5V supply for its logic circuitry. An on board LM317 low dropout regulator derives this from the main motor power supply. There are separate screw terminals for each motor and power supply. All logical signals are available on unshrouded 200mil headers.

Applications

- Motor control.
- Industrial Automation.
- Consumer Electronics.
- Networking/Server/Storage.
- Computer/Workstations and Desktops.
- Telecommunications Infrastructure.
- Product Prototype Development.

Board Features

- Input Voltage(VIN) 20V.
- Current Output(VOUT) 2A.
- Operating Temperature -25-130°C.

How to use the module

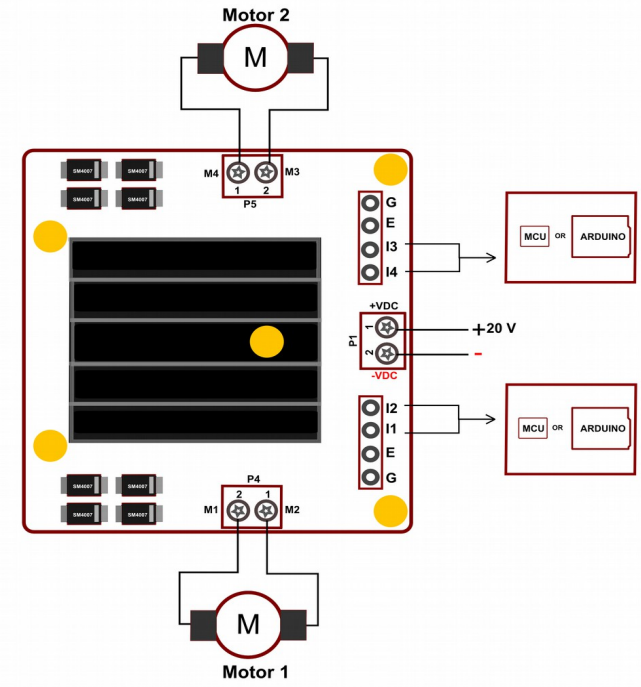
The following section describes how to use this module.

Components/Tools required

Along with the module, you may need the items in the list below for easy and fast installation.

1. 20V DC Power Supply.
2. Medium size Philips screw driver.

Connection Diagram

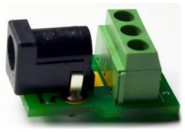


Above image shows basic connection diagram that can be used in most of the situations.It is important to make sure that the wires used to connect loads are sufficiently rated to handle expected load current. Exercise caution while working with high voltages. Short circuits can cause damage to the module. The following sections identify individual connections in detail.

DC Power Supply

This module uses **5V** DC external power supply for its logical circuitry. Make sure to connect the power supply in correct polarity. Connect the **positive** terminal of the power supply to the **+VDC** terminal on the module.

Using a product similar to Numato's DC Barrel Jack Adapter is recommended if the power supply has a Barrel Jack connector (See the image on right).



Connecting power supply incorrectly can cause damage to the module and/or other devices.

Controlling of motors

L298 can drive up to two DC motors simultaneously while sourcing 2A to each motor. Both the motors can be controlled independently using a microcontroller or Arduino. The table below summarizes about the pin descriptions.

HEADER P2

Header pin no	Pin name
1	I2
2	I1
3	E
4	G

E is the enable pin. **I1** and **I2** are used to configure the rotation of the Motor1 (as per connection diagram).The rotation configuration can be done only when the **E** pin is high. By default the board is comes with the **E** pin at high state. The L298 pin assignments is shown at the Below table.

L298 Pin	Pin Description	Screw Terminal P4
7	INPUT 2	M2
5	INPUT 1	M1
6	ENABLE-A	-
8	GND	-

HEADER P3

Header pin no	Pin name
1	I4
2	I3
3	E
4	G

E is the enable pin. **I3** and **I4** are used to configure the rotation of the Motor2 (as per connection diagram).The rotation configuration can be done only when the **E** pin is high. By default the board is comes with the **E** pin at high state.

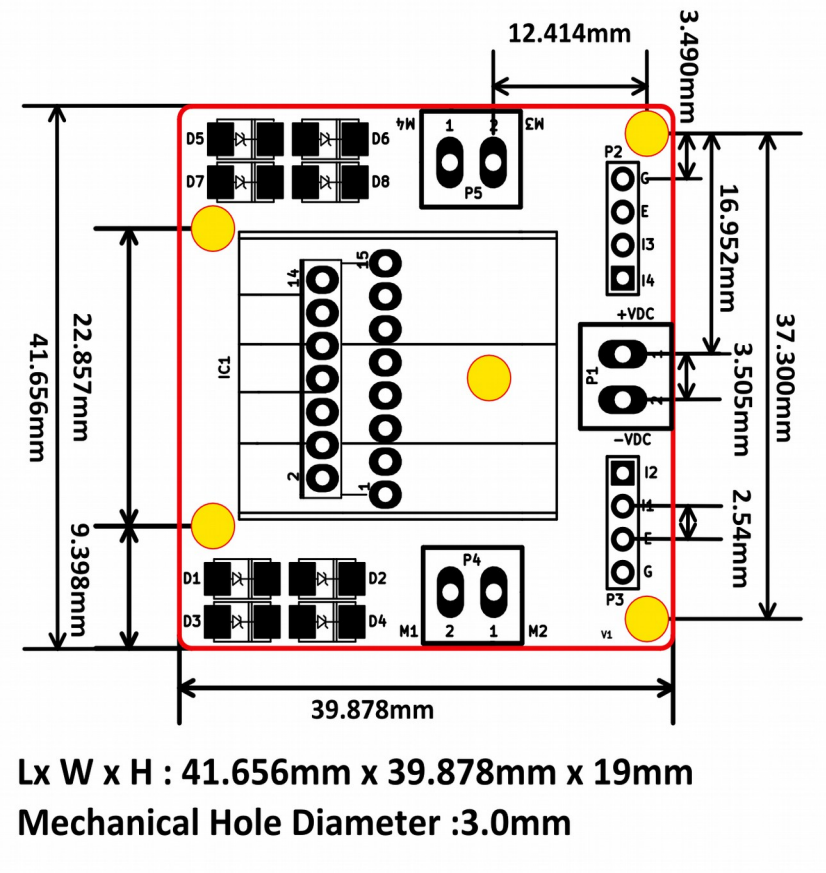
L298 Pin	Pin Description	Screw Terminal P5
12	INPUT4	M4
10	INPUT 3	M3
11	ENABLE-B	-
8	GND	-

Technical Specifications

Parameter *	Value	Unit
Basic Specifications		
Digital circuit power supply voltage	5	V
IO Specifications		
Maximum Output current	2	A
Maximum IO source voltage	2.7	mA
Maximum IO sink voltage	2.3	mA
Input low voltage	1.5	V
Input high voltage	5	V
low voltage input current	-10	uA
high voltage input current	100	uA
Maximum Operating Temperature	130	°C
Commutation frequency	40	KHz
Source current turn off delay	1.5	us
Source current turn on delay	2	us
Sink current turn off delay	3	us
Sink current turn on delay	1.6	us

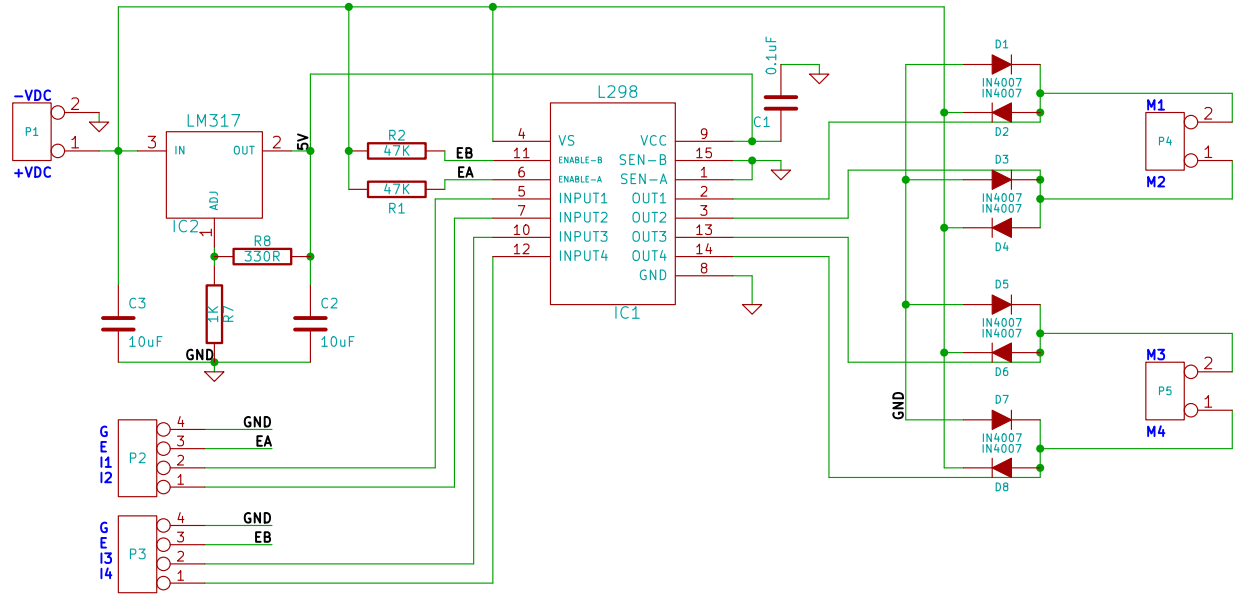
* All parameters considered nominal. Numato Systems Pvt Ltd reserve the right to modify products without notice.

Physical Dimensions



Schematics

See next page.



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Title: L2982ADualHBridgeMotorDriver		
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