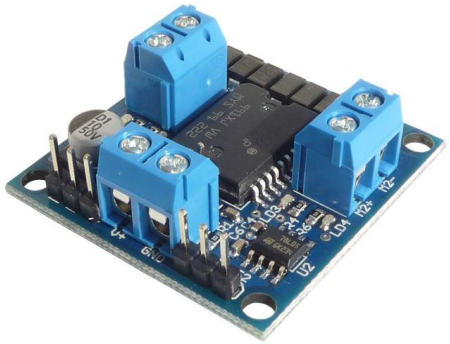
Name: **DC Dual Motor Driver 30V 4A V2**
Code: **MR001-004.2**



The *DC Dual Motor Driver 30V 4A V2* allows to indipendently drive two DC motors, controlling both velocity and direction.

It is based on the famous integrated circuit L298, producted by STMicroelectronics; the L298 is an integrated monolithic circuit in a PowerSO20 package. It is a high voltage, high current dual full-bridge driver designed to accept standard TTL logic levels and drive inductive loads such as relays, solenoids, DC and stepping motors.

The minimum supply voltage allowed is 7V, so you can use also two-cell LiPo batteries (7.4V) that grant small dimensions and low weight characteristics. The maximum supply voltage supported by this board is 30V.

To enable or disable each channel independently of the input signals there are provided two enable inputs (*E1*, *E2*) positioned on the front of the board; motor velocity regulation is obtained applying to these pins a PWM signal with a 20KHz max. frequency.

This board also provides direction LED indicators for both channels; this is very usefull during setup stage to verify the firmware behaviour (also without appling a real motor to the output).

INSTRUCTIONS

Two vias terminal blocks are the two outputs for motors (M1 and M2). The 3 pins strip connectors next to the power terminal block are used to control the 2 channels of this *DC Dual Motor Driver 30V 4A V2*. Each of them has signals as reported on table 1.

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Channel 1		Channel 2	
Name	***Function***	***Name***	***Function***
1A	Input A of ch.1 (TTL input)	2A	Input A of ch.2 (TTL input)
1B	Input B of ch.1 (TTL input)	2B	Input B of ch.2 (TTL input)
E1	Enable ch.1 (TTL input)	E2	Enable ch.2 (TTL input)

Tab.1 - Connections

To understand the meaning of these signals and their use you can read the following table (Tab.2), where all conditions are reported. Note that there are reported only the conditions for channel 1 because conditions for channel 2 are just alike them.

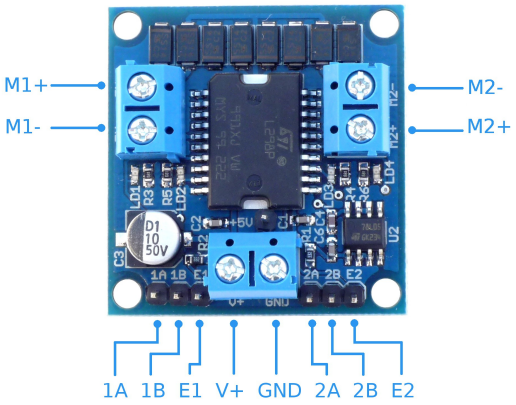
Inputs			M1+ and M1- output
E1	**1A**	**1B**	
1	1	1	HIGH state for both output (motor stopped)
1	0	0	LOW state for both output (motor stopped)
1	1	0	Current flows from M1+ to M1- (direction 1)
1	0	1	Current floes from M1- to M1+ (direction 2)
0	X	X	High impedance (motor is in free running)

Tab.2 - Conditions

About the *E1* and *E2* signals, they have pull-up resistors so in some applications you don't need to drive them and you need just 2 signals to control each motor.

SPECIFICATIONS

Supply voltage	7 - 30V
Supply current (logic)	24mA typ. (36mA max.)
Output current	4A (2A for each channel)
Data I/O voltage	TTL standard
Dimensions	37x36x13mm (connectors included)
Weight	12.5g / 0.44oz
Operating temperature	-25 - 130°C



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