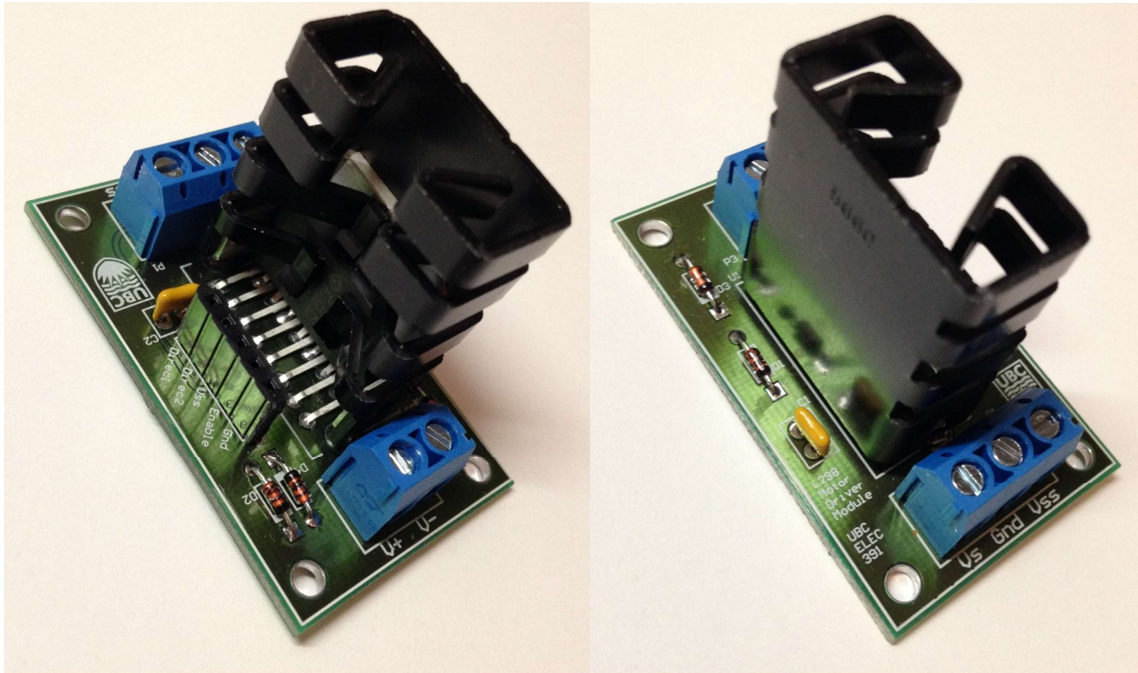


UBC ELEC 391 - L298 Motor Driver Board

Datasheet - V1 – Dec 2017



This board features the L298 Motor Driver IC. The dual channels of the L298 have been tied together to create a simple single channel motor driver.

Please see the datasheet for the L298N IC for more information on recommended operating conditions, specifically regarding safe current draw and power dissipation. These ratings will depend on your application.

All parts on the ELEC 391 L298 Motor Board have been selected from the ELEC 391 parts cabinet. They are listed below.

Parts List			
Designator	Description	Manufacturer Part #	ELEC 391 Parts Bin #
U1	L298 Motor Driver IC	L298N	Q8
P1	3 Pin Screw Terminal	OSTTC032162	C28
P2	5 Pin Header	M20-7823646	C31
P3	2 Pin Screw Terminal	OSTTC022162	C29
C1 & C2	100nF Generic Capacitor	-	-
D1 - D4	Rectifier Diode	1N4148-TP	T9

Below is the list of pins available on the ELEC 391 L298N Motor Board.

Pins Descriptions		Ratings			
Pin Name	Description	Min	Typical	Max	Unit
Vs	Motor supply voltage	V _{ss} + 2.5		46	V
V _{ss} (@ P1)	Logic supply voltage - Option to connect at screw terminal block P1	4.5	5	7	V
V _{ss} (@ P2)	Logic supply voltage - Option to connect at header P2 or use as output to logic peripherals	4.5	5	7	V
Enable	Enable for motor control	0	-	V _{ss}	V
Direc1	Direction control 1 for motor control	0	-	V _{ss}	V
Direc2	Direction control 1 for motor control	0	-	V _{ss}	V
Gnd	Board common	-	-	-	-
V+	Motor output terminal 1	-	-	-	-
V-	Motor output terminal 2	-	-	-	-

The pin functions for the ELEC 391 L298 Board are described below in a table. Please see the L298N IC Datasheet for a more elaborate description on pin connections inside the IC itself.

For motor control, a PWM signal can be applied to the Enable pin (recommended), or to the direction pins if a more complex control is desired.

Function Description		
Pin Settings		Resulting Function
Enable	Logic high	Turns motor in first direction
Direc1	Logic high	
Direc2	Logic low	
Enable	Logic high	Turns motor in second direction
Direc1	Logic low	
Direc2	Logic high	
Enable	Logic low	Free running stop
Direc1	Don't care	
Direc2	Don't care	
Enable	Logic high	Hard stop
Direc1	Equal	
Direc2	(Logic high or low)	

Definitions for the logic levels are shown in a table below.

Logic Level Low		Logic Level High		
Min	Max	Min	Max	Unit
-0.3	1.5	2.3	V _{ss}	V

Board Schematic

