# L298P 2-A Dual H-Bridge Motor Shield for Arduino

This Arduino Motor Shield is designed based on L298P Power Motor Driver IC, a full-bridge motor driver. It can drive two seperate 2A DC motors or 1 2A step motor. Motor speed and directions can be controlled separately. Also there are 6 connectors connected to Arduino analog pins for fast prototyping. An onboard buzzer can be activated when required for audible warning purposes. This Motor shield can be powered directly from Arduino or from external power source. It is strongly recommended to use external power supply to power the motor shield.
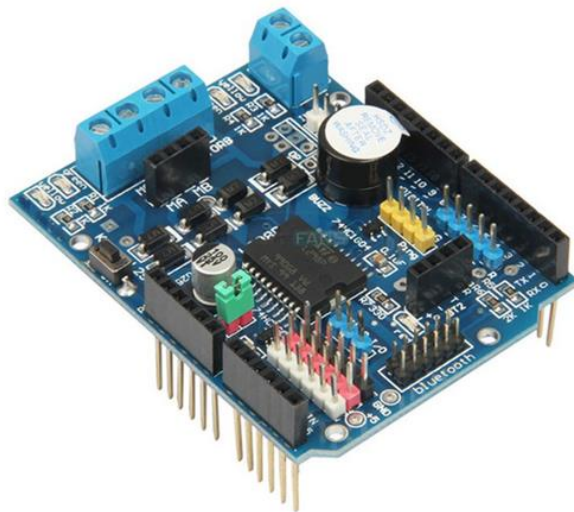
SKU: DRV1007

Brief Data:

- Driver: L298N Dual H Bridge DC Motor Driver
- Motor Driving Voltage: 4.8 ~ 35V (From Arduino or External Power Source)
- Peak Motor Current: 2Amp.
- Onboard Buzzer.
- Motor Direction LED indicators.
- Control signal input voltage range:
  - Low: $-0.3V \leqslant Vin \leqslant 1.5V$.
  - High: $2.3V \leqslant Vin \leqslant Vss$.
- Enable signal input voltage range :
  - Low: $-0.3 \leqslant Vin \leqslant 1.5V$ (control signal is invalid).
  - High: $2.3V \leqslant Vin \leqslant Vss$ (control signal active).
- Maximum power consumption: 25W (when the temperature T = 75 ℃).
- Storage temperature: -25 ℃ ~ +130 ℃.
- Size: 68.5mm x 53mm x 12mm

Functional Block Diagram:
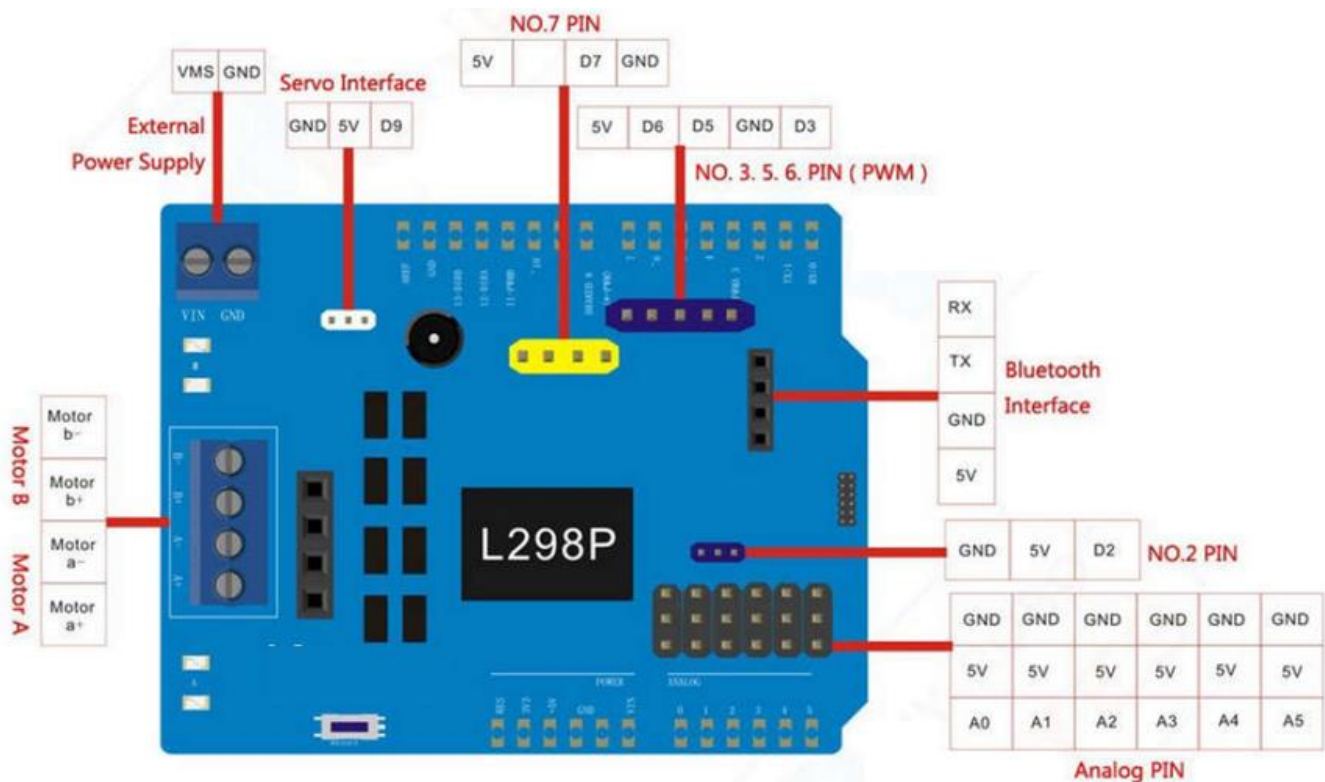
Arduino Motor Control I/O Pin Assignment:

Function	Motor-A	Motor-B
Direction Control	D12	D13
PWM Control	D10	D11
Buzzer Control	D4	

You can use 2 brushed DC motor by connecting them to Motor A and Motor B terminals on the shield. By making Direction Control A (D12) and Direction Control B (D13) pins HIGH or LOW, you can control direction of motors. By changing PWM-A (D10) and PWM-B (D11) rate, you can control speed of the motors.
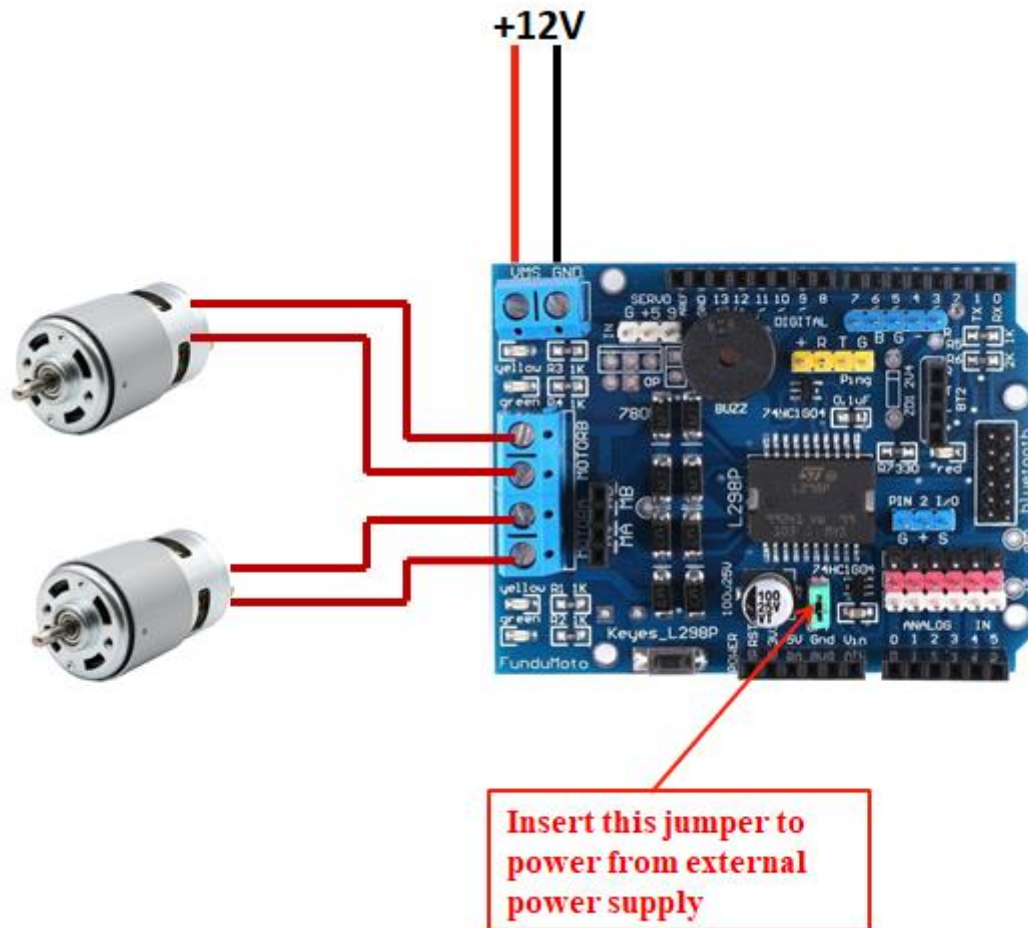
Board Dimension:

Unit: mm
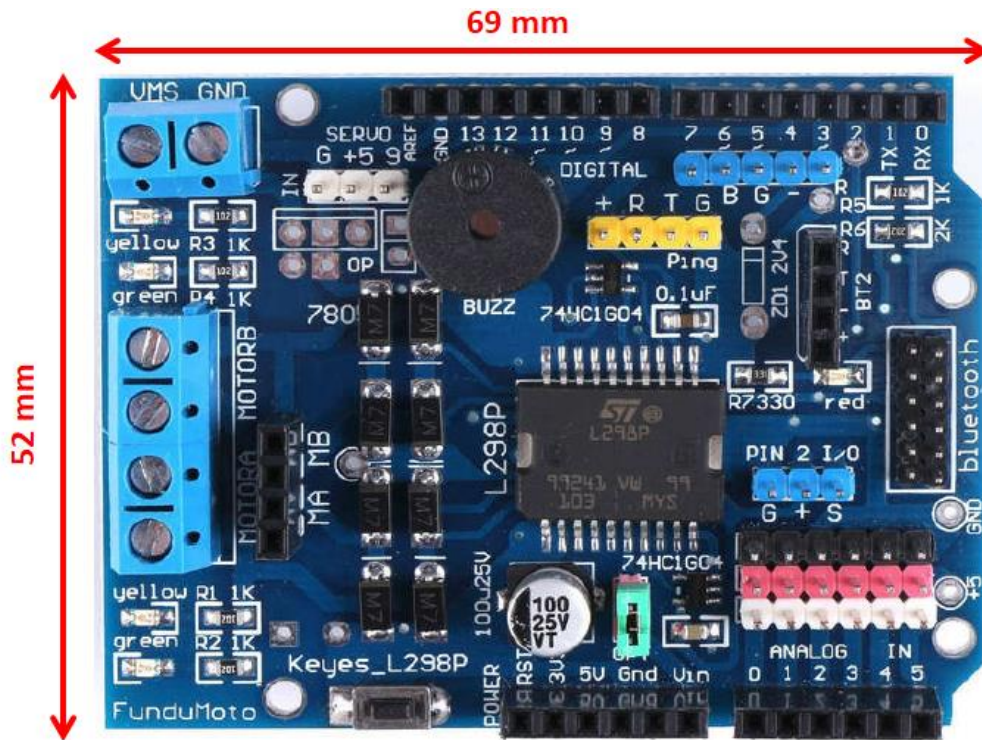
Arduino Connection Examples:

Controlling 2-DC Motor with +12V External Power Supply:

Below is the circuit connection using +12V external power supply, and should be done with the Jumper inserted as shown. This connection can drive two 12V DC motors simultaneously.

Insert this jumper to power from external power supply

Sketch Listing:

Copy and paste the sketch below to Arduino IDE and upload to Arduino Uno/Mega board.

```
/*=========================================================================
//   Author      : Handson Technology
//   Project     : Arduino Uno
//   Description : L298P Arduino Motor Shield demo
//   Source-Code : L298.ino
//=========================================================================
*/

int E1 = 10;
int M1 = 12;
int E2 =11;
int M2 = 13;

void setup()
{
  pinMode(M1, OUTPUT);
  pinMode(M2, OUTPUT);
}

void loop()
{
  { int value;
  for(value = 0 ; value <= 255; value+=5)
  {
    digitalWrite(M1,HIGH);
    digitalWrite(M2, HIGH);
    analogWrite(E1, value);
    analogWrite(E2, value);
    delay(30);
  }

  delay(1000);}

  { int value;
    for(value = 0 ; value <= 255; value+=5)
      {
      digitalWrite(M1,LOW);
      digitalWrite(M2, LOW);
      analogWrite(E1, value);
      analogWrite(E2, value);
      delay(30);
    }
  delay(1000);}
}
```

After successfully download, the 2-DC motors attached to the motor shield will turn forward and backward. The motor turning direction will be indicated by the yellow and green LED indicators.

Web Resources:

- 775 Ball Bearing DC Motor
- A58SW-555 Worm Gear Motor
- 40A Reversible Motor Speed Controller

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