

## Mini Motor Drive Shield Expansion Board L293D Module

The **Mini Motor Drive Shield Expansion Board L293D Module** is a **compact and powerful motor driver shield** designed for use with Arduino and other microcontroller platforms. Equipped with the **L293D dual H-bridge motor driver IC**, this module allows you to **control the speed and direction of two DC motors or one stepper motor** easily and efficiently.

Perfect for **DIY robotics, automation systems, RC vehicles, and mechatronics projects**, the **L293D Motor Driver Shield** offers reliable performance, flexibility, and ease of integration for both beginners and advanced makers.



### Key Features

- 🔌 **Dual H-Bridge Motor Driver (L293D)**

At the heart of this expansion board is the **L293D motor driver IC**, a robust dual-channel H-bridge capable of driving **two DC motors independently** or **one stepper motor**. It supports both **bidirectional control** and **speed regulation** via PWM signals, giving you precise movement control for your projects.

Each channel can handle up to **600mA continuous current** (1.2A peak) at voltages from **4.5V to 25V**, making it ideal for small to medium DC motors.

### **Full Arduino Compatibility**

This module is fully compatible with **Arduino UNO, Mega, Nano, and other similar boards**. It connects directly to the Arduino headers, simplifying wiring and setup. The shield's **plug-and-play design** makes it beginner-friendly and time-saving for prototyping.

### **Easy Motor Control via Code**

Using the Arduino IDE and basic motor control libraries, users can easily program speed, direction, and braking functions. You can even combine it with **sensor modules** or **wireless controllers** to build autonomous or remote-controlled robots.

### **Separate Power Supply Support**

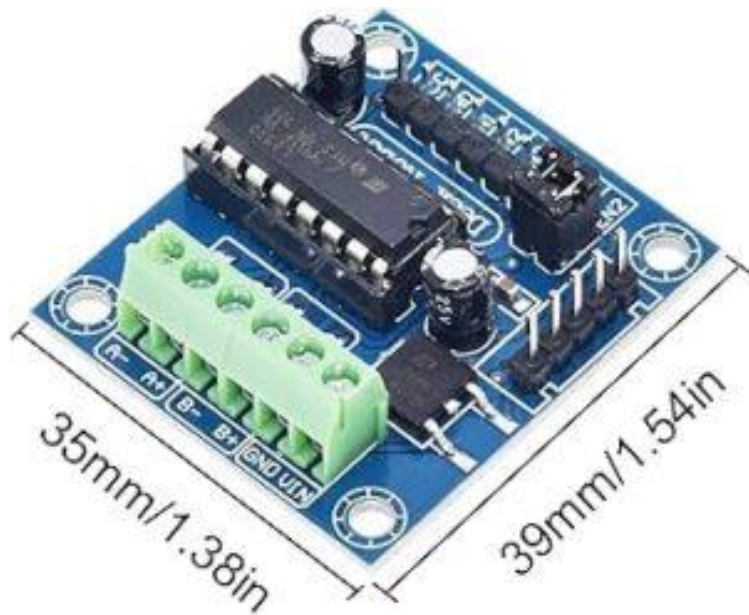
The **Mini L293D Motor Shield** features independent power input for the motor supply (Vs) and the logic circuit (Vss). This allows you to use **external power sources for motors** while keeping your control board safely powered at 5V. The built-in **voltage regulator and protection circuitry** ensure safe operation.

### **Overcurrent and Thermal Protection**

The **L293D IC** includes **built-in diodes** for back EMF protection and **thermal shutdown** to prevent damage from overheating or excessive current. This extends the lifespan of both your motors and your driver board.

### **Compact and Durable Design**

With its **miniature form factor** and **high-quality PCB construction**, the board is designed to fit into small enclosures or compact robots. The durable components ensure long-term performance even in continuous operation environments.



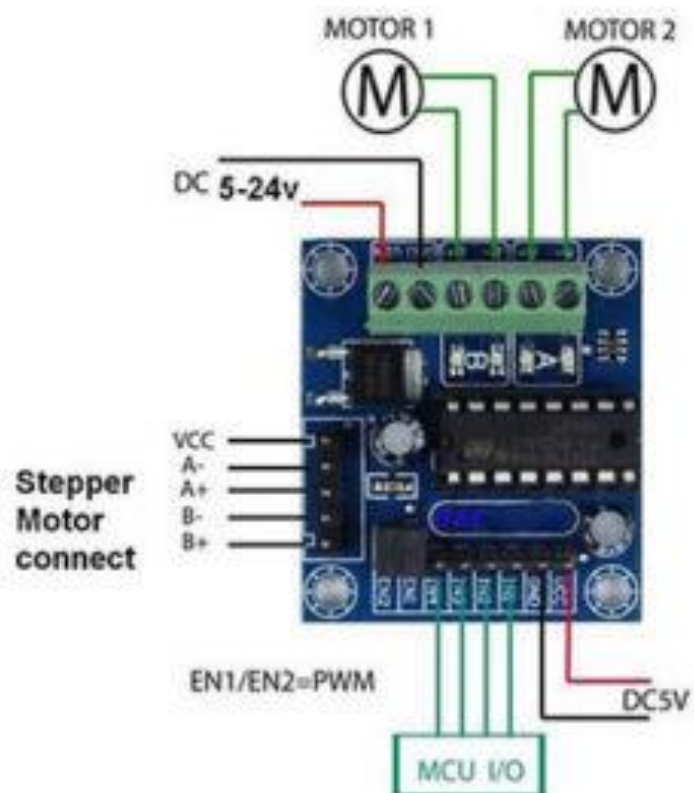
### Specifications

Specification	Details
Driver IC	L293D Dual H-Bridge Motor Driver
Operating Voltage	4.5V – 25V
Logic Voltage	5V (Compatible with Arduino)
Output Current	600mA continuous / 1.2A peak per channel
Control Interface	Digital I/O pins (PWM supported)
Motor Channels	2 DC motors or 1 stepper motor
Dimensions	Approx. 43mm x 35mm x 15mm
Protection	Overcurrent and thermal shutdown
Compatibility	Arduino UNO, Mega, Nano, and similar boards

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## Mini Motor Drive

Shield Expansion Board L293D Module









## Applications

The **Mini Motor Drive Shield Expansion Board L293D Module** is widely used in:

- **Robotics projects** – control DC motors for wheels or actuators
- **Smart car kits** – build and control two-wheel or four-wheel robots
- **Automation systems** – control conveyor belts or mechanical arms
- **RC toys and mechatronics** – manage speed and movement precisely
- **DIY projects** – integrate motion control with sensors or wireless modules

Its compact design and straightforward integration make it a top choice for **students, hobbyists, and developers** working on motion control systems.

### Benefits

-  **Dual-channel motor control:** Drive two DC motors or one stepper motor
-  **PWM speed control:** Adjust motor speed smoothly and accurately
-  **Compact design:** Fits easily on small robotic chassis or Arduino setups
-  **Easy integration:** Directly plugs into Arduino headers
-  **Safe operation:** Built-in protection against overheating and back EMF
-  **Budget-friendly:** Affordable yet highly capable motor control solution

### Why Choose the L293D Motor Driver Shield?

The **L293D Motor Driver** is one of the most trusted and widely used motor control ICs in robotics and automation. Combined with this **mini expansion board**, it offers a **reliable, efficient, and easy-to-use** interface for controlling motors directly through Arduino.

Its **versatile features**, such as PWM speed control, separate power supply options, and full compatibility with open-source libraries, make it an essential tool for **students, engineers, and makers**. Whether you're building a **line-following robot, DIY RC car, or mechanical arm**, this motor driver shield provides the functionality and control precision you need.

### Conclusion

The **Mini Motor Drive Shield Expansion Board L293D Module** is a **powerful yet compact motor control solution** perfect for Arduino-based projects. With its **dual H-bridge design, PWM support, and built-in safety protections**, it offers precise and efficient motor control for **DIY robotics, automation, and mechatronics applications**.

Compact, affordable, and reliable—the **L293D Motor Shield** empowers your projects with smooth, accurate, and safe motor operation. It's the perfect choice for anyone looking to bring motion and automation to their electronic creations.