

Motor Driver Shields (L298N, TB6612)

DT Workshop Equipment Reference — D&T / STEM resource for school workshops | Electronics & Prototyping

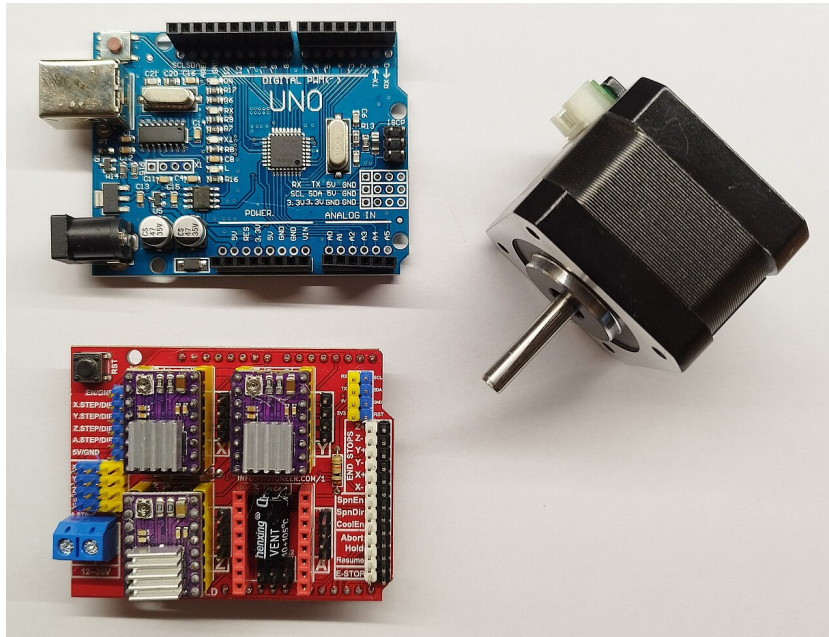


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(Arduino_UNO_compatible_board_CNC_shield_stepper_motor_controller_and_a_NEMA_17_stepper_motor.jpg)

Motor driver boards let microcontrollers control DC motors and steppers: the L298N handles two motors at 2 A with simple logic, while the TB6612 is lighter and more efficient. Both give direction and speed control for robots.

Key Features

- L298N: 2 motor channels, 2 A
- TB6612: 1.2 A per channel, more efficient
- PWM speed control
- Direction logic inputs
- 5 V regulator on L298N boards

Typical Uses in the Workshop

- Drive robot wheels and tracks
- Control two DC motors independently
- Drive small steppers
- Teach H-bridge motor control

Safe Operation

1. Power the driver board separately from the logic
2. Wire the motors to the output terminals
3. Connect the control pins to the microcontroller
4. Enable PWM on the speed pins
5. Check ground common between supplies

SAFETY NOTES

- Do not exceed the driver current rating
- Keep the heatsink on the L298N
- Check motor stall currents
- Wire the power away from the board
- Remove motors when testing logic

Maintenance & Consumables

- Check the terminal screws
- Keep the heatsink clean
- Verify the enable pins are pulled
- Keep spares in stock
- Test the H-bridge before runs

Specification & Buying Notes

TB6612 modules suit most school robots with better efficiency; L298N teaches H-bridge basics with higher torque. Quality drivers run cool; cheap clones burn the regulator first.