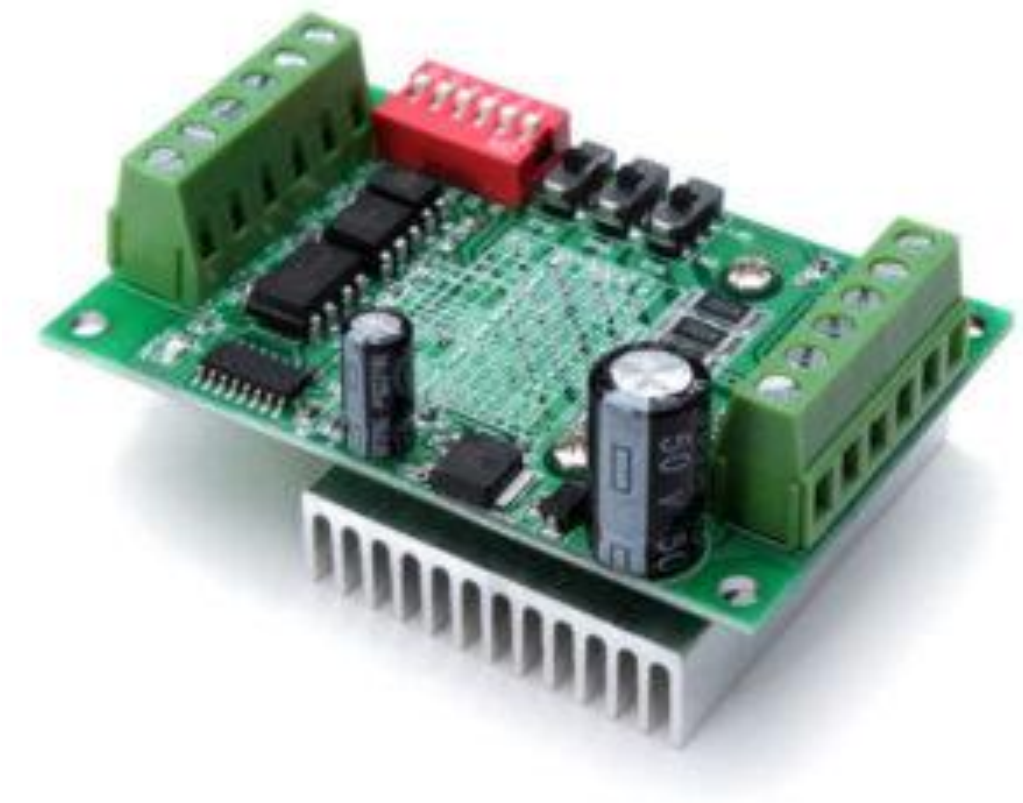
CNC Single Axis TB6600 Stepper Motor Driver – 4.5A

The **CNC Single Axis TB6600 Stepper Motor Driver (4.5A)** is a high-performance driver designed for precise control of **stepper motors in CNC machines, 3D printers, and automated equipment**. This single-axis driver offers reliable operation, smooth motion, and adjustable current settings, making it ideal for **hobbyist and professional CNC projects**.

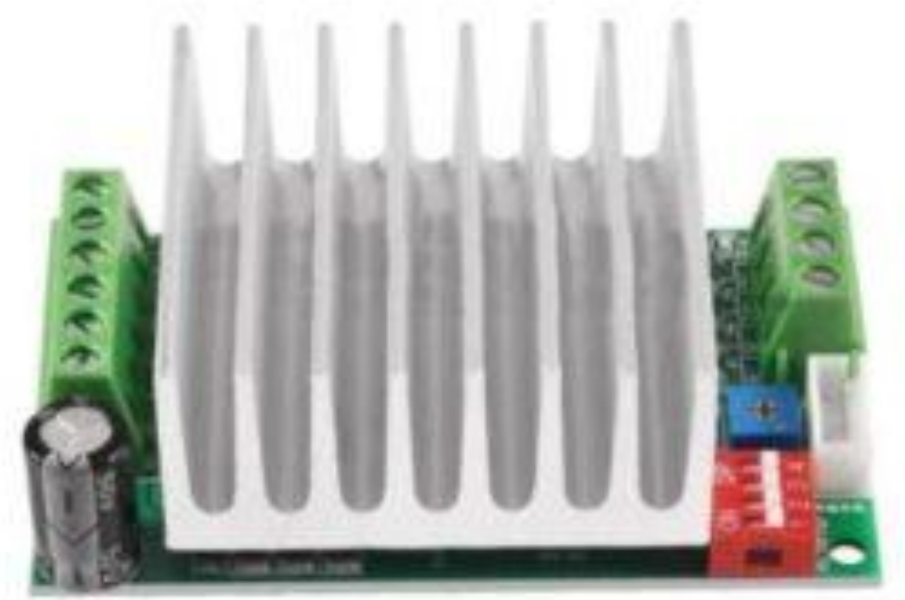
Built around the **TB6600 integrated circuit**, this driver provides **stable microstepping, overcurrent protection, and thermal safety**, ensuring efficient and accurate motor control. Its compact design allows easy installation in **CNC routers, laser engravers, and other stepper motor applications**.

Whether you are setting up a **single-axis CNC machine, upgrading a 3D printer, or experimenting with robotics**, the TB6600 stepper driver delivers **consistent performance and precision motion control**.



Key Features of CNC Single Axis TB6600 Stepper Driver

- **Current Rating**: Adjustable up to **4.5A**, suitable for NEMA 17, 23, and similar stepper motors.
- **Microstepping Support**: Offers **full, half, quarter, eighth, and sixteenth microsteps** for smooth motion.
- **Single Axis Control**: Dedicated to one stepper motor for precise independent control.
- **Input Voltage**: 9–42V DC, compatible with most CNC setups.
- **Overcurrent & Overheat Protection**: Protects the driver and motor from damage.
- **Easy Configuration**: DIP switches for microstepping and current adjustment.
- **Compact Design**: Space-saving layout for CNC machine integration.
- **Stable Performance**: Smooth, quiet, and vibration-free operation.
- **Wide Applications**: Suitable for **CNC routers, 3D printers, laser engravers, and automation systems**.

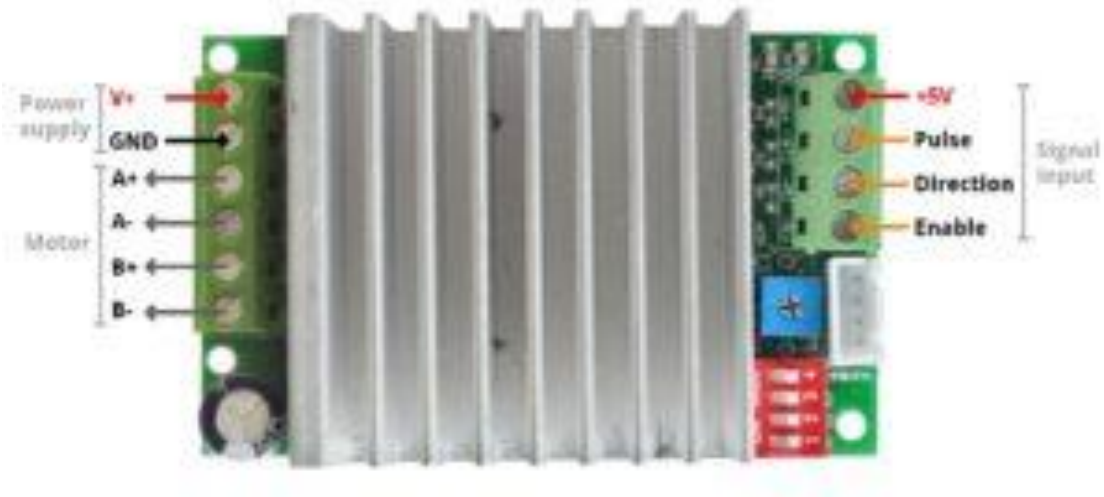


Technical Specifications

- **Driver IC**: TB6600
- **Current Rating**: 0.5–4.5A (adjustable)
- **Supply Voltage**: 9–42V DC
- **Microstep Resolution**: 1, 1/2, 1/4, 1/8, 1/16
- **Pulse Input Frequency**: Up to 200 kHz
- **Interface**: Step and Direction inputs
- **Protection**: Overcurrent, short-circuit, thermal protection
- **Operating Temperature**: -20°C to +70°C
- **Dimensions**: Compact PCB suitable for enclosure mounting

Why Choose the TB6600 Stepper Motor Driver?

1. **Precise Motor Control** – Microstepping support ensures **smooth, accurate motion** in CNC machines and 3D printers.
2. **High Current Capacity** – Supports up to **4.5A**, ideal for high-torque stepper motors.
3. **Reliable Protection Features** – Built-in thermal and overcurrent protection ensures **long-lasting performance**.
4. **Easy to Use** – Simple DIP switch configuration for microstepping and current settings.
5. **Versatile Applications** – Perfect for **CNC routers, laser engravers, 3D printers, and automation systems**.



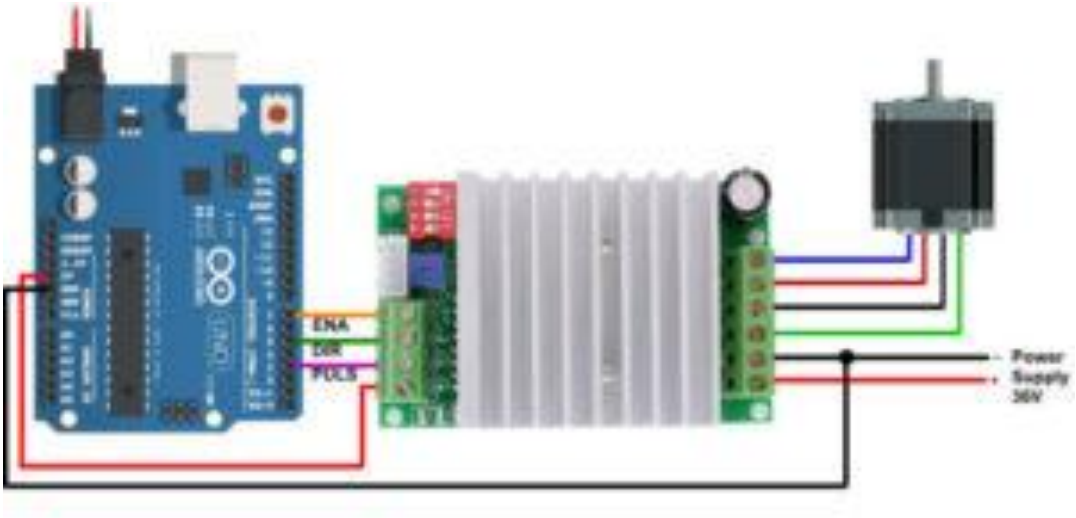
Applications of CNC Single Axis TB6600 Stepper Driver

- **CNC Routers**: Precise control for single-axis motion in milling and engraving machines.
- **3D Printers**: Drive X, Y, or Z-axis stepper motors with smooth motion and minimal vibration.
- **Laser Engravers**: Accurate positioning of laser modules for high-quality engraving.
- **Automation Systems**: Control linear actuators, conveyors, or robotic arms in industrial setups.
- **Robotics Projects**: Independent stepper motor control for robotic joints or mechanisms.
- **DIY CNC Projects**: Ideal for hobbyist CNC machines and electronics projects.

How to Use the CNC Single Axis TB6600 Stepper Driver

1. **Connect Power Supply** – Provide a DC voltage within **9–42V** to the driver's power input.
2. **Connect Stepper Motor** – Wire the motor's A+, A-, B+, B- terminals to the driver.
3. **Configure DIP Switches** – Adjust the **microstepping mode** and **current limit** according to motor specifications.
4. **Connect Control Signals** – Wire the Step and Direction pins to your **microcontroller, CNC controller, or driver board**.
5. **Test Motion** – Apply pulses from the controller to verify smooth motion and correct rotation direction.
6. **Integrate into Machine** – Mount the driver and motor in the CNC machine, 3D printer, or robotic setup.

With this setup, the TB6600 driver provides **accurate, smooth, and reliable single-axis control** for various stepper motor applications.



Package Includes

- 1 × **CNC Single Axis TB6600 Stepper Motor Driver – 4.5A**

Conclusion

The **CNC Single Axis TB6600 Stepper Driver (4.5A)** is a **high-performance, compact, and reliable** solution for driving stepper motors in CNC, 3D printing, laser engraving, and automation projects. Its **adjustable current, microstepping support, and built-in protections** make it suitable for both hobbyists and professional engineers.

Whether you are building a **single-axis CNC router, upgrading a 3D printer, or developing an automated system**, this TB6600 driver ensures **smooth, precise, and safe motor control**, making it an essential component for modern stepper motor applications.