

DC Motor Driver 24V 20A [RKI-1340]



Users Manual

Robokits India

<http://www.robokits.co.in>

info@robokits.co.in

Add raw power and simple connectivity to your robotics applications with this 24V compatible 20A capable DC motor driver. It is ideal for application where the motor requires up to 20 Amperes of current during startup and during normal operations. It is also compatible with motors that run at 24V.

It comes with a simple TTL/CMOS based interface that can connect directly to the IOs of an MCU. It has a braking feature that can guarantee immediate halt on the shaft of motors in most high power applications and also includes protection circuitry to avoid any electrical fluctuations affecting the normal operation of an MCU.

This Package Includes

- A 24V compatible 20A DC motor driver circuit
- Motor connector and supply connectors

Features

- Simple connectivity to IO pins of any MCU.
- Compatible with motors rated up to 24V
- Can easily deliver 20A of current during normal operation
- Braking feature included without affecting the performance of an MCU

Applications

- Simple DC motor applications that require forward and backward driving of motors
- DC motor applications requiring speed control via PWM input
- Halting or braking a DC motor during operation

Electrical Characteristics

Input Voltage: 7V minimum to 30V maximum

Continuous Current (< 1seconds) ~ 20A

Continuous Current (< 10seconds) ~ 10A

Continuous Current (> 10seconds) ~ 5A (without heat sink on MOSFETS)

Absolute Maximum Peak Current ~ 50A

No short circuit protection on output of the driver

Connector Information

V(+) 24Vmax and **GND(-)**: Power Supply input to driver (Input Voltage)

Motor: Two Terminals of the DC motor

Control IO Description

GND – connect to **GND** on controlling board

DIR – Pulled down to **GND** Forward by default and Backward when 5V (logic high)

PWM – Pulse Width Modulation input to control speed of motor (recommended freq 20Hz to 400Hz)

BRK – breaking input to halt the motor in operations when 5V (logic high)

5V – regulated 5V output from motor driver board (maximum 50mA supply)

LED Info

PWR LED – power supply present

Don'ts

- Touch the driver circuitry while it is powered up
- Put any material on the circuitry that prevents dissipation of the heat from the circuitry
- Electrically short the outputs of the driver

Do's

- Mount the driver securely before use to prevent electrical shorting
- Provide sufficient open space above and below the driver to allow the driver to cool down easily

Usage Steps

1. Connect external power at the supply connector with the correct polarity.
2. Check GND(-) and V(+) terminals. (Do not connect the power supply in reverse or else the circuit might get damaged.)
3. Power LED should be on.
4. Connect a DC motor to the motor connector
5. Connect the GND pin to the GND of the control board
6. Provide TTL 5V logic inputs to DIR, BRK and PWM.
7. DIR may be left open for single direction operation.
8. BRK may be left open if braking is not required
9. Motor drivers outputs will remain tri-stated by default if no inputs are provided

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Service and Support

Service and support for this product are available from Robokits India. The Robokits Web site (<http://www.robokits.co.in>) maintains current contact information for all Robokits products.

Limitations and Warrantees

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