



MD 1.15.40

Single Channel 15A DC Motor Driver

User's Manual (July 2026)

V1.0



This publication's device application details are suggestions only and subject to change. Users are responsible for verifying suitability for their own applications. NIROTRONIX gives no warranty and accepts no liability for accuracy, use, or resulting IP infringement. NIROTRONIX products may not be used in life-support systems without prior written approval. No IP licenses are granted, express or implied.

1. Product description

The **MD 1.15.40** is designed to drive a single brushed DC motor with continuous current up to 15A at a maximum voltage of 40V. It supports sign-magnitude PWM signals. The output frequency directly matches the input frequency of the PWM control signal.



Motor Driver	Number of channels	Maximum continuous current	Maximum voltage
MD	1= single channel 2= dual channels	10=10A 15= 15A 30= 30A	40= 40 V

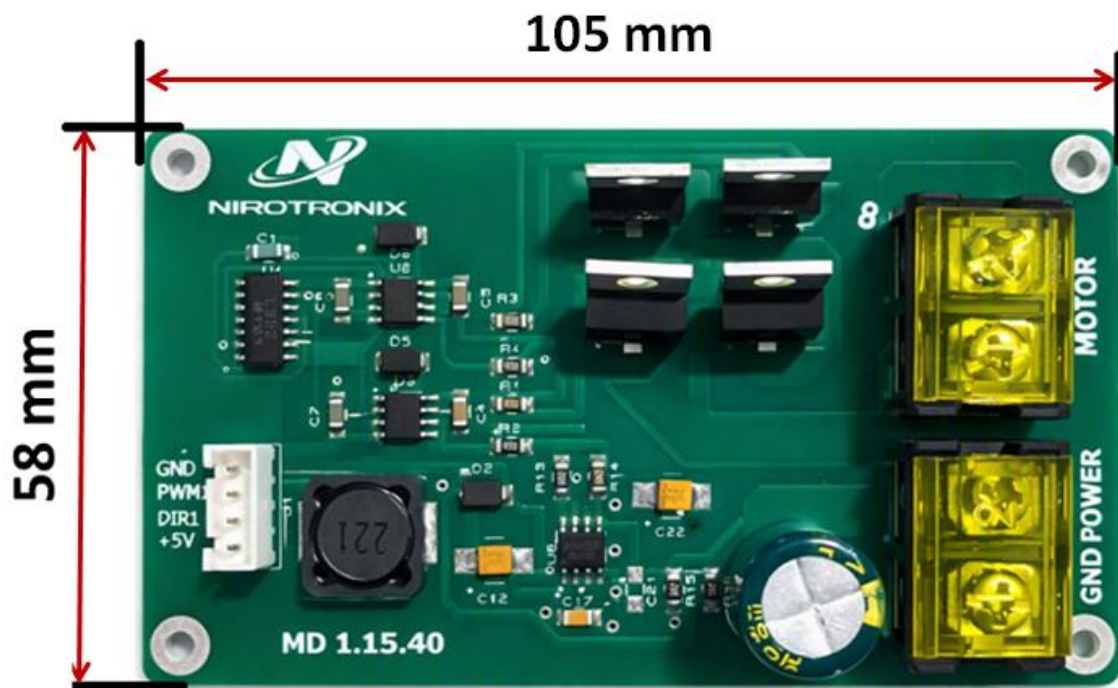
The **MD1.15.40** is designed with the following features:

- **Bi-directional control** for one brushed DC motors.
- Supports motor voltage ranges from **3.5V to 40V**.
- Provides a maximum continuous current of **15A**.
- Allows speed control with PWM frequencies up to **25 kHz** (output frequency matches the input PWM signal).
- Supports **sign-magnitude PWM** operation.
- Compact dimensions: **105 mm × 58 mm**.

2. Absolute Maximum Rating

No.	Parameter	Min	Typical	Max	Unit
1	Power Input Voltage	3.5	-	40	V
2	Maximum Continuous Motor Current	-	-	15	A
3	Maximum Peak Motor Current	-	-	30	A
4	Logic Input High Level	3	-	5.5	V
5	Logic Input Low Level	0	0	0.5	V
6	Maximum PWM Frequency	-	-	25	kHz

3. Dimensions



4. Hardware layout



1. Input

Pin No.	Pin Name	Description
1	GND	Ground
2	PWM1	PWM input for speed control (Motor 1)
3	DIR1	Direction input (Motor 1)
4	+5V	5 volt (input)

2. Motor Power

Pin No.	Pin Name	Description
1	POWER	Positive power terminal
2	GND	Ground (negative terminal)

3. MOTOR : Motor Terminals

➤ THE TRUTH TABLE

PWM	DIR	MOTOR
Low	X (Don't care)	Stop
High	Low	Right
High	High	Left



5. Warnings



Warning	Description
Reverse supply connection	Do not connect the power supply terminals in reverse order to avoid damaging the board.
Motor direction reversal	Do not reverse the motor direction before stopping it, as the back electromotive force (EMF) may damage the drivers.

6. WARRANTY

- **Warranty duration:** Coverage is valid for 18 months.
- **Scope of warranty:** Applies exclusively to manufacturing defects.
- **Exclusions:** Any damage resulting from misuse is not covered.
- **Freight responsibility:** Shipping costs in both directions are not included under warranty.