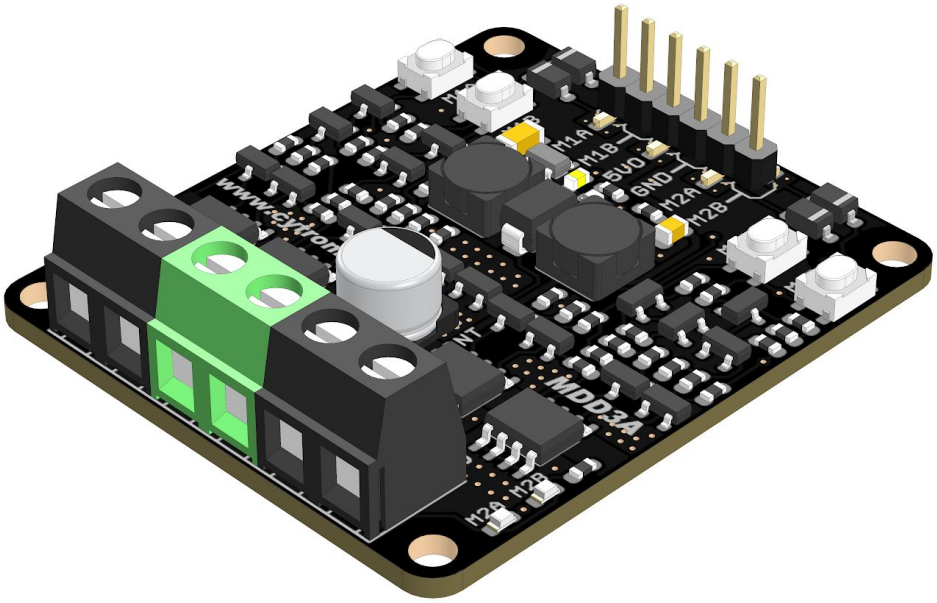
MDD3A

3Amp 4V-16V DC Motor Driver (2 Channels)



Datasheet

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1. BOARD LAYOUT & FUNCTION

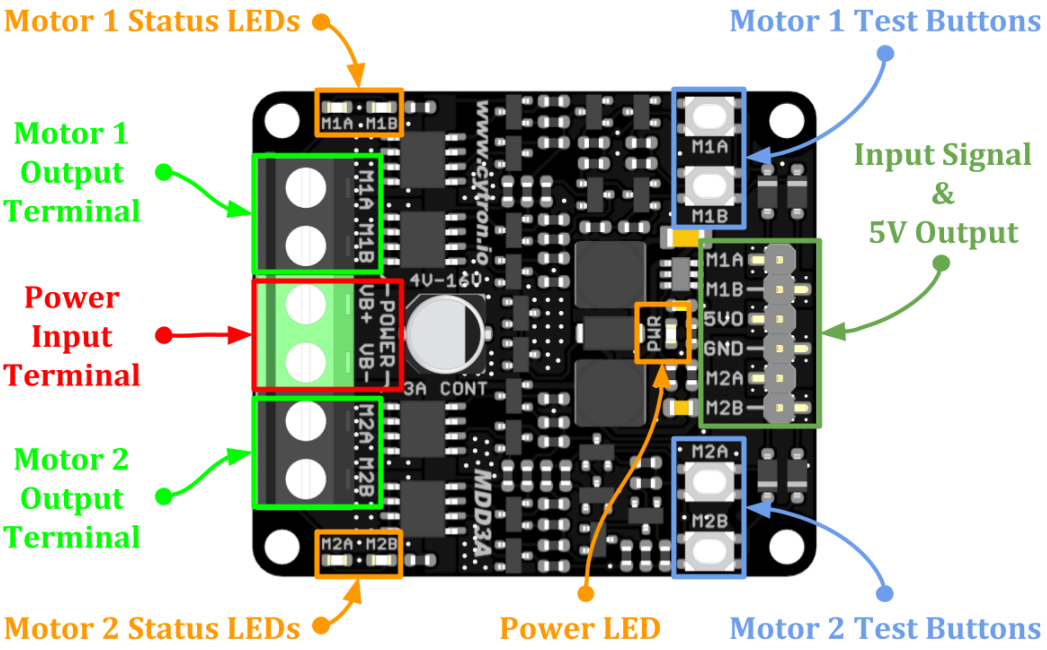

Figure 1: MDD3A Board Functions

Function	Description
Power Input Terminal	Connect to battery. • VB+ : Positive • VB- : Negative
Motor Output Terminal	Connect to motor terminal. Motor direction depends on the polarity.
Power LED	Turn on when power up.
Motor Status LEDs	Turn on when the motor is running. • M1A / M2A : Forward* • M1B / M2B : Backward*
Test Buttons	Press to test the functionality of the motor driver. Motor will run at full speed. • M1A / M2A : Forward* • M1B / M2B : Backward*
Input Signal & 5V Output	Input signal from microcontroller to control the motor. +5V output can be used to power the microcontroller. • M1A : PWM Input A for motor 1. • M1B : PWM Input B for motor 1. • 5VO : DC +5V Output (Maximum 200mA) • GND : Ground • M2A : PWM Input A for motor 2. • M2B : PWM Input B for motor 2.

Table 1: MDD3A Board Functions

* *Actual motor direction is depending on the motor connection.*
Swapping the connection (MA & MB) will reverse the direction.

2. SPECIFICATIONS

No	Parameters		Min	Max	Unit
1	Power Input Voltage (Vin)		4	16	VDC
2	Maximum Motor Current	Continuous	-	3	A
		Peak (< 5 seconds)	-	5	A
3	Logic Input Voltage (M1A, M1B, M2A, M2B)	Low Level	0	0.5	V
		High Level	1.7	12	V
4	PWM Frequency *(Output frequency is same as input frequency)*		DC	20	KHz
5	DC +5V Output Maximum Current		-	200	mA

Table 2: MDD3A Absolute Maximum Ratings

3. DIMENSION

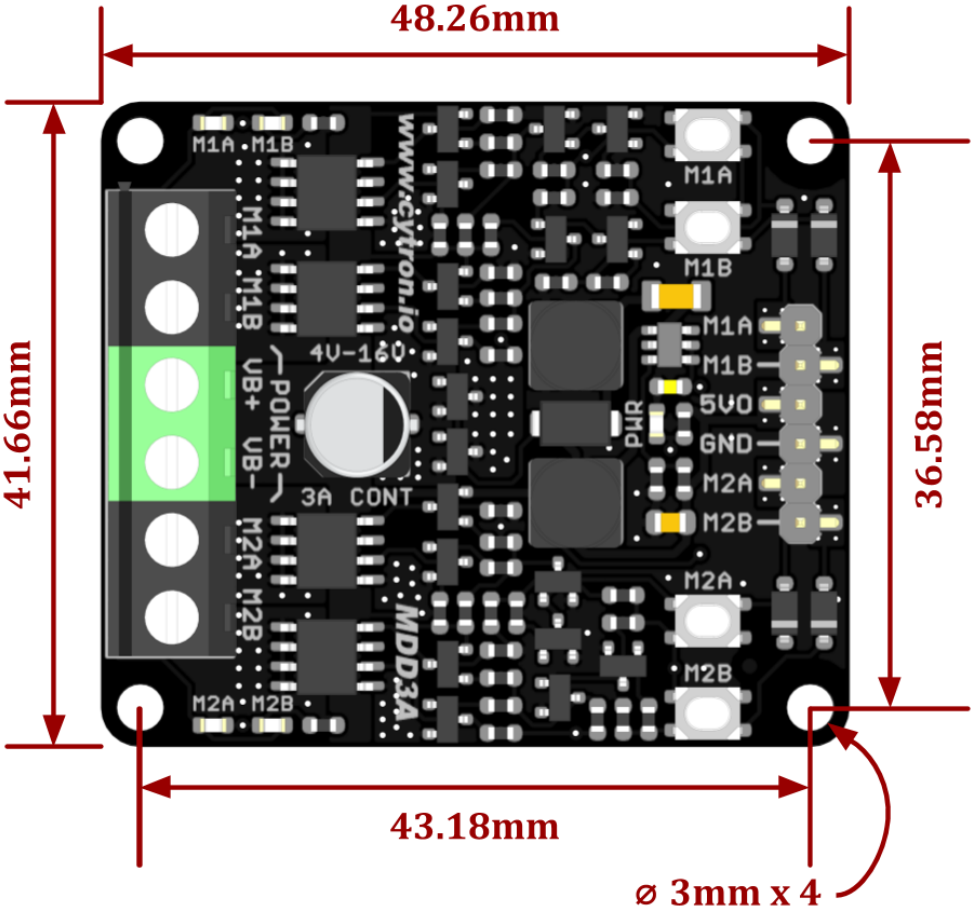

Figure 2: MDD3A Dimension

4. INTERFACE

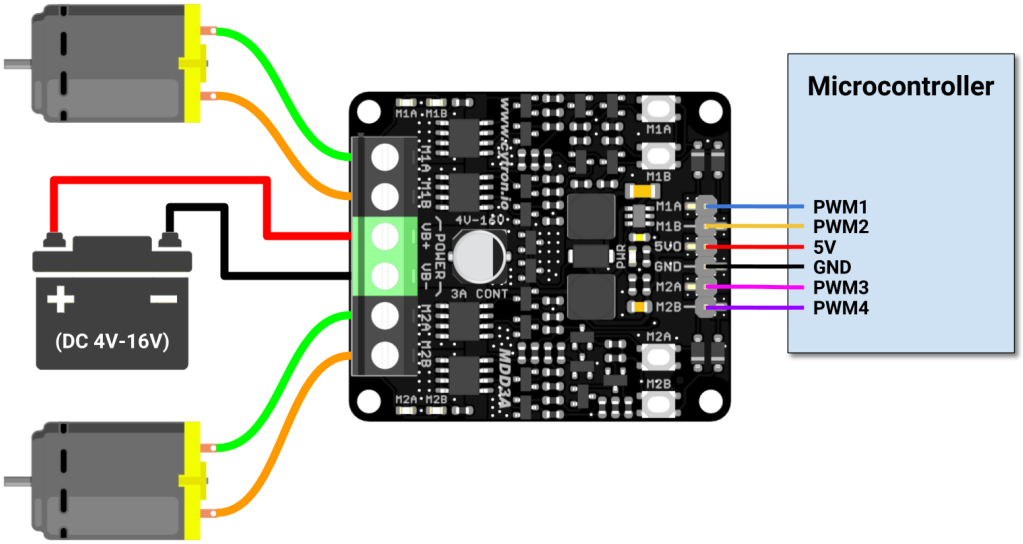

Figure 3: Connection Diagram for Brushed DC Motor

Input A (M1A / M2A)	Input B (M1B / M2B)	Output A (M1A / M2A)	Output B (M1B / M2B)	Motor
Low	**Low**	Low	Low	Brake
High	**Low**	High	Low	Forward*
Low	**High**	Low	High	Backward*
High	**High**	High	High	Brake

Table 3: Input Truth Table

* *Actual motor direction is depending on the motor connection.*
Swapping the connection (MA & MB) will reverse the direction.

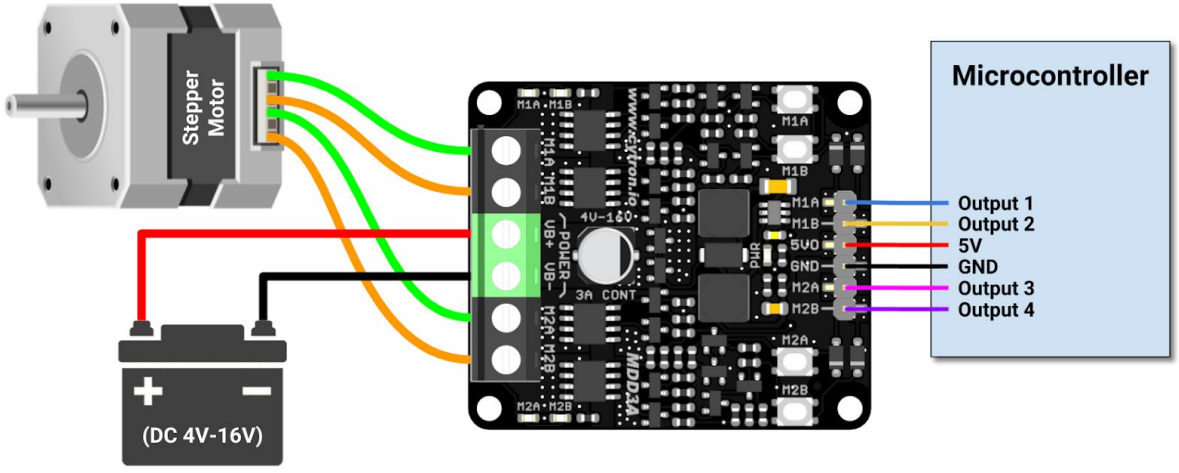

Figure 4: Connection Diagram for Stepper Motor

5. PROTECTION FEATURES

- **Power Input Reversed Polarity Protection**

  Protect the motor driver from damage if the battery is connected in wrong polarity. This is a very common mistake done by a lot of makers even for the very experienced one.

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