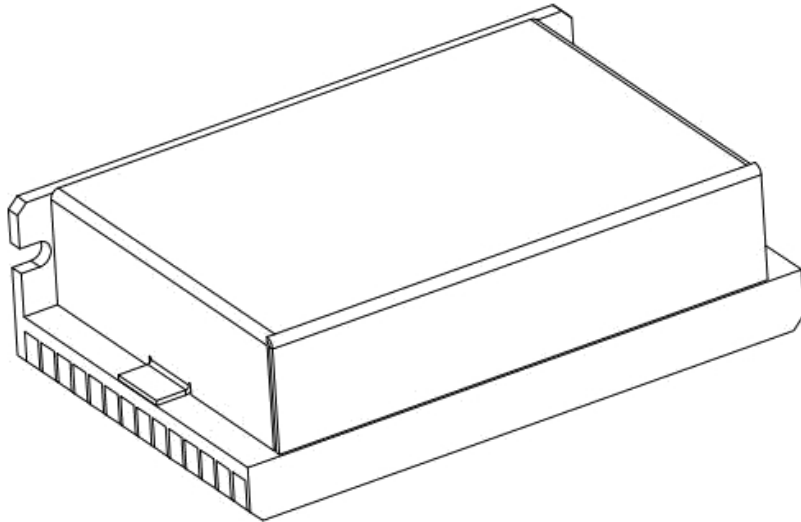


OWNER'S GUIDE

BL10 BRUSHLESS DC MOTOR DRIVER



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TECHNICAL DOCUMENT

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Matched Brushless DC Motor: 57mm, 60mm, 62mm,
70mm, 80mm, 86mm.

Note: if you have any problems, please email
sales@ichmo.com to contact us.

TECHNICAL DOCUMENT

1. Introduction

Thanks for choosing I.CH BL-series brushless DC motor. BL10 is a compact electronic assembly for operating 3 phase brushless permanent magnet D.C. motors. The speed control loop consists of speed control and true speed evaluation circuits. The demanded speed is set by a built in potentiometer or externally DC-voltage.

2. Feature

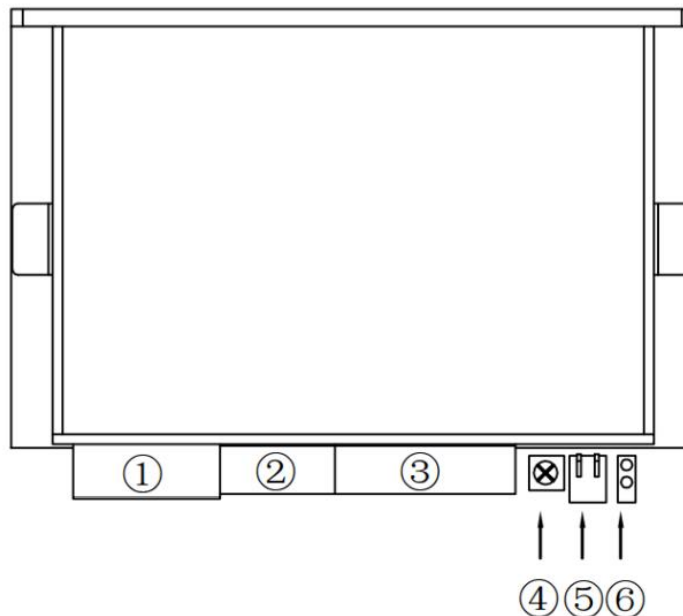
- compact size and simple installation
- speed controller
- open or close loop speed control
- Max. output current of 10 amp, allow 20 amp overload for 5 seconds
- speed and alarm output with OC gate

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3. Specification

Voltage supply	12~48VDC
MAX. Current	10A
IO input voltage range	5~24V
MAX. output Voltage	24V
Protection	Voltage and phase current monitoring, short circuit protection, phase error, hall error
Dimension	118×76×34mm
Weight	300g
Working temperature	0~40°C
Storage temperature	-10~70°C
Humidity	MAX.90%, No condensation

4. Terminal and wiring



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Power Terminal

number	function	details
1	DC+	12~48VDC input positive
2	DC-	12~48VDC input negative
3	U	Motor phase U
4	V	Motor phase V
5	W	Motor phase W

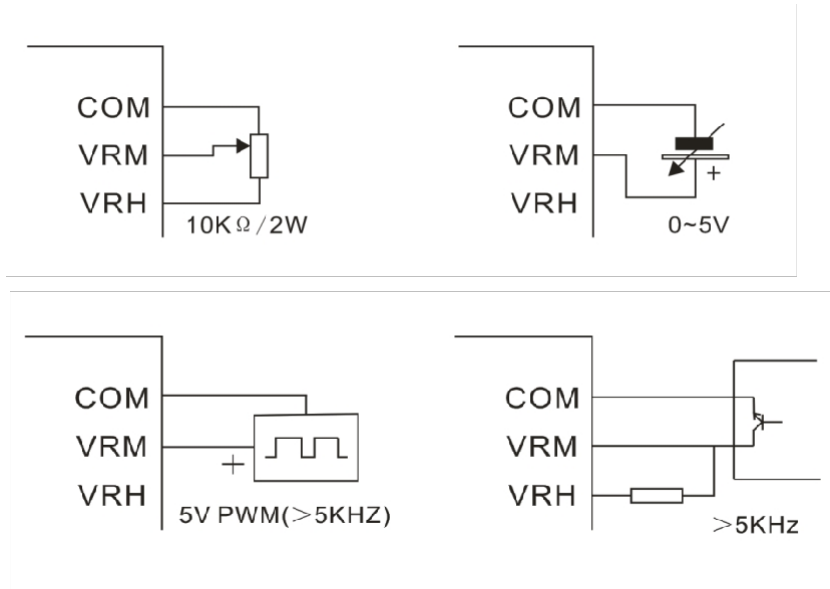
Hall Terminal

number	function	details
1	Hall V+	Hall power positive
2	Hall V-	Hall power negative
3	Ha	Hall phase a
4	Hb	Hall phase b
5	Hc	Hall phase c

Control Terminal

number	function	details
1	Run/Stop	when enable the motor runs
2	CW/CCW	when enable the direction of rotation is set at CCW (view from motor output side),else at CW
3	BRAKE	When enable the motor stops quickly
4	F-out	True speed pulse OC gate output of 50% duty. every revolution's pulses equals the number of Pole-pairs
5	Alarm	When system runs error this terminal output low level
6	VRH	provide +5V and maximum current of 100mA
7	VRM	External speed control terminal that allows 0~5V DC-voltage or 5V PWM(>5KHz)in and only effective when SW1 has been turning off
8	COM	Common terminal

TECHNICAL DOCUMENT



Built-in speed regulator



counter clock wise : accelerating











clock wise : decelerating

mode selection

SW1	Speed control input	ON: the built-in speed regulator is effective
		Off: the external DC-Voltage
SW2	Open/close loop switch	ON: close loop speed control
		OFF: open loop speed control

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LED codes

Alarm code		details
	Green light	System power supply normal
	Red light	System error
	Red light quick flash	Ready to run
	Red light slow flash	System error
	Red light flash twice	Brake error
	Red light flash 3 times	Input error
	Red light flash 4 times	High side mosfets error
	Red light flash 5 times	Low side mosfets error
	Red light flash 6 times	Hall error
	Red light flash 7 times	Low voltage

5. Dimension

