

# DC Brushless Motor Driver User's manual Model: BL300-0

Thank you for purchasing 3MEN product. This operating manual describes handling procedures and safety precautions.

- Please read it thoroughly to ensure safe operation.
- Always keep the manual where it is readily available.
- Any specification change or revised of user manual are subject to change without prior notice.

## Product Features

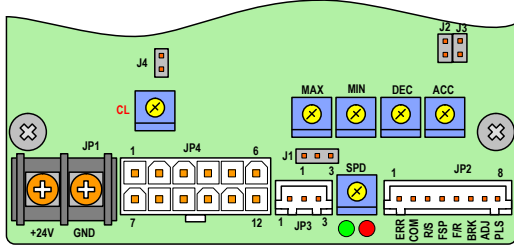
- IR adjustment
- **Over current protection**
- Low noise, long lifetime,
- Compact size, high efficiency
- Cost effective, easy operation

- Swift CW/ CCW direction change
- Internal/ external speed control selection
- Output pulse per round from motor to exam calculation
- Available variable resistance or voltage control via external speed control

## Unpacking Notice

- Motor driver...1pcs
- User's manual ...1pcs
- 8 pin connector ...1pcs
- 3 Pin connector...1pcs
- 12 Pin connector...1pcs

## Names and Functions of Driver



### JP1 Connector [Input position, 2 Pin]

Name	Description
+24V	DC24V+ (Short with JP4_Pin2)
GND	GND (Short with JP4_Pin3)

### JP2 Connector [Function control, 8 Pin]

Pos.	Name	Descriptions	Wires color
1	<b>ERR</b>	<b>Alarm signal</b>	(Red)
2	COM	0V	(Black)
3	R/S	ON/OFF Control It must be short with COM, then the motor will be active	(White)
4	FSP	Full speed control (Motor in active condition) When FPS is short with COM. The motor will rotate in its full speed	(Orange)
5	F/R	Direction control (Motor in active condition) When CW is short with COM, the motor will reverse its direction	(Blue)
6	BRK	Stop immediately or naturally control When BRK is short with COM, if motor comes from ON to OFF condition, the motor will stop immediately. When BRK is opened with COM, if motor comes from ON to OFF condition, the motor will stop naturally.	(Gray)
7	ADJ	Speed control (The jumper must be free) It can accept 0-5V input to do speed control.	(Green)
8	PLS	Pulse signal output. 12pulse/r (5V, 100uS) <b>Open Collector Circuit</b>	(Yellow)

### JP3 Connector [External speed control selection, 3 Pin]

Pos.	Name	Descriptions	Wires color
1	LV	External speed control terminal	(Red)
2	Wiper	External speed control terminal	(Green)
3	HV	External speed control terminal	(Black)

NOTE: Please use 20KΩ VR · Voltage adj. speed Range is 0~+5V ·

## Specifications

Product /Model	DC Brushless Motor Driver/ BL300-0
Power Input	DC12V/24V (Jumper Setting)
Driving Current	10A (continuous) · 20A (peak)
Motor watts	< 300W
Speed control range	40:1
Functions	Motor Swift CW / CCW Internal / External speed control selection ACC/DEC time setting, Brake
Speed setting	Internal speed control External speed control (VR or 0~5V)
Input signal	CW/CCW, RUN/STOP · Full speed, Voltage adjust speed
Op. temp./Humidity	0 ~ +60°C / <85% RH
Dim. /weight	72(L)x108(W)x31(H)±0.5mm / 230g

Specification subject to change without prior notice.

Servo Components \* [www.ServoComponents.com](http://www.ServoComponents.com) \* (603) 329-8151

### JP4 Connector [Motor power, I/O signal connection, 12 Pin]

Pos.	Descriptions	Wires/BL5	BL9
1	Motor U phase	(Blue)	<b>(Black)</b>
2	Power DC24V (Short with JP1_+24)	---	---
3	GND, DC0V (Short with JP1_GND)	---	---
4	NONE	---	---
5	Hall Sensor Power, H-	(Black)	(Black)
6	Hall Sensor Power, H+	(Orange)	(Orange)
7	Motor V phase	(White)	<b>(Red)</b>
8	Motor W phase	(Brown)	<b>(White)</b>
9	NONE	---	---
10	Hall Sensor, HU	(Yellow)	(Whit)
11	Hall Sensor, HV	(Gray)	(Brown)
12	Hall Sensor, HW	(Green)	(Gray)

### J1 Connector [Internal/External speed control selection, 3 Pin]

Setting	Name	Descriptions
<input type="checkbox"/>	EXT	External knob for motor speed adjustment
<input type="checkbox"/>	INT	Internal knob for motor speed adjustment
<input type="checkbox"/>	OPEN	Voltage Adjust (0-5V input to do speed)

### J4 Connector [12V/24V selection, 2 Pin]

Setting	Name	Descriptions
Short	12V	Setting DC12V for Motor/Driver Power
Open	24V	Setting DC24V for Motor/Driver Power

### Speed control button [Setting parameter, 5 Pin]

Name	Description
SPD	Speed control (CW →fast, CCW→slow)
MAX	Max speed control (CW →fast, CCW→slow)
MIN	Min speed control (CW →fast, CCW→slow)
DEC	Deceleration time setting, range is from 0.5~10sec
ACC	Acceleration time setting, range is from 0.5~10sec

### Current adjustment [1pcs]

Setting	Name	Description
<input type="checkbox"/>	CL	Current adjustment CW→large · CCW→small

### Light [2 Pin]

Name	Descriptions
Green LED	Power
Red LED	ERR- the alarm signal will be showed in red LED and driver will shutdown, the conditions are <ul style="list-style-type: none"> <li>■ When the current increase to 10A, for 2 sec</li> <li>■ When the motor doesn't connect to driver</li> <li>■ The shaft is locked over 10 sec</li> </ul>

### Dimension (Unit: mm)

