JYQD_V8.5E Brushless DC Motor Driver Board

（For Brushless Sensorless DC motor）

Model number	JYQD-V8.5E
Operating temp.	-20—85℃
Operating voltage	18V-50V
Max current	15A
Cont.working current	15A
·PWM speed control	PWM frequency:1-20KHZ; Duty cycle 0-100%
Analog voltage speed regulation	0-5V
O.V / L.V protection	YES
Speed pulse signal output	YES

Application notes:

1. Confirm that the voltage and power parameters of the motor not exceed the range as specified.

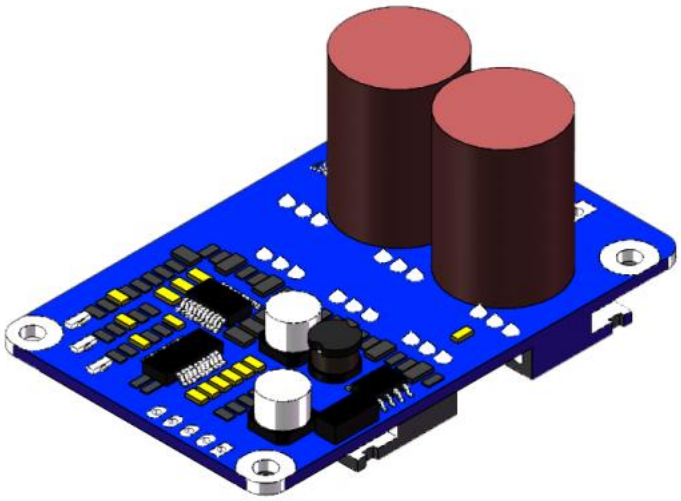
2. This driver board is used for 3-phase brushless sensorless motor, but not suit for all 3-phase brushless sensorless motors directly. If the driving effect is not good (such as starting jitter, reversing, the motor noload working current is too large, the speed is not stable, the efficiency is low, and can't start-up with load.) Customers can adjust the resistance and capacitance of the driver board according to the actual situation to achieve the best driving effect (see the attachment for how to do the adjustment).

3. JYQD-V8.5E driver board is bare board without housing and heatsink. If the power of the motor below 60W ,it does not need to add heatsink, It only needs to ensure normal ventilation and well insulation. If the power of the motor more than 60W, it must add heatsink like the diagram as below.

4. Please take note that JYQD-V8.5E driver board has no anti-reverse connection protection, it will permanently damage the driver board if reversed polarity connection.

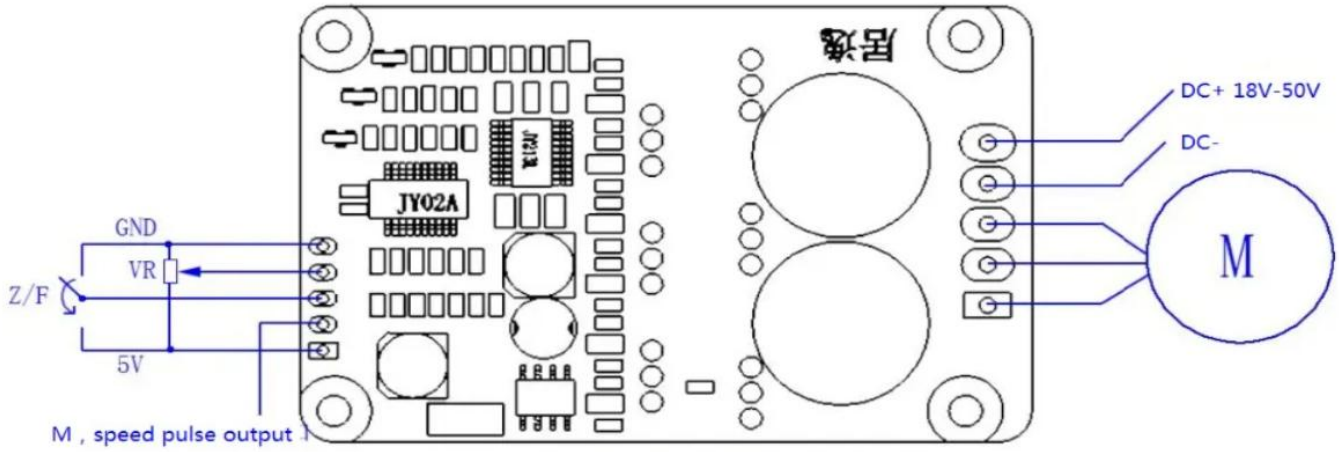
5. The 5V output port on the driver board prohibits connect external device. It is only applicable to the external potentiometer and switch of the board for speed regulation and reversal.

6. The "M" terminal on the JYQD-V8.5E driver board is the motor speed pulse output signal (push-pull output), and the maximum output current is less than 5mA.



Driver Board Diagram

Wiring Diagram



5V -----Driver board internal output voltage
M ---- Motor speed pulse signal output port, 5V pulse signal.

1.Control port
Z/F---- Rotating direction control ports. Connect “5V” high level or no connect is Forward direction, connect 0 V low level or connect to GND is reverse direction.
VR ----Speed control port. Analog voltage linear speed regulation 0.1v -5V, The input resistance is 20K Ohm ,connect with GND when input PWM speed regulation, PWM frequency:1-20KHZ; Duty cycle 0-100%
GND— Used for Drive board internal control

2. Power port
MA ----motor phase A
MB ---- motor phase B
MC ---- motor phase C
GND ----DC -
VCC ----DC +

3.Pay attention to the motor line is not too long, the drive board is dependent on the anti-electromotive force detection, the line is too long will appear signal interference

4.Control port distance: 2.54mm,Power port distance:3.96 mm

5.Pay attention to the insulation between the driver MOSFET and the heatsink or the installation plate.

Dimensional drawing