JYQD_V7.02 Brushless DC Motor Driver Board

（For Brushless Sensor DC motor）

Model number	Operating temp.	Operating voltage	Max. Current	Constant current function	·PWM speed control（1-20khz）	Analog voltage speed regulation	O.V / L.V protection	Speed pulse signal output	Breaking	Enable control
JYQD-V7.02	-20 to 85℃	12V-24V	30A	√	Duty cycle 0-100%	0-5V	√	√	√	√
JYQD-V7.02	-20 to 85℃	12V-24V	45A	√	Duty cycle 0-100%	0-5V	√	√	√	√
JYQD-V7.02	-20 to 85℃	12V-24V	60A	√	Duty cycle 0-100%	0-5V	√	√	√	√

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).

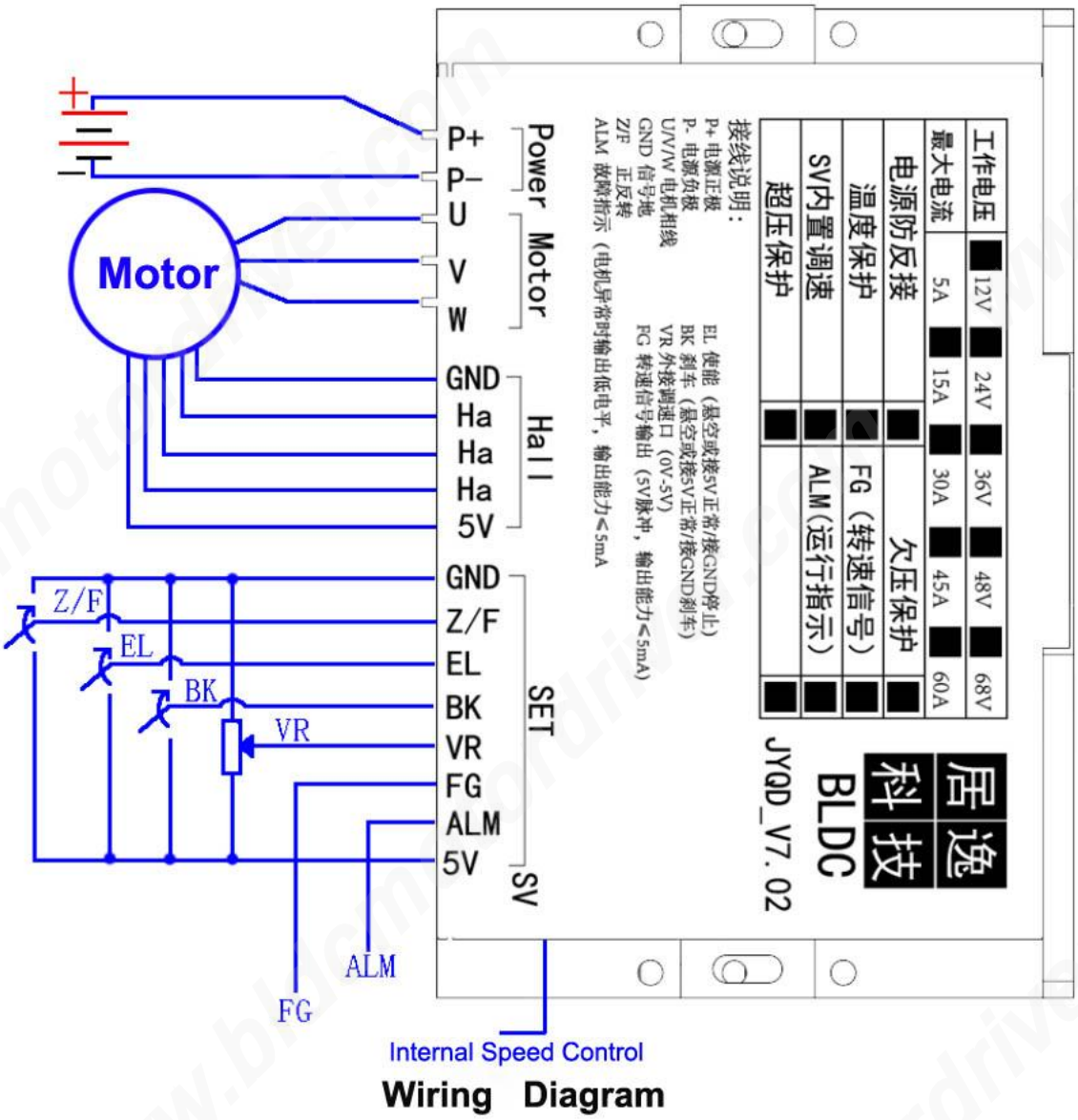
3. When the motor is running, it is necessary to ensure the normal ventilation of the controller.

4. The FG port on the driver board is the motor speed pulse output signal, and the output current is less than 5mA.

5. JYQD_V7.02 SV hole is built-in speed control port, clockwise acceleration, counterclockwise deceleration (built-in speed control function automatically fails when external speed control is available).

Driver Board Diagram

Wiring Diagram



Wiring Diagram

1.Control port (SET)

Z/F---- Rotating direction control ports. Connect “5V” or no connect is Forward direction, connect to GND is reverse direction.

EL ---- Enable control port.Connect “5V”or no connect is running status, connect to GND is Stop.

BK --- Brake control port. Connect “5V”or no connect is running status, connect to GND is braking.

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%

FG --- Motor speed pulse output signal, output current less than 5mA.

GND— Used for Drive board internal control.

ALM --- Running indication. the motor outputs high level (5V) normally when it is running, and outputs low level (0V) when the motor runs abnormally, and the current is less than 5Ma.

5V ----- Driver board internal output voltage.Only power potentiometer, switch speed regulation and reversal use (external electrical equipment is prohibited).

2. Hall port

HA ---- Hall A
HB ---- Hall B
HC ---- Hall C
GND ---- Motor Hall Signal Negative power port
5V ---- Motor Hall Signal Positive power port

3. Power port

P+ --- DC+
P- --- DC-
U --- Motor phase line
V --- Motor phase line
W --- Motor phase line

4.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

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

6.When the driving power is large, forced heat dissipation measures should be taken to prevent excessive temperature of the controller from affecting normal use.

Dimensional drawing