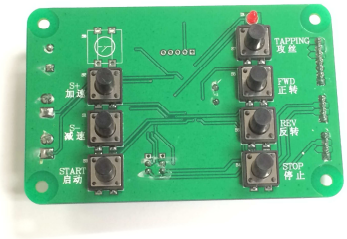
Manual

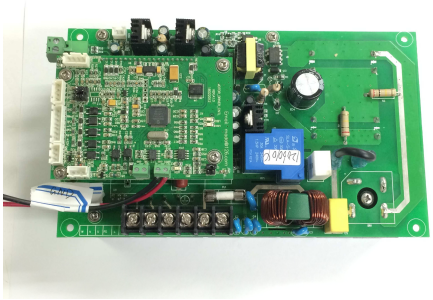
1100W and 2200W BLDC Motor

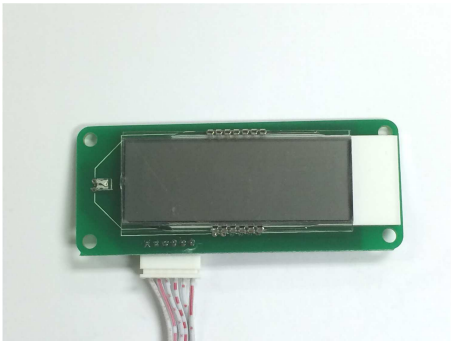
1. Components

The components of this package include: BLDC Motor, Controller,

Keyboard and LCD.







2. Specifications

Power- 1.1Kw or 2.2KW
Speed- 6000 RPM
Poles- 4

3. Connections

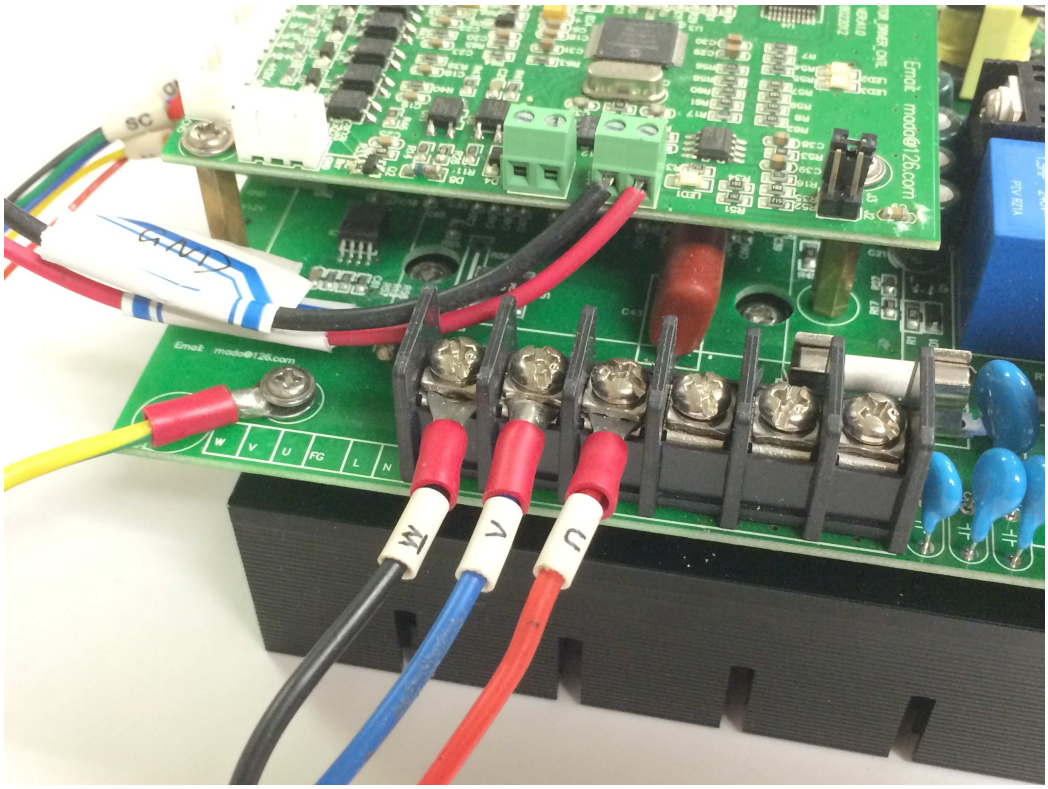


Figure 1: Shows the brushless motor hookup: W, V, U & GND

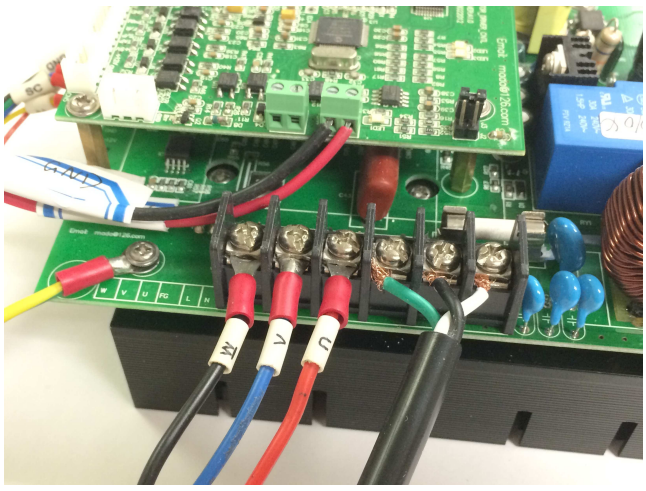


Figure 2.

Figure 2: shows the *110V* hookup:

FG= Earth; L= Line (Hot); N= Neutral

For *220V* hookup:

L= Line (Hot); N= Line (Hot)

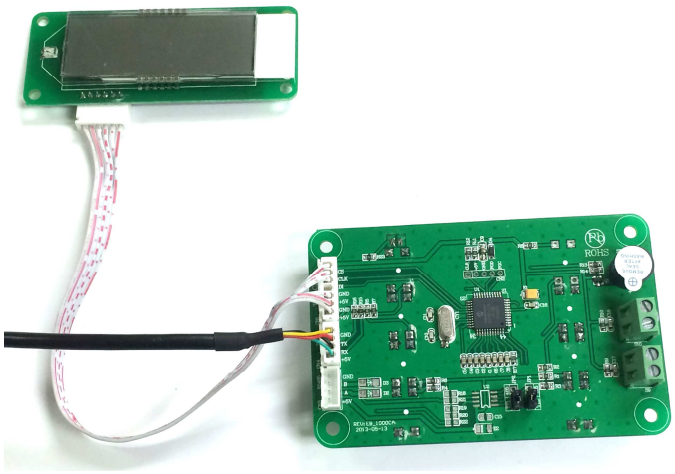


Figure 3.

Figure 3: shows the keyboard(backside) and LCD hookup

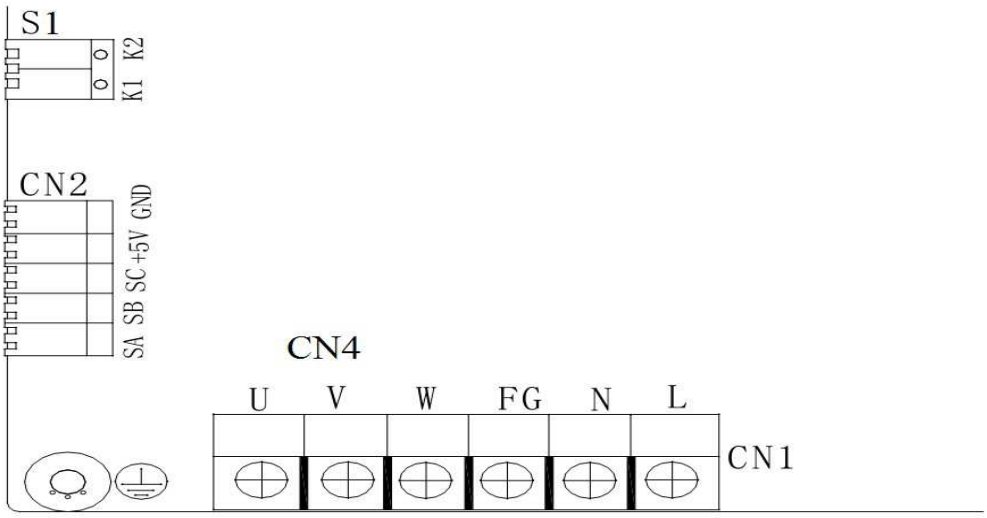


Figure 4.

CN4			CN1			CN2					S1		J1/J2	
Motor input			power			Hall line					E-stop switch		110V/220V transfer switch	
U	V	W	FG	N	L	SA	SB	SC	+5V	GND	K1	K2	J1	J2

Figure 5.

CN1—As explained in F**igure 2**:

For *110V* hookup.

FG= Earth ; L= Line (Hot) ; N= Neutral

For *220V* hookup.

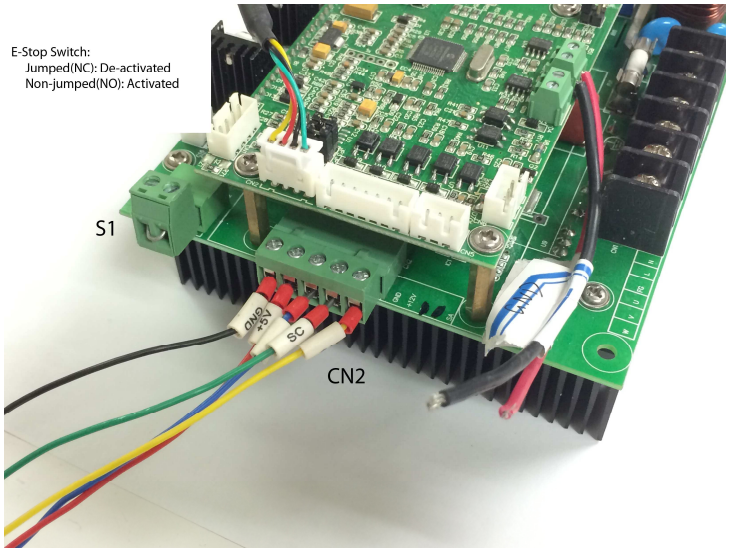
L= Line (Hot); N= Line (Hot)

CN2--Hall sensor terminal. Connects to the motor hall cable.

CN4--Output terminal U, V, W connects to the motor's U phase, V phase, W phase. As shown in **Figure 1.**

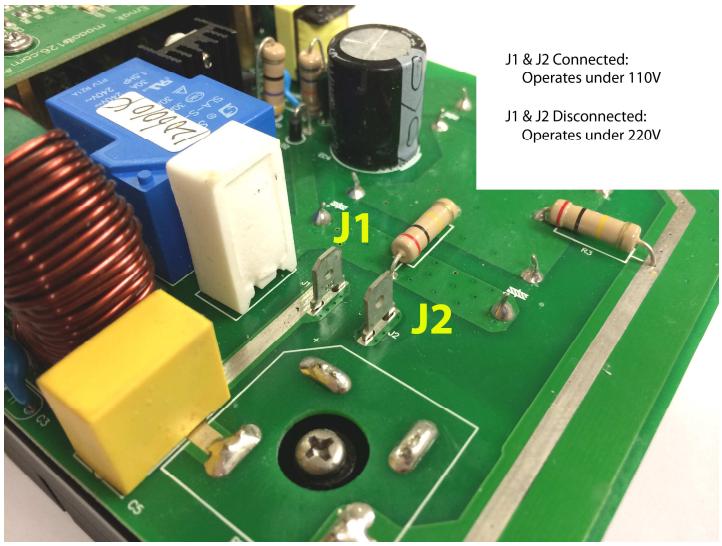
S1--E-Stop/limit switch terminal.

Short circuit K1 & K2, the controller will work normally. Disconnect K1 & K2, the controller will stop working.

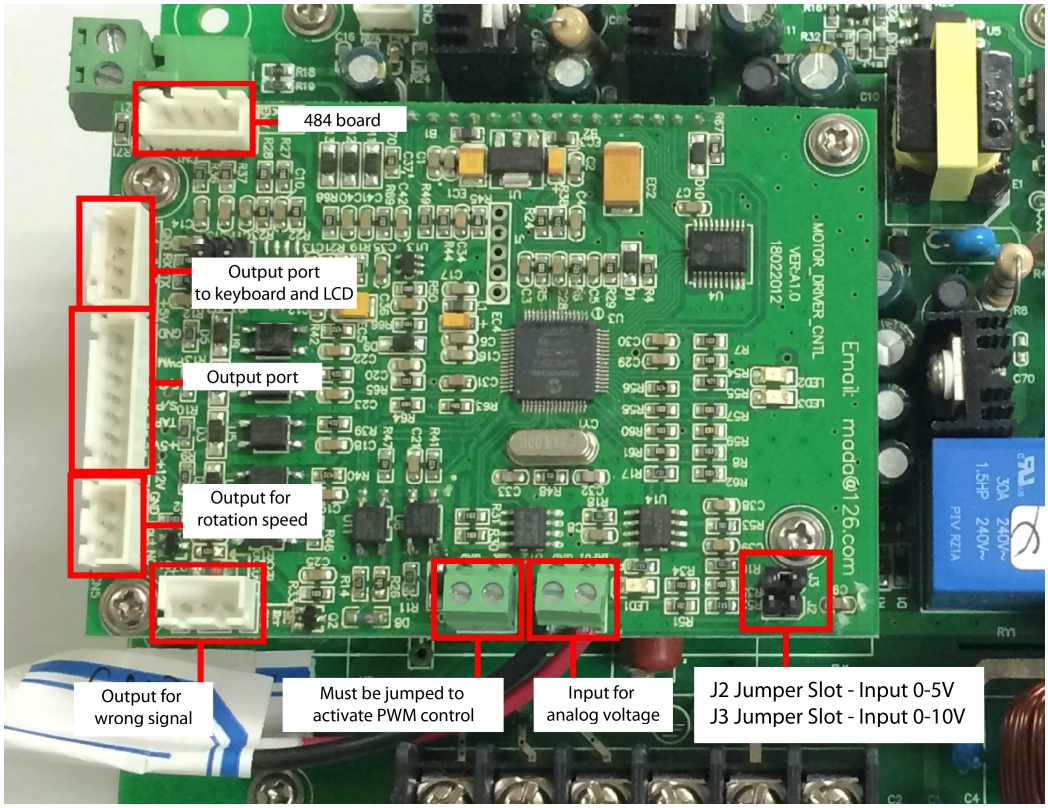


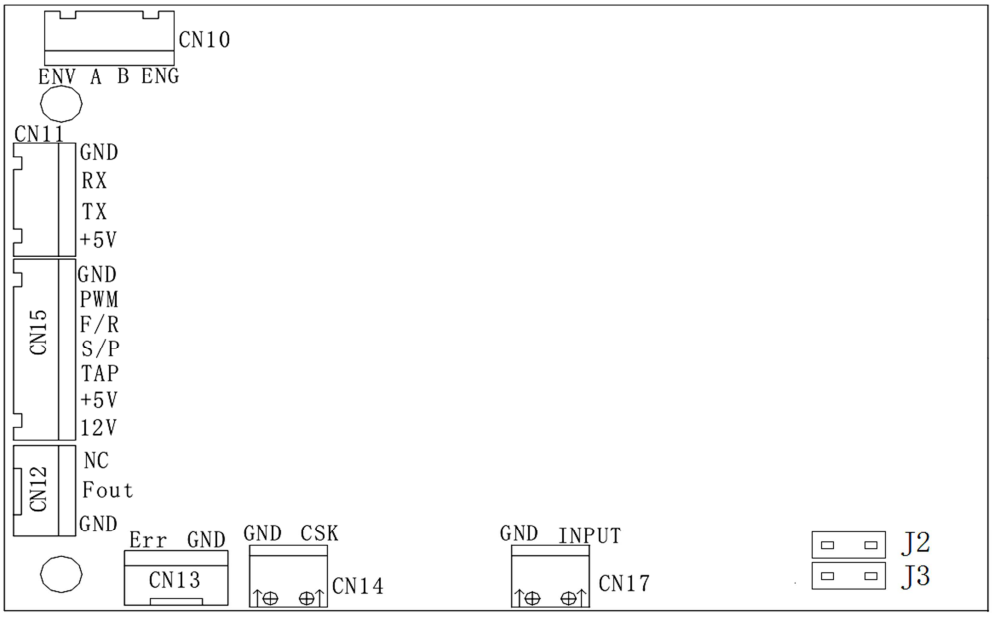
J1/J2--If disconnected, the working voltage is 220V.

If connected, the working voltage is 110V. (**NOTE**: J1/J2 needs to use a thick wire to connect.)



4. The Interface Controller Terminal Functions:





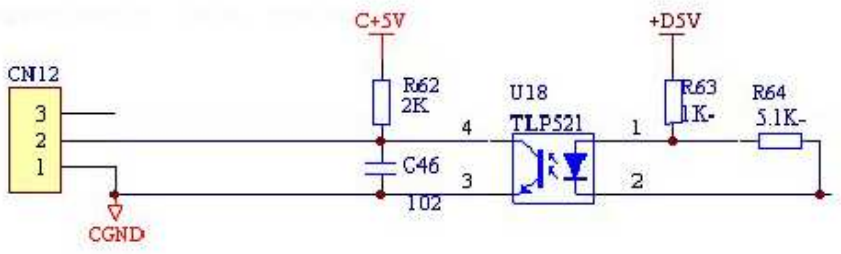
CN10				CN11				CN12			CN13		
485 Serial interface communication mouth				TTL Serial interface communication mouth				Speed signal output			Error signal output		
5V	A	B	GND	5V	TR	RX	GND	NC	Fout	GND	NC	Err	GND

CN14	CN15							CN17	
The user interface choice port	The user interface ports							0V—10V speed	
Short CK1 & CK2 interface can be used	15V	+5V	TAP	S/P	F/R	PWM	GND	GND	Input

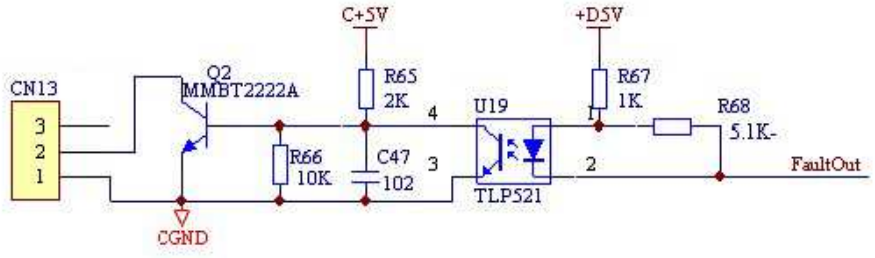
CN10--485 Serial communication Port can be easily prepared with the realization of other high-line, so that intelligent controller, to facilitate better operation.

CN11--Common TTL serial port, to keypad and LCD.

CN12--Speed signal output can be used to detect the motor speed. You must add 5V power supply to work.

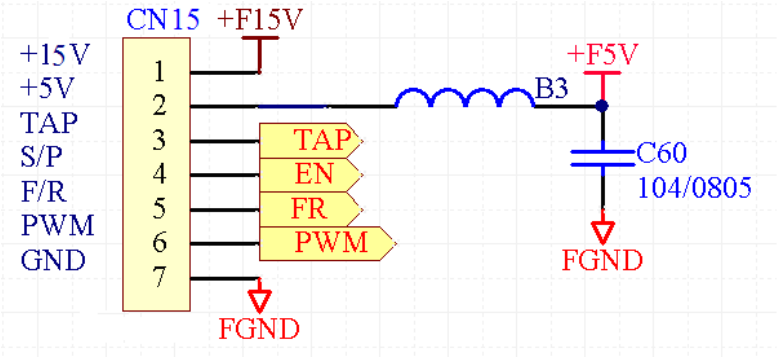


CN13--Wrong signal to the output port, when there is overload, over-current, locked rotor and other abnormalities, the output high. You must add 5V power supply to work.



CN14--External user interface, short-circuiting this port CN10 & CN11, communication port is invalid.

CN15--The external user interface port.

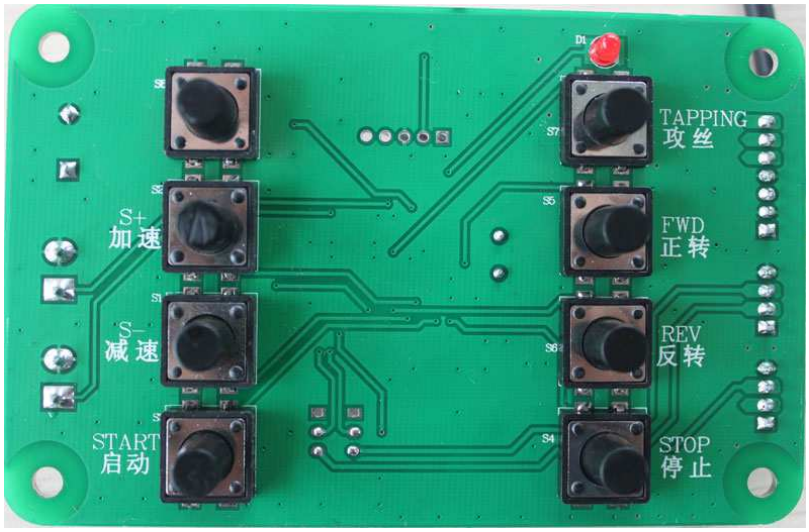


① **+15V**--15V power supply.
② **+5v**--External +5 V power supply.
③ **TAP**--External electric low-level, the tapping function is available. When motor running at 500RPM/m, high power or open, tapping function is invalid
④ **S/P**--Start/Stop in the shutdown state to a negative pulse start, turned down in a negative pulse stopped, a negative pulse every time a mode change.
⑤ **F/R**--Forward or Reverse running. Forward running on High level, reverse running

on lower level.
⑥ **PWM**--Control input-pin 500-5KHz of the PWM control signal 10% - 90% of the minimum speed can be controlled to the highest (Recommended frequency: 1KHz)
⑦ **GND**--External power of ground wire.
Use this port CN1 after, CN2 communication is not used.

- **CN17**--Analog input voltage.
  When J2 is jumped = 0-5V
  When J3 is jumped = 0-10V

5. Keyboard Function



1. **START**----------Drives START control key
2. **STOP**----------Drive STOP control key
3. **FWD**---- --------Forward running control key
4. **REV**---------- Reverse running control key
5. **"S+"**----------Drive acceleration control key
6. **"S-"**----------Drive deceleration control key
7. **TAPPING**------ -Drive TAPPING function control
8. **LED**----------Tapping function indicator

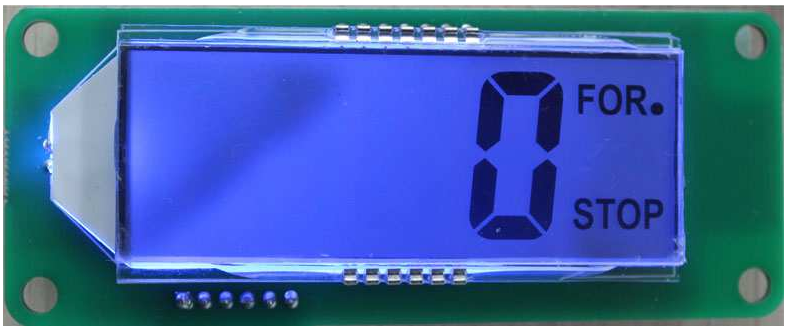
START--Press this button to start the motor.
STOP--Press this button to stop motor.
FWD--Motor will run on axial clockwise/anticlockwise.
REV--Motor will run at axial anticlockwise/clockwise direction.
"S+"--Acceleration control key. One short press to this button, motor speed will increase 20 **RPM**. Long press on this button to increase rotating speed rapidly.

"S−"--Deceleration control key. One short press to this button, motor speed will

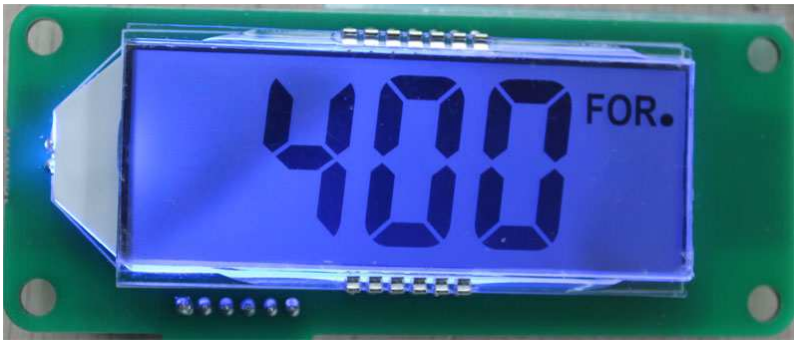
decrease 20 RPM, Long press on this button to decrease rotating speed rapidly.
TAPPING--While motor is running this button will enter the **TAPPING** function, and the LED light will turn on. Motor will turn to running forward no matter if the motor was running forward or reverse.

6. LCD Operation

Connect the power, the LCD will show "0", "FOR", "STOP"



Press the start button, and the motor turn on.



One short press to this button, motor speed will increase 20 **RPM**. Long press on this button to increase rotating speed rapidly, buzzer will be on.

Figure 4.

With motor running forward the LCD will display "FOR". Pressing the reverse button, the motor will stop and spin the opposite direction. If you press “FOR” button, "REV" will disappear and "FOR" be showed in LCD.

Press TAPPING button to enter tapping mode, tapping LED will turn on, as shown in figure 5. Tapping speed is 500 RPM and will run forward. No matter how much the original speed is, forward or reverse running, the FWD & REV buttons are invalid, but speed is adjustable. Pressing the TAPPING button again, the motor will stop tapping and return to previous mode.

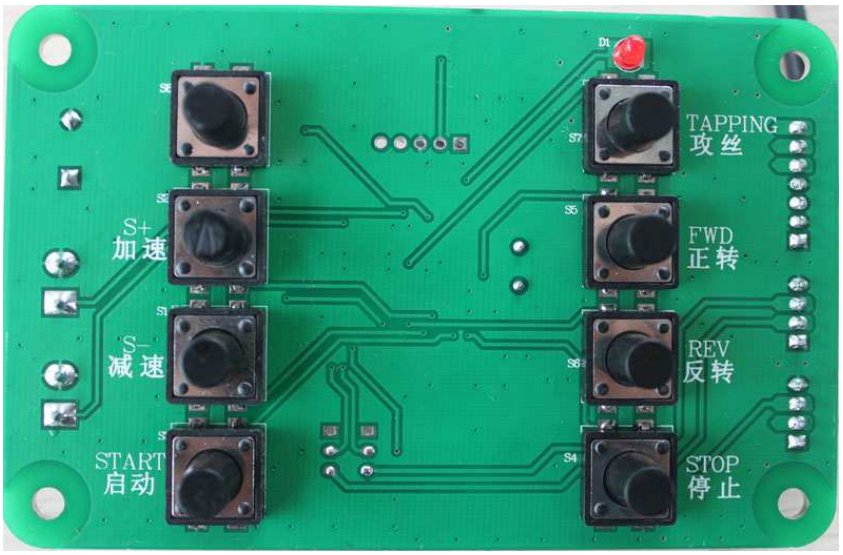


Figure 5.

Pressing the STOP button, motor will stop running. Motor will run as previous mode when you start next time. But motor will not run on tapping mode when you start next time.

Products Feature

- Energy efficient.
- No rubbing mechanical wastage between exciting power and carbon brush, an energy saving product.
- High performance, lower noise, smooth running and longer service life, high reliability, good stability, and simple to repair and maintain.
- Low-heat operation due to direct magnet drive.
- No radio disturbance or electrical spark.
- Power module uses True Sine Wave technology for high reliability.
- Chip and module imported from Germany and Japanese factories.

Motor Dimension Drawing: