BLDC MOTOR CONTROLLER SPECIFICATION

MODEL：WS55-180/WS55-220

一、Overview

WS55-180 and WS55-220 are a high performance，cost-effective 3 phase BLDC motor controller。Voltage range is from 20VDC to 50VDC。The controller can drive the DLDC motor with HALL or without HALL。

The driver is based on advanced technology and be provided with high speed、high torque、low noise、low vibration，over current protection，overload protection，less phase line protection， phase line short protection、alarm output、speed signal output、 positive negative rotation control etc.This controller can be used in small equipment 、Electric Power Tools、bump、exhaust Fan、Jade grinding machine、Vibrating motor etc.

二、Electrical Specifications

Parameter	definition
Rated voltage	20-50VDC
Rated current	WS55-180：8A WS55-220：10A
Limited current	WS55-180：10A WS55-220：12A
Maximum speed	Over 20000RPM
Speed control	Two ways： 1.Regulation resistance； 2.External voltage：10VDC； Note：Two methods cannot be used simultaneously
Speed signal output	PG signal：This port and the ground have a 5V speed pulse output P(Hz):output frequency N:motor pole number F(RPM):Round per minuter

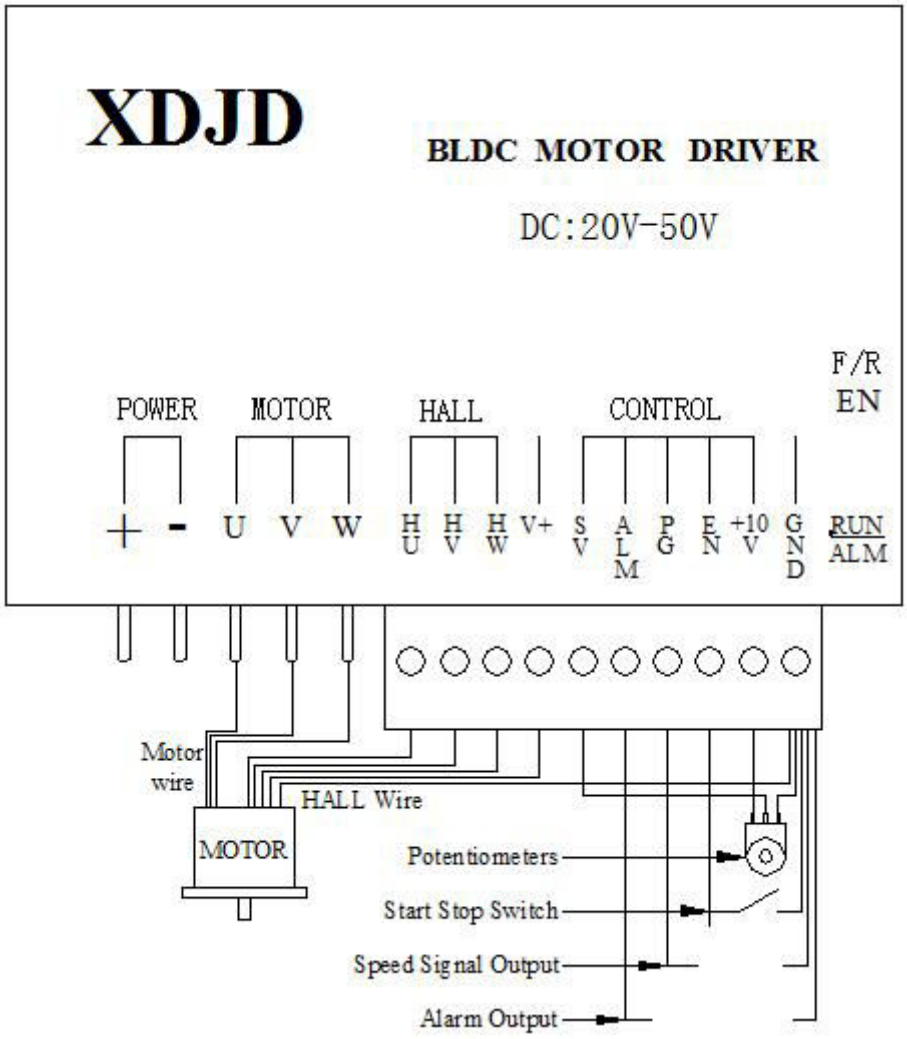
	Then F=2*P/N*60
Alarm output	AL signal：This port and the ground have a 5V alarm output output
Forward or reverse rotation	It can change the direction of rotation of MOTOR to Stir the Side switch F/R Positive inversion
Startup or Shutdown	Two ways： 1.Stir the Side switch EN； 2.Turn on or turn off the external switch Note：Only one can be used at the same time, one of the switches is turned off, and the other is valid
Speed adjust	Two ways 1.Twist external potentiometer or the Side potentiometer。 2.Adjust external simulative voltage Note：Only one can be used at the same time, the other one is Adjusted to zero this time
Locked-rotor protection	The motor will be shutdown When the motor is locked，and Restart after power open again
Power light	Green LED：The led is on once power on
operation condition light	Red LED：The led flash one times continuas When the device is suspended。
Insulation resistance	>100MΩ at normal temperature and pressure
insulation strength	0.5KV，1 minute at normal temperature and pressure

三、Working and storage environment

Parameter	definition
storage	-20℃～ +65℃

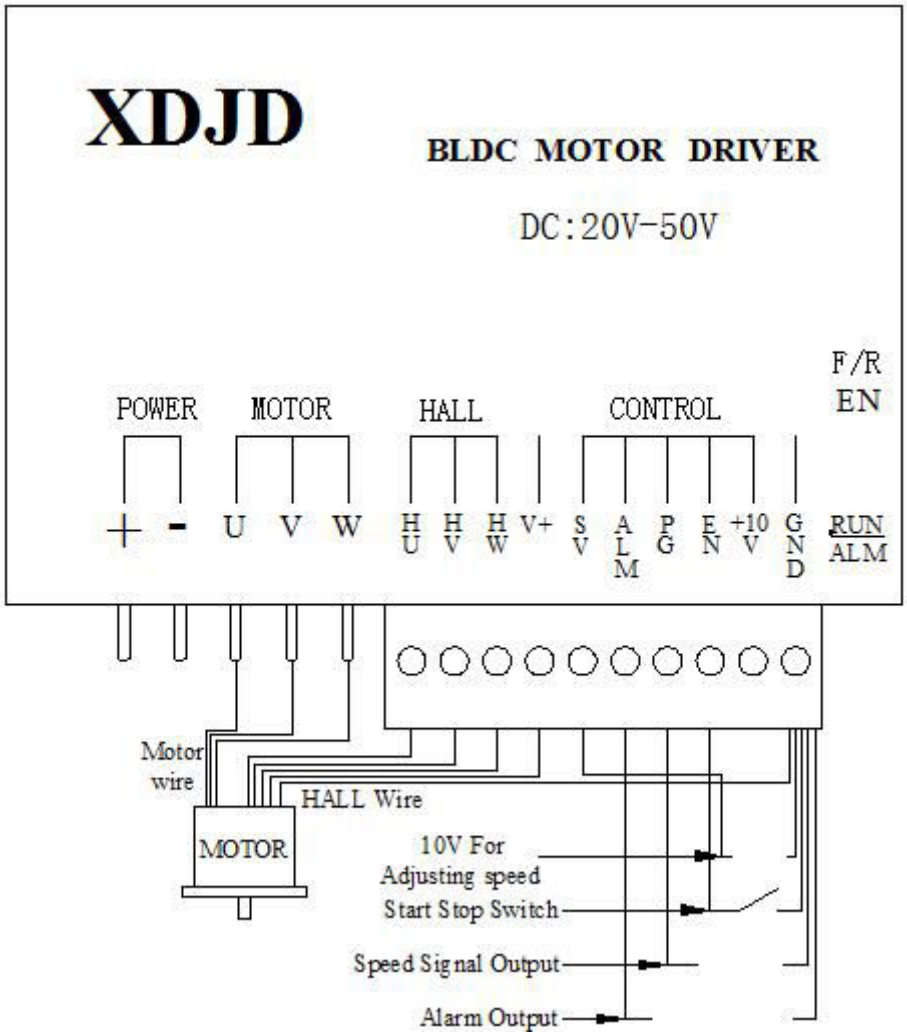
temperature		
Working and storage environment	environment	Avoid direct contact with dust, fumes and corrosive gases
	temperature	0-45℃
	humidity	< 80%，No frost, frost free
	Vibrating	5.9m/S^2 MAX
storage humidity	0~95%RH	
Dimension	96mm（long）*67mm（wide）*37mm（high)	
Weight	Approximate 195g	

四、Connecting line methods



connection mode for adjust speed

with Potentiometers



connection mode for adjust speed

with external 10V

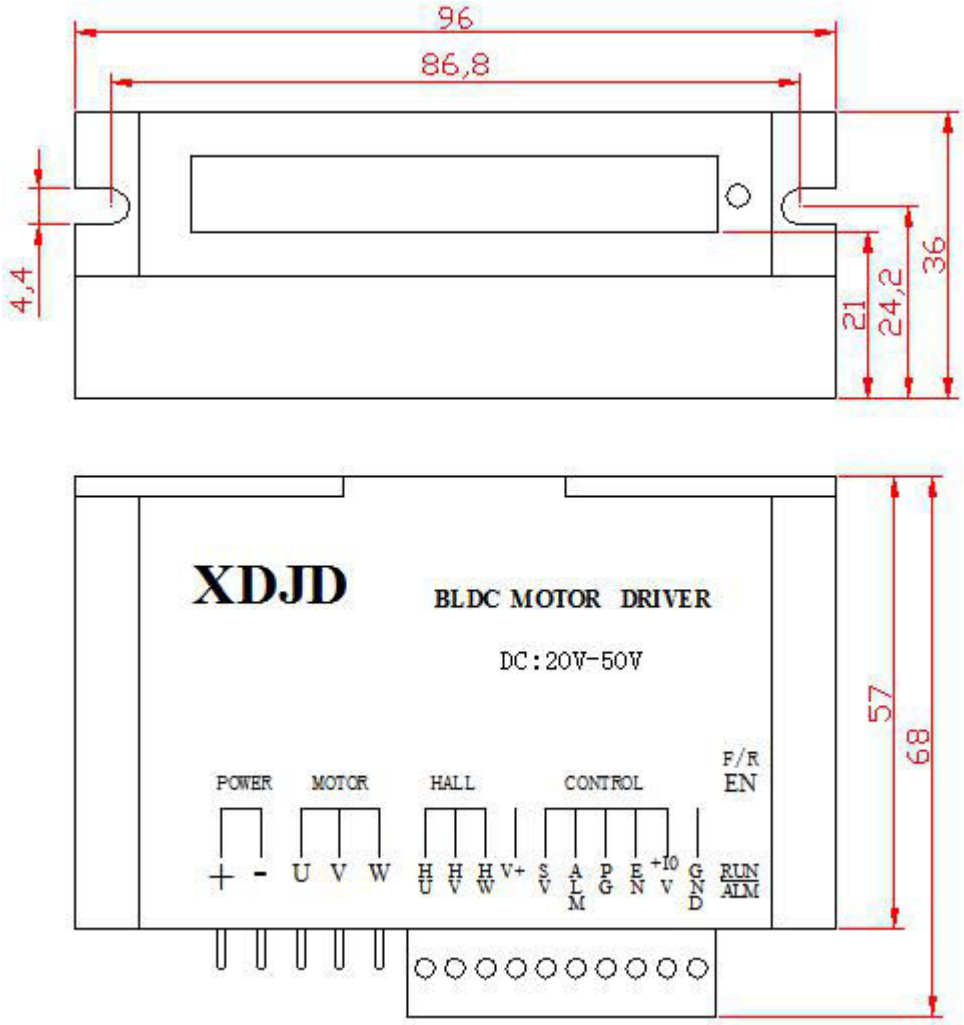
五、connecting terminal

Parameter	character	definition
Control	SV	1.Speed control potentiometer terminal connection position； 2.External 10V positive connection position；
	ALM	Alarm signal interface, the other end connect the GND
	PG	Speed signal interface， the other end connect the GND

	EN	Start and stop switch interface ， the other end connect the GND
	+10V	Provide power for control， the Current is very small
	GND	GND
	EN（side）	Stir the switch to turn on or turn off the motor； Note： Only one “EN”can be used at the same time, one of the switches is turned off, and the other is valid
	F/R（side）	Stir the switch to control Control motor forward and reverse
HALL	HU、HV、HW、V+	HALL signal and HALL power； Note：To correct the corresponding controller and terminal of the motor line is connected correctly, wrong connection will cause the motor to work abnormal, wrong or even damage the power supply controller and motor. V+ can't be used for other purposes.
MOTOR	U、V、W	Connect the Motor
Power	+	Positive power
	-	GND
indicator lamp	RUN/ALM	1.Green LED：The led is on once power on 2.Red LED： The led flash two times continuas when the motor is not suspended， and the led flash other different times when there is failure。

六.Dimension

96mm（long）*68mm（wide）*36mm（high）



Note：

Try running the motor low speed first,then increase the speed and load gradually after there is no problem；

If the motor fever soon and feel very hot about tens of seconds to one or two minutes，stop the motor，then check the cause of the problem.