BLDC-A Series Controller Specification

1. Performance and parameter

1	Model	BYC(D)12-400-4 BYC(D)24-400-4 **BYC(D)24-600-2**	Remark
2	Model Rated Voltage/ Rated Current/Max Current/Rated Power	BYC(D)12-400-4: 12V/33A/47A/400W BYC(D)24-400-4: 24V/17A/25A/400W **BYC(D)24-600-2: 24V/25A/38A/600W**	
3	Efficiency	>95%	
4	Model Speed Range	BYC(D)12-400-4 2500RPM-3700RPM BYC(D)24-400-4 2500RPM-3700RPM **BYC(D)24-600-2 2500RPM-4500RPM**	Depend on motor and load
5	Function Instruction	Upon detection of a fault, the motor is shut down. The controller will attempt to restart the motor after the fault condition is cleared. ◆Over voltage： The controller will delay for 60 seconds before attempting to restart. ◆Under Voltage fault protection：The controller will delay for 60 seconds before attempting to restart. 12Vsystem:lower limit Voltage 10V±0.5V；Recover Voltage 11V±0.5V；Upper limit 15V±0.5V，Recover Voltage 14V±0.5V **24VSystem: Lower limit voltage 20V±0.5V；Recover Voltage 22V±0.5V；Upper limit 30V±0.5V，Recover Voltage 28V±0.5V** ◆Start-delay: Power on AC switch, the light flash two times, first long flash second short flash then the controller start after 60s. ◆Over-current fault：when running current is over Max Current，The controller suspend for protection, delay for 60 seconds before attempting to restart. ◆Over-heat：①when controller connect with Normally closed contact switch, The motor suspend, after 60s motor restart. ②Inside controller there is a temp. protection, which stop motor when the temperature is higher than 75 °c immediately. When the temp back to 70 °c, motor restart after 60s. ◆Locked motor fault: when detect lock， motor stop immediately，after 60S restart。 ◆Start up Failed fault：If motor can’t start in time , motor will auto－stop, after 10s restart. Auto start must be less	

		than 5 times, otherwise motor need to power on again。 **Option Function：** ◆Fault signal output：Any problem above happen, the trouble light will flash; when controller works normally, the trouble light will be off. ◆Counter-attack function: If the power wire connect incorrectly, the controller will be no damage; until connect correctly, the controller will work normally.	
7	Control mode	◆The speed set-point is controlled by a zero to five volt analog non-isolated input. 0-5V Correspondence the minimum and maximum speed，0.3v correspond the minimum speed,5v correspond the max speed； N=10000000/（P*（2080-347*（0.6*Vin-0.12）） N means speed; Vin means 0-5V Analog input (maximum is 5V，minimum is 0.3V,can start motor)；P means Pole; 075series is 4 poles;135&208series is 2 poles	
8	Connector	Analog voltage connector	
9	Trouble light	LED（Option）	
10	Grade of Protection	IPn4	
11	Dimension	119mm*146mm*70mm	
12	Weight	1.5Kg	
13	Type of cooling	fan cooling	
14	Ambient temp.	-40℃～45℃	

3. Name rules

BYC（） XX- XXXX -X
①　　②- ③　-④

① BOYANG Controller；

② Rated Voltage, V;

③ Rated Power, W;

④ Motor pole quantity

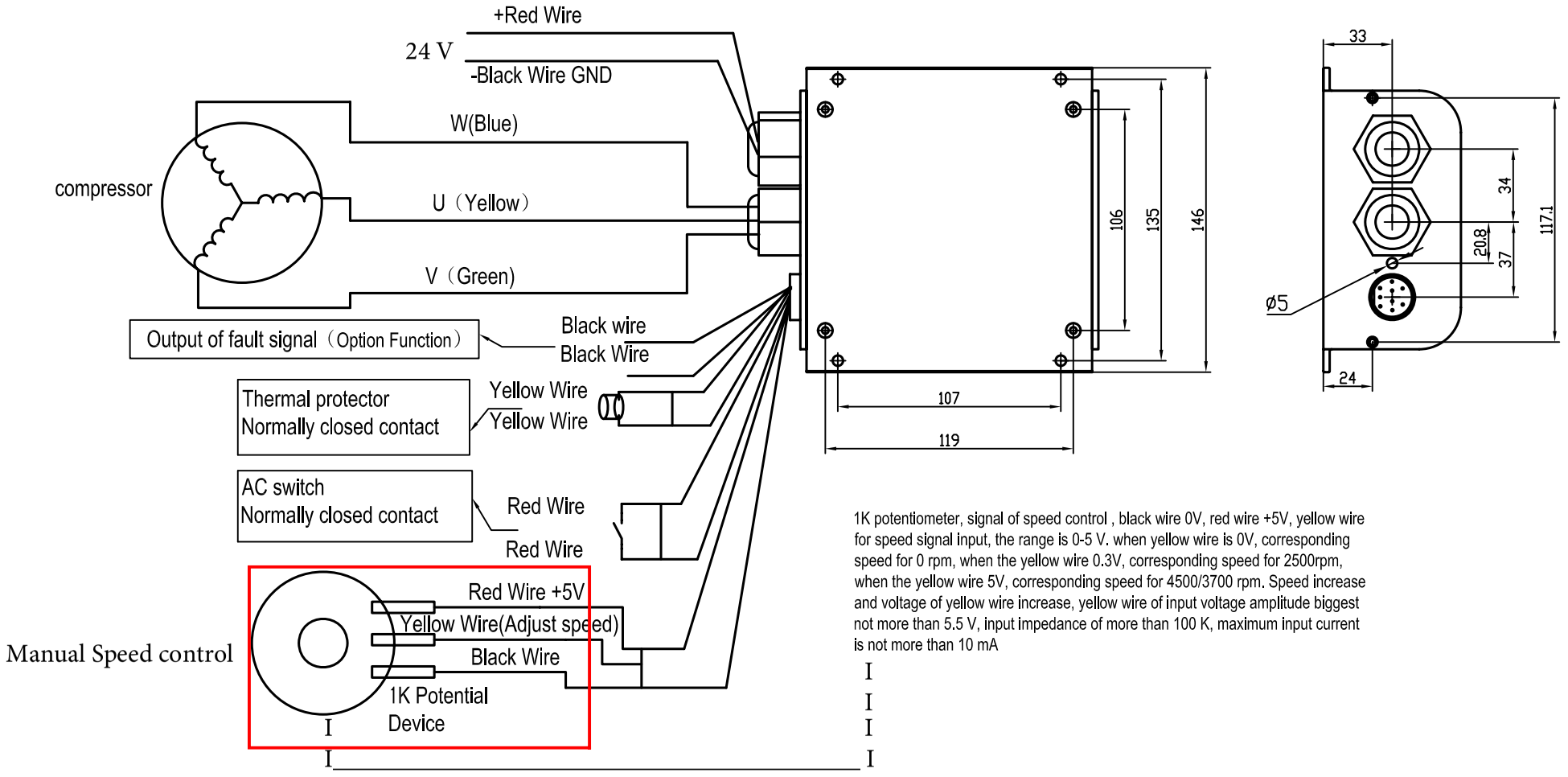
4. Installing instruction

The controller should be installed in the place where is ventilated, waterproof and strong unit base. The base of the controller should be fixed on the metal surface with silicone which can guarantee heating dissipation, Before installation, cleaning the unit base, make sure no water no oil and no dust! The installation dimensions can adjust according to customer' requirement.

5. Fault Indicator Output

Item	Fault type	Light flash character	Remark
1	Over-heat	2 short 2 long	Short flash：flashing interval of 0.4 seconds；Long flash: flashing interval of 0.7 seconds.
2	Under Voltage	3 short 2 long	
3	Over Voltage	4 short 2 long	
4	Start up Failed	5 short 2 long	
5	Low speed	2 short 3 long	
6	Over-current	3 short 3 long	
7	Inner temp protection	4 short 3 long	
8	External temp protection	5 short 3 long	

Item	Fault Phenomenon	Measurement
1	Motor reversal	Stop the motor, change any 2 wires of the three motor wires, then restart motor.
2	Motor no work	Make sure the connecting of motor wires is correct, and the voltage also need to check
3	The speed is unnormal	Make sure whether voltage is over-low or load too much 。
4	Motor stop suddenly	Make sure voltage over-high or over-low; over load or over heat。
5	Motor can’t startup or restart	Make sure the connecting of motor wires is correct, and the voltage also need to check。
6	Trouble light flash	System over-load or short-circuit or other protection



1K potentiometer, signal of speed control , black wire 0V, red wire +5V, yellow wire for speed signal input, the range is 0-5 V. when yellow wire is 0V, corresponding speed for 0 rpm, when the yellow wire 0.3V, corresponding speed for 2500rpm, when the yellow wire 5V, corresponding speed for 4500/3700 rpm. Speed increase and voltage of yellow wire increase, yellow wire of input voltage amplitude biggest not more than 5.5 V, input impedance of more than 100 K, maximum input current is not more than 10 mA

KVB-075Z24-KJX

BLDC-A

KVB135 Z24- 4KJX