Experimental test report

Original Model	1.Scope of application： This specification is applicable to the U100-1 brushless DC motor
U100-1	

2.Operating Condition

Item		Specification	Condition Remark
2-1	Rated voltage	DC58.8V	
2-2	KV	100KV±5%	
2-3	Voltage range	14S	
2-4	Environment of use	Temperature:20~40℃ Humidity:10~90%RH	No condensation of water vapor
2-5	Save environment	Temperature:-40~80℃ Humidity:5~95%RH	No condensation of water vapor

3. Mesauring condition

Item		Specification
3-1	Temperature	25±2℃
3-2	Humidity	65±20%
3-3	Motor state	Motor shaft horizontal(lock the motor in a testfixture)

All data testing conditions: temperature 25℃, relative humidity 65% RH. If discrepancies arise, tests can be conducted under the following conditions: temperature 5～35℃; humidity 45～85% RH.

4. Mechanical Specification

Item		Specification	Condition Remark
4-1	Structure	Motor as per specified external structure	To Assembly drawing
4-2	Weight	1568±10g	Includes wires and propeller
4-3	Appearance	No mechanical damage or corrosion	Visual Inspection (Permissible range and limits are specified in the sample)
4-4	Axial gap	0mm	Micrometer
4-5	Axial tension	/	
4-6	Angle of rotation	360°	
4-7	Direction of rotation	Terminals U/V/W correspond to motor connector wiring. From the shaft end, viewed as clockwise (CW) rotation	

5.Performance and characteristies

Item		Specification	Condition Remark
5-1	No-load speed	2649±5%RPM	Rated voltage:26V
5-2	No-load current	2.05±0.1A	
5-3	Phase resistance	47.2mΩ±5%	
5-4	Difference in internal resistance between phases	±5%	Difference in internal resistance among three phases
5-5	wireTerminal	1100±5mm 12AWG red and black silicone wires; 4PIN JST waterproof female connector to two JR female signal wires, length 1100mm	Non-gold-plated connectors

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6.Reliability experiment			
Item		Standard test condition	Judging characteristic
6-1	Life test	Voltage: 58.8V DC / Load: 36 inch propeller / Test mode :Throttle under 65%(current controlled within 23A, thrust under11 kg). Load life test: continuous rotation for 3 hours with no issues	After the experiment, should meet the requirements of 7-1
6-2	High temperature storage test	Temperature:80℃ Time：48 hours	
6-3	Low temperature storage test	Temperature:-20℃ Time：48 hours	
6-4	High temperature operation experiment	Temperature:70±2℃ Time：24 hours	
6-5	Low temperature operation experiment	Temperature:-20±5℃ Time：24 hours	
6-6	High temperature and high humidity storage test	Humidity:90%RH Time：48 hours No condensation of water vapor	

7.Judging characteristic		
	Item	Judging characteristic
7-1	Table A	1.The change of load speed should be within 30% of the initial value.
		2.the change of load current should be within 30% of the initial value.
		3.The resistance variation between the terminals is within the initial value of 30%.
		4.Standard test condition：Rated voltage

8.Usage Precautions
8-1：Handle the motor carefully during transport to avoid damage to the motor body and performance due to collisions or impacts；
8-2：Store the motor in a cool, dry, and non-corrosive environment, with storage duration not exceeding six months；
8-3：Do not frequently obstruct the motor shaft when powered on；
8-4：Complete soldering within 5 seconds to avoid damaging terminals or wires.