

Product Specification

Product Name : ESC

Product Model: STONE 100A-M

Version : V2.0

Date : 2024-12-13

NanChang ChangKong Technology Co., Ltd

I. PURPOSE

This product specification for the product in the production, testing and sales of the chain of norms to follow.

II. Scope of application

ESC, Used for input voltage: 20-61V DC.

III. Technical parameters

Item	Requirements	Remarks
Support lithium battery	6-14S(Above 65V prohibits startup)	Factory Inspection Items
Continuous operating current	100A	Specific thermal conditions
Instantaneous operating current (less than 3 seconds)	150A	
BEC Output Voltage	无	
Operating temperature	none	
Operating humidity	15%-85%RH	
preservation temperature	-10~+40°C	
Preservation of humidity	15%-65% RH	
waterproof rating	IP55	
Standby power consumption	≤10mA@60V	Factory Inspection Items
Throttle travel range	1000-2000us(default value)	calibratable
Throttle calibration range	maximum throttle(1.6-2.4ms), minimum throttle(0.6-1.4ms)	
Maximum supported speed	125,000 turn(Electrical RPM)	Mechanical RPM=Electrical RPM/polar logarithm
Throttle Refresh Frequency	50-500Hz(suggestion100-400Hz)	PWM low level>0.2ms
Starting Throttle Point	6.7%	
*Throttle Response Time	200ms(Default, customizable)	Throttle from idle to max
temperature protection point	125°C	
Input Signal Level	3.3-5V	
ESC weights	125g	± 2g
Product Size	90*40*19mm	± 0.1mm

* Throttle Response Time: ESC When 10% to 100% step throttle is received, the throttle reaches its maximum value within the specified time, but usually the motor speed lags the throttle 100-150ms.

* Performance parameters can be customized according to customer needs, Including but not limited to protection temperature, response time, etc.

NanChang ChangKong Technology Co., Ltd

IV. Main material/part specifications

Item	Requirements	Remarks
Power cord specifications	12AWG	Factory Inspection Items
Power cord length	150 ± 5mm	
Power cord color	Red (Positive) Black (Negative)	
Output phase line specifications	12AWG	
Output phase line length	100 ± 5mm	
Signal Cable Specifications	UL1533-24AWG-gray	
Signal line length	530 ± 5mm	
Data Feedback Cable Specifications	PVC cable-30芯-black, red and white	
Data Feedback Line Length	55 ± 5mm	
Shell material	Aviation aluminum alloy Surface anodized	

V. Load test data(test condition: environmental temperature30°C, Supply Voltage48V, Data for reference only)

Load current	thermal condition	beta Time	starting temperature	Test results
50A	Shell without cover, frontal wind speed 13.2m/s	7min	33°C	Normal operation, MOS temperature 85°C, no more temperature rise in 4 ' 41
60A	Shell without cover, frontal wind speed 14.0m/s	7min	33°C	Normal operation, MOS temperature 97°C, no more temperature rise in 5 ' 30
70A	Shell without cover, frontal wind speed 14.6m/s	7min	34°C	Normal operation, MOS temperature 110°C, no further temperature rise in 6 ' 25
80A	Shell without cover, frontal wind speed 15.8m/s	7min	34°C	Working normally, MOS temperature 103°C, still warming up
100A	Shell without cover, frontal wind speed 16.0m/s	25s	33°C	Overheat protection, power reduction, MOS temperature 125° C
50A	In a carton box (15*15*5cm), no wind	2'40	31°C	
60A		2'10	33°C	
70A		1'35	33°C	
80A		1'30	30°C	

* Specific heat dissipation conditions (low ambient temperature, blowing air, auxiliary heat dissipation surface, feedback MOS temperature below 125 °C), can continue to run 100A, continuous high temperature work will reduce the ESC service life, it is recommended to keep the feedback MOS temperature below 105°C in practical applications.

VI. Structural dimensional drawings

