

Product Specification

Product Name : ESC

Product Model: STONE 60A-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	60A	Specific thermal conditions
Instantaneous operating current (less than 3 seconds)	120A	
BEC Output Voltage	none	
Operating temperature	-20~+65℃	
Operating humidity	15%-85%RH	
preservation temperature	-10~+40℃	
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	300ms(Default, customizable)	Throttle from idle to max
temperature protection point	125℃	
Input Signal Level	3.3-5V	
ESC weights	79g	± 2g
Product Size	71*33*15.5mm	± 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	14AWG	Factory Inspection Items
Power cord length	165 ± 5mm	
Power cord color	Red (Positive) Black (Negative)	
Output phase line specifications	14AWG	
Output phase line length	140 ± 5mm	
Signal Cable Specifications	UL1533-24AWG-grizzly	
Signal line length	535 ± 5mm	
Data Feedback Cable Specifications	PVC cable-30 芯-black, red and white	
Data Feedback Line Length	60 ± 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
30A	Shell uncovered, Frontal wind speed 8.5m/s	7min	31°C	working properly ,MOS Temperature89°C , 4'30 It's not heating up.
40A	Shell uncovered, Frontal wind speed10.3m/s	7min	37°C	working properly, MOS Temperature105°C, 5'23 It's not heating up.
50A	Shell uncovered, Frontal wind speed13.2m/s	7min	32°C	working properly, MOS Temperature117°C, 6'15 It's not heating up.
60A	Shell uncovered, Frontal wind speed14.0m/s	3'14	31°C	Overheat protection, power reduction, MOS temperature 125° C
30A	In a carton box (15*15*5cm) without wind	3'07	32°C	
40A		1'45	32°C	
50A		1'24	32°C	
60A		1'06	32°C	

*Specific thermal conditions(low ambient temperature, hairdryer, Auxiliary cooling surface, Feedback MOS temperature below 125°C), Can run continuously for 60A, Working in constant heat.Reduces ESC life, Recommendations for practical applications, Keep the feedback MOS temperature below 105°C.

VI. Structural dimensional drawings

