

# **Product Specification**

**Product Name : ESC**

**Product Model: STONE 80A-MC**

**Version : V2.0**

**Date : 2024-12-13**

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## 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	80A	Specific thermal conditions
Instantaneous operating current (less than 3 seconds)	130A	
BEC Output Voltage	none	
Operating temperature	-20~+65°C	
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	300ms(Default, customizable)	Throttle from idle to max
temperature protection point	125°C	
Input Signal Level	3.3-5V	
ESC weights	112g	± 2g
Product Size	90.4*36*18.5mm	± 0.1mm

\* Specific heat dissipation conditions (low ambient temperature, blowing air, auxiliary cooling surface, feedback MOS temperature below 125 °C), you can continue to run 80A, 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.

\* Throttle response time: When ESC receives 10%~100% step throttle, the throttle reaches the maximum value within the specified time, but usually the motor speed lags behind the throttle by 100-150ms. (

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Customized performance parameters are available, including protection temperature, response time, etc.)  
100-150ms. (Performance parameters can be customized according to customer needs, including but not limited  
To protection temperature, response time, etc.)

## IV. Main material/part specifications

Item	Requirements	Remarks
Power cord specifications	12AWG	Factory Inspection Items
Power cord length	$150 \pm 5\text{mm}$	
Power cord color	Red (Positive) Black (Negative)	
Output phase wire specification	14AWG	
Output phase cable length	$100 \pm 5\text{mm}$	
Signal Cable Specification	UL1533-24AWG-Gray	
Signal Cable Length	$540 \pm 5\text{mm}$	
Data Feedback Cable Specification	PVC cable - 30 cores - black red white	
Data Feedback Cable Length	$80 \pm 5\text{mm}$	
Housing Material	Aviation aluminum alloy Surface anodized	

## V. Structural dimensional drawings

