



**36V 40AH**

**Specifications**

## Specifications

Item	General Parameter	Remark
Rated Capacity	40Ah	Standard discharge (0.2 C <sub>5</sub> ) after Standard charge (0.2 C <sub>5</sub> )
Nominal Voltage	38.4V	
Cycle Life	Higher than 80% of the Initial Capacity of the Cells	<ul style="list-style-type: none"> <li>• Charge: CC@0.2C to 43.8V then CV till current to 0.05C</li> <li>• Rest: 30min.</li> <li>• Discharge: 0.2C to 30.0V</li> <li>• Temperature: 68±41°F (20±5°C)</li> <li>• Carry out 2000-5000 cycles</li> </ul>
Discharge cut-off voltage	30.0V	
Charging cut-off voltage	43.8V	
Cell	A123 3.2V 20Ah	12S2P
Package	Plastic case	
Recommend charge current	20A	
Maxcharge current	40A	
Max Continuous Discharge Current	60A	Peak: 180A
Operation Temperature Range	Charge: 32~131°F (0~55°C) Discharge: -4~149°F (-20~65°C) Storage: 32~113°F (0~45°C)	
Weight	Approx.:34Lbs (15.42Kg)	
Dimension	Height: 9 in (228mm) Width: 6.63 in (168mm) Length: 13in (330mm)	
Warranty	2 years	

# Test Conditions, Methods and Electrical Performance

## **4-1 Test conditions**

All tests shall be done under temperature: 59°F~95°F (15°C~35°C), relative humidity: (RH) 25%~85%, air pressure: 86kPa~106kPa except special appointment.

## **4-2 Measuring apparatus**

- a) Voltage is measured by D.C. voltmeter which precision is higher than 0.5 grade and self resistance is higher than  $1\text{k}\Omega/\text{V}$ ;
- b) Current is measured by D.C. meter which precision is higher than 0.5 grade;
- c) Temperature is measured by thermometer which has proper measuring range and division value is lower than  $0.5^\circ\text{C}$ ;
- d) The timer used in measuring should be degreed in hour, minute and second, and should have degree of accuracy no more than  $\pm 1\%$ ;

## **4-3 Standard charge**

Charge the battery with DC stabilized power supply 43.8V, constant - current 0.2C(A) until current reach to 0.05C (A).

## **4-4 Standard discharge**

After charged by (3-3), discharge the battery with constant current 1C(A) until the battery reach to over discharge protection or total voltage reach to 30V;

## **4-5 Battery capacity**

Discharge battery by (3-4), and write down discharge time (hour), then capacity (Ah)=0.5C (A) \* discharge time (hour);

#### 4-6 Electrochemistry performance

Items	Test Method	Technical requirements
68°F (20°C) discharge capacity	Battery charge with standard methods, discharge at 1C (A) , write down discharge capacity	≥95% nominal capacity
131°F (55°C) discharge capacity	Battery charge with standard methods, stored for 5h in 131°F±35.6°F (55°C±2°C), then discharge at 1C (A) to cut-off voltage, write down discharge capacity	≥95% nominal capacity
Charge retain ability and recover capability	Battery charge with standard methods, stored for 28d in normal temperature 7d in 131°F (55°C),	capacity retention rate≥80% capacity retention rate≥90%
Multiplying power discharge capacity	Battery charge with standard methods, discharge at 2C, write down discharge capacity	≥80% nominal capacity
Cycle life	Under the condition of 68°F±41°F (20°C±5°C),charge the battery in 0.5C (A); discharge at 1C (A) to terminal condition, repeat like this. Test the capacity every 25 times in standard charge and discharge, stop testing when the capacity is lower than 80%.	2000-5000