

# ALPHA 1

Lithium Iron Phosphate Battery

## 1280Wh

Nominal Energy

## 100Ah

Nominal Capacity

## 12.8V

Nominal Voltage

## 50A

Max Charge Current



## FEATURES



Internal heat technology



Longevity of service



Real-Time Monitoring

Monitors the battery operation status on mobile devices in real time with the built-in Bluetooth module



IP65 waterproof and dustproof



Flame retardant rating: UL94 V-0 (Plastic shell)



Green energy without metal contaminant



Extremely high number of charge / discharge cycles



Light weight, small size



In the extreme performance safety test, the battery will not catch fire, explode, or leak, and will be safer to use



Sophisticated Battery Management System (BMS)

**BMS OPERATION**

Typical Charging Current	50A
Maximum Charging Current	50A
Typical Discharge Current	50A
Max Discharge Current	100A
Maximum Charge Voltage(CC/CV)	14.4V

**Over Charge Protection**

Voltage(Cell)	3.65V±0.05V
Delay Time	2000ms±1000ms
Recovery Voltage(Cell)	3.55V±0.10V

**Over Discharge Protection**

Voltage(Cell)	2.50V±0.10V
Delay Time	2000ms±1000ms
Recovery Voltage(Cell)	3.00V±0.10V

Over Discharge Protection	Voltage self-recovery or
Release Conditions	charge recovery

**Over-Current Charge**

Primary Charge Over Current Protection Value	110A±5A
First Stage Charge Over Current Delay	10S±3S
Over-current Charge Release Conditions	Automatic recover after a delay of 32S

**Over-Current Discharge**

Primary Discharge Over Current Protection Value	110A±5A
Primary Discharge Over Current Protection Delay	10S±3S
Secondary Discharge Over Current	350A±90A
Protection Current Value	
Secondary Discharge Over Current	300ms±200ms
Protection Delay	
Over-current Discharge Release	Automatic recover after a delay of 32S

Short Circuit Protection Delay Time	560µs-960µs
Short Circuit Protection Recovery	Recover by releasing load after approximately 5s

**Discharge High Temperature Protection**

Temperature Protection Value	65°C±5°C
Temperature Protection Release Value	60°C±5°C

**Low Temperature Protection Of Discharge**

Temperature Protection Value	-20°C±5°C
Temperature Protection Release Value	-10°C±5°C

**Charging High Temperature Protection**

Temperature Protection Value	55°C±5°C
Temperature Protection Release Value	50°C±5°C

**Charging Low Temperature Protection**

Temperature Protection Value	5°C±5°C
Temperature Protection Release Value	10°C±5°C

**High Temperature Protection Of Fet(Built-in)**

Temperature Protection Value	95°C-110°C
Temperature Protection Release Value	60°C-90°C

**Balance Function**

Equalizing Opening Voltage	3.45V±0.05V
Equalize The Opening Pressure Difference	15mV
Min Balance Current	150mA
Max Balance Current	300mA
Storage Temperature	Passive equalization
Heating Function	100W

**SPECIFICATIONS**

Battery Type	LFP Battery
Nominal Voltage	12.8V
Nominal Capacity	100Ah
Minimum Capacity	100Ah
Nominal Energy	1280Wh
Charging Voltage	14.4V
Discharging Cutoff Voltage	11.2V
Standard Charging Current	50A
Maximum Charging Current	100A
Standard Discharge Current	50A
Continuous Discharge Current	100A
Maximum Discharge Current	100A
Shell Material	Plastic Shell
Weight	24.0lb
Initial AC (1000HZ) Internal Resistance	≤50mΩ
Monthly Self-Discharge Rate	≤5%
Overall Dimensions	10.2x6.6x8.3in
Cycle Life(Times)(25°C±2°C)	7000; Capacity Retention≥80%

**Charging Temperature**

(0°C~10°C)	30A
10°C~20°C	50A
20°C~40°C	50A
40°C~55°C	30A

Discharge Temperature	-20°C~60°C (The surface temperature of the cell should not exceed 60°C)
	-30°C~55°C 90%RH Max

Storage Temperature	(Less than 1 month) -10°C~45°C 90%RH Max (More than 3 months)
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Recommended	-10°C~35°C 85%RH Max
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Storage Temperature	(Battery life decreases when stored in high temperature)
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