

ALPHA 4 LITE

25.6V 100Ah

LiFePO₄ Battery



FEATURES

- Longevity of service
- IP55 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	100A
Typical Discharge Current	50A
Maximum Discharge Current	100A
Maximum Charge Voltage(CC/CV)	28.8V

Over Charge Protection

Voltage(Cell)	3.75V±0.05V
Delay Time	1000ms±500ms
Recovery Voltage(Cell)	3.55V±0.05V

Over Discharge Protection

Voltage(Cell)	2.20V±0.08V
Delay Time	1000ms±500ms
Recovery Voltage(Cell)	2.70V±0.10V

Over Discharge Protection Release Conditions	Disconnect load or charge release
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Over-Current Charge

Primary Charge Over Current Protection Value	180A±60A
First Stage Charge Over Current Delay	1000ms±500ms
Over-current Charge Release Conditions	Disconnect the charger

Over-Current Discharge

Primary Discharge Over Current Protection Value	900A±300A
Primary Discharge Over Current Protection Delay	20ms±10ms
Secondary Discharge Over Current Protection Current Value	1800A±500A
Secondary Discharge Over Current Protection Delay	2.2ms(Min 1ms, MAX 5ms)

Over-current Discharge Release	Disconnect load or charge release
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Short Circuit

Short Circuit Protection Value	3600A±800A
Short Circuit Protection Delay Time	200µs-800µs
Short Circuit Protection Recovery	Disconnect load or charge release

Discharge High Temperature Protection

Temperature Protection Value	167°F±9°F / 75°C±5°C
Temperature Protection Release Value	136.4°F±9°F / 58°C±5°C

Charging High Temperature Protection

Temperature Protection Value	129.2°F±9°F / 54°C±5°C
Temperature Protection Release Value	120.2°F±9°F / 49°C±5°C



ALPHATM Series Batteries

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Charging Low Temperature Protection

Temperature Protection Value 28.4°F±9°F / -2°C±5°C

Temperature Protection Release Value 37.4°F±9°F / 3°C±5°C

Balance Function

Equalizing Opening Voltage 3.50V±0.05V

Min Balance Current 120mA

Max Balance Current 220mA

Operation Temperature -4°F-167°F / -20°C-75°C

Storage Temperature 23°F-104°F / -5°C-40°C
(Humidity below 70%, time ≤ 1 year)

SPECIFICATIONS

Battery Type LFP Battery

Nominal Voltage 25.6V

Nominal Capacity 100Ah

Minimum Capacity 99.5Ah

Nominal Energy 2560Wh

Charging Voltage 28.8V

Discharging Cutoff Voltage 22.4V

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 About 52.9lb/24.0kg

Initial AC (1000HZ) Internal Resistance ≤50mΩ, New battery
within 3 months, ACIR, 1000HZ

Monthly Self-Discharge Rate ≤5%

Overall Dimensions 20.9x8.1x8.5in

Cycle Life(Times)(25°C±2°C) ≥4000

Charging Temperature

30A 32°F-50°F / 0°C-10°C

50A 50°F-68°F / 10°C-20°C

100A 68°F-104°F / 20°C-40°C

30A 104°F-131°F / 40°C-55°C

Discharge Temperature -4°F-140°F / -20°C-60°C (The surface
temperature of the cell should not exceed 60°C)

Storage Temperature -22°F-131°F / -30°C-55°C 90%RH Max
(Less than 1 month)
14°F-113°F / -10°C-45°C 90%RH Max
(More than 3 months)

Recommended Storage Temperature 14°F-95°F / -10°C-35°C 85%RH Max
(Battery life decreases when
stored in high temperature)

If the battery needs to be stored for a long time (more than 3 months), it should be stored in an environment which require temperature at a range of 14°F to 95°F (-10 to 35°C) @ 85% RH Max and no corrosive gases. It is recommended to charge and discharge the battery every 3 months and keep the SOC between 40-50%.