

# ALPHA 2 LITE

## 12.8V 200Ah

### LiFePO<sub>4</sub> 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      | 100A  |
| Maximum Charging Current      | 200A  |
| Typical Discharge Current     | 100A  |
| Maximum Discharge Current     | 200A  |
| Maximum Charge Voltage(CC/CV) | 14.4V |

### Over Charge Protection

|                        |                              |
|------------------------|------------------------------|
| Voltage(Cell)          | 3.75V±0.03V                  |
| Delay Time             | 1000ms±500ms                 |
| Recovery Voltage(Cell) | 3.55V (Min 3.40V, MAX 3.60V) |

### 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 |
|----------------------------------------------|-----------------------------------|

### Over-Current Charge

|                                              |                        |
|----------------------------------------------|------------------------|
| Primary Charge Over Current Protection Value | 560A±160A              |
| 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           | 2800A±500A   |
| Primary Discharge Over Current Protection Delay           | 10ms±5ms     |
| Secondary Discharge Over Current Protection Current Value | 5600A±1000A  |
| Secondary Discharge Over Current Protection Delay         | 1000us±500us |

|                                |                                   |
|--------------------------------|-----------------------------------|
| Over-current Discharge Release | Disconnect load or charge release |
|--------------------------------|-----------------------------------|

### Short Circuit

|                                     |                                   |
|-------------------------------------|-----------------------------------|
| Short Circuit Protection Value      | 11200A±2000A                      |
| 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 |



# ALPHA<sup>TM</sup> 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

## High Temperature Protection Of FET(Built-in)

Temperature Protection Value 179.6°F-208.4°F / 82°C-98°C

Temperature Protection Release Value 122°F-176°F / 50°C-80°C

## Balance Function

Equalizing Opening Voltage 3.50V±0.05V

Min Balance Current 150mA

Max Balance Current 250mA

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 12.8V

Nominal Capacity 200Ah

Minimum Capacity 199Ah

Nominal Energy 2560Wh

Charging Voltage 14.4V

Discharging Cutoff Voltage 11.2V

Standard Charging Current 100A

Maximum Charging Current 200A

Standard Discharge Current 100A

Continuous Discharge Current 200A

Maximum Discharge Current 200A

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

60A 32°F-50°F / 0°C-10°C

100A 50°F-68°F / 10°C-20°C

200A 68°F-104°F / 20°C-40°C

60A 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%.