

ALPHA 3 LITE

12.8V 300Ah

LiFePO₄ Battery



FEATURES

- Longevity of service
 - IP65 waterproof and dustproof
 - Flame retardant rating: UL94 V-0 (Plastic shell)
 - Green energy without metal contaminants
 - Extremely high number of charge / discharge cycles
 - Light weight, small size
 - Extreme Performance Safety Tested
- Guarantees safety under extreme conditions—no fire, explosion, or leakage.
- Sophisticated Battery Management System (BMS)

BMS OPERATION

Typical Charging Current	150A
Maximum Charging Current	300A
Typical Discharge Current	150A
Maximum Discharge Current	300A
Maximum Charge Voltage(CC/CV)	14.4V

Over Charge Protection

Voltage(Cell)	3.65V±0.05V
Delay Time	2000ms±1000ms
Recovery Voltage(Cell)	3.50V±0.05V

Over Discharge Protection

Voltage(Cell)	2.30V±0.10V
Delay Time	2000ms±1000ms
Recovery Voltage(Cell)	3.00V±0.10V

Over Discharge Protection Release Conditions	Self-recovery by increasing voltage or charging
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Over-Current Charge

Primary Charge Over Current Protection Value	315A±10A
First Stage Charge Over Current Delay Time	5s (min 2s, max 7s)
Over-current Charge Release Conditions	Automatic recovery after a delay of 32±7s

Over-Current Discharge

Primary Discharge Over Current Protection Value	320A±10A
Primary Discharge Over Current Protection Delay Time	10s±3s
Secondary Discharge Over Current Protection Current Value	1240A±100A
Secondary Discharge Over Current Protection Delay Time	640ms (min 480ms, max 1000ms)
Over-current Discharge Release	Automatic recovery after a delay of 32s±7s

Short Circuit

Short Circuit Protection Value	2240±300A
Short Circuit Protection Delay Time	400µs-600µs
Short Circuit Protection Recovery	Automatic recovery by releasing the load after approximately 5s±2s

Discharge High Temperature Protection

Temperature Protection Value	140°F±5.4°F / 60°C±3°C
Temperature Protection Release Value	131°F±5.4°F / 55°C±3°C

Low Temperature Protection Of Discharge

Temperature Protection Value	-4°F±5.4°F / -20°C±3°C
Temperature Protection Release Value	14°F±5.4°F / -10°C±3°C

Charging High Temperature Protection

Temperature Protection Value	131°F±5.4°F / 55°C±3°C
Temperature Protection Release Value	113°F±5.4°F / 45°C±3°C

Charging Low Temperature Protection

Temperature Protection Value	37.4°F±5.4°F / 3°C±3°C
Temperature Protection Release Value	46.4°F±5.4°F / 8°C±3°C

High Temperature Protection Of FET(Built-in)

Temperature Protection Value	188.6°F~199.4°F / 87°C~93°C
Temperature Protection Release Value	152.6°F~163.4°F / 67°C~73°C

Balance Function

Balanced opening voltage	3.40V±0.03V
Balanced opening pressure difference	15mV
Balanced current	140mA
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	300Ah
Minimum Capacity	300Ah
Nominal Energy	3840Wh
Charging Voltage	14.4V
Discharging Cutoff Voltage	10.0V
Standard Charging Current	150A
Maximum Charging Current	300A
Standard Discharge Current	150A
Maximum Continuous Discharge Current	300A
Shell Material	Plastic Shell
Waterproof Class	IP65

Weight	Approximately 71.7lb/32.5kg
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Initial AC (1000Hz) Internal Resistance	≤50mΩ, (New battery within 3 months, ACIR at 1000Hz)
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Monthly Self-Discharge Rate	≤5%
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Overall Dimensions	20.5x10.6x8.7in
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Cycle Life(Times)(77°F±3.6°F)	≥4000
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Communication Mode	/
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Charging Temperature	32°F~131°F / 0°C~55°C
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Charging Meter: Continuous Charge Mode / C-Battery Level (Unit: C-Rate)

SOC/T	32°F	41°F	50°F	77°F	113°F	131°F
0%	0.3	0.45	0.7	1	1	0.5
10%	0.3	0.45	0.68	1	1	0.5
20%	0.3	0.35	0.65	1	1	0.5
30%	0.25	0.35	0.56	1	1	0.5
40%	0.12	0.25	0.5	1	1	0.5
50%	0.12	0.25	0.5	1	1	0.5
60%	0.1	0.19	0.37	1	1	0.5
70%	0.1	0.16	0.37	1	1	0.5
80%	0.08	0.13	0.37	1	1	0.5
90%	0.08	0.12	0.37	0.8	0.8	0.5
95%	0.05	0.12	0.12	0.5	0.5	0.4
98%	0.05	0.12	0.12	0.5	0.5	0.4
100%	0	0	0	0	0	0

Discharge Temperature	-4°F~140°F / -20°C~60°C
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Storage Temperature	-4°F~113°F / -20°C~45°C, 90%RH Max (Less than 1 month) 32°F~95°F / 0°C~35°C, 90%RH Max (More than 3 months)
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Recommended Storage Temperature	50°F~95°F / 10°C~35°C, 85%RH Max (Battery life decreases when stored at high temperature)
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If the battery needs to be stored for a long time (more than 3 months), it should be stored in an environment with a temperature range of 50°F to 95°F @ 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%.