RICH SOLAR | ALPHA™ Series Batteries

ALPHA 6 MINI
LiFePO₄ BATTERIES
12.8V 460Ah



Safety & Structural Reliability

Grade A+ $LiFePO_4$ cells ensure long-term stability and thermal safety.

Advanced BMS provides comprehensive multi-level electrical and thermal protection.

UL94 V-0 flame-retardant housing and IP65 waterproof construction for enhanced durability.

Long Lifespan & Energy Efficiency

Industry-leading cycle life: 5,000+ cycles.

Delivers high usable energy output (5,888Wh) with ≤5% monthly self-discharge.

Maintenance-free $LiFePO_4$ chemistry provides clean, stable, and efficient power output.

All-Weather Operation & Cold Protection

Wide operating range: Charge 32–131°F | Discharge -4–140°F.

Built-in low-temperature charging protection with automatic recovery for safe winter operation.

Internal Heating Technology: Activates below 41°F and stops above 50°F to support safe charging in freezing climates.

Smart Integration & Expandability

Bluetooth Monitoring: Track SOC, voltage, current, temperature, cycle count, and system status via the RICH SOLAR App.

Supports up to 4 units in parallel (4P) for RVs, marine, off-grid cabins, and backup power systems.

Backed by a 5-year warranty.

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SPECIFICATIONS

BATTERY	
Product Name	ALPHA 6 MINI
Nominal Voltage	12.8V
Rated Capacity	460Ah
Nominal Energy	5,888Wh
Cell Chemistry	$LiFePO_4$
Cycle Life	5,000+
Parallel Expansion	Up to 4 units (4P)
Bluetooth	Yes
Internal Heating	Yes (100W)
Certifications	UN 38.3, MSDS
ELECTRICAL PERFORMANCE & CHARGING	
Charging Method	CC/CV
Charging Voltage	14.4V
Discharging Cutoff Voltage	10.0V
Recommended Charge Current	150A
Max Charge Current	200A
Max Continuous Discharge Current	200A
ENVIRONMENTAL	
Charge Temperature	32°F to 131°F
Discharge Temperature	-4°F to 140°F
Storage Temperature	-22°F to 131°F (<1 Month) / 14°F to 113°F (>3 Months) , ≤90% RH
Low-Temperature Charging Protection Auto Recovery	Yes
Ingress Protection	IP65
MECHANICAL	
Terminals	M8
Housing Material	UL94 V-0 flame-retardant plastic
Dimensions (L × W × H)	20.6 × 9.4 × 8.6 in
Net Weight	88.2 lbs

BMS CAPABILITIES

Voltage Protection	Over-Charge Protection	Yes
	Over-Discharge Protection	Yes
Current Protection	Charging Over-Current Protection	Yes
	Discharging Over-Current Protection	Yes
Circuit Protection	Short-Circuit Protection	Yes
Temperature Protection	High/Low Temperature Charging Protection	Yes
	High/Low Temperature Discharging Protection	Yes
	Internal FET Over-Temperature Protection	Yes
Cell Management	Passive Cell Balancing	Yes

SPECIFICATIONS INCLUDED IN THIS DATASHEET ARE SUBJECT TO CHANGE WITHOUT NOTICE.