

ALPHA 5 PRO

51.2V 100Ah

LiFePO₄ BATTERY



FEATURE

CLOSED LOOP COMMUNICATIONS

Compatible with multiple brands of inverters.

PC MONITORING SOFTWARE

See real-time statistics of your battery.

PARALLEL UP TO 15 BATTERIES

Get the most power possible! Up to 76.8 kWh while maintaining BMS communications.

BUILT-IN CIRCUIT BREAKER

Offer fail-safe operation in high risk environments and protect against rare hardware failure on high voltage solar charge controllers.

WELDED PRISMATIC CELL CONNECTIONS

Never worry about losing power due to a loose internal connection.

RACK-MOUNT DESIGN

3U server rack mounting makes it convenient to store.

LOW TEMPERATURE PROTECTION

Charging off below 32°F feature ensures stable charging performance in cold weather conditions.

SPECIFICATIONS

Battery Type	LFP Battery
Nominal Voltage	51.2V
Nominal Capacity	100Ah
Minimum Capacity	99.5Ah
Nominal Energy	5120Wh
Charging Voltage	57.6V
Discharging Cutoff Voltage	44.8V
Standard Charging Current	20A
Maximum Charging Current	100A
Standard Discharge Current	50A
Continuous Discharge Current	100A
Maximum Discharge Current	100A
Shell Material	Sheet metal casing
Weight	99.20lb
Initial AC (1000Hz) Internal Resistance	≤50mΩ
Monthly Self-Discharge Rate	≤5%
Overall Dimensions	17.7x17.8x5.2in
Cycle Life(Times)(25°C±2°C)	≥4000; Capacity Retention≥70%
Charging Temperature	
0°C~10°C	0.1C
10°C~20°C	0.2C
20°C~25°C	0.5C
25°C~45°C	1.0C
45°C~55°C	0.3C
55°C~60°C	0.2C
Discharge Temperature	-20°C~65°C (The surface temperature of the cell should not exceed 65°C)
Storage Temperature	-20°C~45°C 90%RH Max (1 month) 0°C~35°C 90%RH Max (6 months)
Recommended Storage Temperature	0°C~35°C 85%RH Max (The battery life would be reduced if battery is stored in high temperature.)

BMS OPERATION

Operation Voltage	Voltage Range	43.2~58.4V
Operation Current	Maximum Charging Current	100A
	Maximum Discharge Current	100A
Over Charge Protection	Maximum Charge Voltage (CC/CV)	57.6V
	Over charge Protection Voltage(Cell)	3.65V
	Over charge Protection Voltage (Battery)	58.4V
	Over charge Protection Delay Time	1000ms
	Over charge Protection Release Voltage (Cell)	3.38V
	Over charge Protection Release Voltage (Battery)	54V
Over Discharge Protection	Over Discharge Protection Voltage (Cell)	2.7V
	Over Discharge Protection Voltage (Battery)	43.2V
	Over Discharge Protection Delay Time	1000ms
	Over Discharge Protection Release Voltage (Cell)	2.95V
	Over Discharge Protection Release Voltage (Battery)	47.2V
	Over Discharge Protection Release Condition	Reach the recovery voltage, discharge current > 2A or SOC < 96%
Over-Current Charge	Primary Charge Over Current Protection Value	110A
	First Stage Charge Over Current Delay	1S
	Charging Overcurrent Release Conditions	Delay automatic recovery or discharge recovery The lock is locked after the protection count reaches 10
	Release Conditions After Locking	Discharge current > 1A or restart the battery after shutdown
Over-Current Discharge	Primary Discharge Overcurrent Protection Value	110A
	Primary Discharge Overcurrent Protection Delay	1S
	Secondary Discharge Overcurrent Protection Current Value	150A
	Secondary Discharge Overcurrent Protection Delay	500ms
	Over-current Discharge Release	Delay automatic recovery or charge recovery The lock is locked after the protection count reaches 10
Short Circuit	Restore Condition After Lock	Charge current > 1A or restart the battery after shutdown
	Protection Delay Time	150μs
Discharge High	Protection Release	Restore after charging or removing load
	Temperature Protection Value	60°C
Discharge Low	Temperature Protection Release Value	50°C
	Temperature Protection Value	-20°C
Charging High	Temperature Protection Release Value	-15°C
	Temperature Protection Value	60°C
Charging Low	Temperature Protection Release Value	50°C
	Temperature Protection Value	0°C
High Temperature Protection Of FET (Built-in)	Temperature Protection Release Value	5°C
	Temperature Protection Value	115°C
Balance Function	Temperature Protection Release Value	85°C
Balance Function	Equilibrium turning-on condition (turn-on voltage and turn-on/off voltage difference)	3.4V (0.03V)
Operation Temperature	Normal Operating Range	-20~75°C
Storage Temperature	Humidity Below 70%, Time ≤ 1 year	-10~75°C
Charge Discharge Circuit	Charge Discharge Circuit	Same port for charging and discharging