

Li-FePO₄ BATTERY

PRODUCT SPECIFICATION

Product Description

The Li-FePO4 battery is used for energy storage in field of household, commercial, UPS and other electrical equipment. It has advantage of long cycle life, high safety software protection, strong housing, exquisite looks and easy installation, etc.

Product Specifications

Items		Condition	Specification						
Nominal Capacity		Standard charge/discharge	24.0Ah	30.0Ah	50.0Ah	100.0Ah	130.0Ah	200.0Ah	400.0Ah
Nominal Voltage		Average	12.8V	12.8V	12.8V	12.8V	12.8V	12.8V	12.8V
Internal Impedance		at 1KHz after 50% charge	≤80mΩ	≤35mΩ	≤20mΩ	≤20mΩ	≤18mΩ	≤10mΩ	≤10mΩ
Standard Charging) Refer to 1.1		Constant current Constant voltage End current Cut off	3A 14.6V 1A	8A 14.6V 1A	12A 14.6V 1A	25A 14.6V 1A	32.5A 14.6V 1A	50A 14.6V 1A	50A 14.6V 1A
Charging Voltage		/	14.6V	14.6V	14.6V	14.6V	14.6V	14.6V	14.6V
Max. Continuous Charge Current		25±3°C	6A	15A	25A	50A	65A	100A	10.0A
Standard Discharging Refer to 1.2		Constant current End voltage Cut off	3A 10V	10A 10V	25A 10V	32.5A 10V	50A 10V	50A 10V	100A 10V
Max Continuous Discharge Current)		25±3°C	6A	15A	25A	50A	65A	100A	200A
Cycle Life		0.2C, 80% DOD, 25±3°C	2500 times						
Operating Temperature	Charge	/	0°C~ 55°C						
	Discharge	/	-20°C~ 55°C						
Storage Temperature		1 month 3 month 6 month upon	-20°C~ 45°C -20°C~ 35°C 0°C~ 35°C						
Communication Function		/							

Electrical Specification

Unless there is special requirement, the test shall be done under temperature of $25\pm 2^{\circ}\text{C}$ and with relative humidity of 45~85%.)

Items	Test Condition	Criteria														
1.1 Standard Charge	The standard charge means charge the battery in temperature below $25\pm 3^{\circ}\text{C}$ with initial charge current of 3/8/12/25/32.5/50A and with constant voltage of 14.6V, then charge with constant voltage of 14.4V and with floating current taper to 1A cut-off (Charger should be exclusively using lithium ion rechargeable battery, with an accuracy of $\pm 0.05\text{V}$) for at most 6 hours.)	/														
1.2 Standard Discharge	Charge in accordance with the standard and then discharge to voltage 10V with discharge current of 6/15/25/50/65/100A. The gap time for charge and discharge is 30 minutes	Minimum Capacity \geq 24.0、 30.0、 50.0、 100.0、 130.0、 200.0、 400.0Ah														
Discharge Character	<table border="1" data-bbox="411 1451 1177 1585"> <thead> <tr> <th data-bbox="411 1451 699 1487">Discharge current</th> <th colspan="4" data-bbox="699 1451 1177 1487">Discharge Temperature</th> </tr> </thead> <tbody> <tr> <td data-bbox="411 1487 699 1545" rowspan="2">0.2C</td> <td data-bbox="699 1487 839 1545">-10$^{\circ}\text{C}$</td> <td data-bbox="839 1487 979 1545">0$^{\circ}\text{C}$</td> <td data-bbox="979 1487 1120 1545">25$^{\circ}\text{C}$</td> <td data-bbox="1120 1487 1177 1545"></td> </tr> <tr> <td data-bbox="699 1545 839 1585">$\geq 50\%$</td> <td data-bbox="839 1545 979 1585">$\geq 60\%$</td> <td data-bbox="979 1545 1120 1585">$\geq 95\%$</td> <td data-bbox="1120 1545 1177 1585">\geq</td> </tr> </tbody> </table> <p data-bbox="389 1630 1177 1765">Batteries shall be charged according to 1.1 and discharged in accordance with the above mentioned temperature. The discharge capacity shall meet the standard. Batteries shall be stored for 4 hours at the test temperature</p>	Discharge current	Discharge Temperature				0.2C	-10 $^{\circ}\text{C}$	0 $^{\circ}\text{C}$	25 $^{\circ}\text{C}$		$\geq 50\%$	$\geq 60\%$	$\geq 95\%$	\geq	<p data-bbox="1193 1308 1369 1413">At -10$^{\circ}\text{C}$: Discharge Capacity$\geq 50\%$</p> <p data-bbox="1193 1451 1369 1556">At 0$^{\circ}\text{C}$: Discharge capacity$\geq 60\%$</p> <p data-bbox="1193 1594 1369 1700">At 25$^{\circ}\text{C}$ Discharge capacity$\geq 95\%$</p> <p data-bbox="1193 1738 1369 1843">At 40$^{\circ}\text{C}$ Discharge capacity$\geq 95\%$</p>
Discharge current	Discharge Temperature															
0.2C	-10 $^{\circ}\text{C}$	0 $^{\circ}\text{C}$	25 $^{\circ}\text{C}$													
	$\geq 50\%$	$\geq 60\%$	$\geq 95\%$	\geq												

BMS Parameter

NO.	Item		Criterion					
1	Power Consumption	Low power consumption mode	≤100μA	≤50μA	≤50μA	≤100μA	≤100μA	≤200μA
2	Over charge Protection	Over charge detection voltage	3.75V					
		Over charge release voltage	3.38V					
3	Over discharge protection	Over discharge detection voltage	2.2V					
		Over discharge release voltage	2.7V					
4	Over current protection	Charging over current detection current 1 detection time	6A (1S)	15A (1S)	25A (1S)	50A (1S)	50A (1S)	50A (1S)
		Discharging over current detection current 1 detection time	12A (1S)	30A (1S)	50A (1S)	100A (1S)	200A (1S)	200A (1S)
		Discharging over current detection current 2 detection time	≥30A(100ms)	≥50A(100ms)	≥100A(100ms)	≥200A(100ms)	≥300A(100ms)	≥300A(100ms)
5	Temp. Protection	Detection temperature	65±2°C					

Transportation

During transportation, please keep the battery from acutely vibration, impacting, over-exposure to the sun and drenching.

Storage

1.Storage environment requirement: under temperature of 25±2°C and relative humidity of 45~85%.

2.This power box must be charged every six months, and a complete charging and discharging work must be down in every nine months.

Caution

- *The installation and debugging should be operated by technical personnel.
- *Please do not stick your hands or other objects deep into the interior of the product.
- *Please do not open the product without a technical personnel.
- *Please do not mechanically damage the battery module of the energy storage cabinet (perforation, deformation, peeling, etc.).
- *Please use dry powder extinguisher as extinguishing agent.
- *Please do not let the storage cabinet battery module contact abnormal metals or conductors.
- *Please do not use the product after a short circuit.

