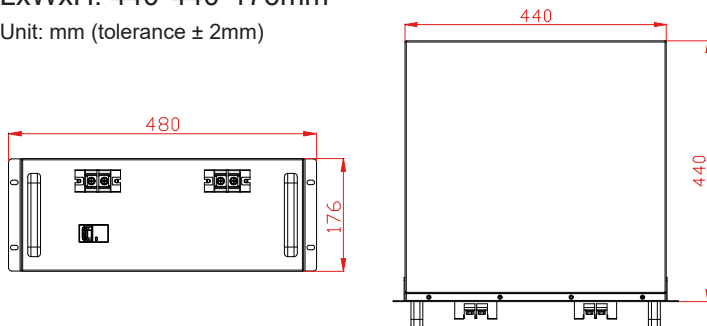


48V 100Ah LiFePO₄ Battery



LxWxH: 440*440*176mm
Unit: mm (tolerance ± 2mm)



48V | 100Ah | 4800Wh

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Battery Specification (@25±5°C)

No.	Items	Characteristics	
2.1	Nominal capacity	100.0Ah	
2.2	Mix. capacity	98.0Ah	
2.3	Nominal energy	4800Wh	
2.4	Combination structure of battery	15S1P	
2.5	Nominal voltage	48.0V	
2.6	End of discharge voltage	40.5V	
2.7	Standard charge voltage	54.8±0.2V	
2.8	Float charge voltage	51.8V	
2.9	Standard charge current	20A	
2.10	Recommended charge current	≤50A	
2.11	Allowed Max. charge current	100A	
2.12	Standard discharge current	20A	
2.13	Recommended discharge current	≤50A	
2.14	Allowed Max. discharge current	100A	
2.15	Peak discharge current	200A,10Sec	
2.16	Internal Resistance	≤100mΩ	
2.17	Weight	Approx41kg	
2.18	Ex-factory capacity	Approx.50%SOC	
2.19	Operation temperature	Discharge	0°C~ + 45°C
		Charge	-20°C~ + 60°C
2.20	Storage environment	≤1Month	-20~+60°C、5~75%RH
		≤6Month	-10~+45°C、5~75%RH
		Recommend environment	15~+35°C、5~75%RH

Electrical Characteristics & Test Condition

Testing Conditions: Ambient Temperature: $25 \pm 5^\circ\text{C}$; Humidity: 45%~75%

Normal charge: Charge battery under CC(0.2C)/CV(54.8V) mode until the charge current reduce to 0.02C, and then rest for 1h.

No.	Items	Standard	Test condition
3.1	Normal capacity	$\geq 98\%$	After Normal charge, discharge @0.2C current to the end of discharge voltage.
3.2	Internal Impedance	$\leq 100\text{m}\Omega$	@50% SOC @1kHz AC internal resistance test Instrument.
3.3	Short circuit protection	Auto cutoff load when short circuit	Connect the positive and negative of this battery pack through a lead with 0.1 Ω resistance.
3.4	Discharge temperature Characteristic	$-20^\circ\text{C}/25^\circ\text{C} \geq 45\%$	Battery shall be charged according to standard charge, discharged at 0.5C to 40.5V. Battery shall be stored for 4 hours at the test temperature prior to discharging and then shall be discharged at the test temperature, The percentage shall be calculated using discharging capacity compared to the minimum capacity.
		$-10^\circ\text{C}/25^\circ\text{C} \geq 70\%$	
		$0^\circ\text{C}/25^\circ\text{C} \geq 85\%$	
		$25^\circ\text{C}/25^\circ\text{C} \geq 100\%$	
		$55^\circ\text{C}/25^\circ\text{C} \geq 95\%$	
3.5	Discharge performance in normal temperature	Discharge capacity 0.2C $\geq 100\%$ 1C $\geq 95\%$	When the battery is in the environment of $25^\circ\text{C} \pm 2^\circ\text{C}$, after standard charging, rest for 10min, and then discharge to 40.5V with 0.2C, 1C. Calculate the ratio of discharge capacity to rated capacity at each multiple.
3.6	Capacity retention rate	Capacity retention $\geq 90\%$ Capacity recovery $\geq 95\%$	Measure the initial state and capacity of the battery, after standard charge, then rest for 28days, measure the final state of the battery; discharge at 0.2C to 40.5V, measure the remaining capacity of the battery. After standard charging, the battery is discharged at 0.2C to 40.5V to measure its recovery capacity. It can be cycled three times.
3.7	Cycle life@DOD100%	>4000 cycles	After Normal charge, discharge @0.5C current to the end of discharge voltage. Repeat above process until discharge capacity reduce to 70% of initial value.

Circuit Protection

The batteries are supplied with a LiFePO4 Battery Management System (PCB) that can monitor and optimized each single prismatic cell during charge & discharge, to protect the battery pack overcharge, over discharge, short circuit. Overall, the BMS helps to ensure safe and accurate running.

No.	Item	Content	Parameter
4.1	Over charge	Over-charge protection for each cell	3.65±0.05V
		Over-charge protection for battery	/
		Over-charge protection delay time	0.5-2S
		Over-charge release method	Cell voltage≤3.50±0.05V or Discharge current≥1A
4.2	Over charge current	Charge over current protection 1	170±30A
		Charge over current protection delay time	800~1200mS
		Charge over current release	Cut load,Auto Recovery or discharge current>1A
4.3	Over discharge	Over-discharge protection for each cell	2.3V±0.10V
		Over-discharge protection for battery	/
		Over-discharge protection delay time	0.8-1.2S
		Over-discharge release method	Cell voltage≥2.70±0.05V or charge current >1A
4.4	Over discharge current	Discharge over current protection	400±50A
		Discharge over current protection delay time	70~130mS
		Discharge over current release	Cut load,Auto Recovery or charge current>1A
4.5	Temperature	Charging high temperature protection	60±5 °C

No.	Item	Content	Parameter
		Charge Over-temperature release method	50~55℃
		Charging low temperature protection	0±5℃
		Discharge over temperature protection	70±5℃
		Discharge Over-temperature release method	50~60℃
		Discharge low temperature protection	-20±5℃
		PCB temperature protection	100±5℃
		PCB Over-temperature release method	90±5℃
		Temperature protection delay time	<10S
4.6	Cell balance	Balance Start Voltage	3.525±0.025V
		Balance current	36±10mA
4.7	Short circuit protection	Short Circuit Protection Current	About 1500A
		Protection condition	Load short circuit
		Protection delay	20~800uS
		Short circuit protection release	Cut load,Auto Recovery

Battery Usage Specification

- When the battery is used alone, it can be used directly.
- When the battery needs to be used in parallel, each battery shall be fully charged according to the standard charging method before parallel.
- The maximum parallel number shall not exceed four.

Transport & Store

- For long-term storage, the charge level of the battery is usually 30% to 50%, and storing at a high charge level will accelerate the battery's capacity loss.
- The battery should be charged and discharged once every 6 months.
- When loading and unloading the battery during transport, be careful not to drop it, stack no more than 5 units high, turn it over and make sure the front side is facing up.

Warning & Tips

- Please use the dedicated or recommended professional lithium battery charger.
- Please stop using the battery if there is abnormal smell, discoloration, noise, leakage, severe deformation, etc.
- Should electrolyte leak and get into your skin or eyes, please flush with clean water and seek medical attention immediately.
- Keep the battery out of the reach of pets and children and make sure that children cannot touch the battery.

Warranty Period

- 5 year guarantee