GreenPoint

Lithium Iron LiFePO4 | 25.6V 200Ah

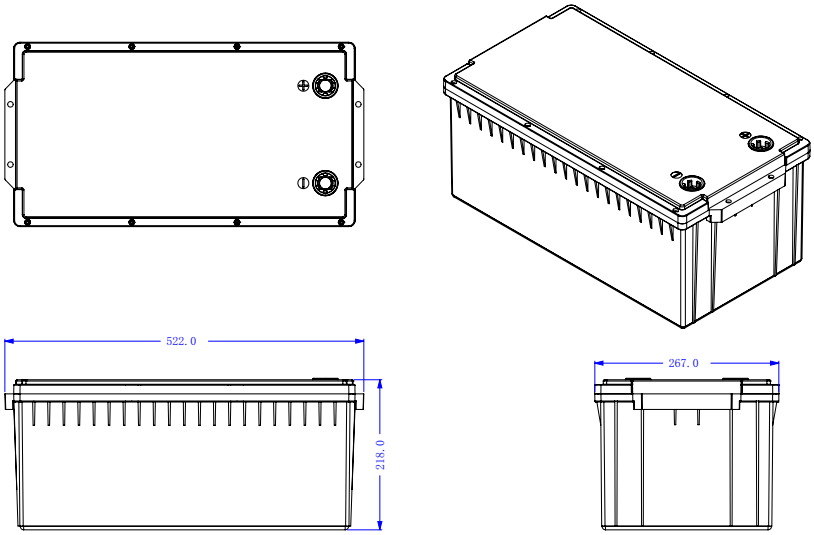
OT-BT-24200LFP

USER MANUAL

SCOPE OF APPLICATION

This user manual describes the basic performance, technical requirements, test methods, warnings and cautions for lithium-ion rechargeable batteries. This specification applies only to OT-BT-24200LFP batteries.

PRODUCT APPEARANCE



Item		Parameter
Product Size	Length	522mm
	Width	267mm
	Height	218mm

PRODUCT CONFIGURATIONS

Function	Configuration	Function	Configuration
Number of strings supported	8S1P	485 communication (isolated)	Not supported
Continuous current	100A	CAN communication	Not supported
Number of NTC	1	Module of Bluetooth	Not supported
Battery packs in parallel	supported	Battery packs in series	supported 2S
Balance Function	Passive balance	Pre-discharge function	supported
Parallel Communication	Not supported	/	/

BASIC PARAMETERS OF BATTERY

Battery pack Model	OT-BT-24200LFP
Battery PACK	8S1P
Size (L*W*H)mm	522X267X218mm
Weight (kg)	39.5KG
Battery Rated Capacity (0.2C)	200Ah
Battery Rated Voltage	25.6V
Rated Power	5120Wh
Operating Voltage Range	20-29.2V
Battery Type	LiFePO4

BASIC PARAMETERS OF BATTERY

Charger voltage(CC/CV)	DC29.2V/20A（Lithium battery charger）
Standard charging current	50A
Continuous Charging Current (Max.)	90 A
Standard discharge current	50A
Continuous Discharge Current (Max.)	100A
Internal Resistance (mΩ)	≤20 mΩ
Storage Temperature	Within 2 months：-20℃~40℃
	Within 6 months：-10-35℃
Storage Humidity	10%~90% RH
Charging Temperature	0~55℃ (Ambient temperature)
Discharge Temperature	-20~60℃ (Ambient temperature)
Operating power consumption	≤25mA
Discharge cut-off voltage	20V
Charge cut-off voltage	29.2V
Cooling Mode	Natural Cooling
Waterproof Level	IP67
Battery Cycle Life	6000 times (0.2C standard charge and discharge) DOD 80%
Standard Environmental Condition	Temperature： 25±2℃
	Humidity： 45-85%RH
	Atmospheric Pressure： 86-106 KPA

Battery pack Materials BOM（Main material）

Part Name	QTY	Description	Remarks
Cell	8	3.2V200Ah	
PCM	1	8S-100A	
Shell	1	Case size:522*267*218mm	

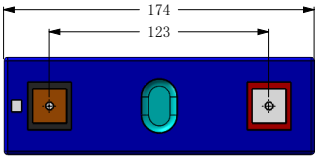
BMS Protection Parameters

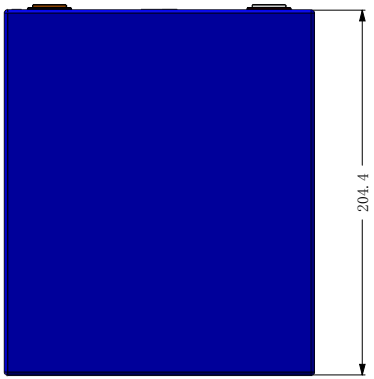
Function	Project	Specification			Unit
		MIN	TYP	MAX	
Cell Overvoltage Protection	Overvoltage protection voltage	3.60	3.65	3.70	V
	Overcharge protection delay time	1000	2000	3000	mS
	Overcharge protection restores voltage	3.45	3.50	3.55	V
Cell Over-discharge protection	Over-discharge protection voltage	2.45	2.50	2.55	V
	Over-discharge protection delay time	1000	2000	3000	mS
	Over-discharge protection recovery voltage	2.65	2.70	2.75	V
	Over-discharge protects recovery conditions	Disconnect load or charge recovery			
Chargingovercurrent protection	Charge overcurrent protection value	/	105	110	A
	Charging overcurrent delay	/	30	30	S
	Charging overcurrent discharge conditions	Automatic recover aftera delay of 32S			
Overcurrent Discharge	1st Overcurrent Discharge	/	105	110	A
	1st Overcurrent Discharge delay	/	30	30	S
	2st Overcurrent Discharge	205	210	215	A
	2st Overcurrent Discharge delay	1500	2000	2500	mS
	Discharge overcurrent protection and recovery conditions	Automatic recover aftera delay of 32S			

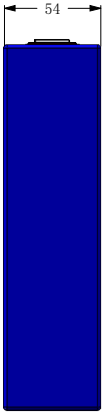
Short Circuit Discharge	Short protect protection current	450	500	550	A
	Short circuit protection delay time	/	560	900	uS
	Short circuit protection recovery	Recover after 5S delayafter disconnecting the load			
	Short-circuit description: The short circuit current is less than the minimum value o higher than the maximum value, which may cause the short circuit protection to fail, and the short circuit current exceeds 2000A,short circuit protection is not guaranteed, and short circuit protection testing is not recommen ded.				
Overtemperature Charge	Temperature protection value	62	65	68	℃
	Temperature protection release value	52	55	58	℃
Undertemperature Charge	Temperature protection value	-5	-2	1	℃
	Temperature protection release value	2	5	8	℃
Overtemperature Discharge	Temperature protection value	62	65	68	℃
	Temperature protection release value	52	55	58	℃
Undertemperature Discharge	Temperature protection value	-23	-20	-17	℃
	Temperature protection release value	-13	-10	-7	℃
high temperature protection of FET(Built-in)	Temperature protection value	100	105	110	℃
	Temperature protection release value	80	85	90	℃
Balance Function	Equalization turn-on voltage	3.27	3.30	3.33	V
	Turn on differential pressure		15		mV
	Balance current	150	200	250	mA
	Balancemodel	Ldle equalization			
	Balance type	Pulsed model			

Cell technical parameters

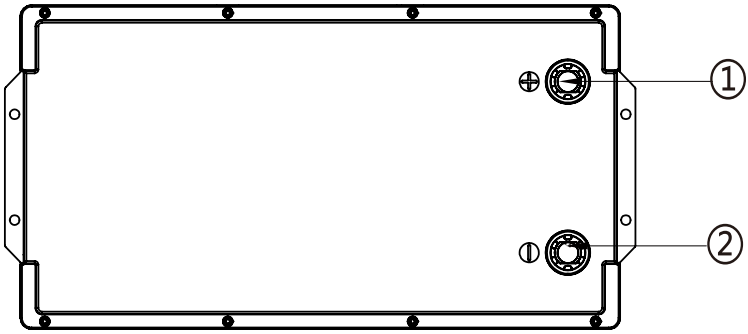
No.	Item		Parameter	Remark
1	Nominal Capacity		200 Ah	(25±2)℃， Standard charge and discharge
	Typical Voltage		3.2V	
	Impedance (1KHz)		≤0.5mΩ	
2	Dimension	height	204 ±0.5mm	Length, width and height
		Length	174±0.8mm	
		width	54 ±0.5mm	
3	Battery weight		4200g± 50 g	







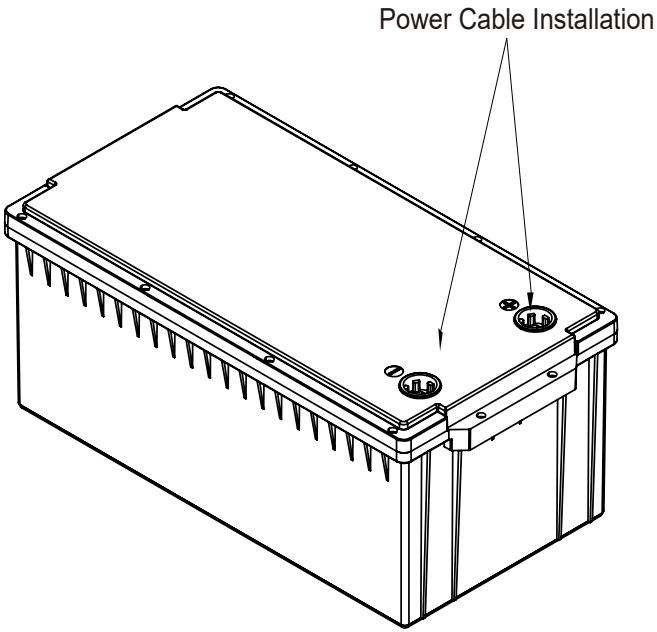
BATTERY INTERFACE DESCRIPTION



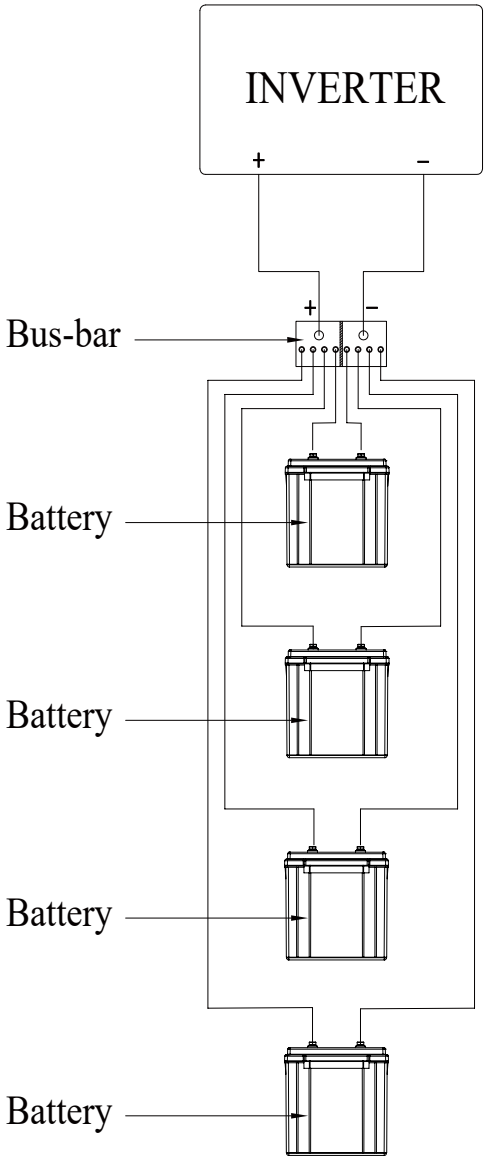
NO.	Interfaces	Instructions
1	Positive Electrode	Power Positive
2	Negative Electrode	Power Negative

BATTERY CONNECTED IN PARALLEL

Use screws to fix the end of the wire with the OT terminal to the corresponding positive and negative poles. After tightening, apply insulating glue to the exposed copper poles to insulate them.



BATTERY PARALLEL COMMUNICATION



BATTERY OPERATION PRECAUTIONS

In order to use and handle the battery safely, please read the operating instructions carefully before use:

1. Do not expose the battery to the sun or throw it in a fire.
2. When charging the battery, the positive and negative polarities cannot be reversed.
3. Do not short-circuit the positive and negative poles of the battery pack with wires or other metal objects!
4. Do not pierce the battery pack housing with nails or other sharp objects, and do not hammer or pedal the battery pack!
5. Do not disassemble or deform the battery.
6. Do not immerse the battery in water.
7. Never place the battery pack in a microwave oven or pressure vessel!
8. Do not use the battery pack in an extremely hot environment, such as in direct sunlight or in a car on a hot day. Otherwise, the battery pack will overheat, which will affect performance and shorten the life of the battery pack.
9. Do not mix batteries of different manufacturers, types and models.
10. Do not allow children to touch the battery.
11. If the battery pack emits odor, heat, deformation, discoloration or any other abnormal phenomenon, do not use it. If the battery pack is in use or charging, immediately remove it from the car (electrical appliance) or charger and stop using it!
12. If the electrolyte gets into the eyes after the battery leaks, do not wipe it, flush it with water immediately, and seek medical assistance immediately. If it is not handled in time, the eyes will be injured!

About Charge and discharge:

1. The battery must be charged under suitable conditions.
2. Never charge the battery with a faulty charger.

BATTERY OPERATION PRECAUTIONS

3. The battery can't be charged continuously for more than 24H.

4. Do not charge the battery pack in the presence of fire or extreme heat! Do not use or store battery packs near heat sources such as fire or heaters! If the battery leaks or emits peculiar smell, immediately move it away from the open flame. When using the battery for the first time, fully charge the battery before using it.

5. During the charging and discharging process of the battery pack, if there is an odor or abnormal sound, please stop charging and discharging immediately.

6. The ambient temperature will affect the discharge capacity. When the ambient temperature exceeds the standard environment (25±5℃), the discharge capacity will be reduced!

Storage:

1. The battery is stored in a ventilated and dry environment.

2. The battery is stored within the temperature range specified in the specification. If the battery is stored for more than six months, it is recommended that you start charging the battery.

Disposal:

The laws and regulations of different countries are different, and the disposal should be based on the local laws and regulations.

BATTERY OPERATION INSTRUCTION

Charging:

Charging current: The maximum charging current specified in the specification cannot be exceeded.

Charging voltage: cannot exceed the highest limit voltage specified in the specification.

Charging temperature: The charging temperature of the battery must be performed in accordance with the temperature ranges of the specification. Charge in constant current and then in constant voltage mode, and reverse charging is prohibited. It is dangerous to charge the battery with the polarity reversed.

Discharging current:

The discharge current of the battery cannot exceed the maximum discharge current specified in the specification. Excessive current discharge will cause the battery to heat up and reduce its capacity.

Discharge temperature:

The battery discharge temperature must be performed within the temperature range of the specification.

Over-discharges:

Short-term overcharge and over-discharge will not affect the use of the battery, but long-term over-discharge will affect the function of the battery, and the battery will be permanently unsuitable. Another reason why the battery may be over-discharged is the disappearance of automatic energy. The way to prevent battery over-discharge is that the battery should maintain a certain amount of power.

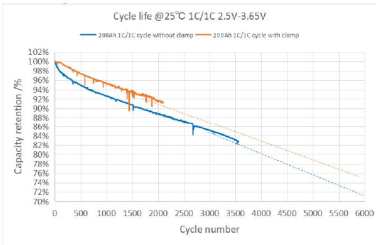
Other Chemical Reaction:

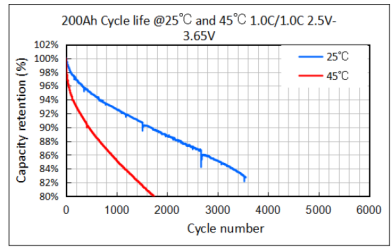
Since the battery uses the principle of chemical reaction, the performance of the battery will decrease with time, even if it is stored for a long time without use. If the conditions of use such as charging, discharging and ambient temperature are not within the specified range of use, the service life of the battery will also be shortened, or liquid leakage will result in equipment damage. If the battery cannot be charged for a long period of time, even if the charging method is correct, the battery needs to be replaced.

Note: Matters not included in this manual shall be determined by mutual agreement.

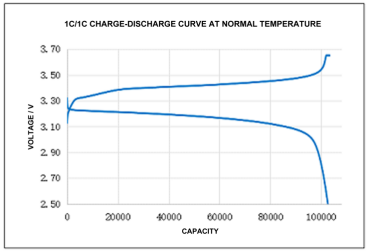
CHARGE AND DISCHARGE CURVE

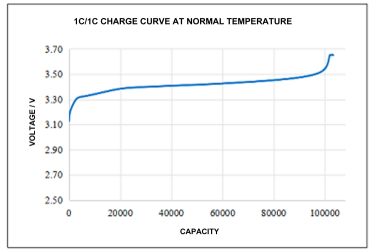
The curves of cycle life

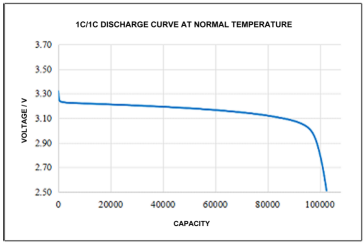




The curves of charge and discharge







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