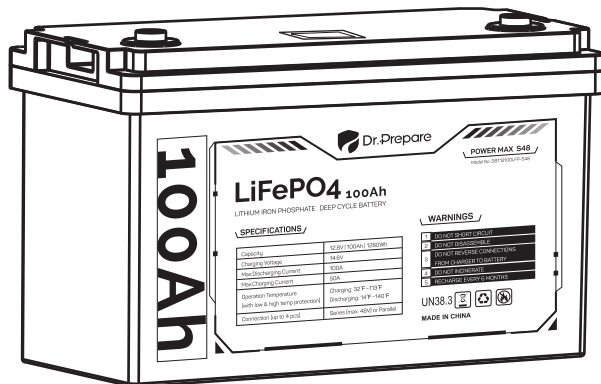




12V 100Ah LITHIUM IRON PHOSPHATE (LiFePO4)

SKU: DBT12100LFP-S48SC-G2-US



This user manual offers a brief walkthrough of the unit's features.

Please keep the user manual in hand for future reference.

Still need help? Feel free to send us an email at support@drprepare.com

IMPORTANT SAFETY INSTRUCTIONS

- Please read through all the labels on the battery and this user guide before the first use.
- When connecting batteries in series or parallel, read all the precautions about how to connect first, or you may damage the batteries.
- Keep the battery away from rain, splashes, and any wet locations.
- DO NOT short circuit the battery.
- DO NOT reverse polarity connection.
- DO NOT expose the battery to fire, heat sources, or direct sunlight.
- DO NOT dismantle or modify the battery yourself.
- DO NOT drop, crush, shake, strike, or penetrate the battery.
- Please use the specified charger to charge batteries.
- Our batteries are assembled using 8 screws and waterproof glue. If you want to disassemble the batteries yourself, please ask the customer service team for directions on how to disassemble the batteries. But keep in mind that once the battery is disassembled, it cannot be restored to its original state of being.

➤ User Guide

SPECIFICATIONS

General	
Battery type	Lithium iron phosphate (LiFePO4)
Rated capacity	100Ah (1280Wh)
Rated voltage	12.8V
Max. charging voltage	14.6V
Max. discharging current	100A
Max. charging current	50A
Cycle lifespan	More than 3000 cycles at 80% DOD
Charging temperature range	32°F~113°F / 0°C~45°C
Discharging temperature range	14°F~140°F / -10°C~60°C
Low temperature protection	Charging: 23°F~41°F / 0°C±5°C
	Discharging: -13°F~5°F / -20°C±5°C
High temperature protection	Charging: 140°F~158°F / 65°C±5°C
	Discharging: 158°F~176°F / 75°C±5°C
Storage temperature range	-4°F~113°F / -20°C~45°C
	(Store for 1-3 months)
	-4°F~68°F / -20°C~20°C
	(Store for 1 year)
Controller Setting (for reference)	
System voltage	12V (x N)*
Boost charge voltage	14.2V (x N)*
Over-discharge recover voltage	12.6V (x N)*
Over-discharge voltage	11.1V (x N)*

Dimension and Weight	
Size (L x H x W)	13.07 x 8.66 x 6.77 inches
	332 x 220 x 172 mm
	Compatible with the Group 31
	lead-acid battery case
Net weight	25.11 lbs / 11.39 kg

Note:

(x N)* : When it comes to a 24V(N=2) or 48V(N=4) system, the voltage should multiply by the number of series batteries.

*When the battery is fully discharged at a continuous 100A, it cannot be recharged at 50A immediately, which will trigger high temperature charging protection.

TIPS FOR BETTER PERFORMANCE

How to Connect Battery

1. Please make sure all batteries that are connected meet the following criteria:

- Batteries have the Same Capacity (Ah) and are the Same Type (Lithium iron phosphate (LiFePO4)).
- As the built-in battery management system (BMS) may vary between brands, we advise you to choose batteries from the Same Brand for connection.

2. For optimal performance, we kindly advise you to follow the requirements listed below:

- Fully charge all ready-to-connect batteries.

- All battery interconnect cables should be the same wire gauge (AWG) and length, and come from the same brand. Otherwise, the impedance will be inconsistent, resulting in unbalanced charge and discharge performance.
- Connect your batteries one by one in series (up to 4 batteries) or in parallel (up to 4 batteries). Secure all cable connections between the cable lugs and terminals.

3. When determining the cable size (AWG) for your system, there are two factors to consider:

- The size of the electrical load you want to power.
- The distance between the electrical load and your batteries.

For reference, see the following chart:

— Cables for Controller to Battery

Solar Input Current	5A	10A	20A	30A	40A	60A
Wire Cross Section Area (mm²)	1.5	2.5	5	8	10	12
Wire AWG	15	13	10	8	7	6

— Cables for Inverter to Battery

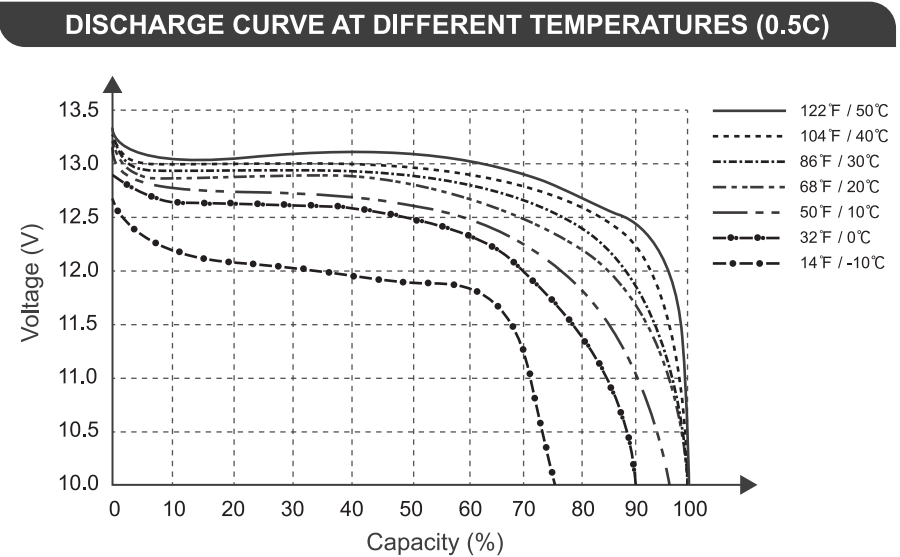
Cable Size	Copper Conductor Diameter (inches)	Maximum Amperage
6 AWG	0.20	115
4 AWG	0.23	150
2 AWG	0.30	205
1/0 AWG	0.37	285
2/0 AWG	0.43	325
4/0 AWG	0.56	440

About Rated Power

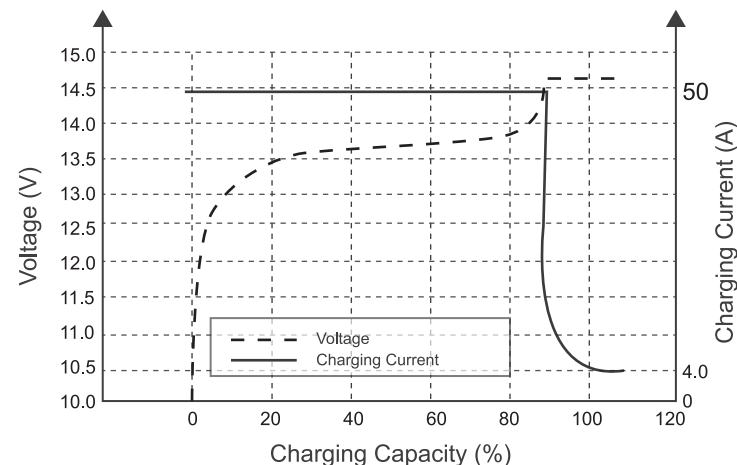
- The max. rated power of this battery is 1280W.
- When connecting 2 batteries in parallel, the theoretical max. power is 1280W x 2 = 2560W. But this does not mean this battery bank can support all 2000W home appliances working normally via a 2000W inverter.
- The peak power of an AC motor appliance, such as an AC air conditioner or water pump, is double its rated power. For example, when using a 1500W AC air conditioner or water pump, it requires 2 x 1500W = 3000W of the battery bank and inverter to support normal working conditions.
- But please note that the peak power of some home appliances is 3 times the rated power. So you can consult the manufacturer for accurate peak power data.

How to Store Battery

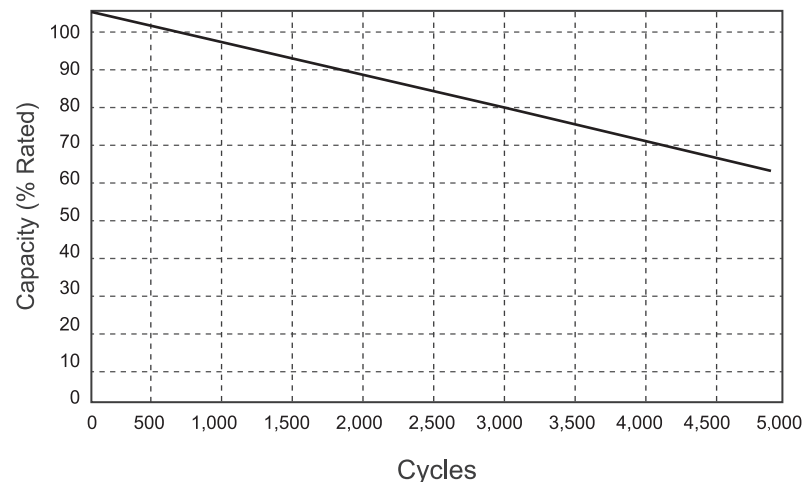
- To store your battery, keep it at least 30%-50% charged. We recommend that you charge the battery every 6 months when not in use to prevent overdischarge.



CHARGING PERFORMANCE (0.5C, 77°F/25°C)



CYCLE LIFE VERSUS DEPTH OF DISCHARGE (0.5C, 77°F/25°C)



MONITOR SCREEN

State (battery icon)	Description
5 Bars	Battery Voltage: 13.6V+ Battery Capacity: 100%
5 Bars	Battery Voltage: 13.2V-13.5V Battery Capacity: 80%-95%
4 Bars	Battery Voltage: 12.9V-13.1V Battery Capacity: 65%-75%
3 Bars	Battery Voltage: 12.7V-12.8V Battery Capacity: 55%-60%
2 Bars	Battery Voltage: 12.4V-12.6V Battery Capacity: 40%-50%
1 Bar	Battery Voltage: 12.2V-12.3V Battery Capacity: 30%-35%
No Bars	Battery Voltage: 11.6V-12.1V Battery Capacity: 0%-25%

* The measurement accuracy is approx. 100mV.

Note:

Please turn off all connected electrical appliances to ensure there is no high power output before checking the current battery capacity.

The reason is that the battery capacity displayed on the screen is measured in real-time voltage. Normally, the battery voltage will instantly drop when an inverter or other heavy load is operating on the circuit. Accordingly, the remaining battery capacity, indicated by how many bars are left, will also fall.

WARRANTY

- Dr.Prepare LiFePO4 batteries are covered by a 5-year limited warranty from the original purchase date. If you encounter any issues during usage, feel free to contact us at support@drprepare.com
- We only provide after-sales service for products sold by Dr.Prepare or retailers and distributors authorized by Dr.Prepare. If you have purchased your unit through other channels, please contact your seller for more information about the return and warranty.

SUPPORT INFORMATION

- Need help? Feel free to send us an email at support@drprepare.com
Want to see more products? Visit the website drprepare.com