




LiFePO4

PRODUCT MANUAL

Lithium Iron Phosphate Battery

12.8V
100Ah (100A BMS)



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PRODUCT OVERVIEW

12.8V 100Ah Battery

Operating Voltage: 12.8V

Charging Voltage: $14.4 \pm 0.2V$

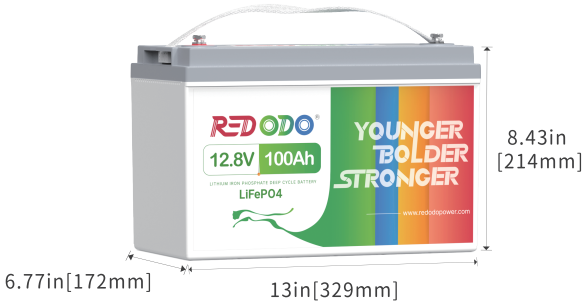
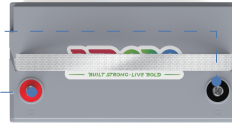
Recommend Charge Current: 20A (0.2C)

Max Continuous Discharge Current: 100A

Max Continuous Load Power: 1280W

M8*1.25mm Negative Terminal

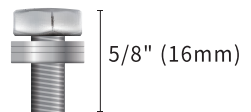
M8*1.25mm Positive Terminal



Additional Components

M8- 5/8" (16mm) Terminal Bolts

The terminal bolts are used to secure multiple cable lugs to a single battery terminal. The bolts can be replaced with [M8](#) bolts of other lengths based on actual needs.



Insulating Caps for Bolts

5/16" (8mm)



BATTERY-PACK MAIN PARAMETERS

Item	Parameter
Cell Type	LiFePO4
Nominal Voltage	12.8V
Rated Capacity	100Ah
Energy	1280Wh
Internal Resistance	$\leq 40\text{m}\Omega$
Cycle Life	≥ 4000 times
Battery Management System (BMS)Board	100A
Charge Method	CC/CV
Charge Voltage	$14.4 \pm 0.2\text{V}$
Recommend Charge Current	20A (0.2C)
Max. Continuous Charge Current	100A
Max. Continuous Discharge Current	100A
Max. Discharge Current 1 Second	400A
Max. Continuous Output Power	1280W

Item	Parameter
Dimension	L13*W6.77*H8.43 inch
	L329*W172*H214 mm
Housing Material	ABS (Flame Retardant Plastic)
Protection Class	IP65
Temperature Range	Charge: 0°C to 50°C / 32°F to 122°F
	Discharge: -20°C to 60°C / -4°F to 140°F
	Storage: -10°C to 50°C / 14°F to 122°F





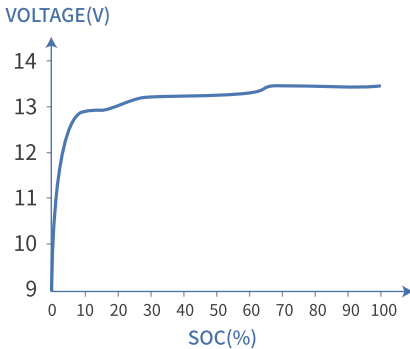
HOW TO ESTIMATE THE BATTERY CAPACITY

STATE OF CHARGE (SOC)

The battery capacity could be roughly estimated by its [resting voltage \(not charging/discharging voltage\)](#)^①.

Since the voltage of each battery is slightly different, and the voltage measurement is affected by the measuring instrument, ambient temperature, etc., [the following parameters are for reference only](#). The actual SOC of the battery is based on the discharge capacity under load.

Resting Voltage: The voltage is measured after the battery has been disconnected from the charger and loads with zero current, and left alone for 3 hours.



SOC (%)	VOLTAGE (V)
0	10 to 12
25	13 to 13.15
50	13.15 to 13.2
75	13.3 to 13.33
100	≥13.33

- ① Based on the characteristics of LiFePO₄ batteries, the voltage measured by all LiFePO₄ batteries during charging/discharging is not the real voltage of the battery. Therefore, after charging/discharging and disconnecting the battery from the power source, the voltage of the battery will gradually drop/increase to its real voltage.



SERIES / PARALLEL CONNECTION

THE PREMISE OF CONNECTION

To connect in series or /and parallel, batteries should meet the below conditions:

- identical batteries with the same battery capacity (Ah) and BMS (A);
- from the same brand (as lithium battery from different brands has their special BMS);
- purchased in near time (within one month).

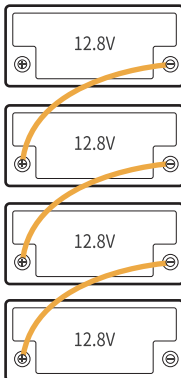
LIMITATION FOR SERIES/PARALLEL CONNECTION

Support connecting up to 16 identical batteries for up to:

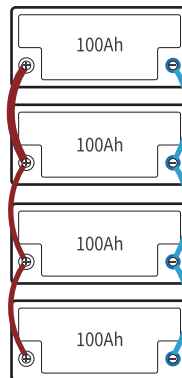
4 in series as 48V (51.2V) battery system/

4 in parallel as 400Ah battery system.

Series Connection
48V(51.2V) 100Ah



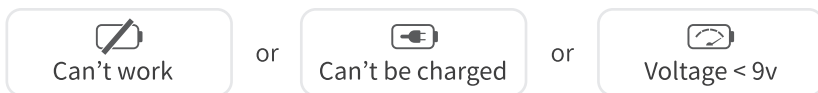
Parallel Connection
12V(12.8V) 400Ah





WHAT TO DO WHEN THE BATTERY STOPS WORKING?

When the battery



It has 85% chances that BMS has shut it off for protection, and you could try one of below ways to activate the battery.

General Steps

If the BMS has cut off the battery for protection, follow the below steps to activate it.

Step
1

[Cut off](#) all the connections from the battery

Step
2

[Leave the battery aside for 30mins](#)

Then the battery will automatically recover itself to normal voltage (>10V) and can be used after fully charged.

If the battery is unable to recover itself after the above steps, please try activating by **ONE OF BELOW TWO METHODS.**

After activated (voltage > 10V) and fully charged by the normal charging method, it can be used normally.

Method ①

Use a [charger with lithium battery activation function](#) to fully charge the battery.

Method ②

Connect a [controller](#) that supports 12V LiFePO4 battery charging to charge the battery for 3~10s in sunny daytime.



PROVIDER

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