



51.2V 100Ah

Smart 
BLUETOOTH 5.0

x

ComFlex Edition

PRODUCT MANUAL

Lithium Iron Phosphate Battery (LiFePO₄)

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PRODUCT OVERVIEW

51.2V 100AH BATTERY

Operating Voltage: 51.2V

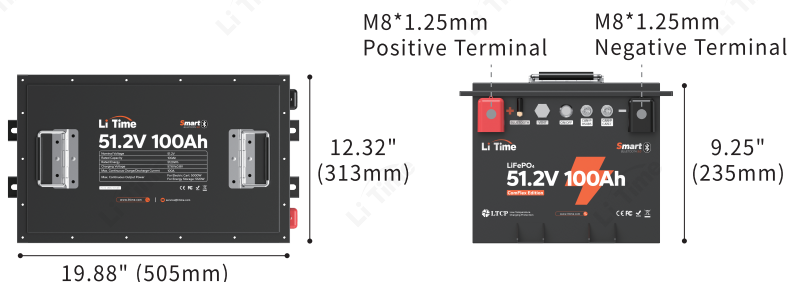
Charging Voltage: $57.6V \pm 0.8V$

Recommended Charge Current: 20A (0.2C)

Max. Continuous Discharge Current: 100A

Max. Continuous Output Power: For Electric Cart^①: 5000W
For Energy Storage: 5120W

- ① The product is suitable for electric carts that speed lower than 25MI/hour (40KM/hour), such as golf carts, low-speed vehicles (LSV), neighborhood electric vehicles (NEV) and so on.

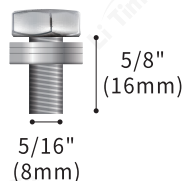


ADDITIONAL COMPONENTS

M8- 5/8" (16MM) TERMINAL BOLTS

Recommended terminal torque: 106.2 to 123.9 inch · lbs / 12 to 14 N · m.

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.



BATTERY PARALLEL COMMUNICATION CABLE

EXTERNAL COMMUNICATION CABLE (WITH RJ45 COUPLER)

For connecting batteries to Victron GX series devices

RS485 COMMUNICATION EXTENSION CABLE (USED WITH EXTERNAL COMMUNICATION CABLE:

For connecting batteries to LiTime 48V solar inverter chargers

INSULATING CAPS FOR BOLTS

Cover the battery with the insulating caps after tightening the bolts. If the cap melts, stop using the battery and reach out to service@litime.com for further analysis.

BATTERY PARAMETERS

Cell Type	LiFePO ₄
Nominal Voltage	51.2V
Rated Capacity	100Ah
Energy	5120Wh
Internal Resistance	≤40mΩ
Cycle Life	≥4000 times
Charge Method	CC/CV
Charge Voltage	57.6V±0.8V
Recommended Charge Current	20A (0.2C)
Max. Continuous Charge Current	100A
Max. Continuous Discharge Current	100A
Surge Discharge Current	600A@1 second
Max. Continuous Output Power	For Electric Cart ^① : 5000W For Energy Storage: 5120W

Dimension	L19.88*W12.32*H9.25 inch
	L505*W313*H235 mm
Housing Material	SPCC
Recommended Terminal Torque	106.2 to 123.9 inch · lbs / 12 to 14 N · m
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
Low Temperature Charging Protection (LTCP) Function ^①	Yes
Resume Charging Temperature Under LTCP	5°C/41°F (Battery Temperature)

- ① This battery is suitable for electric carts that speed lower than 25MI/hour (40KM/hour), such as golf carts, low-speed vehicles (LSV), neighborhood electric vehicles (NEV) and so on.
- ② This battery supports Low Temperature Charging Protection (LTCP), where the BMS stops battery charging when the battery temperature falls below 0°C/32°F and resumes charging when the temperature rises above 5°C/41°F.

HOW TO ESTIMATE THE BATTERY CAPACITY

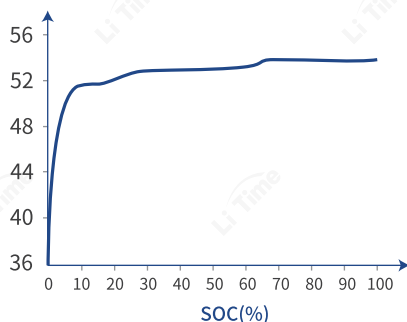
STATE OF CHARGE (SOC)

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.

VOLTAGE(V)



SOC (%)	VOLTAGE (V)
0	40 to 48
25	52 to 52.6
50	52.6 to 52.8
75	53.2 to 53.32
100	≥53.32 ^②

- 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.
- ② After this battery is protected from overcharge, the tested battery voltage (not the real voltage) will be lower than the real voltage. To calculate the SOC (%), add 0.5V to 0.7V to the tested battery voltage.

PARALLEL CONNECTION

THE PREMISE OF CONNECTION

To connect in parallel, batteries should meet the below conditions:

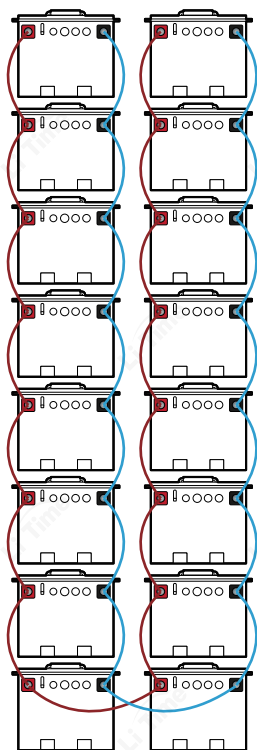
- identical batteries with the same battery capacity (Ah) and BMS (A);
- from the same brand (as lithium battery from different brands has their special BMS);
- purchased in near time (within one month).

LIMITATION FOR SERIES/PARALLEL CONNECTION

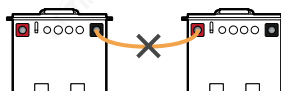
| Situation 1: When the battery is in communication.

Support connecting up to 16 identical batteries in parallel for up to: 48V(51.2V) 1600Ah battery system.

Parallel Connection
48V(51.2V) 1600Ah

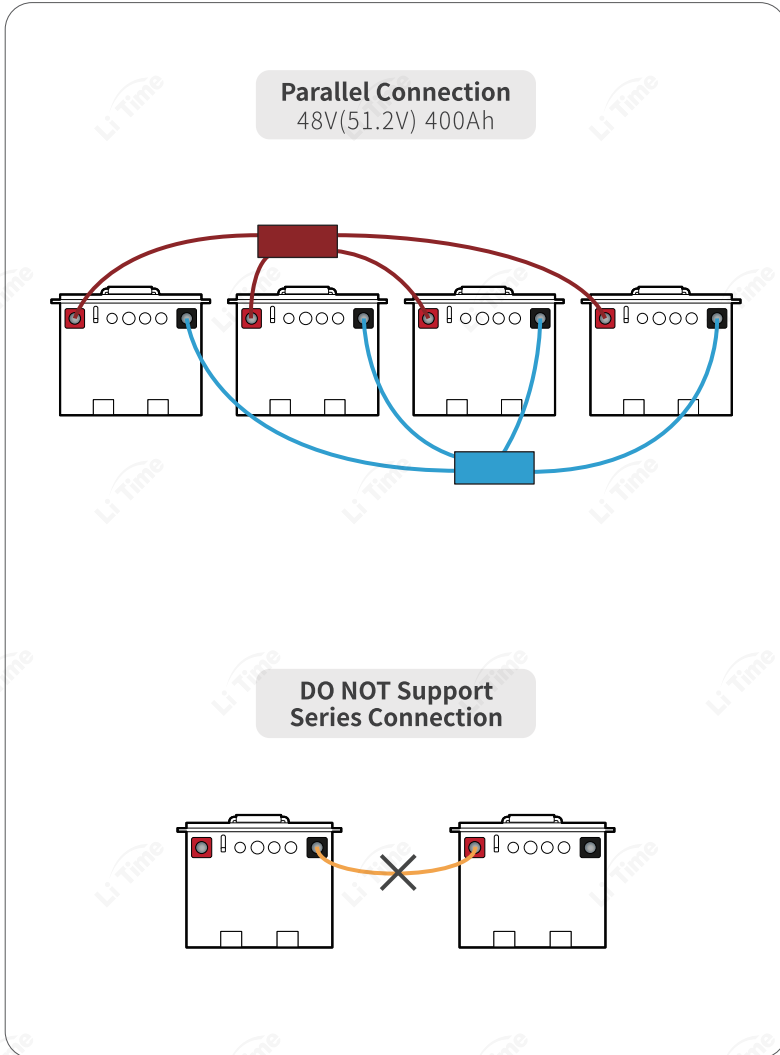


**DO NOT Support
Series Connection**



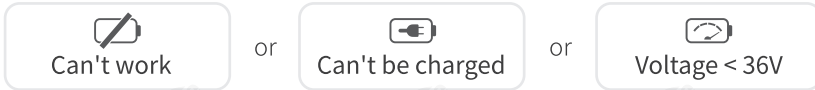
■ Situation 2: When the battery is NOT in communication.

Support connecting up to 4 identical batteries in parallel for up to: 48V(51.2V) 400Ah battery system.



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 (>40V) 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 > 40V) 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 48V LiFePO₄ battery charging to charge the battery for 3~10s in sunny daytime.

Li Time

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