



12.8V 230Ah



# PRODUCT (200A BMS) MANUAL

Lithium Iron Phosphate (LiFePO<sub>4</sub>) Battery

# PRODUCT OVERVIEW

EN

JP

DE

## 12.8V 230AH BATTERY

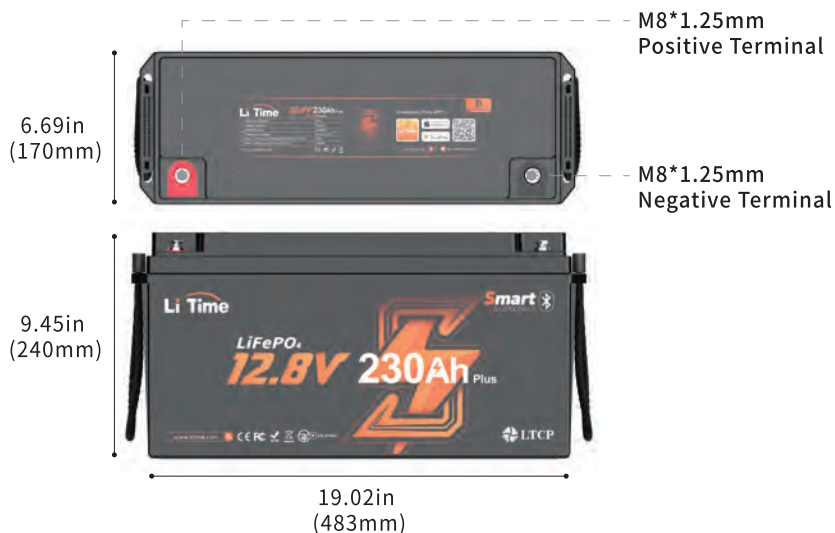
Operating Voltage: 12.8V

Charging Voltage:  $14.4 \pm 0.2V$

Recommended Charge Current: 46A (0.2C)

Max. Continuous Discharge Current: 200A

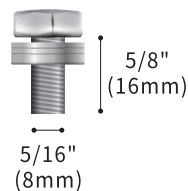
Max. Continuous Output Power: 2560W



## 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

# 24/7 MONITORING VIA LITIME APP

This product, integrated with Bluetooth 5.0, enables accurate and effortless real-time tracking and management of the battery status.


Step  
**1**

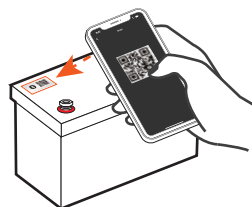
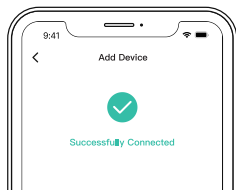
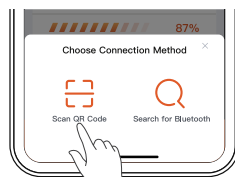
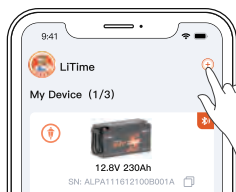
Download the LiTime APP and register your account.

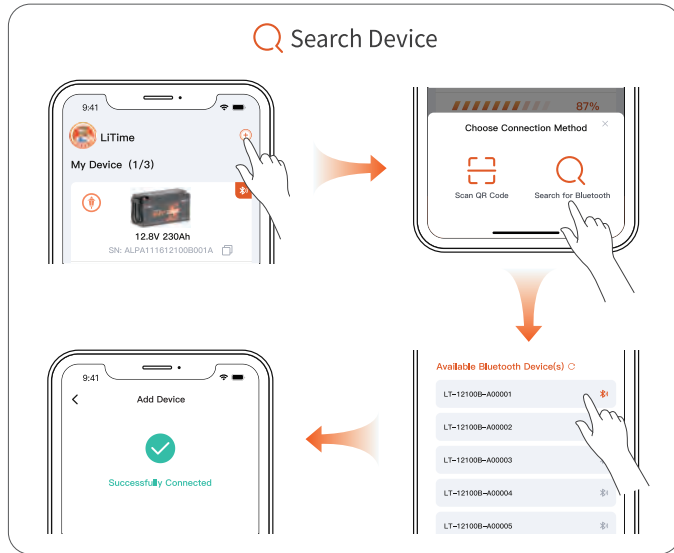


Step  
**2**

Pair the battery with the LiTime APP and effortlessly keep track of the battery's real-time status.

 Scan QR Code





## FCC STATEMENT

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference.
- This device must accept any interference received, including interference that may cause undesired operation.

This device has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This device generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this device does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Orient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

### RF Exposure Information

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.

NOTE 2: Any changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

## IMPORTANT SAFETY INSTRUCTION

**Please keep the battery away from heat sources, sparks, flames, and hazardous chemicals.**

**Maintain Adequate Ventilation and Heat Dissipation**

Place the battery in a well-ventilated area with sufficient heat dissipation to prevent overheating and damage.

**Size the Battery Cables and Connectors Appropriately**

Use high-stranded copper connectors and heavy gauge cables to handle possible battery loads. Make sure to keep identical cable lengths.

Avoid accidents caused by unsuitable connectors or cables that make the connection a heat source during battery operation.

**Please tighten all cable connections, as loose cable connections can cause terminal meltdown or fire.**

**DO NOT puncture, drop, crush, burn, penetrate, shake, or strike the battery.**

The battery should be securely fastened during handling to prevent impact or dropping.

It should be safely secured to a solid plane and the cables safely tied to a suitable location to avoid arcing and sparking due to friction.

DO NOT press it by placing heavy stuff on top of it for long periods, which may damage it due to an internal short circuit.

**DO NOT immerse the battery in water whether the battery is in use or on standby.**

**DO NOT open, dismantle, or modify the battery.**

**DO NOT touch the exposed electrolyte or powder if the battery casing is damaged.**

**Uncovered electrolyte or powder that has contacted the skin or eyes MUST be flushed out with plenty of clean water immediately. Seek medical attention afterward.**

**Avoid Short Circuit**

Please use circuit breakers, fuses, or disconnects that have been properly sized by certified electricians, licensed installers, or regional code authorities to protect all the electrical equipment in your system. The battery has a built-in battery management system (BMS) that protects the battery cells from over-charge, over-discharge, and over-current, however this alone will not protect your system from severe electrical conditions.

**Trained and certified technicians are required for safe and reliable installation. This product manual can only serve as a guideline as it cannot cover all possible scenarios.**

**Verify Correct Polarity**

Please verify the polarity before connecting the wiring. Reverse polarity can and will destroy the battery and other electrical equipment. Use a multimeter to determine proper polarity.

**Avoid Exposed Metal Terminals or Connectors**

The terminals of this battery are always live. Avoid exposed metal terminals or connectors; DO NOT place tools on the terminals or touch them with bare hands; DO NOT short circuit or use outside of specified electrical ratings.

**DO NOT dispose of the battery as household waste. Please use recycling channels in accordance with local, state, and federal regulations.**

## WARNING

Batteries are potentially dangerous and proper precautions must be taken during operation and maintenance.

Improper use of the battery can lead to battery failure or other potential damage.

Improper configuration, installation, or use of related equipment in the battery system may damage the battery and other related equipment.

Please wear proper personal protective equipment when working on the battery.

Battery installation and maintenance must be performed by trained and certified technicians.

Failure to follow the warnings above can result in potential damage.

**If you have any questions or need any help, please feel free to contact us (and leave your contact phone number) at [service@litime.com](mailto:service@litime.com), we will offer phone or email support in 12hrs.**

# BATTERY PARAMETERS

Cell Type	LiFePO4
Nominal Voltage	12.8V
Rated Capacity	230Ah
Energy	2944Wh
Internal Resistance	≤40mΩ
Cycle Life	≥4000 times
Battery Management System (BMS) Board	200A
Charge Method	CC/CV
Charge Voltage	14.4V±0.2V
Recommended Charge Current	46A (0.2C)
Max. Continuous Charge Current	200A
Max. Continuous Discharge Current	200A
Surge Discharge Current	1000A@1 second
Max. Continuous Output Power	2560W

Dimension	L19.02*W6.69*H9.45 inch
	L483*W170*H240 mm
Housing Material	ABS
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 <sup>①</sup>	Yes
Resume Charging Temperature Under LTCP	5°C/41°F (Battery Temperature)
FCC ID	2BDSV12230

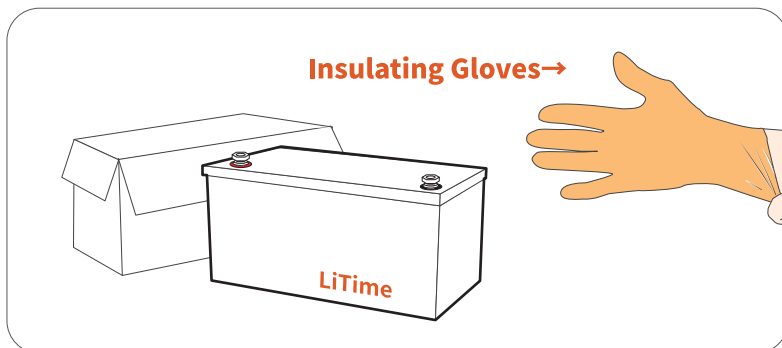
① This product supports Low Temperature Charging Protection (LTCP), where the BMS stops battery charging when the battery temperature falls below 0°C/32°F and resumes charging when the temperature rises above 5°C/41°F.



## HOW TO CONNECT BATTERIES

### Step1 Wear Insulating Gloves

Wear insulating gloves for protection before connecting. Please pay attention to operation safety in the process of connection.



### Step2 Voltage Balancing Before Connection

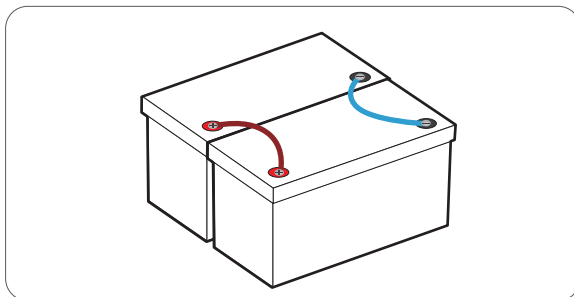
Below two steps are necessary to reduce the voltage difference between batteries and let the battery system perform the best of it in series or/ and in parallel.

Step  
**1**

Fully charge the batteries separately.  
(voltage at rest:  $\geq 13.33V$ )

Step  
**2**

Connect all of the batteries in parallel, and leave them together for 12~24hrs.



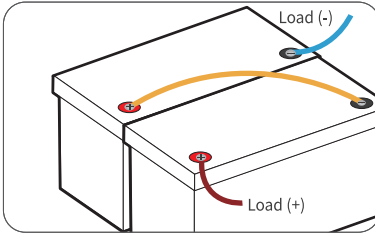
Step  
**3**

They're now ready for the connection.

## Step3 Battery-to-Battery Connection

### ○ #1 Connect Batteries in Series

**+** to **-**



After series connection, the voltage of the battery system will be doubled according to the number of batteries you connect.

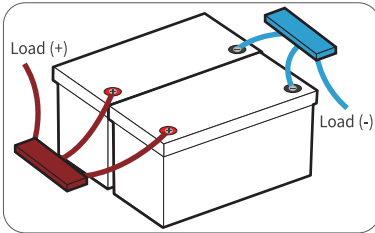
E.g. If two 12V 230Ah batteries are connected in series, the battery system will be 24V (25.6V) 230Ah.

### ○ #2 Connect Batteries in Parallel

**+** to **+**

**-** to **-**

Refer to Page 11 for total input & output connection



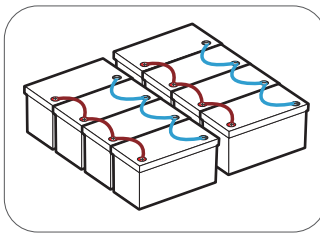
After parallel connection, the capacity of the battery system will be doubled according to the number of batteries you connect.

E.g. If two 12V 230Ah batteries are connected in parallel, the battery system will be 12V (12.8V) 460Ah.

### ○ #3 Connect Batteries Both in Series & Parallel

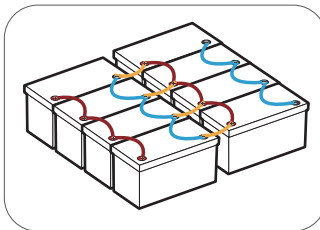
Connect in parallel first, then series.

Step  
**1**



Connect the batteries in parallel.

Step  
**2**

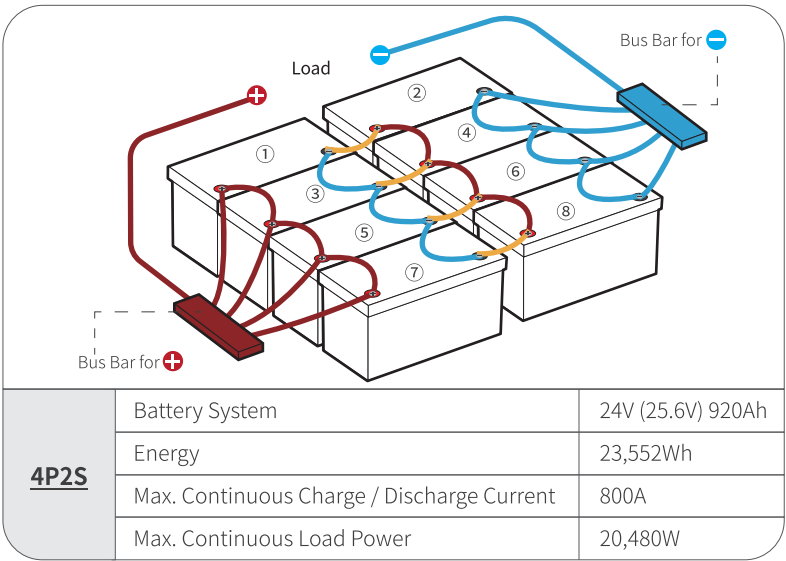


Connect the paralleled battery systems in series.

**Step4 Total Input & Output Connection**

Use two **bus bars** (instead of battery terminals) to connect all the positive and negative output/input cables, ensuring that the input & output currents of each battery are balanced. (Not required when connecting batteries only in series.)

It is not recommended to use one terminal as the total positive or negative output/input of the battery system as the connected terminals may heat up or even melt if the total output/input current of the battery system is too high.

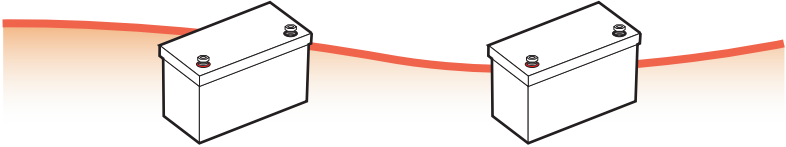


① As - of ① / ③ / ⑤ / ⑦ is connected in series with + of ② / ④ / ⑥ / ⑧, please do not connect - of ① / ③ / ⑤ / ⑦ with - of load or + of ② / ④ / ⑥ / ⑧ with + of load, otherwise the battery system will fail to connect in series.

② Please do not connect in reverse order, which may affect the use of the batteries.

**Step 5 Rebalancing Every 6 Months**

It is recommended to rebalance the battery voltage every six months following Step 2 on Page 9 if you're connecting multiple batteries as a battery system, as there might be voltage differences after six months of the battery system running.

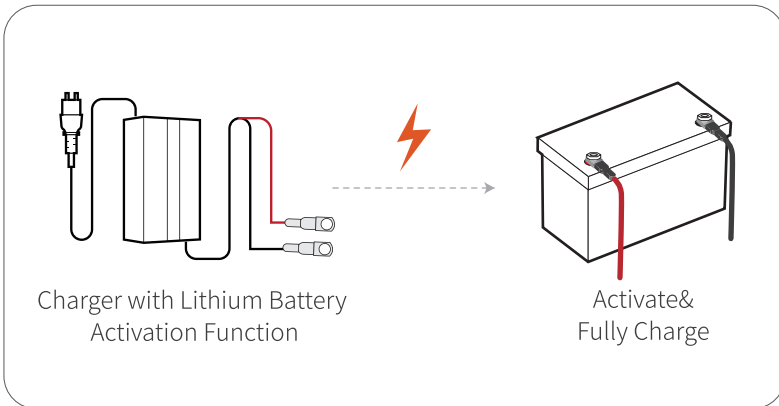


If the battery is unable to recover itself after the above steps, please try activating by **ONE OF BELOW TWO METHODS.**

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.

