



24 V LiFePO₄ Deep Cycle Battery



100 Ah

2,560 Wh · Model 24100-160L-BT

200 Ah

5,120 Wh · Model 24200-250L-BT

Two models — one battery per box. Choose 100 Ah or 200 Ah.

25.6 V nominal · LiFePO₄ · IP65 · Bluetooth BMS · 2S4P

For RVs, marine, home backup and off-grid systems.

CAUTION

- Flammable / explosive hazard
- Avoid mechanical impact
- Do not short circuit
- Do not crush
- Do not disassemble
- Do not incinerate
- Do not heat above 149 °F / 65 °C
- Do not immerse the battery in water
- Do not reverse the polarity of the battery and charger
- Use the appropriate tools when handling the battery
- Do not use a battery that is swollen, damaged or leaking
- Keep the battery away from children and pets
- Remove metal jewellery and use insulated tools when working on the terminals
- Keep open flames and sparks away from the battery
- Charge only with a LiFePO_4 charger — never with a lead-acid-only charger
- In case of fire, evacuate and call the fire service; use a dry powder or Class D extinguisher
- If electrolyte contacts skin or eyes, rinse with plenty of water and seek medical help

When connecting batteries in parallel, refrain from using batteries of other brands or types, as the Battery Management System (BMS) may not be compatible.

Keep the battery away from fire, hazardous materials and other dangerous substances.

APP Introduction



This application is developed and designed by SEVENERGY. It specializes in monitoring lithium batteries, providing real-time status readings such as the voltage, charging and discharging current, alarm prompts, protection status, etc. This allows users to clearly understand the status of lithium batteries and ensure safe use.

DOWNLOAD ON THE
App Store

GET IT ON
Google Play

You can search "SEVENERGY" in the App Store or Google Play Store to download and install.

*This app only supports smart batteries.



What the app shows

Screen	Readings
Overview	SOC, voltage, current, power, temperature
Cells	Each cell voltage and the spread between them
Trends	Voltage, current and SOC over 1 h to 30 days
Alerts	Every protection event, trigger and recovery
Settings	Units, battery name, firmware, Bluetooth address

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Key Features



- Lithium Iron Phosphate (LiFePO₄) chemistry provides exceptional stability and consistent performance.
- Advanced Battery Management System (BMS) ensures product safety and long lifespan.
- Supports fast charging and discharging.
- Constant voltage and full usable capacity at any state of charge.
- Case rated UL94 V-0 (flame retardant).

External Features



Shown: 25.6 V 100 Ah. The 200 Ah uses the same case layout and terminal arrangement.

Labels and serial number

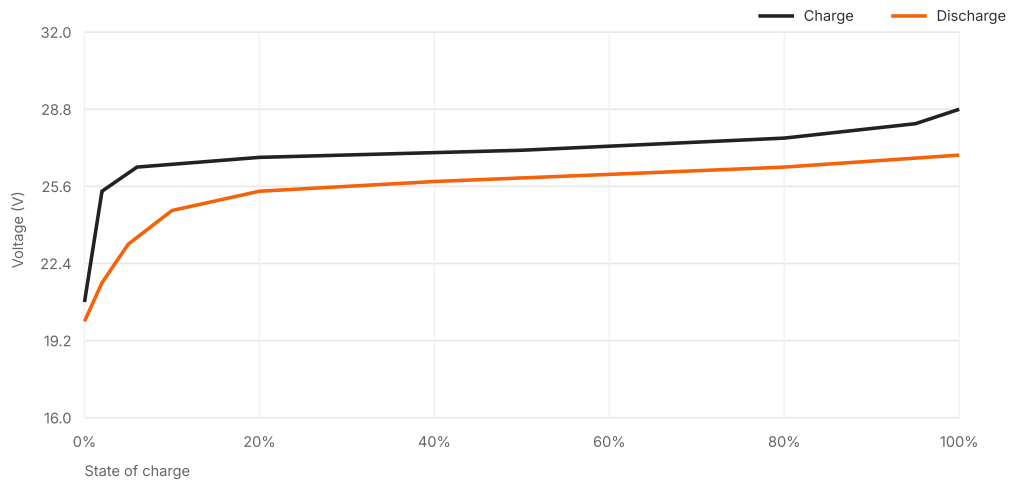
The front and top labels carry the model number, rated voltage, capacity, energy and short-circuit rating. The serial number is printed on the case — record it before installation, you will need it to register the warranty.

Do not remove or cover the labels. If a label is damaged, contact support@sevenenergybattery.com with a photo of the case.

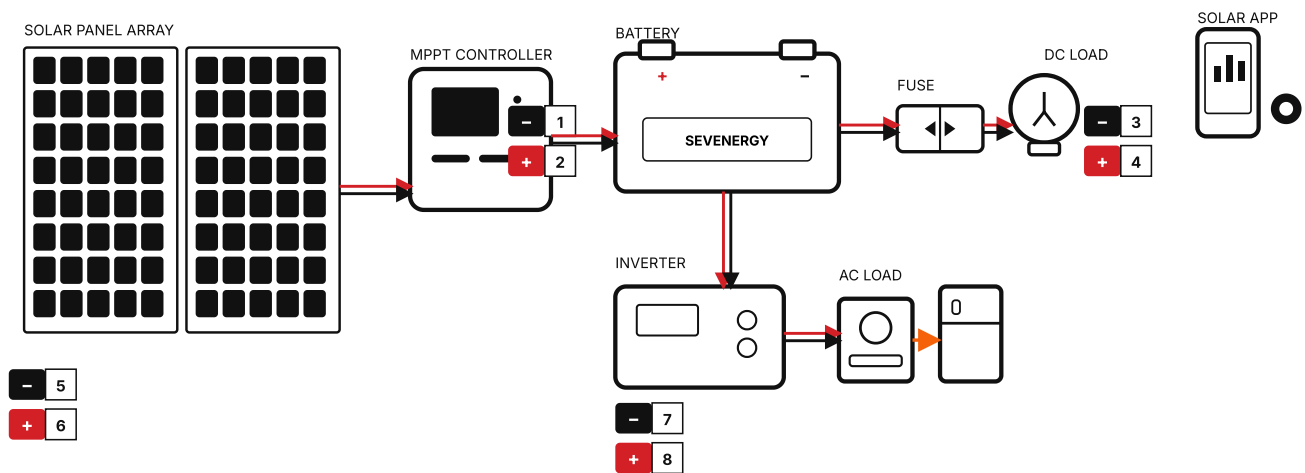
Charge-Discharge Curve



Typical 0.2 C curve, 77 °F / 25 °C · charge: CC then 28.8 V CV · for reference only, not a test report



Connection Diagram



1 / 2 battery - / + · 3 / 4 DC load - / + · 5 / 6 solar array - / + · 7 / 8 inverter - / +

Product Specifications



Battery Management System (BMS) warning and protection.

Content	25.6 V 100 Ah	25.6 V 200 Ah
Max. continuous charge current	100 A	200 A
Max. continuous discharge current	100 A	200 A
Over-current discharge protection	300 A 5 s 500 A 1 s	600 A 5 s 800 A 1 s
Over-current charge protection	—	—
Short-circuit current protection	1,370 A / 650 ms	1,540 A / 75 ms
Release condition	Cut load.	Cut load.
Weight (net)	—	—
Dimensions incl. terminals (mm)	530 × 206 × 217	530 × 268 × 229
Self-heating	None	None
Balancing method	Passive balancing	Passive balancing

Temperature protection

Content	25.6 V 100 Ah	25.6 V 200 Ah
Charging High Temperature Protection	—	—
Discharging High Temperature Protection	—	—
Charging Low Temperature Protection	—	—
Discharging Low Temperature Protection	—	—
Charging High Temperature Protection Release Value	—	—
Discharging High Temperature Protection Release Value	—	—
Charging Low Temperature Protection Release Value	—	—
Discharging Low Temperature Protection Release Value	—	—

Operating temperature (as printed on the product label)

Mode	25.6 V 100 Ah	25.6 V 200 Ah
Charging	0 to 50 °C	0 to 50 °C
Discharging	-20 to 55 °C	-20 to 55 °C

Charging is blocked below 0 °C — warm a cold battery above 0 °C before charging.

Product Specifications



Content	100 Ah	200 Ah
Rated voltage	25.6 ± 0.2 V	25.6 ± 0.2 V
Energy	2,560 Wh	5,120 Wh
Charge voltage (charger setting)	28.8 V	28.8 V
Shipping voltage	26.4 V	26.4 V
Shipping capacity	40%	40%
Cycle life	≥ 4,000 cycles (80% DOD)	≥ 4,000 cycles (80% DOD)
Self-discharge rate	< 3% per month	< 3% per month
Series & parallel	Maximum 2S4P	Maximum 2S4P
Storage temperature	-10 to 45 °C	-10 to 45 °C

Case & certifications

ABS case, UL94 V-0 · terminal bolt M8 · IP65. Pack: CE, UN38.3 / Class 9, IEC 62133, RoHS. Cells: UL1642, UL2580, UN38.3.

Specifications subject to change without notice.

Charging with AC-DC Battery Charger



Check that the charger has a dedicated 24 V lithium setting that meets the requirements below. Many chargers are designed for 12 V lead-acid batteries and have no suitable LiFePO_4 setting at 24 V.

Charging tips

- Charge only above 0 °C; discharge down to -20 °C.
- Use a 24 V charger with a dedicated LiFePO_4 mode — never a 12 V charger or an automotive alternator.
- Set the charger to 28.8 V. The BMS stops charging at its over-charge protection point and resumes after the voltage falls back to the release value.
- Recommended charging current is the battery capacity divided by 5 hours — 20 A for 100 Ah, 40 A for 200 Ah.
- Disable equalization, desulfation and temperature-compensation modes designed for lead-acid batteries.
- Do not charge a frozen battery; let it warm above 0 °C first.
- Check the charger output with a multimeter before first use — many “lithium” chargers sit at 29.2–29.6 V.
- Do not use repair, recondition or equalise programs on this battery.

Time at charging currents of 20 A and 50 A

Battery model	20 A	50 A
25.6 V 100 Ah	≈ 5 h	≈ 2 h
25.6 V 200 Ah	≈ 10 h	≈ 4 h

From empty, at the charger output current. Add about 10% for charger losses. Never exceed the model's maximum charge current.

Installation Environment



The battery should be installed in a clean, cool and dry place, away from water, oil and dirt. Adequate ventilation must be maintained, and temperature differences between batteries minimised.

Preparation



- Proper insulation protection equipment and tools.
- Multimeter, battery cables.
- Battery charger / charge controller.

Inspection



Check for visible damage, including cracks, dents and deformation. The top of the battery and the terminal connections should be clean, dry and free of corrosion.

- 1 Do not connect the positive and negative poles together — a current burst can damage the system and the battery.
- 2 Check the polarity before wiring. Polarity reversal will damage the battery.
- 3 Protect all electrical equipment with circuit breakers or fuses sized by a qualified installer.

Cable Size



Cable size should be selected based on the expected load. Refer to the table for the amperage of copper cables of different sizes.

Cable specification (AWG / mm ²)	Current capacity (A)
14 (2.08)	9.37
12 (3.31)	14.89
10 (5.26)	23.68
8 (8.37)	37.66
6 (13.30)	59.85
4 (21.15)	95.19
2 (33.62)	151.33
1/0 (53.49)	240.74
2/0 (67.43)	303.50
4/0 (107.22)	482.57

Best Practice Guidelines



- 1 Same brand.** Do not connect batteries of other brands — BMS behaviour differs.
- 2 Same battery type.** LiFePO₄ only; never with Li-ion, SLA or gel.
- 3 Same voltage.** Use fully charged batteries, and equalize to within 0.1 V before paralleling.
- 4 Same capacity.** Mixed capacities split current unevenly.
- 5 Purchase dates within three months** of each other.
- 6 Wiring.** Keep cable lengths equal, and connect the main positive last.

Connection Steps

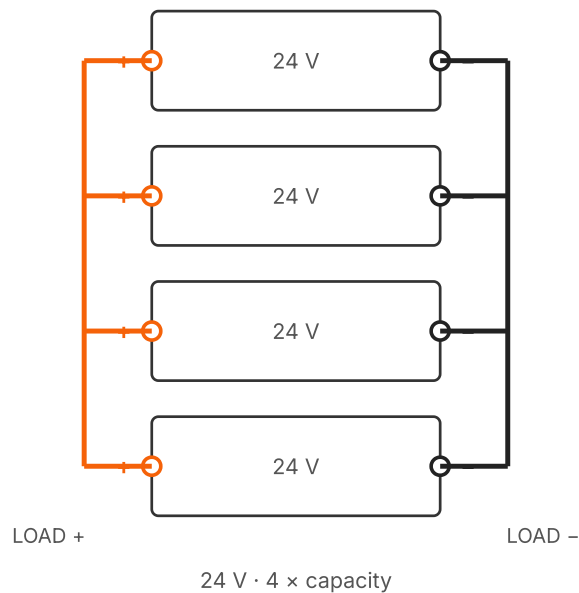


STEP 1. Fully charge the battery separately.

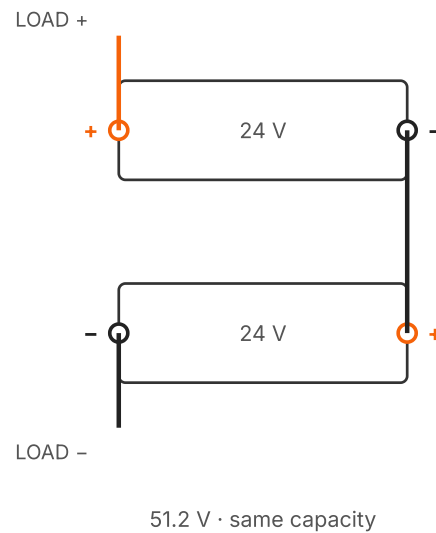
STEP 2. Wait 15 minutes and test the voltage — it should be above 26 V.

STEP 3. Connect the batteries in series, parallel, or a combination of both.

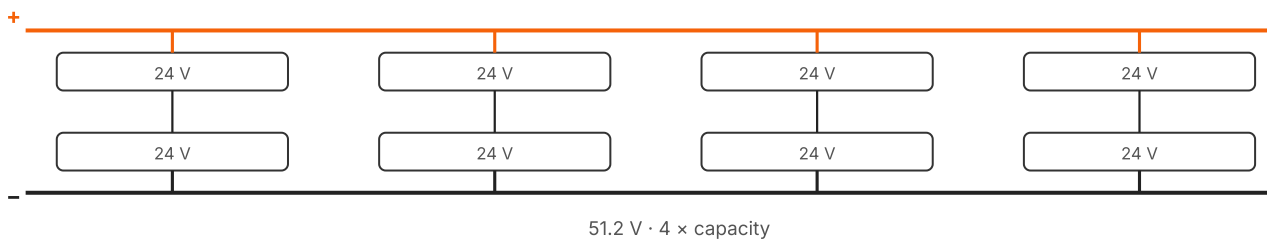
Parallel Connection



Series Connection



Max. connection in series & parallel (2S4P)



2S4P = eight batteries. Each column is two batteries in series (51.2 V); the four columns are in parallel, so the bank gives 4 × the capacity of one battery. Charge the bank at 57.6 V (2 × 28.8 V). Use batteries of the same model, age and state of charge.



Over-Charge Protection

If any cell exceeds the protection voltage while charging, the BMS stops charging and resumes when the cell voltage falls back to the release value.

Over-Discharge Protection

The BMS prevents further discharge and reconnects after the voltage recovers above the release value.

High Temperature Protection

Charging and discharging stop when the cells exceed the protection temperature, and resume after they cool below the release temperature.

Low Temperature Charging / Discharging

Charging is blocked below the low-temperature protection point; discharging is allowed down to a lower limit set by the BMS.

Over-Current / Short-Circuit Discharge Protection

The BMS shuts the battery down and stays disconnected until the load is removed.

Over-Current Charge Protection

Charging stops if the charge current exceeds the BMS limit.

Recovery After a Trip

Over-current and short circuit recover once the load is removed. After over-discharge, measure the voltage: if it has not recovered above the release voltage, recharge with a suitable LiFePO4 charger to wake the BMS.

Cell Balancing

Passive balancing runs at the end of each charge cycle, keeping all cells at the same state of charge.

Application Examples



Trolling motor
Boat electronics
Recreational vehicle
Replacing 24 V lead-acid batteries

Solar energy system
Industrial storage system
Home storage & backup
Off-grid system

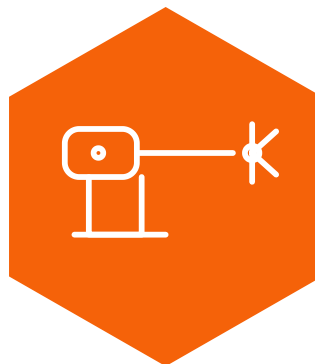
Note: not suitable for starting gasoline engines.



Marine



RVs



Trolling Motor



Home Storage



Golf Cart



Off-Grid



What should I do if the battery is 0 V?

This is usually a BMS protection state. Disconnect the load and measure again. If the voltage stays low, wake the BMS with a 28.8 V charger for a few seconds. If it is still 0 V, contact our technical team.

Is it necessary to charge the battery out of the box?

Yes. Fully charge the battery before use, and also before connecting several batteries in series or parallel.

How can I check the battery voltage?

Use a multimeter at the terminals, or the app on a Bluetooth model.

Can the battery be mounted in any position?

Yes, upright or on its side. Do not install it upside down; keep the terminals protected and the battery mechanically secured.

Can I connect a 100 Ah and a 200 Ah together?

No. Only batteries of the same model, capacity and age should be banked together.

FOR MORE FAQs, PLEASE VISIT:

myseenergy.com



Please visit our official website to register your warranty: **mysevenenergy.com**

Serial number (label on the side of the case): _____ Date of purchase: _____

Not covered by warranty

- Damage caused by insufficient or improper fastening.
- Improper installation, use, maintenance or service.
- Loose battery terminal connections.
- More than two batteries in series (2S maximum), or more than four in parallel (4P maximum).
- Reverse polarity connection.
- Improper storage conditions as defined in this manual.
- Short circuit caused by connecting the positive and negative terminals.
- Damage caused by impact, accident, collision or drop.
- Insufficient charging or overcharging.
- Use in conjunction with third-party products.
- High resistance caused by terminal corrosion, poor crimping or undersized cables.
- Battery failure caused by electrical system malfunctions, or modification without written consent from the manufacturer.
- Use beyond the design and intended use, including repeated engine starting or drawing more than the rated continuous discharge current.
- Batteries left uncharged for more than one year.
- Commercial use that cycles to 80% depth of discharge or more within 24 hours.
- Force majeure, including fire, typhoon, flood or earthquake.
- Damage caused by improper operation or misuse of the product, or failure to follow the safety guidelines in this manual.

After-Sales Service



If you need any after-sales service, please contact support@sevenenergybattery.com. We will provide the necessary assistance.

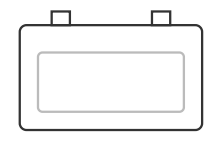
How to store the battery?

Bring the batteries to a 50% state of charge, then disconnect them from any load by removing the negative cable. On average they lose less than 3% of capacity per month at 25 °C. Recharge to 50% every 3–6 months (every 3 months in hot climates). Store between –10 and 45 °C.

Disposal and recycling

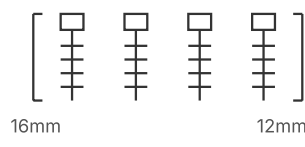
Ensure the battery is disposed of in accordance with local law. It contains lithium and recyclable materials — take it to a battery recycler, never to household waste and never to an incinerator.

Packing List



Battery × 1

24 V LiFePO₄



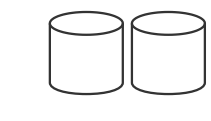
Screw × 4

M8, two lengths



User Manual × 1

Keep with the battery



Insulation Cap × 2

Fit before shipping



Dear Valued Customer,

We extend our deepest gratitude for the trust you have placed in SEVENERGY. Your support is a constant inspiration, driving our team to keep improving the products and the service behind them.

It is through your feedback — and the work of everyone who answers the email — that we can keep raising the standard of what a 24 V lithium battery should be.

We take pride in the engineering behind these batteries and sincerely hope they exceed your expectations. If you need anything, our team is one email away.

With sincere appreciation,
The SEVENERGY Team

mysevenenergy.com · support@sevenenergybattery.com

