

ALLOY
FRAME
STRUCTURE

Trolling Motor and More



Charging
SELF
-HEATING



**LOW TEMP CUT OFF
PROTECTION**
(Charge/Discharge)

38.4V

LiFePO₄  **105Ah**

Product Manual



200A BMS



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Register Warranty



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LiFePO₄ Battery - Compliance Statement & Disclaimer



FCC STATEMENT

(FCC ID: 2BVX7LITHINK36VB)

Product Name: Li Think 36V105Ah Lifepo4 Battery

Model: LT-36-100-200-BT-LTP2-H-OBM

This equipment 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 equipment 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 equipment 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:

- Reorient 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.

Caution: Any changes or modifications to this device not explicitly approved by manufacturer could void your authority to operate this equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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.

Disclaimer

- LIXIANG INTERNATIONAL (HONG KONG) ENERGY TECHNOLOGY CO., LIMITED SHALL NOT BE LIABLE FOR ANY DAMAGES CAUSED BY:
Unauthorized use or disregard of this manual
- Consequential/accidental damage
Improper repairs
Actions of unqualified personnel
- THIS LIMITATION OF LIABILITY ALSO APPLIES TO:
Use of non-original spare parts

STRICTLY PROHIBITED:
Unauthorized modifications or technical changes

※ Note: Applies only if battery incorporates wireless functionality.

Important Safety Information



DANGER

- **Risk of Fire, Explosion, or Burns:** DO NOT puncture, drop, crush, burn, penetrate, shake, or strike the battery. Keep the battery away from fire, heat sources, sparks, and hazardous chemicals. Never soak the battery in water.
- **Risk of Severe Electrical Shock:** The terminals of this battery are always live. Avoid exposed metal terminals or connectors. DO NOT short circuit the battery, place tools on the terminals, or touch them with bare hands.
- **hemical Hazard:** DO NOT open, dismantle, or modify the battery. If the casing is damaged, DO NOT touch the exposed electrolyte or powder. 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.

WARNING

- **Installation Hazard:** Battery installation and maintenance must be performed by trained and certified technicians. Improper configuration or installation may damage the battery and other related equipment.
- **Personal Protection:** Always wear proper personal protective equipment (PPE), such as insulating gloves and safety goggles, when working on the battery.
- **Reverse Polarity Risk:** Please verify the polarity before connecting the wiring using a multimeter. Reverse polarity can and will destroy the battery and other electrical equipment.
- **California Proposition 65 Warning:** This product can expose you to chemicals including lead and lead compounds, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, go to www.P65Warnings.ca.gov.

CAUTION

- **Overheating Risk:** Place the battery in a well-ventilated area with sufficient heat dissipation to prevent overheating and damage.
- **System Protection:** Please use circuit breakers, fuses, or disconnects that have been properly sized by certified electricians or regional code authorities to protect all the electrical equipment in your system. While the battery has a built-in battery management system (BMS), it alone will not protect your system from severe electrical conditions.

NOTICE

- **Cable Sizing:** 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.
- **Application Limit:** DO NOT use this deep cycle battery as a starting battery (e.g., for starting vehicles).
- **Proper Disposal:** DO NOT dispose of the battery as household waste. Please use recycling channels in accordance with local, state, and federal regulations.

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

LiFePO₄ Battery Installation

Preparation & Identification (Power OFF)

- Disconnect all loads and chargers
- Identify terminals: **Positive POS (+) Red / Negative NEG (-) Black**
- Prepare cables: **Color-coded O-terminals (red+/black-)**
- Clean contacts: **Wipe terminals with dry cloth**

Terminal Connection Sequence

- **Connect POS (+) first:**
Place red O-terminal on stud → **ensure full surface contact**
Hand-tighten M8 bolt (several turns)
- **Connect NEG (-) last:**
Torque wrench to 12 N·m → tighten until audible "click"

Verification

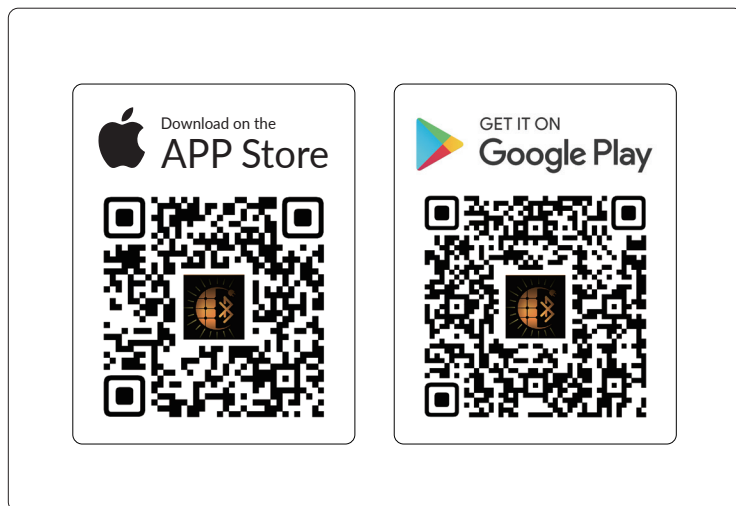
- **Polarity check (MANDATORY):**
Visually confirm **red cable → POS (+) / black cable → NEG (-)**
- **Security test:**
Gently tug cables → **O-terminals must show zero movement**

Scenario-Specific Checks

Scenario	Critical Post-Installation Checks
RV Use	1. Battery securely fastened (no wobble) 2. +/- cables separately secured (no friction) 3. Battery compartment well-ventilated
Marine Use	1. Battery mounted high & dry 2. Apply thin anti-corrosion grease (copper-based) on studs 3. Monthly check terminals for green corrosion
Solar Use	1. Use LiFePO₄-compatible charge controller 2. Avoid direct sunlight on battery 3. Keep cables away from heat sources

24/7 Monitoring Via Lithink App ⚡

Download the Lithink APP and register your account.



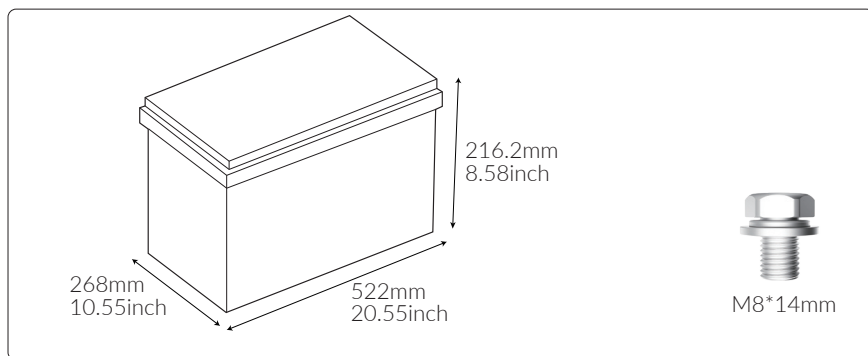
Pair the battery with the Lithink APP and effortlessly keep track of the battery's real-time status.



Product Overview



38.4V 105Ah Battery



Parameter Name	Parameter Value
Cell Type	LiFePO4
Nominal Voltage	38.4V
Rated Capacity	105Ah
Energy	4032Wh
Internal Resistance	$\leq 40\text{m}\Omega$
Cycle Life	≥ 4000 cycles
Battery Management System (BMS) Board	200A
Charge Method	CC/CV
Charge Voltage	43.8V

Battery Self-Heating Function Workflow



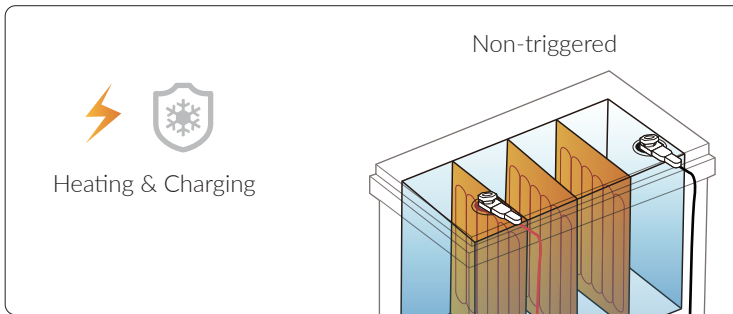
Conditions & Responses

1. Normal Charging Mode (Battery Temperature $> 0^{\circ}\text{C}$)

- **After connecting charger:**

If temperature between $0^{\circ}\text{C} \sim 5^{\circ}\text{C} \rightarrow$ Immediately initiates simultaneous heating & charging

When temperature reaches $\geq 10^{\circ}\text{C} \rightarrow$ Heating stops automatically, charging continues



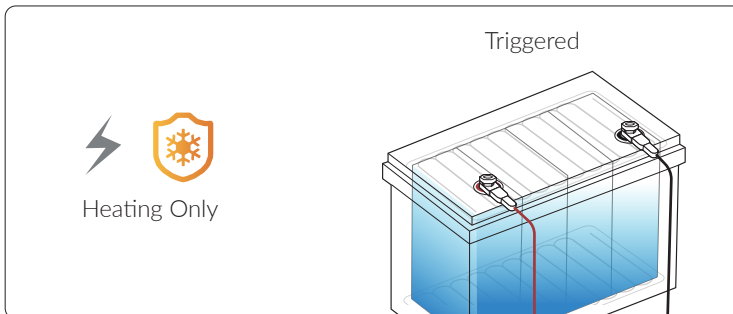
2. Low-Temperature Protection Mode (Battery Temperature $< 0^{\circ}\text{C}$)

- **After connecting charger:**

System prioritizes **heating only** (no charging)

When temperature reaches $\geq 5^{\circ}\text{C} \rightarrow$ Activates simultaneous heating & charging

When temperature reaches $\geq 10^{\circ}\text{C} \rightarrow$ Heating stops, charging continues



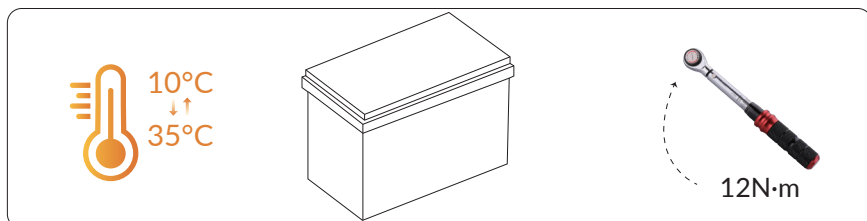
Heating Time Reference (Constant 8A Current)

Starting Temperature	Time to Reach 10°C
-10°C (14°F)	70-90 minutes
-20°C (-4°F)	100-150 minutes

Charging Preparation

- In extreme cold environments: Reserve additional 20% charging capacity
- Example: Target charge 100Ah → Requires ≥ 120 Ah actual input

Things To Know Before Using



Terminal Security

- **Firmly tighten terminal bolts** to ensure secure connections. Loose terminals may cause **heat buildup**, leading to **battery damage or safety hazards**.
- Regularly inspect bolt tightness and retighten if necessary.

Usage Limitations

Not for Cranking Applications

This battery is engineered for **deep-cycle applications**, not high-crank currents required for engine starting. Use as a starter battery **reduces lifespan and performance**.

Long-Term Storage Protocol

- **Temperature:**
Operational range: -20°C to 60°C (-4°F to 140°F).
Ideal storage: 10°C to 35°C (50°F to 95°F).
Store in **fireproof containers** away from children.
Extreme temperatures **degrade performance and longevity**.
- **State of Charge (SoC):**
Maintain **50% SoC** during storage.
Avoid full-charge (100%) or full-discharge (0%) states.
If unused >3 months: **Recharge every 3 months.**

Maintenance Requirements

- **Regularly inspect** for wear, corrosion, or physical damage.
- Clean terminals with **baking soda-water solution** when corrosion occurs.
- **Ensure all connections remain tight.**

Battery Capacity Estimation Guide

- For LiFePO4 batteries, the voltage shown during charging or discharging isn't the battery's true voltage. Once you finish charging or discharging and disconnect the battery from the power source, its voltage will gradually settle to the real value.
- Resting Voltage: Measure the voltage after disconnecting the battery from the charger and loads. Leave it undisturbed with no current flow for 3 hours.

SOC (%)	Voltage(V)
0	30 to 36
25	39 to 39.45
50	39.45 to 39.6
75	39.6 to 39.99
100	≥39.99

Recommended Cable Sizing

The values above comply with **NEC Table 310.15(B)(16)** for copper cables rated at **167°F (75°C)** and apply to ambient temperatures $\leq 86^\circ\text{F}$ (30°C). For cables longer than **6 feet (1,829 mm)** or in environments exceeding **86°F (30°C)**, use **larger-gauge cables** to prevent **excessive voltage drop** caused by undersized cables.

PVC Copper Cable Size (AWG/mm(2))	Ampacity (A)
14 (2.08)	20
12 (3.31)	25
10 (5.25)	35
8 (8.36)	50
6 (13.3)	65
4 (21.1)	85
2 (33.6)	115
1 (42.4)	130
1/0 (53.5)	150
2/0 (67.4)	175
4/0 (107)	230
2 * 1/0 (107)	300
2 * 2/0 (134.8)	350



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Secure every journey.

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