



User manual

Lithium iron phosphate battery



Preface

Dear Customer,

Thank you for choosing Wattnova lithium-ion batteries. As a professional energy storage brand originating in Germany, we are committed to providing you with high-performance, highly reliable battery solutions. Our warehouse in Thuringia, Germany, provides efficient logistics support for European customers.

To prevent accidents or damage during use and to ensure the optimal performance and service life of the battery, please read this user manual carefully before first use.

This manual covers all necessary information regarding the installation, use, maintenance, and safety precautions of the lithium battery. All operations must be performed in accordance with the instructions in this manual. Any damage or malfunction caused by ignoring instructions or failing to comply with operating specifications will not be covered by the product warranty, and Wattnova assumes no liability arising therefrom.

This manual is intended for battery installers and end users. It is recommended that installation and maintenance be performed by qualified professionals. Please refer to the Contents section to quickly find the information you need. Throughout the entire use process, user safety is always our primary concern.

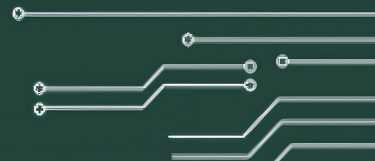
For further technical support or more information, please contact us via the following methods:

Wattnova Energy GmbH

Email: info@wattonenergy.com

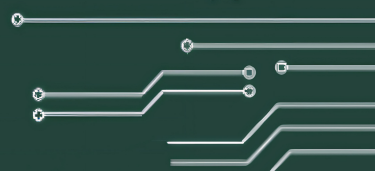
Website: <https://www.wattonenergy.com/>

The Wattnova Team



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1. Product Description

1.1 Product Information

Wattnova lithium batteries, with their superior performance, are an ideal alternative to lead-acid batteries in high-load environments. Even under heavy loads, they maintain a stable and sustained output voltage, providing reliable power for a wide range of devices.

Utilizing advanced lithium iron phosphate (LiFePO₄) technology, Wattnova lithium batteries are designed specifically for 12V DC applications requiring the highest reliability and performance. As one of the safest conventional lithium batteries, LiFePO₄ batteries offer the advantages of high energy density, lightweight construction, and exceptional safety and reliability.

Intelligent Battery Management System (BMS)

Each battery features a built-in advanced BMS (Battery Management System), including series-parallel modules and multiple protection mechanisms. In the event of overvoltage or overload, the battery will automatically disconnect to protect it from damage. Once the problem is resolved, the system automatically resumes operation, ensuring the battery remains in a safe operating state. This eliminates the need for excessive manual intervention and provides peace of mind.

Bluetooth monitoring

With the integrated Bluetooth interface, you can check the battery status at any time on your smartphone or tablet (supports Android or Apple iOS systems and requires the Wattnova app) without installing additional complex monitoring equipment. All key data, such as battery status and battery cell information, are at your fingertips, allowing you to understand the battery's operating status in real time.

Easily replace the original battery

The battery case dimensions are the same as common AGM, lead-acid, or gel batteries, making it a direct replacement. Select models also accept cylindrical terminals for enhanced compatibility. No changes to charging equipment or settings are required during replacement, significantly simplifying the replacement process and saving time and effort.

Fast charging

LiFePO₄ batteries can charge 5 to 10 times faster than traditional lead-acid batteries (depending on the specific configuration). In most cases, you can directly use your existing charger, saying goodbye to long waits, improving charging efficiency, and meeting your needs for fast charging.

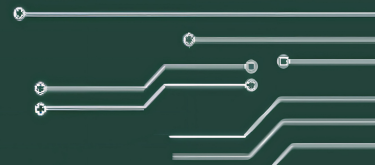
High performance and high efficiency

LiFePO₄ batteries convert over 96% of input energy directly into usable energy, achieving truly efficient energy storage. With up to 100% usable capacity, they maintain stable performance even at high power output, providing continuous and stable power support for high-load devices.

Waterproof rating IP67

It has excellent waterproof and dust-proof performance and can operate stably in a variety of humid or dusty environments.

With low temperature heating function



It can adapt to low temperature environments and can work normally in cold areas, which broadens the scope of use of the battery.

1.2 Product Features

High-performance energy storage/traction applications

Wattnova batteries are designed for mobile or stationary applications with high power demands, and are particularly suitable for RVs, boats, solar systems, and electric devices. They offer excellent continuous output capabilities and support high-power devices such as air conditioners and coffee machines.

Higher capacity, space saving

A 100Ah lithium iron phosphate battery can replace a 200Ah lead-acid battery, benefiting from almost 100% usable capacity. This saves users valuable space and reduces weight.

Extremely lightweight

It is approximately 70% lighter than traditional lead-acid batteries, significantly reducing the burden on vehicles or equipment and improving energy efficiency.

Ultra-long service life

The cycle life exceeds 4000 times (80% DOD), and even frequent deep discharge will not affect performance, far exceeding traditional batteries.

Worry-free

Utilizes the safest lithium battery chemistry—lithium iron phosphate (LiFePO₄):

No gas emissions, no explosion risk, no fire hazard, and 100% maintenance-free.

High discharge performance

The voltage is stable during high current discharge without noticeable drop, supporting the continuous operation of high-power equipment and ensuring the stability and reliability of power output.

Intelligent Battery Management System (BMS)

The built-in BMS provides comprehensive battery safety protection, including cell balancing, overcharge/over-discharge, and short-circuit protection. It also supports real-time Bluetooth monitoring, allowing you to monitor battery status at any time.

Low self-discharge rate

The self-discharge rate is only about 3% per month when not in use, or about 10% per year, so it remains in good condition even after long-term storage.

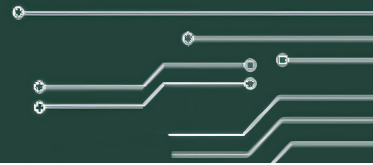
Plug and play, strong compatibility

The size is the same as that of conventional AGM/GEL batteries and can be directly replaced without changing the original charging system or wiring structure.



Wattnova lithium batteries are widely used in a variety of high-performance energy storage and mobile power applications. Typical applications include:

- RVs and Campers
- Solar systems, solar energy storage and renewable energy systems
- High-performance traction equipment and drive systems
- Fishing boats, electric ship propulsion systems, depth sounders and other marine equipment



- Emergency backup power supply and uninterruptible power supply (UPS)
- Mobile homes and leisure facilities

1.3 Integrated BMS

Each Wattnova lithium battery is integrated with an advanced battery management system (BMS), which can intervene in time when the battery is under-voltage, over-voltage, overload or temperature abnormal, automatically cut off the battery to protect the system safety, and automatically resume work after the problem is eliminated.

Why is a BMS so important?

Due to slight differences between cells, charge imbalance can increase over time. Without active balancing, some cells may become over- or under-charged, leading to performance loss or damage. Unlike lead-acid batteries, LiFePO_4 batteries have almost no current when fully charged and rely on a BMS for proper balancing.

Core functions of BMS:

Active cell balancing: extends battery life and improves overall performance.

Overvoltage protection: Automatically stops charging when the battery voltage is higher than the set value.

Undervoltage protection: Disconnects load when cell voltage drops below the set threshold.

Over-temperature protection: shuts down the system when the battery overheats to prevent damage.

Low temperature protection: Charging pauses at low temperatures to prevent battery cell damage.

Automatic recovery: Automatically resume normal operation after the problem is resolved.

Special reminder:

When the system is unused for a long time, even small static currents (e.g., alarm systems, standby current, controller reverse current) can cause deep discharge. If the battery continues to discharge after complete shutdown, it may lead to permanent damage.

To prevent this, when the system is not in use:

- Turn off the main power switch.
- Remove the fuse.
- Or physically disconnect the positive terminal of the battery.

1.4 Smart Bluetooth App

1. Install the application

Scan the QR code on the left to download.

Or go to Google Play or the App Store to search and download the app.

You can also enter the URL in your mobile browser: <https://www.wattonenergy.com/>

2. After opening the app, the system will request the following permissions: Location permission - please click "Allow" to ensure the Bluetooth function works properly. Bluetooth permission - please make sure Bluetooth is turned on.

3. Select your battery from the device list. If you have multiple batteries, you can distinguish them by their serial numbers (the serial numbers are located on the label on the battery housing).

4. After the real-time monitoring connection is successful, you will be able to view the following battery information in real time: voltage, current, temperature, SOC (capacity), remaining time, etc.; error prompts (such as overvoltage, undervoltage, etc.)

5. To ensure quality, each battery undergoes rigorous testing before shipment. A small amount of charge and discharge cycles is normal and does not affect product performance. Please feel free to use.



2. Safety Guide

2.1 Intended Use

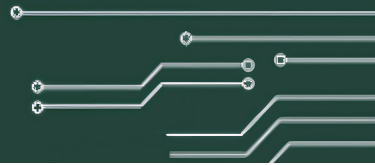
Be sure to read and retain these instructions and keep them near the battery for future reference.

Intended Use--This LiFePO₄ battery is designed for energy storage and is ideal for the following applications:

- Use as a service battery.
- Onboard battery systems for RVs, recreational vehicles, marine vehicles, etc.

Use beyond these applications (e.g., aviation, life-support devices) is improper and voids the warranty.

The manufacturer is not liable for any resulting damage.



Installation and transportation precautions

- The battery must be installed or repaired by professionals.
- The battery is heavy—secure it properly to prevent injury in case of an accident.
- Use appropriate tools when transporting to avoid drops and impacts.

Explosion and fire risk prevention

- Current may still flow when the battery is on. Keep tools and metal objects away.
- To avoid short circuit, it is recommended to use insulated tools.
- Avoid wearing metal jewelry (such as watches, rings, bracelets) during operation.
- In case of fire, use a Class D fire extinguisher, foam fire extinguisher or carbon dioxide fire extinguisher.

2.2 Shipping Instructions

To ensure safety, please strictly adhere to the following transportation requirements: Batteries must be transported in their original packaging or equivalent suitable packaging. Do not lift the battery by the terminals; always use the included handles.

Precautions

- It is strictly forbidden to mix it with other goods for transportation.
- Avoid getting wet or immersing in water.
- The ambient temperature during transportation must not exceed 50°C.

2.3 Processing Instructions

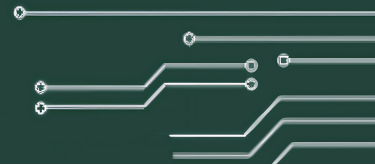
Wattnova lithium batteries marked with the recycling symbol must be disposed of in accordance with the German Battery Act (BattG) and relevant environmental regulations. These batteries should be handed over to an approved collection point or recycling center. Batteries can also be returned to the manufacturer for recycling, subject to arrangement.

Disposal of batteries with household or industrial waste is strictly prohibited. Do not mix with other waste to avoid harm to the environment and human health.

2.4 Important Notes

For safe and optimal use of Wattnova LiFePO₄ batteries, please follow these guidelines:

- Do not open the battery without authorization. Do not open the battery without consulting your dealer or obtaining written permission from the manufacturer. Unauthorized disassembly will void the warranty.
- Use only for its intended purpose. Do not use the battery in a device for which it was not designed.
- Avoid short circuits. Cables connected to the battery output must be protected with appropriate fuses to prevent short circuit risks.



- Installation and maintenance should be performed by professionals. All electrical connections and commissioning should be completed by qualified technicians.
- Avoid high temperatures and direct sunlight. Do not expose the battery to sunlight or high temperatures for extended periods. Temperatures exceeding +60°C (140°F) may damage the battery or degrade its performance.
- Use a compatible charger. Use only charging equipment suitable for LiFePO₄ type. Disconnect the battery from all devices during long-term storage.
- Ensure correct installation. During installation, follow the polarity markings of the positive (+) and negative (-) terminals of the battery to ensure correct connection.
- Keep dry and clean. The battery must always be kept in a dry and clean environment, away from dust, moisture or corrosive substances.
- Avoid physical damage. Do not drop, drill, or perform other operations that may damage the housing to prevent internal short circuits.
- Capacity description. Actual cycle capacity may vary slightly due to factors such as operating temperature and discharge rate.

3. Battery Installation

Make sure the polarity is correct.

When installing LiFePO₄ batteries, strictly follow the positive (+) and negative (-) polarity markings. Reverse polarity is strictly prohibited. Improper connection will irreparably damage the battery management system (BMS), requiring replacement of the entire BMS board.

Such damage is not covered by the warranty.

3.1 Check

Upon receiving your Wattnova lithium iron phosphate battery, please immediately inspect it for any signs of damage, such as impact, deformation, cracking, or leakage during transportation. If any damage is detected, do not activate or connect the battery. Immediately contact the seller or authorized dealer for further instructions. Ensuring that the product is in perfect condition before use helps protect your device safety and subsequent warranty coverage.

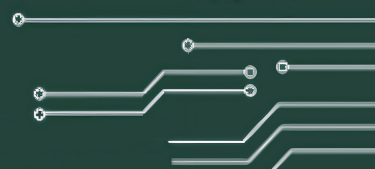
3.2 Connect

It is strictly forbidden to connect the battery with load!

Before connecting a Wattnova battery, be sure to disconnect all external loads. Connecting with load may damage the battery or system. Use cables of the same specifications.

All cables used for parallel connection must have the same cross-section and length to ensure uniform current distribution and avoid local overloads.

Failure to comply with this regulation will result in device failure and will not be covered by the warranty.



3.3 Install

LiFePO₄ batteries are heavy. Use proper tools and trained personnel for transport to avoid injury. Always secure the battery to prevent movement or tipping.

The battery can be mounted upright or flat, but must be secure and well-ventilated.

Installation and fixing

If the original battery mounting box is suitable for Wattnova LiFePO₄ batteries in size and structure, it can be reused without replacement.

During installation, the battery must be firmly fixed in the compartment—using a tension strap or bracket—to prevent movement or vibration during use, which could cause physical damage or loose connections.

3.4 Debug

Actual cycle capacity may vary from nominal due to temperature and charge/discharge rate.

Temperature range:

Discharge temperature range: -20°C ~ +65°C

Charging temperature range: 0°C ~ +60°C

Storage temperature range: -5°C to +35°C

The operating temperature should always be below +60°C to prevent battery degradation or malfunction.

Can be used in parallel or series:

Parallel connection: up to 4 battery packs can be connected in parallel.

Series connection: up to 4 battery packs can be connected in series.

In the series-parallel structure, up to 4 groups can be connected in series.

Before connecting all batteries, ensure that their voltages are consistent to avoid system imbalance.

Disassembly of the battery is strictly prohibited without permission from Wattnova or an authorized supplier.

3.5 Short-circuit protection

When installing a single battery, the battery must be protected by a fuse.

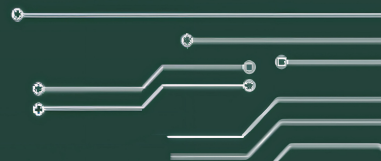
3.6 Charge before use

Wattnova batteries are pre-charged to 20–30% for safe transport and longer storage life.

First-time use suggestions:

For best performance, fully charge the battery before installation when used alone.

When used in parallel, charge all batteries to the same voltage before connecting to prevent imbalance.



Recommended initialization process: To achieve more stable operation, it is recommended to perform a complete charge and discharge cycle on a new battery (full → discharge to the recommended lower limit → full charge again).

3.7 Maintenance

Maintenance-free design, no need for frequent operational maintenance.

To maintain the battery, keep the battery terminals and the surface of the casing clean and dry; lightly apply anti-corrosion grease (such as Vaseline) to the terminals to prevent oxidation and corrosion.

If stored for a long time, charge and discharge the battery at least once every 2 to 3 months to prevent deep discharge of the battery and maintain stable capacity.

If the battery is damaged due to long-term non-charging, it is not covered by the warranty.

3.8 Storage

The storage environment should be cool, dry, well-ventilated, away from fire and high temperature, and avoid direct sunlight and extreme temperature fluctuations.

Recommended storage temperature: 0°C ~ 35°C; relative humidity: 60% ± 25%;

It is recommended to charge the battery to approximately 80% capacity before storage; the optimal storage voltage range is: 12.8V ~ 13.6V.

Please disconnect all connected loads and chargers before storage to avoid deep discharge of the battery due to standby current.

During storage, check the battery charge once a year to ensure it does not fall below the minimum voltage limit.

If the battery has been stored for more than 2 months, it is recommended to perform a charge and discharge cycle to activate the battery and maintain its health.

Time	Temperature
Short term (within 1 month)	-20~45°C
Long term (within 1 year)	0~35°C

4.Using batteries

4.1 Battery Balancing and Alarms

Each 12.8V lithium battery consists of four LiFePO_4 cells connected in series. An integrated battery management system (BMS) and active balancing ensure safe and stable operation, maximizing battery life.

The BMS maintains the voltage consistency of each cell through an active balancing mechanism:

a) Voltage balancing

The system continuously monitors the voltage of each cell and transfers charge (Ah) from cells with higher voltage to cells with lower voltage until the voltage difference between the cells is less than 50 mV.

b) Abnormal voltage protection

When the voltage of any battery cell is $> 3.75\text{V}$ (overvoltage) or $< 2.80\text{V}$ (undervoltage), the BMS will trigger protection and interrupt operation.

c) Over-temperature protection

When the temperature is higher than $+65^\circ\text{C}$, the BMS automatically cuts off the charge and discharge paths to prevent thermal runaway.

d) Low temperature protection

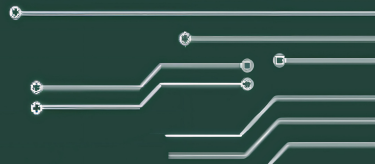
Below -10°C , the BMS blocks charging and discharging to protect the cells.

About capacity and alarm prompts: Under high discharge current or rapid charging conditions, some cells may become temporarily unbalanced due to the short voltage maintenance time. This may result in: a decrease in available capacity; and an overvoltage alarm.

This alarm is harmless, part of normal system protection, and does not affect safe battery use.

4.2 Charging recommendations

- The battery should only be used or charged in designated locations.
- Reverse charging is prohibited
- Compatible with all IU-compliant chargers; dedicated charger not required. Lead-acid chargers can be used, but lithium chargers are recommended.
- Turn on the charger after connecting the battery. After charging, turn off the charger before disconnecting.
 - Do not exceed the maximum allowable charging voltage to avoid damaging the battery.
 - Use a DC charger that is suitable for the load characteristics.
 - If the battery temperature rises abnormally during charging, stop charging immediately and wait until the battery cools down before continuing.
 - The BMS auto-balances the battery as needed. Over time, high discharge and short charge cycles may cause imbalance. Balancing occurs automatically during charging and sleep modes.



- Please strictly adhere to the temperature range specified for the battery during use to ensure safety and stable performance.

4.3 Charging and monitoring equipment settings

For 12V batteries, recommended charging voltage: 14.6V; constant voltage charging time: 2 hours to fully charge to 100%, or a few minutes to fully charge to 98%.

Maximum charging voltage: 14.6V per battery.

Recommended storage voltage: approximately 13V per battery.

“Allowed discharge” battery voltage: the standard cutoff voltage below which discharge is not permitted is 2.5V.

“Minimum allowed charging temperature”: The default threshold for triggering a low-temperature alarm is 0°C.

For series and parallel connections, batteries must be from the same batch and model; please fully charge them before connecting in series or parallel.

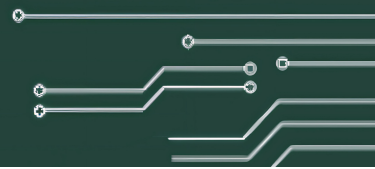
4.4 Precautions

- Keep away from fire or high heat sources. Do not throw the battery into fire to prevent burning or explosion.
- Do not immerse the battery in water or seawater to avoid short circuits, leakage, or damage.
- Do not puncture the battery casing with sharp objects to prevent internal damage.
- Do not short-circuit the battery terminals with metal objects to avoid overheating, fire, or explosion.
- Do not strike, drop, or step on the battery. Avoid heavy impacts or collisions as well.
- Do not weld directly on the battery or apply local heat using devices like soldering irons.
- Do not disassemble or modify the battery, as it may cause failure or safety risks.
- Do not use batteries that are deformed, damaged, scratched, or have any abnormal appearance.
- Do not place the battery in a microwave, dryer, or sealed high-pressure container.
- Keep away from static-charged objects during use and storage to prevent damage.
- If the battery is dropped or impacted, stop using it and have it inspected by a professional.
- Do not step on the battery or drop it on a hard surface to avoid shell cracking or internal damage.
- If you need to store batteries or battery modules for a long time, please remove them from the device and store them in a safe, dry, well-ventilated place at room temperature.

4.5 Warn

To prevent battery damage and personal injury, please pay attention to the following warnings:

- If charging is not completed within the specified time, stop charging immediately to avoid overcharging the battery.
- If any abnormal phenomenon occurs during use, charging, discharging or storage (such as heat, odor, discoloration, deformation, etc.), please stop using the battery module immediately.



- If you find any battery leakage or abnormal odor, please immediately keep away from fire or heat sources.
- If the electrolyte comes into contact with your skin or clothing, rinse immediately with plenty of water.
- If the electrolyte gets into your eyes, do not rub your eyes. Rinse immediately with plenty of water and seek medical attention as soon as possible.
- If there is dirt on the battery terminals, wipe them clean with a dry cloth before using the battery module.
- Before disposing of the battery or terminals, be sure to wrap the battery terminals with insulating tape to prevent short circuits and safety accidents.

5. Errors and Solutions/FAQ

Which charger should I use to charge my Wattnova battery?

For optimal performance and longevity, use a CCCV (constant current, constant voltage) charger. Too low a voltage may undercharge or slow charging; too high triggers BMS protection to stop charging. Frequent severe overvoltages can damage the battery.

Can I continue to use my lead-acid battery charger?

Lead-acid chargers won't fully charge lithium-ion batteries, typically reaching only 80%–90% capacity. This is acceptable if the charger allows proper voltage settings and has desulfation mode disabled. For efficient, safe charging, use LiFePO₄ specific equipment like Victron Energy chargers, solar controllers, or multi-function charging inverters.

Can I use a Wattnova battery in combination with a lead-acid starting battery?

Direct connection of LiFePO₄ and lead-acid batteries is not recommended, as their charge/discharge characteristics differ significantly—this can cause performance issues or damage. When used with a vehicle's lead-acid starting battery, use a B2B charger to charge the lithium battery via the generator, avoiding direct connection between the two.

Why did charging stop but the app shows it's not 100% yet?

When a cell hits the set full charge voltage, the BMS stops charging to protect the battery. High-current charging may leave some cells undercharged; the battery will then auto-balance, allowing charging to resume. For new or long-unused batteries, use a lower charge current initially to fully activate capacity.

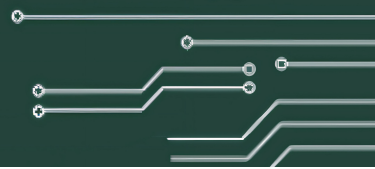
What should I do if Bluetooth cannot connect?

Please ensure you are using the official Wattnova app, not connecting directly through your phone's Bluetooth settings. Make sure: your phone supports Bluetooth 4.0 or higher; Bluetooth is turned on; and the battery isn't connected to another phone at the same time. If you still can't connect, try reinstalling the app.

Why is the battery not visible in the app?

Each battery can connect to only one device at a time. If it doesn't show in the app's available devices, check that no other device is connected. Disable Bluetooth on other phones or restart your phone's Bluetooth.

When multiple batteries are connected in parallel, the power display is inconsistent?



This is normal. Each battery's BMS calculates charge/discharge independently, so short-term deviations may occur—newly connected batteries may take several cycles to balance. For significant discrepancies, check that connecting cables have the same length and cross-sectional area, and ensure loads are connected "positive first, negative last" (positive to the first battery, negative to the last) for even distribution.

Why does a new battery already have charge and discharge records?

Wattnova batteries undergo comprehensive quality control testing before leaving the factory, including charge and discharge testing. The number of charge and discharge cycles displayed in the app reflects this part of the factory inspection process and is normal.

6. Warranty conditions

6.1 Warranty protection

Under normal use and maintenance, if the battery fails within the warranty period due to material or manufacturing defects, Wattnova will, based on specific circumstances, fulfill its warranty obligations through one of the following methods: Free maintenance; Free replacement of products or defective parts (excluding wearing parts and consumables); Or refund the purchase price.

Warranty service is valid only for the original purchaser and is not transferable to other persons or entities.

6.2 Warranty period and coverage

This Limited Warranty applies to all Wattnova lithium battery products, including (LiFePO₄) batteries.

- The warranty period is 6 years (72 months in total) from the original purchaser's invoice date;
- The warranty period shall not exceed 7 years from the date of manufacture;
- Repairs or replacements during the warranty period do not extend or reset the original warranty term.

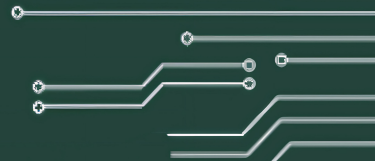
Accessories and consumables are excluded from the warranty. Warranty coverage is limited to the entire European region.

6.3 Notify

Warranty claims apply to manufacturing defects or functional failures that make the battery unfit for normal use or severely restrict its performance.

Defects must be reported in writing promptly upon discovery, no later than 14 days after detection—failure to do so may result in claim rejection. To submit a warranty claim, provide: a copy of the purchase invoice (required); a written description of the defect (including failure nature and operating environment); and photos/videos of the issue if possible. Claims without an invoice may be refused.

To help us identify issues and process repairs or replacements, the product must be returned to our company for testing as required. Ensure secure packaging to prevent secondary damage during transit.



6.4 Other warranty requirements

The warranty is valid only if the user strictly follows Wattnova's user manual and all manufacturer's operating instructions. Wattnova reserves the right to reject warranty claims if product failure, performance issues, or safety hazards result from failure to follow operating instructions.

6.5 Warranty Service

Wattnova reserves the right to repair, replace, or refund the consumer for warranty service, with the refund amount not exceeding the original purchase price. If the defective product has been discontinued, we reserve the right to provide a technically equivalent replacement from our current product range. All replaced defective products or parts shall become the property of Wattnova. Within Germany, Wattnova arranges and covers shipping for warranty returns/exchanges. For shipments outside Germany, prior confirmation with us is required, and shipping costs will be determined on a case-by-case basis.

6.6 Exclusions

To ensure your battery receives effective support under warranty, please note that the following situations are not covered by this limited warranty:

1. Third-party fees

- The warranty does not cover costs incurred by third-party removal or installation services;
- Do not cover labor, transportation, commissioning or related equipment costs caused by repair or replacement.

2. Failure, damage or loss of function caused by the following reasons are not covered by the warranty

(a) Force Majeure Events:

- Lightning strike, power surge.
- Natural disasters: extreme weather, heavy rain, floods, fires, high temperatures, water seepage, etc.

(b) Improper use or operation:

- Inappropriate usage according to the instructions.
- Human negligence or intentional operation.
- Using the energy storage battery for vehicle starting, or vice versa.

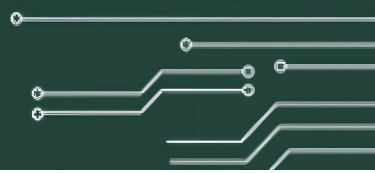
(c) Unsuitable installation or use environment:

- Improper connection, installation, and commissioning.
- Use of accessories, consumables or third-party parts not approved by the manufacturer.
- Battery damage caused by device connection failure.
- Improper storage environment (such as extreme high/low temperatures or deep discharge)

(d) External physical impact and damage:

- Transport damage, collision, vibration, drop or deformation.
- Damage to the mechanical structure or housing caused by impact.
- Electrical accidents such as water damage, battery terminal short circuit, reverse connection, etc.

(e) Unauthorized Interference:



- Disassembly of the outer shell or internal structure.
- Repair, modification, or programming by a third party or unauthorized service personnel.
- This especially includes changing BMS settings via third-party software.

(f) BMS Abuse:

- All Wattnova batteries are equipped with Battery Management System (BMS)
- If damage is caused by frequent triggering of BMS protection (such as over-discharge, over-charge, over-temperature), it is considered abuse and is not covered by the warranty.

(g) Normal aging and wear and tear:

- LiFePO₄ batteries are long-cycle-life products. If their capacity fades due to normal aging, it is considered normal wear and tear.
- The warranty does not cover performance degradation due to natural battery degradation or end of life cycle.

7. Additional terms outside the warranty scope

After technical evaluation, if it is confirmed that the product failure is not caused by material or manufacturing defects, the customer will bear the following related costs:

- Logistics costs: including but not limited to product shipping, return shipping and any incurred transshipment costs, all of which shall be borne by the customer;
- Diagnosis fee: If no product fault is found, or the fault is not caused by the product's own quality problems, Wattnova will charge a technical inspection and diagnosis service fee of 60 euros (excluding tax);
- Repair costs: If the customer confirms to accept the repair service, the cost will be quoted separately based on the actual repair project and notified to the customer in writing before implementation.

After the warranty period expires, if a fault occurs and the Wattnova technical team deems it reasonably repairable, we can provide a repair service based on the basic material cost, and the shipping cost shall be borne by the customer.

If a product is deemed unrepairable, we will provide the customer with an equivalent new product at a 10% discount based on Wattnova's current price list.

Except as expressly provided in this Limited Warranty, Wattnova makes no other representations or warranties, express or implied, regarding the Products.

8. Statement

- This warranty does not apply to cosmetic defects of the product, such as scratches, wear, fading, surface stains, etc. that do not affect the function.
- Wattnova reserves the right to modify and make final interpretation of the terms of this warranty.

Vattnova