



**ULTMATRON
FRANCE**

Installation · Operation · Maintenance Manual



Waterproof Portable LiFePO4 Battery

Please read the manual carefully before installation

Please strictly comply with these instructions. Keep this information near the battery for ready reference to prevent safety risks from incorrect operation.

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1. Important Safety Precautions Before Installation

- **Do NOT mix batteries:** Strictly prohibited to use batteries of different models, capacities, or brands together. Only combine batteries of the exact same LiFePO₄ specification.
 - **Environmental requirements:** Install in a dry, well-ventilated area free of flammable, explosive, or corrosive gases. When the external connection ports are properly closed (e.g., cover securely in place), the battery is waterproof and dust-proof. **Do NOT** expose to prolonged heavy rain — it can only withstand water splashes from any direction (e.g., splashing rain while driving, normal watering). Prolonged heavy rain will **destroy the waterproof seal, potentially causing short circuits, damage, and serious safety hazards.** **Operating temperature:** Charging: 0°C to 55°C, Discharging: -20°C to 60°C. Keep away from heat sources and never expose to intensive sunlight.
 - **Electrical safety:** Disconnect/shut off all power sources before installation. Never reverse positive and negative polarity. Ensure all terminals are securely tightened. Installation and wiring must be performed by qualified professionals.
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2. Installation Guidelines

- **Mounting and placement:** Securely fasten the battery. Leave adequate ventilation clearance. Do NOT place heavy objects on it, puncture it, crush it, or apply excessive pressure.
 - **Wiring requirements:** Connect negative first, then positive. Disconnect positive first, then negative. Never short-circuit the terminals. Install appropriate fuses or circuit breakers. This battery does NOT support series or parallel connection.
 - **BMS protection board:** Use only the original factory-fitted BMS. Do NOT remove, modify, or tamper with the BMS. Charging and discharging are strictly prohibited without a functioning BMS.
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3. Charging Operation Guidelines

- **Use dedicated charger:** Use a charger specifically designed for LiFePO₄ batteries with matching voltage:
 - 12V system: 14.4–14.6 V
 - 24V system: 28.8–29.2 V
 - 36V/38.4V system: 43.2–43.8 V
 - 48V system: 57.6–58.4 V
- **Charging conditions:** Never charge below 0°C. Charge in a well-ventilated area. Do not leave charging unattended for extended periods. If any abnormality occurs, immediately disconnect power and move the battery to a safe location.

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- **State of charge:** Disconnect immediately once fully charged. For long-term storage, maintain 50%–80% charge. **Never store fully charged or deeply discharged.**
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4. Discharging & Usage Guidelines

- **Avoid deep discharge:** Do not let the battery drop below 20% SOC. Never attempt to forcibly reactivate after excessive discharge. Disconnect power promptly when equipment is not in use.
 - **Power limits:** Do not exceed the rated continuous or peak discharge current. Never short-circuit during discharge.
 - **Emergency shutdown:** If the battery shows swelling, leakage, excessive heat, unusual odor, or any other abnormality, immediately stop use and disconnect power.
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5. Routine Maintenance & Care

- **Regular inspection:** Every month, check terminals, casing, and voltage. Look for any abnormalities.
 - **Cleaning:** Wipe with a dry cloth only. Avoid critical areas (terminals, vents, etc.). Never wash with water or use high-pressure water.
 - **Long-term storage:** Store in a dry location at 0–25°C. Every 2–3 months, charge back to 50%–80% SOC.
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6. Strictly Prohibited Behaviors (Red-Line Violations)

- a) **Never** disassemble, crush, puncture, burn, or submerge the battery in water. (When ports are properly closed/covered, it is waterproof and dust-proof against splashes only — **never expose to prolonged heavy rain**, as this will destroy the seal and cause short-circuit/damage hazards.)
- b) **Never** connect in series, parallel, reverse polarity, short-circuit, overcharge, over-discharge, or over-current.
- c) **Never** modify the battery, desolder/rewrite the BMS, or replace individual cells.
- d) **Never** throw the battery into fire, water, or expose it to high-temperature environments.
- e) **Prohibited** for non-professionals or children to operate.
- f) If the battery catches fire, use a **dry powder fire extinguisher only. Never use water.**

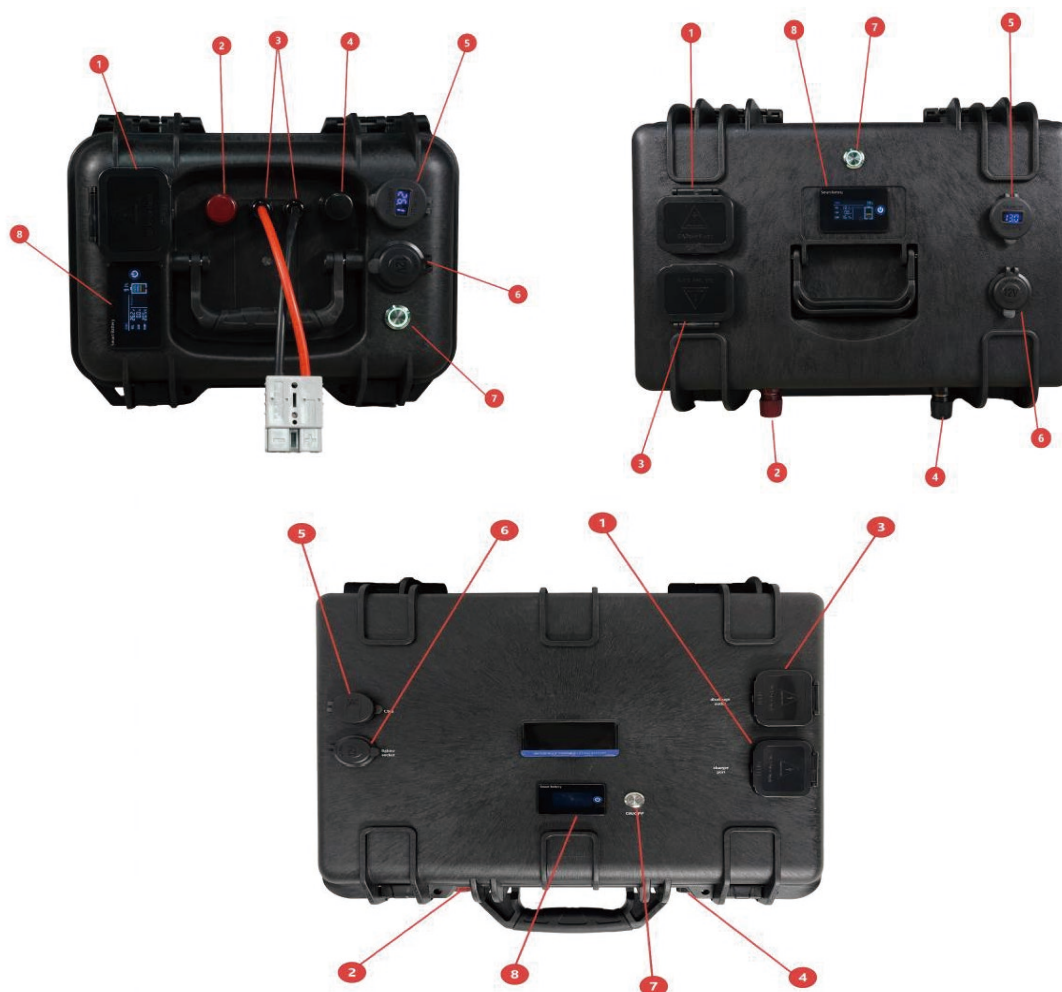
7. Liability Disclaimer

Any damage, injury, fire, or accident caused by failure to follow these instructions is the sole responsibility of the user. Please use the battery correctly and eliminate all potential hazards.

8. Recommended Tools/Equipment Before Installation and Operation

- Insulated tools
- Multimeter
- Battery cables
- LiFePO₄ battery charger or charge controller

9. Battery Interface Definition



Number	Interface Definition	Number	Interface Definition
①	Charging Port	⑤	USB
②	Positive Terminal (+)	⑥	Cigarette Lighter Socket
③	Discharge Port	⑦	Button Switch
④	Negative Terminal (-)	⑧	Screen / Display

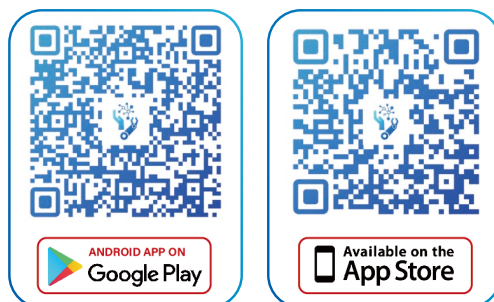
10. Specifications

Model	ULP-12-100	ULP-12-150	ULP-12-280	ULP-24-50	ULP-24-100	ULP-36-100
Nominal voltage	12.8V			25.6V		38.4V
Nominal Capacity	100Ah (C5,25°C)	150Ah (C5,25°C)	280Ah (C5,25°C)	50Ah (C5,25°C)	100Ah (C5,25°C)	100Ah (C5,25°C)
Energy	1280Wh	1920Wh	3584Wh	1280Wh	2560Wh	3840Wh
Cycle Life	≥6000 cycles	≥6000 cycles	≥6000 cycles	≥6000 cycles	≥6000 cycles	≥6000 cycles
Standard Charge						
Charge Mode	0.5C to 14.6V, then 14.6V, charge to current till 0.02C(CC/CV)			0.2C to 29.2V, then 29.2V, charge to current till 0.02C(CC/CV)		0.2C to 43.8V, then 43.8V, charge to current till 0.02C(CC/CV)
Recommended Charge Current	20A	30A	56A	10A	20A	20A
Max Charge Current	100A	150A	200A	50A	100A	100A
Recommend Discharge Current	20A	30A	56A	10A	20A	20A
Max Discharge Current	100A	150A	200A	50A	100A	100A
Discharge Cut-off Voltage	10.6V			21.2V		31.8V
Environmental						
Charge Temperature	0°C to 45°C(32°Fto 11 3°F)@60±25% Relative Humidity					
Discharge Temperature	-20°Cto 60°C (-4°Fto 140°F) @60±25% Relative Humidity					
Storage Temperature	0°C to 40°C (32°Fto 104°F)@60±25% Relative Humidity					
Mechanical						
Material of Case	ABS /PP					
Dimensions (mm.)	286*220*263	406*280*270	406*280*270	286*220*263	406*280*270	479*415*217
Weight (kg.)	11.2	18.2	29.2	12.2	22.4	32.6
Terminal	Anderson/M8					

11. Battery Settings and Configuration via Bluetooth

Download

Scan the QR code with your phone to download the mobile app. The system will automatically redirect you to the App Store (for iOS/Apple devices) or Google Play (for Android devices).

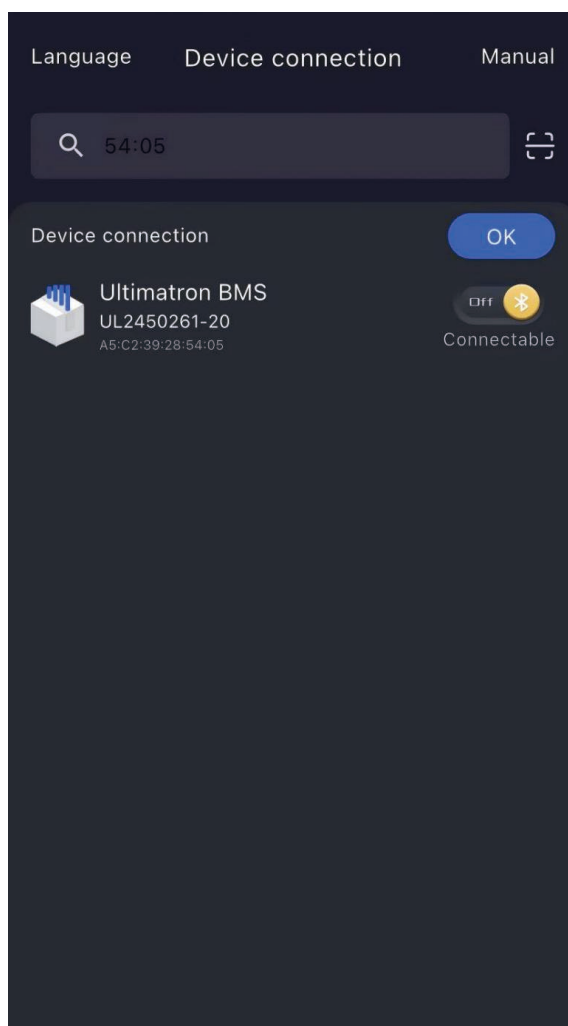


Connection

After successfully downloading and installing the app, open the app on your smartphone.

For first-time use, enable Bluetooth on your phone.

Search for the battery's number (or device ID), then turn on the Bluetooth connection switch to pair and connect to the battery.



12. Exclusions from Warranty Coverage

The warranty service for this portable Lithium Iron Phosphate (LiFePO₄) battery applies only to failures caused by inherent defects in design or manufacturing under conditions of normal use, proper operation, and adequate maintenance. Any battery damage or malfunction resulting from the following circumstances is expressly excluded from warranty coverage. We will not provide free repair, replacement, or refund services in these cases. Specific exclusions include:

- Damage caused by force majeure events, including but not limited to fire, flood, earthquake, hurricane, extreme severe weather, war, acts of terrorism, or other unforeseeable, unavoidable, and insurmountable objective circumstances.
- Use of the battery in permanent commercial premises, commercial displays, industrial continuous operation, or any other scenarios not intended by the product's design, or operation exceeding the rated parameters specified in the product's technical specifications.
- Installation, wiring, commissioning, or maintenance performed by non-qualified personnel, or failure to follow the instructions in this product's Installation • Operation • Maintenance Manual, including but not limited to: reversing positive and negative polarity, improper series/parallel connection, disassembly or modification of the BMS protection board, replacement of cells, loose wiring terminals, etc.
- Installation or storage in environments that do not meet requirements, including but not limited to: placing the battery in damp, sealed areas or locations with flammable, explosive, or corrosive gases; prolonged exposure to heavy rain or submersion; placement in high-temperature direct sunlight or near heat sources; storage temperatures outside the 0–40°C range without periodic recharging as required.
- Failures due to inadequate maintenance or neglected inspection, including but not limited to: failure to check wiring terminals, casing, and voltage monthly; failure to promptly identify and address abnormalities such as swelling, leakage, excessive heat; cleaning the battery with water washing or high-pressure rinsing, causing internal circuit damage.
- Damage caused by improper operation or transportation, including but not limited to: using a non-LiFePO₄-specific charger; forced charging below 0°C; overcharging or storing in a fully charged or deeply discharged state; excessive discharge (below 20% SOC) during use; exceeding rated/peak discharge current; short-circuit discharge; applying heavy pressure, puncturing, crushing, dropping, or impacting the battery during transport or use.
- Damage or abnormal performance caused by using non-original accessories (instead of the product's original supplied accessories) or by mixing batteries of different models, capacities, or brands.
- Damage caused by intentional human actions, including disassembly, burning, unauthorized modification, desoldering of components, or other deliberate tampering.

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- Batteries purchased through non-official channels (not from the manufacturer or authorized distributors), or products with tampered, damaged, or illegible serial numbers that prevent verification of authenticity and purchase information.
 - Any battery failure caused by violation of any safety precautions, installation requirements, or prohibited behaviors outlined in the product's Installation • Operation • Maintenance Manual, even if not explicitly listed above, is also excluded from warranty coverage.

The final right of interpretation regarding warranty service eligibility rests with Ultimatron-France.

Thank you for your understanding and for using the product in accordance with the guidelines.