

VOLTACON US5000

Pylontech US5000 Lithium-ion Battery User Manual

Model: US5000 | Brand: VOLTACON

1. INTRODUCTION

The Pylontech US5000 is a high-performance lithium-ion battery module designed for energy storage in various applications, including solar off-grid, hybrid, and wind power systems. With its advanced battery management system (BMS), the US5000 offers exceptional reliability, long cycle life, and broad compatibility with leading inverter brands. This manual provides essential information for the safe and efficient installation, operation, and maintenance of your Pylontech US5000 battery.

Key features include:

- Intense power with 4.8 kWh capacity per module.
- Widely compatible with over 35 inverter brands, including Voltacon, Victron, Solar, ABB, Solis, and Voltronic.
- More than 8,000 cycles and an expected 12-year lifespan.
- Compact and lightweight design for easy integration.
- Allows large installations up to 72.96 kWh without an LV hub.

2. SAFETY INFORMATION

WARNING: Please read and understand all safety instructions before installation or operation. Failure to follow these instructions may result in electric shock, fire, serious injury, or death.



This image displays the rear of the Pylontech US5000 battery, highlighting critical safety warnings and QR codes for additional resources. The labels indicate: **DANGER LOW DC VOLTAGE INSIDE** and **DANGER ARC FLASH & SHOCK HAZARD**. It also provides specific instructions such as not dropping or striking the unit, keeping it away from open flames or flammable materials, and not immersing it in water. Always ensure the breaker on both DC and AC sides is switched off during installation or maintenance. For further details, refer to the official manual via the QR code or visit the [Pylontech Manuals](#) page and [Pylontech Support](#) page.

- Do not drop, deform, impact, or strike the battery with a sharp object.
- Do not place the battery near open flames or flammable materials.
- Do not immerse the battery in water or any other liquid.
- Do not touch any leaking liquid from the battery.
- Keep the battery away from moisture and liquids.
- Ensure all instructions are read and understood correctly before operation.
- During installation or maintenance, always switch off the breaker on both the DC and AC sides.
- Contact your supplier within 24 hours if any issues or accidents occur.

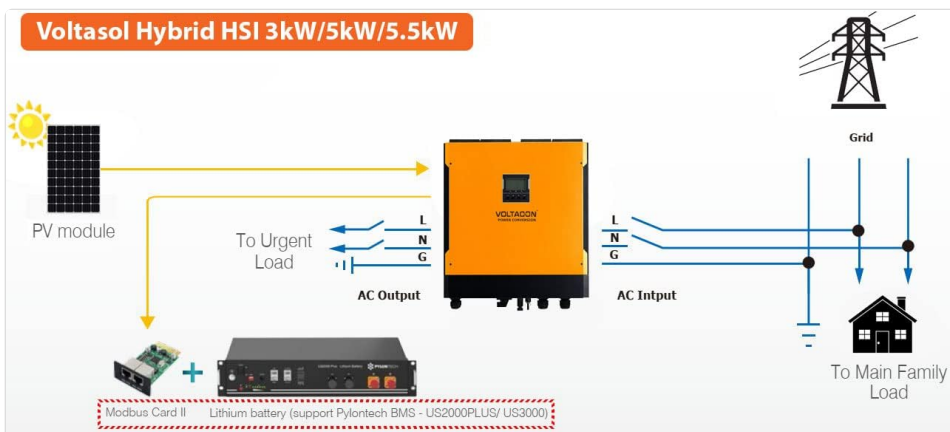
3. PRODUCT OVERVIEW

The Pylontech US5000 battery features a robust design with clearly labeled components for ease of use and installation.



This image shows the front of the Pylontech US5000 battery, highlighting its compact rack-mountable design, front handles, and the main control panel with power terminals and communication ports.

3.1 Front Panel Components



This diagram provides a detailed view of the Pylontech US5000 front panel, with each component clearly labeled for identification and function. Key components include the grounding point, ADD switch, CONSOLE and A/CAN (RS485) communication ports, LINKPORT 0/1, power switch, start button, RUN/ALM LEDs, SOC indicators, and the positive (+) and negative (-) power terminals.

- **Grounding Point:** For connecting the battery to an earth ground.
- **ADD Switch:** Used for setting the address of the battery in a multi-module system.
- **CONSOLE Port:** For debugging and firmware updates.
- **A/CAN (RS485) Port:** Communication interface for connecting to inverters or other battery modules.
- **LINKPORT 0/1:** For daisy-chaining multiple battery modules.

- **Power Switch:** Turns the battery on or off.
- **Start Button:** Initiates the battery operation.
- **RUN LED:** Indicates the battery's operational status.
- **ALARM LED:** Indicates a fault or warning condition.
- **SOC Indicators:** A series of LEDs showing the State of Charge.
- **Power Terminal (-):** Negative DC power output terminal.
- **Power Terminal (+):** Positive DC power output terminal.

4. SETUP

4.1 Unpacking and Inspection

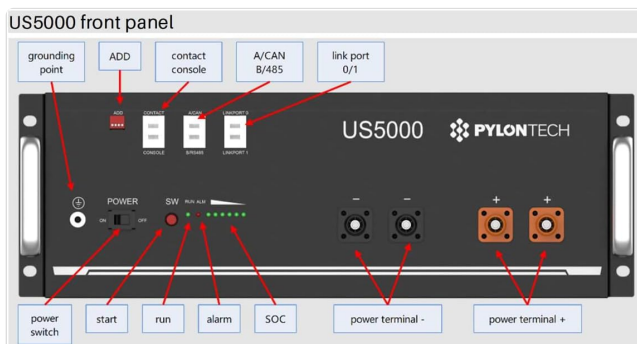
Upon receiving your Pylontech US5000 battery, carefully unpack it and inspect for any signs of damage during transit. Report any damage to your supplier immediately.

4.2 Mounting

The US5000 is designed for rack mounting. Ensure the installation location is well-ventilated, dry, and within the specified operating temperature range. Allow adequate clearance for air circulation around the battery.

4.3 Connecting Multiple Batteries

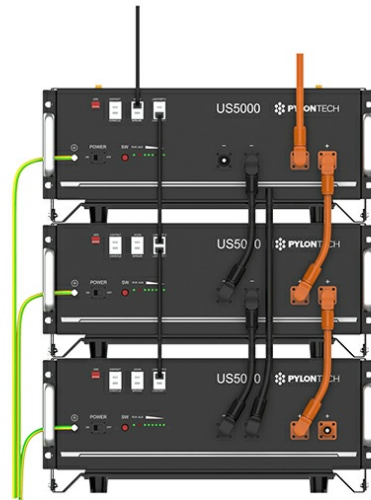
For larger energy storage requirements, multiple US5000 modules can be connected in parallel. Use the provided communication cables (e.g., RJ45) to daisy-chain the LINKPORTs between modules and the appropriate power cables for parallel DC connections.



This image illustrates multiple Pylontech US5000 batteries stacked in a rack, demonstrating how communication cables (black, thin) and power cables (orange, thick) are connected between the modules for parallel operation. Grounding wires (green/yellow) are also visible.

4.4 Connecting to an Inverter

Connect the Pylontech US5000 battery to a compatible inverter using the appropriate DC power cables and communication cables (e.g., CAN or RS485). Refer to your inverter's manual for specific connection diagrams and settings.



This system diagram, titled 'Voltasol Hybrid HSI 3kW/5kW/5.5kW', illustrates a typical solar energy setup. It shows the connection flow from PV modules to an inverter, which then connects to the Pylontech lithium battery (supporting US2000PLUS/US3000, but conceptually similar for US5000) via a Modbus Card II. The inverter manages AC output to both urgent loads and the main family load, as well as interaction with the grid.

4.5 Cabling

Use high-quality, appropriately sized cables for all connections to ensure safe and efficient power transfer.



This image displays a set of cables typically used for battery installations: a white communication cable (likely RJ45), an orange power cable, and a black power cable. These are essential for connecting the battery to other modules and the inverter.



This image shows a collection of shorter cables, including a black communication cable (RJ45), a black power cable, an orange power cable, and a yellow/green grounding cable. These are often used for inter-battery connections or short runs to connection points.

5. OPERATING INSTRUCTIONS

5.1 Powering On/Off

1. **To Power On:** Ensure all connections are secure. Flip the power switch to the 'ON' position. Press the 'Start' button. The RUN LED should illuminate, and SOC indicators will show the charge level.
2. **To Power Off:** Ensure the inverter is no longer drawing power from the battery. Flip the power switch to the 'OFF' position.

5.2 Understanding LED Indicators

- **RUN LED:** Indicates normal operation when solid green. May flash during certain states.
- **ALARM LED:** Illuminates red to indicate a fault or warning. Refer to the troubleshooting section or the full manual for specific alarm codes.
- **SOC Indicators:** A series of green LEDs that light up to show the approximate State of Charge (e.g., 5 LEDs for 100%, 1 LED for 20%).

6. MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your Pylontech US5000 battery.

- **Cleaning:** Keep the battery clean and free of dust. Use a dry, soft cloth for cleaning. Do not use liquid cleaners.
- **Connection Checks:** Periodically inspect all cable connections to ensure they are tight and free from corrosion.
- **Environmental Conditions:** Ensure the battery operates within its specified temperature and humidity ranges. Avoid extreme temperatures and direct sunlight.
- **Ventilation:** Ensure adequate airflow around the battery to prevent overheating.

7. TROUBLESHOOTING

This section addresses common issues you might encounter with your Pylontech US5000 battery. For more complex problems, consult the full product manual or contact technical support.

Problem	Possible Cause	Solution
Battery not powering on	Power switch off, loose connections, internal fault.	Ensure power switch is ON and 'Start' button is pressed. Check all power cable connections. If issue persists, contact support.
ALARM LED is red	Over-voltage, under-voltage, over-current, over-temperature, communication error.	Check system voltage and current. Ensure proper ventilation. Verify communication cable connections. Consult full manual for specific alarm codes.
Battery not charging/discharging	Inverter settings incorrect, communication issue, BMS protection activated.	Verify inverter settings match battery requirements. Check communication cables. Power cycle the battery and inverter.

8. SPECIFICATIONS

Technical specifications for the Pylontech US5000 Lithium-ion Battery.

Attribute	Value
Brand	VOLTACON
Model Name	US5000 4.8 kWh
Model Number	US5000C
Battery Composition	Lithium-ion
Nominal Voltage	48 Volts
Nominal Capacity	100 Ah
Energy Capacity	4.8 kWh
Item Dimensions (L x W x H)	42 x 44 x 16 cm
Item Weight	38 Kilograms
Battery Weight	39.7 Kilograms
Manufacturer	Pylontech Technologies
Date First Available	September 18, 2022

9. WARRANTY INFORMATION

The Pylontech US5000 Lithium-ion Battery comes with a **10-year warranty**, ensuring peace of mind regarding its performance and durability. Please retain your proof of purchase for warranty claims. The warranty covers defects in materials and workmanship under normal use and service conditions.

10. SUPPORT

For technical assistance, troubleshooting, or warranty inquiries, please contact your supplier or visit the official Pylontech support resources:

- Official Pylontech Manuals: <http://en.pylontech.com.cn/manual.aspx?id=44>
- Official Pylontech Support: <http://en.pylontech.com.cn/support.aspx?lan=en>



This image shows a complete installation setup, featuring multiple Pylontech US5000 batteries housed in a rack, connected to a Voltacon inverter. A laptop is visible, likely used for system monitoring and configuration, demonstrating a typical operational environment for the battery system.

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