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› Timeusb 12V 100Ah Pro LiFePO4 Battery Instruction Manual

Timeusb 12.8V100Ah Group31

Timeusb 12V 100Ah Pro LiFePO4 Battery Instruction Manual

1. PRODUCT OVERVIEW

This manual provides essential information for the safe and efficient use of your Timeusb 12V 100Ah Pro LiFePO4 Battery. Please read it thoroughly before installation and operation.



Front view of the Timeusb 12.8V 100Ah Pro LiFePO4 battery, highlighting its model and brand.

Key Features

- **Grade A Battery Cells:** Utilizes automotive-grade battery cells, designed for over 4000 cycles at 100% Depth of Discharge (DOD).
- **Lightweight & Compact Design:** Features a Group 31 compact design, significantly lighter than traditional lead-acid batteries, enhancing installation flexibility.
- **High Energy Output:** Provides 1280Wh of usable energy, expandable up to 20.48kWh when connected in a 4P4S configuration.
- **Advanced BMS Protection:** Integrated 100A Battery Management System (BMS) offers comprehensive protection against overcharging, over-discharging, overcurrent, short circuits, and high temperatures (above 70°C/158°F).
- **Versatile Applications:** Ideal for various deep cycle applications including RVs, solar home systems, off-grid power, and trolling motors.

An overview video showcasing the features and benefits of the Timeusb 12V 100Ah Pro LiFePO4 Battery, including its advanced BMS, compact design, and various applications.

2. SAFETY INFORMATION

Observe the following safety guidelines to prevent injury or damage to the battery and connected equipment:

- Do not expose the battery to fire, heat, or water.
- Avoid short-circuiting the battery terminals.
- Do not disassemble, puncture, or modify the battery.
- Use only compatible LiFePO4 chargers.
- Ensure proper ventilation during charging and discharging.
- Keep out of reach of children.
- Wear appropriate personal protective equipment (PPE) when handling the battery.



Warning graphic indicating that the Timeusb LiFePO4 battery should not be used for jump-starting vehicles.



Warning graphic advising against mixing Timeusb LiFePO4 batteries with other battery types.

3. WHAT'S IN THE BOX

Upon opening the package, you should find the following items:

- Timeusb 12V 100Ah Pro LiFePO4 Battery
- M8 Terminal Bolts (x2)
- Insulating Caps for Bolts (x2)
- User Manual
- Installation Guide

An unboxing video for the Timeusb 12V 100Ah Pro LiFePO4 Battery, demonstrating the packaging, included accessories like M8 terminal bolts and insulating caps, and the battery's portable design.

4. SETUP

4.1 Initial Inspection

Before installation, carefully inspect the battery for any signs of damage. Verify that all components listed in the 'What's in the Box' section are present.

4.2 Terminal Connection

Connect your cables to the M8 terminal bolts. Ensure a secure connection to prevent arcing or overheating. Use the provided insulating caps to cover the terminals after connection.

4.3 Parallel and Series Connection

The Timeusb 12V 100Ah Pro LiFePO4 Battery supports both parallel and series connections for increased capacity or voltage. Up to 16 batteries can be connected in a 4P4S configuration to achieve a maximum load power of 20.48kW and a maximum voltage of 51.2V. Always ensure all batteries are at a similar state of charge before connecting them in parallel or series.

Power Expansion

Max.16 Batteries in 4P4S Connection

Max. Load Power: **20.48kW**

Max. Voltage: **51.2V**



Diagram illustrating how up to 16 Timeusb 12.8V 100Ah batteries can be connected in a 4P4S configuration for a maximum load power of 20.48kW and maximum voltage of 51.2V.



Illustration showing two Timeusb 12.8V 100Ah batteries connected in parallel.

5. OPERATING INSTRUCTIONS

5.1 Charging

Use a compatible LiFePO4 charger with a charging voltage of $14.4V \pm 0.2V$. The battery supports fast charging, with a 40A current achieving a full charge in approximately 2.5 hours, or a 20A current in 5 hours. Compatible charging sources include dedicated LiFePO4 battery chargers, solar panels (with an MPPT controller), generators with AC-DC chargers, and alternators with DC-DC chargers.

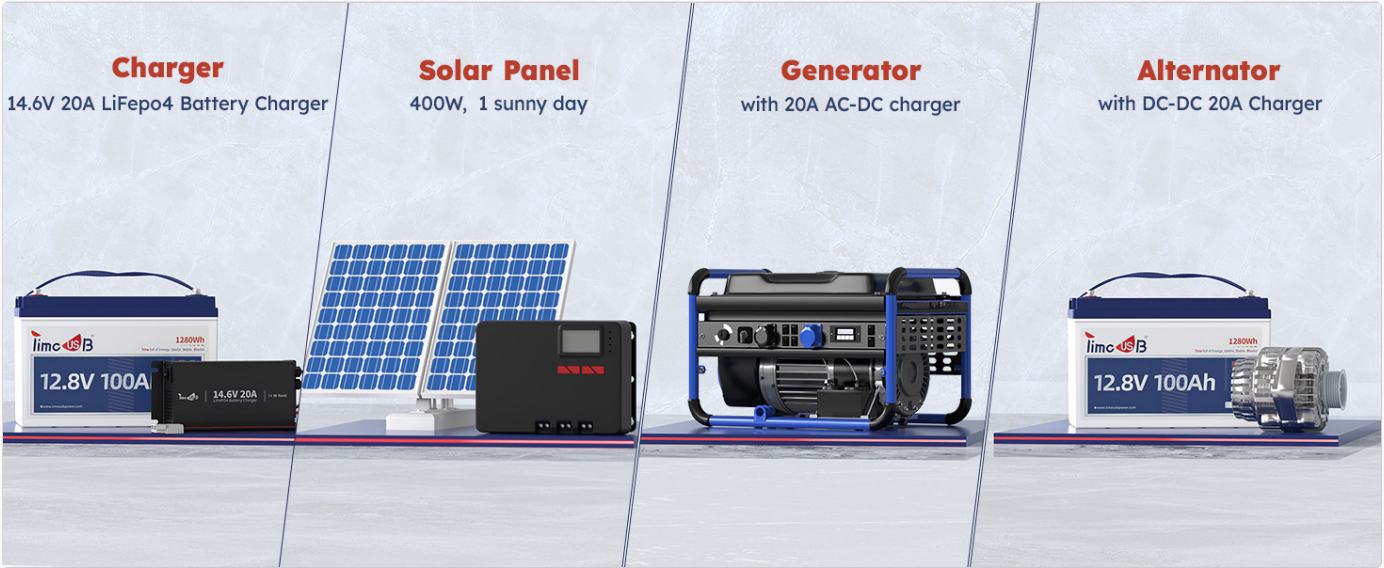


Image showing different charging currents and times for the Timeusb 12.8V 100Ah battery, including 40A for 2.5 hours and 20A for 5 hours.



Nominal Voltage:	Rated Capacity:
12.8V	100Ah
Rated Energy:	Charging Voltage:
1280Wh	14.4 ± 0.2V
Max. Continuous Charge/Discharge Current:	Max. Continuous Output Power:
100A	1280W
Number of Series and Parallel Connection:	Charge temperature:
4P4S	32°~122°F (0°~50°C)
Storage temperature:	Discharge temperature:
14°~122°F (-10°~50°C)	-4°~140°F (-20°~60°C)
Dimensions:	Weight:
L13.00" x W6.77" x H8.50"	23 lbs

Visual guide to compatible charging sources for the Timeusb 12.8V 100Ah battery, including a 14.6V 20A LiFePO4 battery charger, 400W solar panel, generator with 20A AC-DC charger, and alternator with DC-DC 20A charger.

5.2 Discharging

The battery has a maximum continuous discharge current of 100A and a maximum continuous output power of 1280W. The integrated BMS protects against over-discharge. For optimal lifespan, avoid consistently discharging the battery to 0% DOD.

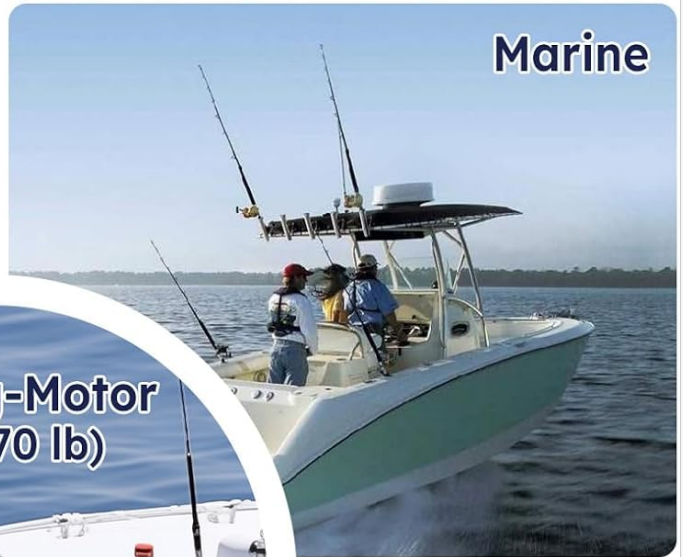
5.3 Application Examples

The Timeusb 12V 100Ah Pro LiFePO4 Battery is suitable for a wide range of deep cycle applications:

- **RV Power:** Provides reliable power for appliances and electronics in recreational vehicles.
- **Solar Home Systems:** Efficient energy storage for residential solar installations.
- **Off-grid Applications:** Powers remote cabins, tiny homes, and other off-grid setups.

- **Trolling Motors:** Offers extended run times for marine trolling motors.
- **Home Backup Power:** Can be integrated into home energy storage systems for emergency backup.

Suitable For All Application Scenarios



Collage of images showing the battery's suitability for various applications: RVs, marine use, off-grid systems, and home backup power.

Battery Life That's Positively Pro

Product certified by testing organizations
Performance tested at the factory



Table detailing the compatibility and approximate running times of the Timeusb 12V 100Ah Pro battery with various trolling motors based on thrust and amp draw.

6. MAINTENANCE

Proper maintenance ensures the longevity and performance of your Timeusb LiFePO4 battery:

- **Storage:** For long-term storage, charge the battery to 50% state of charge (SOC) and store it between 14°F to 122°F (-10°C to 50°C). Recharge every three months if not in use.
- **Cleaning:** Keep the battery terminals clean and free from corrosion. Use a dry cloth to wipe the battery case.
- **Regular Checks:** Periodically check cable connections for tightness and inspect the battery for any physical damage.

7. TROUBLESHOOTING

If you encounter issues with your Timeusb 12V 100Ah Pro LiFePO4 Battery, consider the following:

- **Battery Not Charging:** Ensure the charger is compatible with LiFePO4 batteries and properly connected. Check the charging voltage and current. The BMS may have activated a protection mode (e.g., over-discharge) if the battery voltage is too low.
- **No Power Output:** Verify all connections are secure. The BMS might have activated a protection (e.g., overcurrent, short circuit, high temperature). Disconnect the load, wait a few minutes, and reconnect.
- **Reduced Performance:** Check the battery's state of charge. Ensure the operating temperature is within the recommended range (Discharge: -4°F to 140°F / -20°C to 60°C).

For persistent issues, refer to the 'Warranty and Support' section for assistance.

A video addressing common questions and providing answers related to the Timeusb 12V 100Ah Pro LiFePO4 Battery, offering additional insights into its use and features.

8. SPECIFICATIONS

Feature	Specification
Brand	Timeusb
Model	12.8V100Ah Group31
Nominal Voltage	12.8V
Rated Capacity	100Ah
Rated Energy	1280Wh
Charging Voltage	14.4 ± 0.2V
Max. Continuous Charge/Discharge Current	100A
Max. Continuous Output Power	1280W
Number of Cells	4
Terminal Type	M8
Internal Resistance	40 Milliohms
Storage Temperature	14°F ~ 122°F (-10°C ~ 50°C)
Discharge Temperature	-4°F ~ 140°F (-20°C ~ 60°C)
Product Dimensions (L x W x H)	13.00" x 6.77" x 8.50"
Item Weight	23 pounds

10 Years Lifespan, Up to 15000 Cycle Times

Brand New Grade-A Battery Cells 100% True Capacity (100Ah)

4000+ cycles
@ 100% DOD

6000+ cycles
@ 80% DOD

15000+ cycles
@ 60% DOD

Same 100Ah lead acid battery is only 50% discharged capacity at 1C. (Cycle times:300-500)

Detailed technical specifications for the Timeusb 12.8V 100Ah Pro LiFePO4 Battery.

BCI Group 31 Size



Dimensions: 13.00" x 6.77" x 8.50" (L x W x H)
Weight: 23 lbs

Diagram showing the dimensions of the Timeusb 12.8V 100Ah Pro LiFePO4 battery.

9. WARRANTY AND SUPPORT

The Timeusb 12V 100Ah Pro LiFePO4 Battery is designed for a 10-year lifetime and typically comes with a 5-year warranty. For specific warranty details, please refer to the documentation included with your product or contact Timeusb customer service.

Customer Support

Timeusb offers lifetime customer service through a responsive and professional team. If you have any questions, require technical assistance, or need support, please contact us via:

- **Email:** service@timeusbpower.com
- **Website:** www.timeusbpower.com



Symbol indicating that the Timeusb LiFePO4 battery is recyclable. Please dispose of responsibly.

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