TOMORTOOL LiFePO4 7AH Battery 12V Lithium Deep Cycle Instruction Manual

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Introduction

This product specification applies to lithium iron phosphate battery products provided by our Customers who use batteries manufactured or sold by our company must read this user manual carefully before using them. We cannot be held responsible for accidents or damage deriving from incorrect use.

Our 12.8V 7AH is a Lithium-iron phosphate (LiFePO4) battery that maintains a constant output voltage, providing more efficient power. The LiFePO4 technology has better thermal and chemical stability, which improves battery safety and packed with power in a small and lightweight footprint. Easily uses the same space as your existing 12V battery and replaces lead acid, AGM or Gel battery applications in RVs, boats, off-grid back up etc. Not intended to replace starting batteries.

This is the safest of the most important lithium-ion battery types.
Besides safety, the LiFePO4 technology features:

Minimal weight
Small dimensions
Low internal resistance
High amp capacity
High efficiency
Stable output voltage
Excellent cycle performance
Low maintenance
Self recovering faults
Almost constant Voltage throughout the entire discharge cycle

The Use Environment Of Lithium Batteries

- The working temperature of the battery is 41–104°F(5℃~40℃). (Optimal working temperature is 59–95°F 15℃~35℃ .) Outside this temperature range, the performance of the battery may change. Under such circumstances, it is normal for the capacity or the equipment operating time to change.
- The battery should be installed in a dry, clean, and well ventilated area, contact with corrosive substances should be avoided, while avoiding ignition sources and proximity to flammable materials. Be sure to disconnect the load (i.e., turn off the electrical equipment) during charging

The correct ways to use lithium batteries, battery maintenance

The batteries are a kind of consumable, and the secret of its “longevity” must be mastering the correct method of use.

- When the customer receives the battery, they should check the basic function first, and make sure no damage occurred during transport. Please test the battery voltage, charging function, discharge function, and display function; if there are any anomalies, please stop installation and notify us immediately. After installing the battery according to the installation manual, fully charge the battery before using it for the first time. Upon being fully charged and discharged between three and five times, the battery will reach its maximum capacity.
- To prolong their life cycle, charge batteries when their capacity is low. If batteries are not charged during this time and they are left in a deficient state for a prolonged period, this will adversely affect the battery life. If those batteries will not be used for a long time, keep them at half-capacity and float-charge the battery every two months, for one hour each time.
- Generally, lithium batteries have a relatively complete protection function (with a protection board), and there are not many other requirements for battery charging. However, in order to prevent safety problems caused by the failure of the protection board overcharge protection function, long-term charging is not recommended. Take out the battery after it is fully charged. Please replace the battery when the battery capacity is lower than 50% of the rated capacity. In addition, the battery must be charged according to the standard, otherwise the battery may be damaged or even dangerous.

Battery Management System (BMS)

BMS FUNCTION & Circuit Protection: The battery includes a BMS (Battery Management System) to protect the battery from overcharging, over-discharging, over drain, and short circuit, resulting in overall longer battery life.

The BMS also protects the battery from exploding and catching fire. Includes thermal safety fusing, cell balancing, CID and fault recovery. Bluetooth monitoring available.

Precautions For Daily Use

To avoid battery leakage, abnormal heat levels, fire, performance degradation, or explosion or other accidents, please follow the specifications and use the battery properly. We cannot be held responsible for accidents caused by the failure to operate in accordance with this manual.

- Handle batteries gently; avoid violently shaking them.
- Avoid shorting the positive and negative output terminals of the battery pack.
- Avoid cleaning the battery case with organic solvents.
- Never put spent batteries into a fire; doing so can cause explosions or other dangerous accidents.
- When it is time to replace the battery, it should be replaced by the battery supplier. Users cannot replace the battery without permission.
- If an accident occurs, do not use carbon dioxide to extinguish the fire; instead, use carbon tetrachloride or sand to extinguish it.
- Do not immerse the battery or its accessories in water or other liquids; keep them in moisture-proof surroundings.
- Batteries can be used in parallel and in series. The voltage of batteries must be tested before being used in parallel, and their voltage tolerance must be within ±0.1V.
- Self-demolition is prohibited. Users are not allowed to dismantle battery packs and chargers. We cannot be held responsible for damage, accidents, or other losses caused by the self-demolition of batteries.
- Do not disassemble the battery. Removing the battery may cause an internal short circuit, which can decompose its internal substances and lead to fire, explosion, etc. In addition, dismantling the battery may leak the battery electrolytes; if electrolytes are splashed on the skin, eyes, or other body parts, rinse immediately with clean water and go to a doctor immediately.
- In the event of battery damage, deformation, electrolyte leakage, unusual smell, or other abnormalities, immediately cease to use the battery. Please send it to the authorized office of the manufacturer or the appropriate agency for proper disposal. In addition, batteries leaking electrolytes should be kept away from fire, to preclude explosion.

Precautions For Transportation

- To avoid inflicting damage on the battery pack, do not place heavy objects on the battery pack during transportation.
- During transportation, do not pack the battery pack with flammable or explosive materials, or with sharp metal objects.
- The battery pack is suitable for transportation modes such as automobiles, trains, and airplanes. However, during the transportation process, sun, rain, and severe vibrations should be avoided.
- The battery pack should be packaged with insulating and shock-proof material, and labeled as “fragile,” so as to preclude damage caused by bumps during transportation.
- The battery pack pole should be oriented upward, and a “THIS WAY UP” label should be applied. Do not store the battery pack upside-down, sideways, etc.
- The battery pack must be handled gently during transportation and handling. Do not toss it about, and avoid

hitting it with any other surface.

Basic Info Tab

- Battery Voltage
- Battery Current (Amps)
- Battery Charge Status(SOC)
- Charge/Discharge State
- Battery Cycles
- Battery Temperature
- Remaining Capacity (RMC)
- Design Capacity (DCAP)
- Full Charge Capacity (FCC)
- Average Time: Empty/F

Nominal Voltage	12.8V	
Nominal Capacity (at .5C, 77°F)	7Ah	
Expected Cycle Life	>4000 cycles w/1C charge and discharge rate, at 77°F, 80% DOD	
Operating Specifications		
Charge Method	constant current, constant voltage	
Standard Charging	constant current 1.4A	5-6Hours
Fast Charging	constant current 3A	3-4Hours
Charge Voltage Range (Max 14.6V) Continuous Discharge Current	14.4 – 14.8V 7A	
Peak Instant Discharge Current (10 secs)	10A Max	
Operating/Charge Temperature	0~45℃ (32 ° F~113° F)	
Discharge Temperature	-20~60℃ (-4 ° F ~ 140° F) **Note**: The Electrical efficiency will be relatively low in te mperature.	
Storage Temperature	-20℃-50℃(-4° F~ 122° F) Recommend	
Max Discharge Current	10A	
Overcharge Voltage	15V	
Discharge Cut Off Voltage	10.4V	
Over Discharge Cut Off Voltage	10V	
Self-Discharge (stored at 50% SOC)	< 3%/month	
Watt Hours	89.6 Watt hours	

Customer Support

After-sales email: CAE168de@outlook.com
Any questions or product issue, feel free write to us, we will reply you in 8 hours.

Documents / Resources

	TOMORTOOL LiFePO4 7AH Battery 12V Lithium Deep Cycle [pdf] Instruction Manual LiFePO4 7AH Battery 12V Lithium Deep Cycle, LiFePO4, 7AH Battery 12V Lithium Deep Cycle, Battery 12V Lithium Deep Cycle, Lithium Deep Cycle, Deep Cycle

References

- User Manual