

ULTRAMAX[®]

Lithium iron phosphate (LiFePO₄) Battery Manual



ULTRAMAX BATTERIES

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Safety guidelines and measures

1.0 General rules



Observe these instructions and keep them located near the Li-ion Battery for future reference. Work on the Li-ion Battery should be carried out by qualified personnel only.



Any Exposed battery material such as electrolyte or powder on the skin or in the eyes must be flushed with plenty of clean water immediately. Then seek medical assistance. Spillages on clothing should be rinsed out with water.



Terminals of the Li-ion Battery are always live; therefore, do not place items or tools on the Li-ion Battery. Avoid short circuits, deep discharges and high charge currents. Use insulated tools. Do not wear any metallic items such as watches, bracelets, et cetera. In case of fire, you must use a type D, foam or CO₂ fire extinguisher.



1.1 Transportation warnings

The Li-ion battery must be transported in its original or similar package and preferably in an upright position. If the battery is in its package. Do not stand below a Li-ion battery when it is hoisted. Never lift the battery from its terminals, only lift the battery using the handles provided.



Never try to open or dismantle the Li-ion Battery. Electrolyte is very corrosive. If the battery casing is damaged do not touch the exposed electrolyte or powder because it is corrosive.



Deep discharges damage the Li-ion battery and can even be dangerous. Never charge/discharge below its stated limits.



Li-ion Batteries are heavy. If involved in an accident they can become a projectile! Ensure adequate and secure mounting and always use suitable handling equipment for transportation. Handle with care because Li-ion Batteries are sensitive to mechanical shock.



If charged after the Li-ion battery was discharged below the Discharge cut-off voltage, or when the Li-ion battery is damaged or overcharged, the Li-ion battery can release a harmful mixture of gasses such as phosphate.

Non-compliance with operating instructions, repairs made with other than original parts, or repairs made without authorization render the warranty void.



1.2 Disposal of Li-ion batteries



Batteries marked with the recycling symbol must be processed via a recognized recycling agency. By agreement, they may be returned to the manufacturer. Batteries must not be mixed with domestic or industrial waste.

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General information about Lithium iron phosphate batteries

Lithium iron phosphate (LiFePO₄ or LFP) is the safest of the mainstream li-ion battery types. Your battery comes with a BMS to protect your battery when charging and discharging, however following precautions can be taken.

Rugged

An LFP battery does not need to be fully charged. This is a major advantage of LFP compared to lead-acid. Other advantages are the wide operating temperature range, excellent cycling performance, low internal resistance and high efficiency. LFP is therefore the chemistry of choice for very demanding applications.

Charging your battery

Use a lithium phosphate battery charger only. SLA chargers do not charge the battery fully.

Fire Hazard

Proper care must be taken when handling and working with lithium batteries. If used properly, they can be quite safe. But if misused, they can present a serious fire hazard.

- 1) Do not short circuit the battery. Large current can flow, your battery will overheat, catch fire and start a chain reaction with other cells or batteries around it. It is dangerous and a fire Hazard. Your BMS should prevent large short circuit currents and should cut out the current.
- 2) You should never charge your battery higher than its rated voltage. This can irrevocably damage it. Use supplied or approved chargers only.

Increasing Cycle Life

You can increase the cycle life of your battery beyond its specified life considerably.

- 1) Unlike Sealed Lead Acid Batteries Lithium Phosphate batteries do not like to be stored at full charge. If you intend to store your battery charge up to 60% of full capacity and then you can store. Charge your battery fully and then part discharge and you can then store.
- 2) When time isn't an issue, you should charge and discharge at lower rates than stated current to increase your battery life. Ideally use a maximum of 50% of stated charge/discharge currents. Get a lower rating charger in some cases if needed.
- 3) Preferably Keep your battery at room temperature when charging and discharging.
- 4) Never charge your battery below 0-degree C. It can damage your battery irrevocably. You can discharge your battery up to -20 C.



Lithium iron phosphate (LiFePO4) battery manual

Bluetooth App and Battery Management System

In order to monitor and verify the status of your battery via Bluetooth, download the following

- For Apple mobile phone, search and download "UMXLI Battery"
- For Android mobile phone, search and download "UMXLI BMS"

What to do if the battery is not working

BMS Reset Button (on models below)	ON / OFF Switch (on models below)
	
SLAUMXLI100-12DINBLU	SLAUMXLI100-12PRIBLU
SLAUMXLI100-12HTRBLU	SLAUMXLI100-12BLU / SLAUMXLI120-12BLU
SLAUMXLI100-24BLU	SLAUMXLI50-12BLU
SLAUMXLI200-12BLU	SLAUMXLI60-12BLU
..and others	SLAUMXLI80-12BLU
	SLAUMXLI280-12PRIBLU
	..and others

If your Ultramax lithium battery with Bluetooth doesn't seem to be working (e.g., the terminal voltage is below 10V), the issue is likely that the BMS (Battery Management System) has entered sleep mode or, in some models, the on/off switch isn't activated.

To resolve this, you will need to either press the BMS reset button or activate the on/off switch to restore power to the battery. Depending on your battery model, it will either have a BMS reset button or an on/off switch. Certain models are equipped with a reset button, while others feature an on/off switch.

The Bluetooth feature can drain power when the battery is in storage and not being charged, which can cause the battery to fully discharge and enter sleep mode. The BMS reset button "wakes up" the battery and restores power.

To bring your battery out of sleep mode or to turn it on, locate the BMS reset button or the on/off switch. These will be positioned either on the top or side of the battery, depending on the model. Once found, press the button or switch once to reset the BMS or power on the battery.

For proper storage when the battery is not in use, keep it in a dry, cool place away from direct sunlight. If your model has an on/off switch, make sure to turn off the BMS and confirm via the app that the battery is switched off. If your battery has a reset button, it will automatically enter sleep mode after 10 minutes of inactivity.

For optimal battery maintenance, charge it to 60%-70% before switching it off and storing it. Be sure to check the charge level in the app before storage.