Millertech®

PERFORMANCE LITHIUM BATTERIES

User Manual



Three-Bank Onboard Marine Charger

(12V 15A, 16V 10A, 24V 10A)

Item #121624-3

Thank You!



Millertech®

PERFORMANCE LITHIUM BATTERIES

For your business, trust, and confidence in Millertech.
It is our pleasure to serve you!



Table of Contents

Safety Precautions 5

Features 6

Technical Specifications 7

Operation 8

Warnings 12

Maintenance 13

Troubleshooting 13

Warranty 14

Contact Information 16

Follow the relevant provisions in this manual throughout the operation, maintenance, and repair of this charger. The manufacturer states that they are not responsible for the results of its operation. If the user is involved in violation of such requirements, we are not responsible for the results of the operation.

SAVE THESE INSTRUCTIONS

This manual contains important safety and operating instructions. To reduce the risk of injury, please read all instructions and follow them with each use of the product.

IMPORTANT SAFETY INSTRUCTIONS

- DO NOT expose the plug or terminals to rain or snow. DO NOT submerge the charger in water or use it when the AC plug is wet.
- Pull the cord by the plug rather than by the cord when disconnecting the unit from the power source.
- DO NOT operate the charger with a damaged cord or plug.
- DO NOT operate the charger if it has received a sharp blow, it has been dropped or otherwise damaged in anyway. Damage to the power cable, the device or the charging cable increases the risk of an electrical shock. For inspection and repair, take the charger to a qualified technician.
- DO NOT disassemble the charger. Incorrect assembly could result in an electrical shock or fire.
- To reduce the risk of electrical shock, unplug the charger from the outlet before attempting any maintenance or cleaning. Turning off controls will not reduce risk.

⚠ WARNING – EXPLOSIVE ATMOSPHERES

Obey all signs and instructions. Do not operate product in any area with a potentially explosive atmosphere, including fueling areas or areas which contain chemicals or particles such as grain, dust or metal powders. This product is not intended for use where failure of product could lead to injury, death or severe environmental damage.

Features

The onboard marine lithium/lead acid/AGM battery charger is specifically designed to charge your 12V $LiFePO_4$/lead acid/AGM batteries or 16V $LiFePO_4$ lithium battery or 24V $LiFePO_4$ lithium battery. This charger offers users extended battery life and reliability with its built-in protection features. With this charger, users get the quickest, most intelligent, efficient charge, and experience longer run times and shorter charge times of the battery.



- IP67 rating.
- Marine-grade construction.
- Aluminum housing, aluminum stretched plate and waterproof cooling fan at the bottom of product for excellent heat dissipation.
- LED indicators for battery charging percentage.
- Fast charging with 12V 15A and/or 16V/24V 10A for each bank.
- Wake up function for low voltage of lithium battery.

Technical Specifications

Nominal AC Input Voltage	105-125V AC
Nominal AC Input Frequency	60Hz
Output	12V/15A, 16V/10A, 24V/10A
Product Size	15” x 9.64” x 3.89”
Charging Battery Type	12V bank for $LiFePO_4$/lead-acid/AGM selected with **MODE** button 16V Bank for $LiFePO_4$ only 24V Bank for $LiFePO_4$ only
LED Indicators	Power, battery type, charging status
Activate Function	Wake up function for low voltage of lithium battery. Before activating, connect the AC cord with the electrical outlet first and choose lithium battery type (no need to choose battery type for 16V/24V bank), then press the **MODE** button on the bank panel for 3-5 seconds to start this function, then connect DC output terminals to batteries to begin charging.
Cooling Type	Aluminum housing, aluminum stretched plate and waterproof cooling fan at the bottom of product for better heat dissipation.
Ingress Protection	Filled with pure epoxy resin for high waterproof level IP67
Circuit Protection	Short-circuit protection, reverse connection protection, overcharge protection, over-temp protection
Working Temperature Range	–4°F to 104°F

Operation

When the charger is connected to AC voltage and the output cable is not connected to anything, the LED power indicator on the panel will be solid on. Select the battery type to be charged by pressing the mode button.

INDICATORS

	AC power is connected and charger standby.
	Only for 12V. Short press to select the battery type to charge. For 12V/16V/24V lithium batteries in shutdown mode, **LONG PRESS** for 3-5 seconds until selected battery starts to **FLASH** to wake the battery and charge.
	25% charge
	50% charge
	75% charge
	Fully charged

INSTALLATION

Note: Follow these steps before connecting to the batteries!

- Plug the charger into AC power, all **POWER** indicators will light up.
- For the 12V bank, short press **MODE** to choose battery type.
- For the 16V and 24V banks, no operation is necessary.
- Connect the output DC connectors to the battery terminals. The power level indicators will light.

ACTIVATE FUNCTION

Note: Follow these steps before connecting the batteries!

For fully depleted lithium batteries which cannot be charged, follow these steps:

- Plug the charger into AC power, all power indicators will light.
- For the 12V bank, short press **MODE** until Lithium is selected, then press and hold the **MODE** button for 3-5 seconds until the LED indicator is flashing to wake up the Battery Management System (BMS).
- For the 16V and 24V banks , press and hold the **MODE** button for 3-5 seconds until the LED indicator is flashing to wake up the BMS.
- Connect the output DC connectors to the battery terminals.

USAGE INSTRUCTIONS

- Before charging, connect the AC cord to the electrical outlet first, then choose the charging battery type by pressing the **MODE** button. Finally connect DC output connectors to the battery terminals. The charger will start to charge the batteries and the LED Indicators will show the battery charging percentage.
- After charging, disconnect the DC output connectors first, then unplug the AC cord from the electrical outlet.
- If your battery does not charge, first disconnect the DC output connectors from the battery, connect the AC cord to the electrical outlet, then press the **MODE** button to select the charging battery type. Finally reattach the connectors to the battery.

PROTECTION FUNCTIONS

Protection for short-circuited or reverse connection	There is no DC output from the charger and the LED power indicator flashes quickly when the output terminals are short-circuited or reverse connected to the battery.
No-load protection	There is no DC output when the batteries are not connected.
Over temperature protection function	When the temperature of the radiator inside the charger is more than or equal to 176°F ±9°F, the charger will automatically reduce the output current for over temperature protection. When the temperature is higher, the charging current will be lower. When the internal temperature drops, the charging current will gradually increase, and finally recovery to normal current. When the bottom aluminum stretched plate's temperature is higher than or equal to 122°F ±9°F, the fan will run. When the bottom aluminum stretched plate's temperature is lower than or equal to 104°F ±9°F, the fan stops running.
Automatic shutdown after full charging	The charger automatically turns off after the battery is fully charged. Only when AC power is disconnected or the battery is reconnected, the charger will restart charging.

1. Matching the charger with the AC power grid and the battery.

Match the charger and AC power grid: Before using the charger, make sure the AC power grid voltage and its frequency are in the range specified in the "Basic Parameters" label on the charger. If the voltage is below the nominal input voltage, the charger will shut down for protection (AC voltage is less than 105V), and it will affect battery charging performance.

Match the charger and battery: Battery specifications are listed on the "Basic Parameters" label on the charger. Please confirm whether the battery type (12V $LiFePO_4$/lead acid/AGM or 16V lithium [$LiFePO_4$] or 24V lithium [$LiFePO_4$] batteries), and the battery voltage matches what is on the "Basic Parameters" label. If they do not match, it is likely to cause less charge or overcharge and even cause permanent damage to the battery.

2. AC power wire, DC charging cable polarity, and precautions

You can distinguish the positive and negative outputs by the cable colors; the red cable is to be connected to the positive (+) battery post and the black cable is to be connected to the negative (–) battery post. Use Anderson Quick Connectors to connect to the correspond battery terminals. The polarity of the charging socket should be consistent with the polarity of the charging plug polarity, otherwise, it cannot charge. Please check before using.

MOUNTING THE CHARGER

- When a fixed position is desired, it is required to attach the charger in a safe position.
- The safe space around the charger should be more than 1.18 inches.
- The diameter of the fixed hole on the bottom aluminum stretched plate is .25 inch, and it is recommended to fix it with M6 screws.

Warnings

- The charger is not to be used by any person or child with lack of sensory/mental abilities or lack of understanding and knowledge.
- Children must not clean or do any other maintenance without adult supervision.
- Use this charger for charging 12V $LiFePO_4$/lead acid/AGM, 16V lithium ($LiFePO_4$) or 24V lithium ($LiFePO_4$) batteries only. Other types of batteries may burst and cause personal injury. Do not attempt to recharge any non-rechargeable batteries.
- Do not use this charger to supply power to an extra-low-voltage electrical system or charge dry-cell batteries. Charging a dry-cell battery may cause the battery to burst.
- If it is necessary to remove the battery from the vehicle/boat to charge it, always remove the grounded terminal from the battery first.
- Do not use the battery charger unless the battery voltage matches the output voltage rating of the charger.
- Always shield eyes when working near batteries. Do not put wrenches or other metal objects across the battery terminal or battery top. Arcing or explosion of the battery may occur.
- Adequate ventilation during charging is required. Avoid exposure to heat, flames, or sparks.
- Never charge a frozen battery.
- The battery charger must be plugged into a grounded outlet.
- Study all battery manufacturer's specific precautions such as removing or not removing cell caps while charging and recommended rates of charge.
- Never place the charger directly above or below the battery being charged; gases or fluids from the battery will corrode and damage the charger. Locate the charger as far away from the battery as the DC cables permit.

- Every six months users should remove dust accumulation from the charger case.

DISPOSAL



This product should not be disposed with other household wastes. This product requires separate disposal collection for electrical and electronic equipment.

Troubleshooting

BATTERY WILL NOT CHARGE

- Ensure AC power is sufficient for the charger.
- Unplug charger from the AC source. Wait until all lights on the charger go out and plug in again.
- Ensure battery is not already fully charged.
- Check battery app for faults/error messages.

Warranty



The Millertech Three-Bank Outboard Marine Charger Three-Year Guaranteed Warranty is Simple!

TERMS:
From the date of your charger purchase through year number three of ownership, your charger is covered. If it stops working during this time, we will repair or replace it with a charger of equal or greater value for **FREE!**

SHIPPING:
We cover all shipping costs associated with shuttling your charger back and forth for repair or replacement. It is our warranty; it is our cost — not yours.

EXCLUSIONS:
THERE ARE NONE! You trusted Millertech, and if it's within the warranty period your Millertech charger is completely covered for everything!

PROOF OF PURCHASE:
You don't need one. If it's Millertech, it's covered!

At Millertech, we constantly strive to provide the best onboard marine battery charging system available in today's market.

Our technical innovation, for your simplicity.

Millertech®

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