

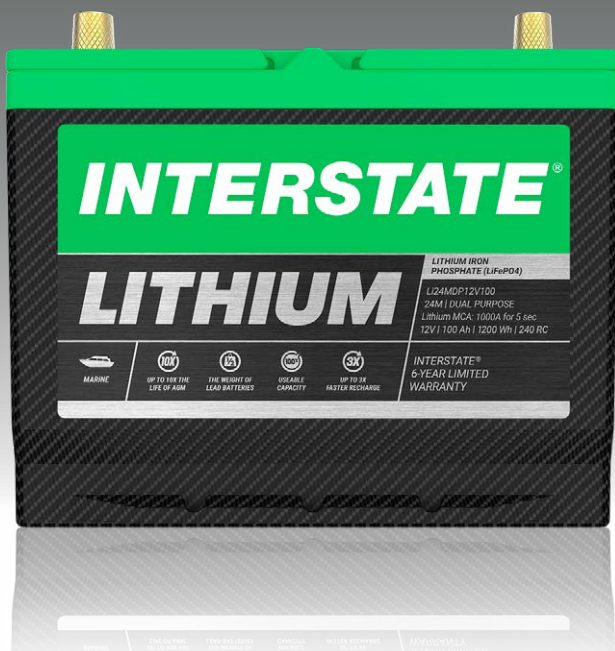
6-YEAR LIMITED WARRANTY



INTERSTATE® 24M DUAL PURPOSE
Li24MDP12V100 LITHIUM
MARINE BATTERY

SAFETY & OPERATION MANUAL

**POWER BEYOND
COMPARE™**



Please read this manual carefully before use and retain it for future reference. Not following the instructions and warnings could lead to battery failure, serious injury, death, property or product damage and will also void the warranty.

INTERSTATE®

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IMPORTANT: This battery is intended for marine applications only. Do not install it in any other type of vehicle. Any other use or installation may lead to serious injury and will void the warranty. Review the safety and operating manual before installation. Only charge with a charger certified for lithium batteries. This battery ships at a partial state of charge and must be fully charged using a 12-volt LiFePO4 lithium charger before use. Refer to the warning label for caution and charging guidelines. The battery must be registered to activate the extended warranty.

The ABYC E-13 Standard outlines essential guidelines for the safe, reliable and proper installation of LiFePO4 (lithium iron phosphate) batteries on boats. It ensures that lithium-ion battery systems are correctly integrated and operated in marine environments. To view the full standards, please visit abycinc.org.

SAFETY INSTRUCTIONS

Please read this guide and follow all safety precautions and warning signs related to the product before installation, operation or maintenance. Always shut down the system and check for hazardous voltage before changing connections or performing maintenance. Interstate Batteries® is not liable for any violations of general operational safety requirements or safety standards related to the design, production or use of batteries. Inspect the charging/discharging plug and harness for signs of overheating or melting during regular use. Contact Interstate® support at 888.772.3600 if you notice any issues.

Interstate Batteries® and its affiliates are not responsible for any damage or injury resulting from use of this manual. For safe and proper handling, please consult a professional.

WARNING!

DO NOT connect, use or operate the battery in any manner not prescribed in this manual, including but not limited to:

DO NOT connect more than four batteries in parallel.

DO NOT immerse the battery in water.

DO NOT store or use the battery near fire or heat sources.

DO NOT reverse the positive (+) and negative (-) terminals.

DO NOT connect the battery directly to AC outlets.

DO NOT expose the battery to fire or direct heat.

DO NOT short-circuit the battery by connecting wires or other objects to the positive (+) and negative (-) terminals simultaneously.

DO NOT puncture the battery case or apply physical force to it.

DO NOT attempt to disassemble or modify the battery.

DO NOT mix this battery with primary batteries (e.g., dry-cell batteries) or batteries of different capacities, types, technologies or brands.

If the battery emits an odor, generates heat, changes color, deforms or appears abnormal, remove it from use immediately.

DO NOT charge the battery with a voltage exceeding 14.6 volts.

DO NOT use a desulfation-type charger. Securely attach battery cables to terminals using the original bolts and nuts to avoid damage from sparks due to loose connections.

Please recycle this product in accordance with your local laws and regulations when the product has reached the end of its useful life.

Keep out of the reach of children and pets.

CAUTION: Misuse or abuse of the battery may result in failure, serious injury, death or property damage, and will void the warranty.

BEFORE YOU BEGIN

State of Charge/Sleep Instructions

This battery has a charge indicator and a sleep function, accessible via the state of charge (SoC) button.

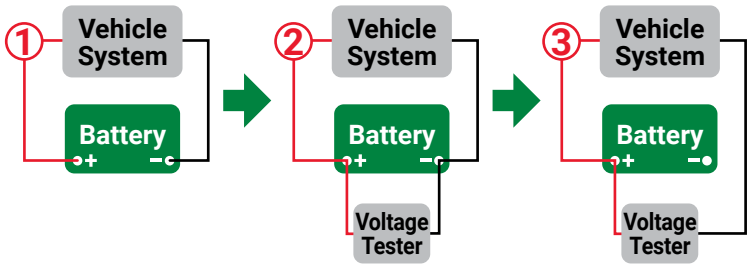
1. No LEDs illuminated: Indicates the battery is in Sleep Mode or fully discharged.
2. Sleep Function: Disables discharge current, turning off any connected loads to prevent parasitic drain and maximize storage duration.
3. To activate Sleep Mode, press the SoC button for three seconds. This will show a power-down animation on the SoC indicator.
4. To wake the battery, press the SoC button for three seconds, which will show a power-up animation on the SoC indicator.
5. In Wake-Up Mode, press the TEST button briefly to display the SoC level via indicator lights:
 - 3 lights: Ready to use.
 - 2 lights: Battery may need charging.
 - 1 light: Recharge immediately.

Vehicle Inspection

WARNING!

IMPORTANT: Perform a complete charging system test on the vehicle before battery installation. Any issues with the vehicle's charging system or voltage regulator can lead to battery failure, serious injury, death, property damage and will void the warranty.

Before installation, check the vehicle's electrical circuit system and follow the operational guidelines.



Instructions:

1. Connect the battery to the vehicle and start it.
2. Use a voltage tester to check the vehicle's open circuit voltage by connecting it to the battery's cable.
3. Disconnect the negative (-) cable from the battery and check the vehicle's charging voltage.
4. Maintain the vehicle's idle speed at 2000–5000 RPM while checking the charging voltage.

If the voltage is between 13.8 volts and 14.6 volts, the charging system is functioning properly, and you can proceed with installing the lithium battery.

If the voltage is below 13.8 volts, the lithium battery cannot be fully charged. Repair the charging system before installation.

If the voltage exceeds 14.6 volts, the lithium battery will be overcharged. Repair the charging system before installation.

BATTERY INSTALLATION

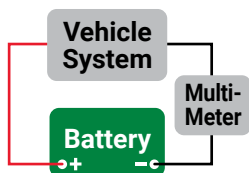
Always wear appropriate eye protection and Personal Protective Equipment (PPE) when working with batteries. Remove all jewelry and metallic objects that may come into contact with the battery.

Installation Steps:

1. Measure the battery voltage with a voltmeter and charge if necessary. If the indicator shows three lights when pressing the "TEST" button continue with installation, otherwise charge the battery fully (12.9V) before continuing installation.
2. Disconnect the negative cable first, then the positive cable from your old battery.
3. Remove any holddown brackets or straps and take out the old battery.
4. Place the new lithium battery in the battery tray. Note: If changing battery sizes, you may need to install a new, appropriately sized tray.
5. Secure the battery in the vehicle and connect the positive cable first, then the negative cable. Avoid over-torquing the terminal bolts; the maximum torque is 16 Nm (11.8 lbf-ft).
6. Test for parasitic voltage drain after installation. Parasitic drain can occur due to various factors, such as alarm systems or electronic control modules.
7. Adding dielectric grease is suggested to improve corrosion properties.

To test for parasitic voltage drain:

Turn off the engine and connect a multimeter in mA mode between the battery's negative terminal and the vehicle's negative cable in series.



Check the drain current:

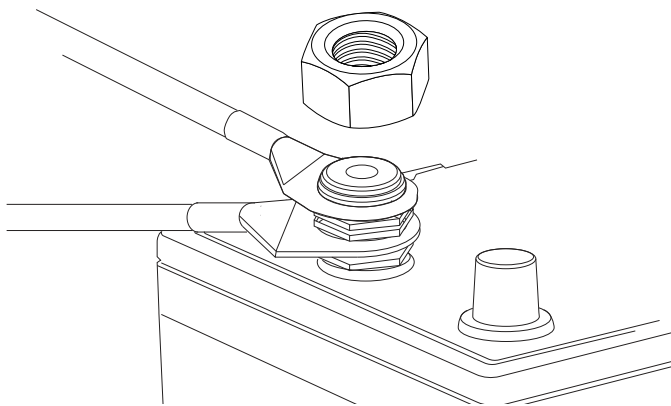
If below 1 mA, you can proceed to install the lithium battery.

If between 1 mA and 3 mA, the battery can be easily over-discharged; check the battery voltage monthly.

If above 3 mA, do not install the lithium battery until the vehicle charging system is repaired.

Battery Terminals and Thread Depth

The internal thread depth of the positive and negative terminals on the battery is 10 mm. Choose bolt lengths so that the remaining depth after considering wiring harnesses, flat washers, spring washers (when compressed) and other connections is between 5 mm and 10 mm. If the threaded section of the bolt exceeds 10 mm, it may damage the internal threads of the terminals. All thread damage is considered user error and is not covered by the limited warranty. Do not exceed the specified torque rating of 16 Nm (11.8 lbf-ft).



BATTERY CHARGING

WARNING!

DO NOT charge this battery with a voltage exceeding 14.6 volts. While the battery features a battery management system (BMS) with overvoltage protection, this protection has limits. Overvoltage can lead to battery failure, serious injury, death, property damage, and product damage and will void the warranty.

Follow the vehicle manufacturer's recommendations for charging:

- Standard Charging Current: $0.2 \times \text{Capacity}$
- Maximum Charging Current: $0.5 \times \text{Capacity}$

Specifications for Li24MDP12V100:

- Maximum Charge Voltage: 14.6V
- Minimum Discharge Voltage: 9.6V
- Charge Temperature Range: -4°F to 113°F
- Discharge Temperature Range: -4°F to 140°F
- Optimal Discharge Current: $\leq 100A$
- Maximum Discharge Current: 1000A for 5 seconds
- Optimal Charge Current: 20A (10A if the temperature is between -4°F and 14°F)
- Maximum Charge Current: 100A continuous
- Peak Charge Acceptance: 165A for up to 1 minute
- Maximum Engine Alternator Size: 150A

Charging Restrictions:

- DO NOT exceed the maximum charging amps indicated on the battery.
- DO NOT charge this battery with voltage over 14.6 volts.
- DO NOT use a desulfation-type charger.
- DO NOT use a charger without an automatic shutoff feature.

Interstate Batteries® and its affiliates are not responsible for any damage or injury resulting from use of this manual. For safe and proper handling, please consult a professional.

- DO NOT use a charger with a “boost” mode.
- DO NOT jump-start another vehicle from this battery.

A lithium-specific charger is recommended when charging this lithium battery. Always follow the manufacturer's instructions for the battery charger. Remove the battery from the vehicle while charging for the best and safest results.

MAINTENANCE

1. Inspect the battery every three months for loose cables, damage and corrosion.
2. Disconnect the battery cable if the vehicle is in storage or not used frequently.
3. If the battery has not been used for an extended period, check its voltage. If it is below 12.9 volts, recharge the battery according to the requirements in the Battery Charging section.
4. Always ensure that the terminals are clean and securely fastened.
5. This battery is factory sealed and requires no additional fluid to be added.

STORAGE

1. Store the battery in a clean, dry and well-ventilated area. For optimal lifespan, maintain a storage temperature between 40°F and 85°F (5°C to 30°C).
2. Ensure the battery is protected from corrosive substances, water, rain and heat sources.
3. If your vehicle will be stored for 30 days or longer, disconnect the negative battery cable and fully charge the battery or use a compatible charger/maintainer. If your vehicle has parasitic voltage drain, this storage period may need to be shorter (refer to the **Battery Installation** section for more details).

4. Storing the battery at or below 12.9 volts for an extended period may cause cell damage, which is not covered by the warranty.
5. If the battery has not been used for a long time, check its state of charge (SoC) before use. If fewer than two LEDs light up, indicating less than 20% SoC, recharge the battery according to the guidelines in the **Battery Charging** section.

Storage Temperature and Humidity Range

Temperature	14°~104°F ≤1 month (-10°~40°C)
	32°~86°F ≤3 months (0°~30°C)
	32°~77°F ≤6 months (0°~25°C)
Non-condensing Relative Humidity	65% ± 20% RH (RH = relative humidity)

TRANSPORTATION

1. The battery must be packed with insulation and shockproof materials to prevent damage from sudden impacts and collisions.
2. Handle the battery with care when loading and unloading. Do not strike, throw or subject it to severe physical shock.
3. Do not transport the battery alongside flammable, explosive items or sharp metal objects.
4. These batteries are classified as hazardous materials and must be packed in UN-approved cartons. Transport according to the requirements outlined under UN3480.

COMMON FAULTS AND SOLUTIONS

PROBLEM	POSSIBLE CAUSE	SOLUTION
Battery has no output	The battery is in Sleep Mode.	Check for Sleep Mode by pressing the TEST button. The state of charge (SoC) indicator should light up. If it doesn't, press the TEST button for at least three seconds to wake the battery. If it still doesn't wake up, it may be in Over-Discharge Protection Mode.
	The battery cables are not connected correctly.	Ensure the cables are securely and correctly connected to the terminals (refer to the vehicle manual for details).
	The battery has entered Over-Discharge Protection Mode.	Charge the battery as described in the Battery Charging section. To prevent over-discharge during prolonged storage, charge the battery every few months.
	The charger may be damaged.	Verify that the charger is in good working condition.
	The external temperature is too high, and the battery enters High Temperature Protection Mode.	Use the battery within the specified temperature range listed in the manual.

PROBLEM	POSSIBLE CAUSE	SOLUTION
Battery cannot accept charge	The ambient temperature is too low, and the battery enters Low Temperature Charging Protection.	Charge the battery within the specified temperature range. The battery management system (BMS) will prevent charging if the temperature drops to -4°F (-20°C).
Sudden power failure during normal use	The battery has no output.	Ensure the battery is connected firmly and correctly.
	The external electrical demands are too high, and the battery enters Temperature Protection Mode.	Disconnect large external loads and allow the battery to cool down. It will recover automatically once cooled. Choose an appropriate capacity battery based on your electrical needs and consider connecting multiple batteries in parallel to increase capacity.
	The external electrical demand suddenly increases, and the battery enters Over Current Protection Mode.	Disconnect large external loads. The battery will recover automatically after about one minute. Again, consider using a battery with a suitable capacity or connecting batteries in parallel.
	The battery SoC is close to 0%, and the battery enters Over-Discharge Protection Mode.	Use a suitable charger to recharge the battery (refer to the Battery Charging section for details).

PROBLEM	POSSIBLE CAUSE	SOLUTION
Sudden power failure during normal use (cont'd)	Poor working conditions may cause battery failure.	Ensure that the battery tray and hold-downs are properly fitted to the battery.
Battery case/cover deformation	Damage to the battery BMS, may be causing overcharging or overheating.	Stop using the battery immediately and contact Interstate Batteries support at 888.772.3600.
Terminals spark when connected in series or parallel	The SoC of each battery is not the same or the battery is in Wake Up Mode.	Charge all batteries to 100% SoC before connecting them in series or parallel. Ensure all batteries are in Sleep Mode when connected.
Engine cannot be cranked	The cranking performance deteriorates in low ambient temperatures.	Use the battery within the specified temperature range. In emergencies, if cranking fails due to low temperature, repeated attempts may help warm the battery and increase cranking amperage.
	The battery does not match the vehicle or engine requirements.	If your engine requires exceptionally high cranking currents, consider connecting multiple Dual Purpose batteries in parallel to boost capacity.
	The other vehicle or engine issues may prevent cranking.	Check the condition of the vehicle and engine for any underlying problems before attempting to start.

WARRANTY INFORMATION

For details about the Interstate Batteries limited lithium warranty, please visit our warranty page at InterstateBatteries.com/support/warranty.


BATTERY DISPOSAL

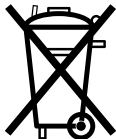
WARNING!

1. DO NOT dispose of the battery in the trash.
2. DO NOT include a lithium battery with lead-acid battery recycling.
3. Recycle or dispose of the battery in accordance with all federal, state and local regulations or bring it to the nearest recycling facility.

Visit InterstateBatteries.com/recycling to recycle with us.

For further needs, contact the distributor or dealer from the original purchase.

 **WARNING:** This product can expose you to chemicals including, lithium and nickel, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, go to www.P65Warnings.ca.gov.



**BATTERY MUST
BE RECYCLED**

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