

Delphi Freedom® Marine Battery

Delphi is a technology leader in energy storage chemistries, providing customers with systems capabilities, global engineering presence, and expertise in energy storage and electrical interfaces. Beyond the standard energy management functions of starting, lighting, and ignition, entirely new applications are emerging that demand improved fuel efficiency, lower environmental impact, and increased vehicle utility. Through ongoing development within its Freedom® family of maintenance-free batteries, Delphi is positioned to help original equipment manufacturers meet changing market needs for battery technology.

Description – Delphi Freedom® batteries are deep-cycle batteries designed for high endurance, with thicker grids and high-density active material. This allows multiple deep discharges during the life of the battery. Marine cranking batteries are usually maintained by alternators or generators mounted on the outboard or inboard engines.

Typical Application – Typical applications include marine and recreational vehicles, and outboard and inboard marine engines.

Performance Advantages – Freedom® marine batteries are energy storage reservoirs. Each battery comes equipped with a built-in state-of-charge (SOC) indicator that allows the user to know when to recharge the battery. Chargers have been specifically developed for recharging marine/RV batteries. Delphi



maintenance-free batteries have a very low rate of self-discharge and do not require “trickle charging” during storage.

Specifications

- % Depth of discharge (DOD)
- Charging method
- Recharging after each day of use
- Environment conditions (high temperature accelerates grid corrosion)
- Delphi marine/RV batteries are warranted for time—not cycle life

Battery Maintenance and Storage – When energy is removed from the battery it must be put back by recharging. By using the built-in state-of-charge indicator, users can determine how much

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Delphi Freedom®

Marine Battery

energy is left in the battery and how long the battery should be recharged depending on the color of the ball appearing in the indicator window*. Variables to consider when charging a battery are: age, capacity, state-of-charge, and type of battery. Delphi marine batteries should be charged at room temperature.

Applications such as marine and recreational vehicles often require storing batteries over the idle winter months. The best defense against cold weather damage to batteries (freezing and self-discharge) is to bring them to full charge before storage. As the battery state-of-charge increases, the freezing point of the electrolyte decreases. Cold weather slows or stops chemical action and helps prevent the battery from losing its state-of-charge. A fully charged battery will not freeze until the temperature drops below -65°F, whereas a battery at low state-of-charge may freeze at 20°F. When fully charged, the battery should be kept in a cold place, unless the temperature regularly drops below -25°F. Do not store a battery inside to “keep it warm”; this increases the self-discharge rate.

Delphi Marine/RV Batteries

M30HMF

- 900 marine cranking amps
- “New” deep-cycle premium with more power for starting, trolling, and RV
- 36-month limited warranty
- 18-month no-charge replacement period

M27MF

- 720 marine cranking amps
- Power to spare for trolling, RV, and marine starting
- 36-month limited warranty
- 18-month no-charge replacement period

M24MF

- 620 marine cranking amps
- Deep-cycling battery for starting, trolling, and RV
- 36-month limited warranty
- 12-month no-charge replacement period

Features	Benefits
Environmental	<ul style="list-style-type: none"> – Used in all weather conditions – Rated in cold cranking amps (CCA) and marine cranking amps (MCA)
Marine dual terminal	<ul style="list-style-type: none"> – Lead post and threaded stainless steel stud at positive and negative terminals for maximum versatility – Electrical components can be attached
Convenient carrying handle	<ul style="list-style-type: none"> – Handle grip easily attaches to case for transporting ease
Polarity symbols	<ul style="list-style-type: none"> – Terminals marked for positive and negative polarity – Helps prevent reverse polarity in wiring components
Battery label information	<ul style="list-style-type: none"> – Performance ratings – Storage instruction – Hours of use at specified current – Load test parameters – Charge indicator settings – Safety information warning of danger of explosive gases and presence of acid – Warranty information
Heavy-duty construction	<ul style="list-style-type: none"> – Wrought lead-calcium grids – High-density paste for increased battery life – Tough plate separator envelopes that resist shorts – Short-resistant plastic bottom border – Terminal cells anchored to resist damage from vibration
Heat-sealed cover	<ul style="list-style-type: none"> – High-impact polypropylene battery case – Flex-rib cell support

C24MF

- 620 marine cranking amps
- Marine/RV battery will crank all gasoline engines for powerboats
- 36-month limited warranty
- 12-month no-charge replacement period

*Applies to deep-cycle Delphi Freedom® marine batteries only. Green—80% to 100% SOC; black—less than 80% SOC; yellow—replace battery.

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Troubleshooting

Battery failure can occur because of the following conditions:

- Lights, fans, and other accessories left on with the ignition switch turned to “off” will cause a slow discharge of the battery
- Slipping fan belt, high wire resistance, or corroded terminals and cable connections can reduce charge current
- A faulty generator or incorrect regulator setting can cause undercharging or overcharging of the battery
- Auxiliary equipment exceeds generator charging capacity
- Shorts or faults in the vehicle’s or boat’s electrical system
- Prior improper charging of a rundown battery
- High-resistance connections or other faults in the cranking system
- Cranking battery not properly sized for engine compression
- Long periods of vehicle storage without disconnecting the battery