



DURACELL UM-DRB100LFP-R3 100Ah 12.8V LiFePO4 Deep Cycle Battery User Guide

[Home](#) » [Duracell](#) » DURACELL UM-DRB100LFP-R3 100Ah 12.8V LiFePO4 Deep Cycle Battery User Guide 

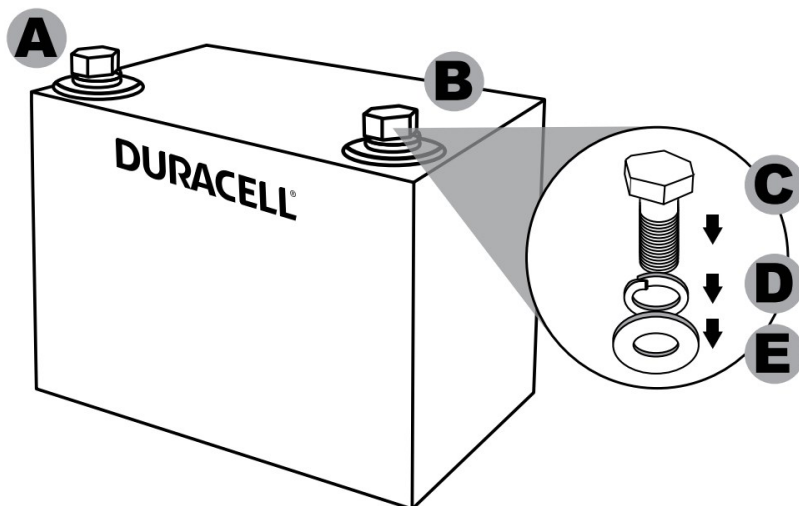
DURACELL UM-DRB100LFP-R3 100Ah 12.8V LiFePO4 Deep Cycle Battery User Guide



Contents

- 1 Product Details
- 2 Safety Information
- 3 Battery Usage and Maintenance
- 4 Reference
- 5 Troubleshooting Guide
- 6 Frequently Asked Questions
- 7 . Can use this battery to start my car, truck or boat engine?
- 8 Is it better to wire the batteries in parallel or series? The only reason to wire multiple batteries in series is to increase the voltage output to meet the requirements of your system.
- 9 How long will this battery last?
- 10 Can the battery be mounted in any position?
- 11 Can the battery get wet?
- 12 Will cold weather damage the battery?
 - 12.1 Product Specifications
 - 12.2 Warranty
 - 12.3 Registration / Additional Languages
 - 12.4 Accessories
 - 12.5 Documents / Resources
 - 12.6 Related Posts

Product Details



- A. Positive (+) Battery Terminal
- B. Negative (-) Battery Terminal
- C. 12mm M8 Bolt (1 each per terminal)
- D. 1.4mm Locking Washer (1 each per terminal)
- E. 4mm Flat Washer (1 each per terminal)

IMPORTANT NOTE

In the text of this manual, you may find references to the chemistry of this battery using the initials "LFP". Please note that all instances of "LFP" are referring to your Lithium Iron Phosphate battery.

Safety Information



This section contains important safety information. Before using the product, READ ALL instructions and cautionary markings on or provided with the product, and all appropriate sections of this guide. The product contains no user-serviceable parts. SAVE THESE INSTRUCTIONS.



CAUTION: Risk of Fire and Burns. Do Not Open, Crush, Heat Above 55°C / 131°F or Incinerate. Follow Manufacturer's Instructions

IMPORTANT SAFETY INSTRUCTIONS



WARNING – When using this product, basic precautions should always be followed, including the following:

- a) Read all instructions and cautions carefully before installing or using to avoid personal injury or damage.
- b) When unboxing the battery, first check it carefully to make sure that there is no damage to the battery.
- c) If you notice any defects please contact Customer Service at (800) 300-1857 immediately.
- d) Charging and discharging the battery generates heat and requires proper air flow. Use in a ventilated area and ensure adequate clearance around the battery.

CAUTIONS

- a) Do not immerse the battery in water.
- b) Keep the battery in a cool dry place when storing. Storage temperature = -6°C (23°F) — 45°C (113°F)
- c) If seasonally stored in a space which will fall below -5°C (23°F), it is recommended to discharge the battery down to 60 — 80% charge (do not fully discharge the battery) and disconnect the battery from any external system.
- d) Do not use or leave the battery at a high temperature or near fire or heat. Otherwise, it can overheat, and battery performance will be affected.
- e) Do not reverse the positive and negative terminal connections.
- f) Do not short circuit the battery terminals. It may cause serious damage to the battery.
- g) Do not transport or store the battery together with metal objects.
- h) Do not drop, hit or shock the battery.
- i) Do not pierce the battery case with a nail or other sharp objects.
- j) Do not use the battery in a location where static electricity and/or magnetic fields are present. Otherwise, the internal safety protections may prevent the battery from functioning.
- k) Do not connect the battery in series or in parallel with any other type or size of battery.
- l) Do not overload the battery.
- m) For the most efficient charging, use a charger designed for LFP batteries.
- n) Recharge the battery within 12 hours after use.
- o) If the battery is punctured and the electrolyte gets into your eyes, do not rub your eyes. Instead, rinse the eyes with clean water, and immediately seek medical attention.
- p) If the battery gives off a strange odor, generates heat, becomes discolored or deformed, or in any way appears abnormal during use, recharging or storage, immediately stop charging and/or using the battery and remove it from the connected charger or vehicle.
- q) In case the battery terminals are dirty or oxidized, clean the terminals with a dry cloth before use. Otherwise, poor performance may occur due to inadequate contact with the terminals.
- r) Tape battery terminals to insulate them before disposing.

INSTALLATION PRECAUTIONS

- a) Do not connect battery terminals around flammable materials or fluids during installation.
- b) The battery should be installed in a well-ventilated area, and not in direct sunlight.
- c) When fastening battery terminals, do not use excessive force, or the terminals could be damaged.
- d) Clean the surface of battery with a dry cloth. Don't use oil or solvents to clean; it may damage the battery.
- e) Please make sure that the positive (+) & negative (-) polarities are correctly connected.



IMPORTANT NOTE: This battery must NOT be installed into a vehicle as an engine starting battery.

Battery Usage and Maintenance

- Charging current should be less than maximum charge current listed (see Product Specifications on Page 4 for details). The battery will stop charging if the current is higher than the limit.
- Discharging current should be less than maximum discharge current listed (see Product Specifications on Page 4 for details).

4 for details).

- The battery will stop delivering power if the current is higher than the limit.
- The battery should be charged or discharged within the charge and discharge temperature range listed (see Product Specifications on Page 4 for details). The battery should be stored with the storage temperature range (see Product Specifications on Page 4 for details) listed to ensure longer cycle life.
- Store the battery with a partial or full charge to ensure longer cycle life. The battery can be over-discharged if left in storage for extended periods in a fully depleted state. In order to prevent over-discharging, the battery should be periodically charged at least once per year, even if it has not been in use.
- After the battery is discharged, recharge the battery as soon as possible.
- Do not use any solvents to clean the battery case.
- In the unlikely event of a battery fire, use a dry powder fire extinguisher or sand to extinguish. DO NOT USE WATER TO ATTEMPT TO PUT OUT A BATTERY FIRE.

Fully Charge the Battery Before Installing

Your battery must be fully charged before installing or storing it. The battery arrives only partially charged to comply with transportation regulations. Keep all packing materials in case you need to ship the battery, as they have been specially designed for the safe transport of this type of battery.

TOOLS NEEDED:

- AC outlet and AC Battery Charger – sold separately (see “Types Of AC Chargers” below). OR
- Solar Panel and MPPT Charge Controller -sold separately. (Please consult your solar battery charger’s user manual for approximate charge times and allow sufficient time for your battery to receive a full charge before installation into your vehicle or other application.)



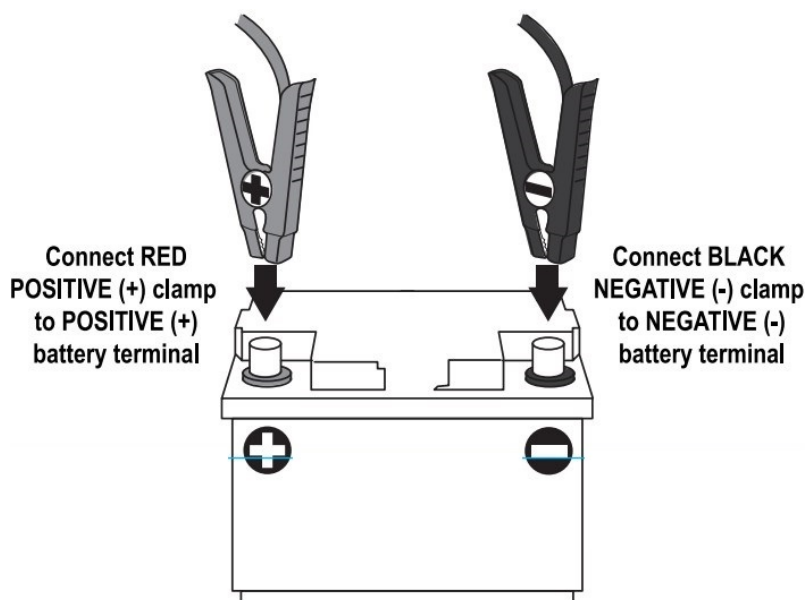
IMPORTANT SAFETY NOTE: Please be sure to connect the RED POSITIVE (+) battery charger clamp to the RED POSITIVE (+) terminal on your battery, and the BLACK NEGATIVE (-) charger clamp to the BLACK NEGATIVE (-) battery terminal. Reversing these connections (known as “reverse polarity”) may result in failed charging and/or damage to your battery .



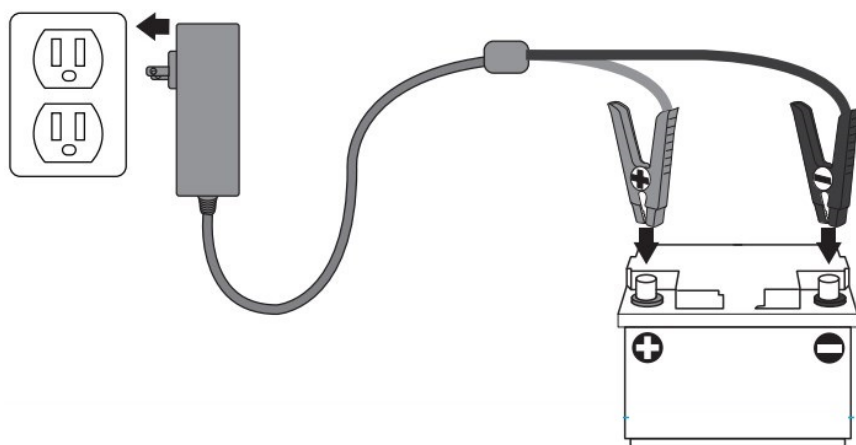
CAUTION: Fully charge your battery before using or storing it. The battery arrives only partially charged to comply with transportation regulations. Keep packaging in case you need to ship the battery, as it is designed for the safe transportation of this type of battery.

Charging your battery from an AC charger:

1. Connect your charger’s RED (+) clamp to the bolt on the RED (+) battery terminal BLACK (-) battery terminal.

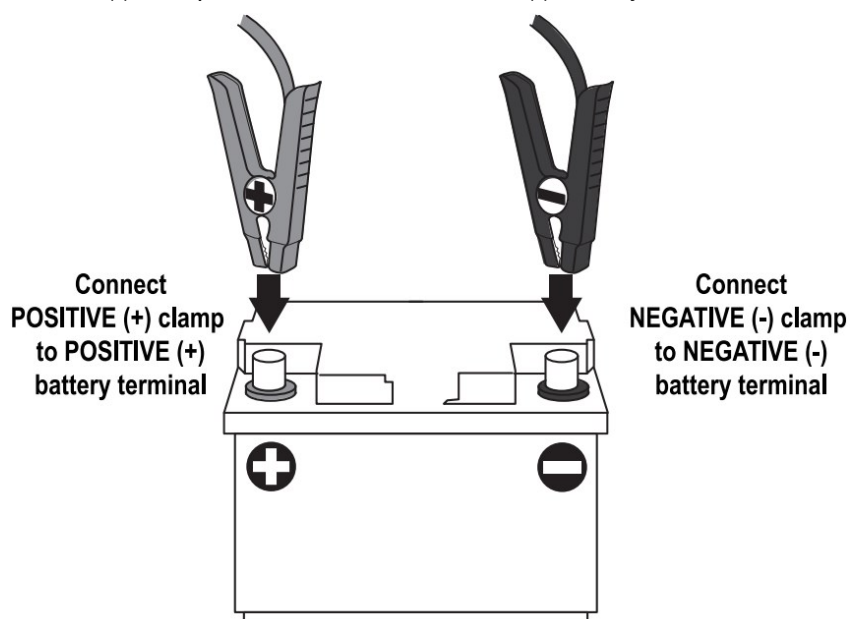


2. Plug your AC battery charger* into an AC outlet. Note: See “Types OF AC Chargers” at right. Typical connection shown. Your own configuration may vary according to the model of your charger.



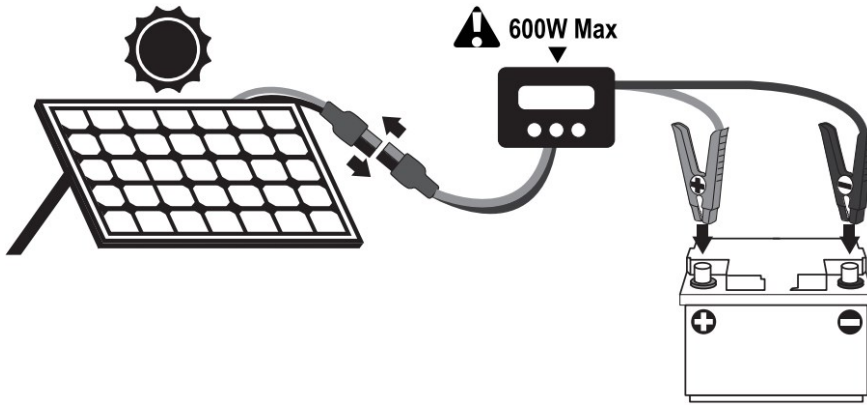
Charging your battery from a solar panel

1. Connect your solar charge controller's RED (+) clamp to the bolt on the RED (+) battery terminal and the BLACK (-) clamp to the bolt on the BLACK (-) battery terminal.



2. Plug your solar charge controller to your solar panel**.

Note: Typical connection shown. Your own configuration may vary according to the model(s) of your solar panel and solar charge controller.



IMPORTANT NOTE

This battery is compatible with solar panels rated 600 Watts and below. Please be sure to use an MPPT solar charge controller when connecting solar panels to the battery.

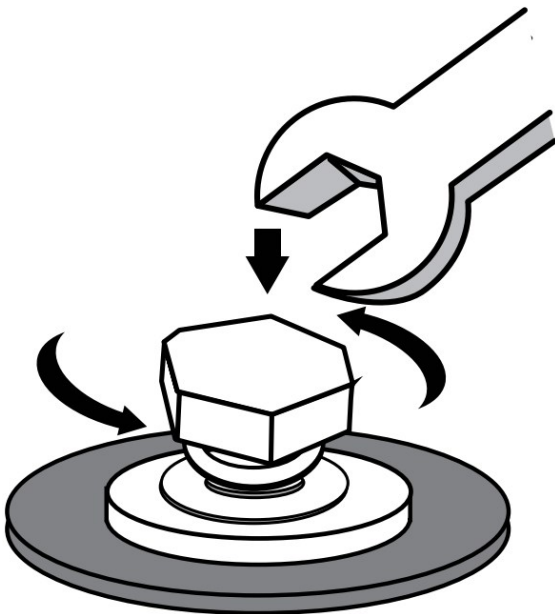
Connecting your Battery

Please follow the steps below to properly connect your battery cable to the battery terminals.

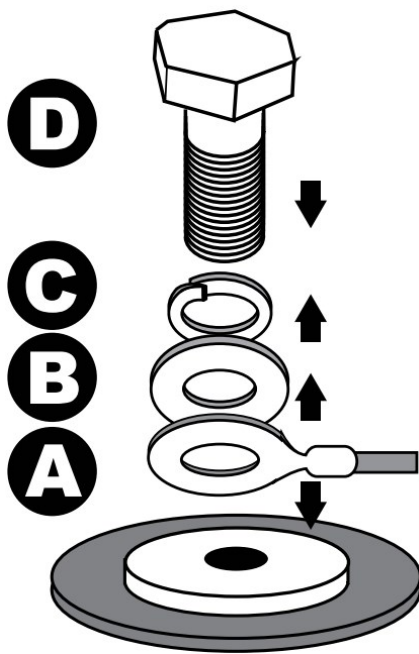
TOOLS NEEDED:

Torque meter. The proper torque specification for the bolt-and-washer assembly shown below is 12 NM / .5 foot-pounds.

1. Loosen the M8 Bolt, remove the Locking Washer and Flat Washer from the Battery Terminal. Set those pieces aside.



2. Align the eyelet of your Battery Cable with the hole in the Battery Terminal, then reinstall the Locking Washer and Flat Washer in the order shown above. (See Battery Cable Wire Gauge Guide on.



IMPORTANT NOTES

- Please be sure to reinstall the bolt and washers in the exact order shown at left for a safe and secure connection.
- It is critical to ensure that your cables are properly connected in strict accordance with the guidance in this manual. Improper connection may cause a 'reverse polarity' fault and damage the battery and void your warranty.
- If your battery is not detected by your charger, please replace the battery as it is damaged or end of life.
- If your battery temperature is 65°C or above, it will enter protection mode and will not charge. Please allow the battery to cool down before trying to charge again.

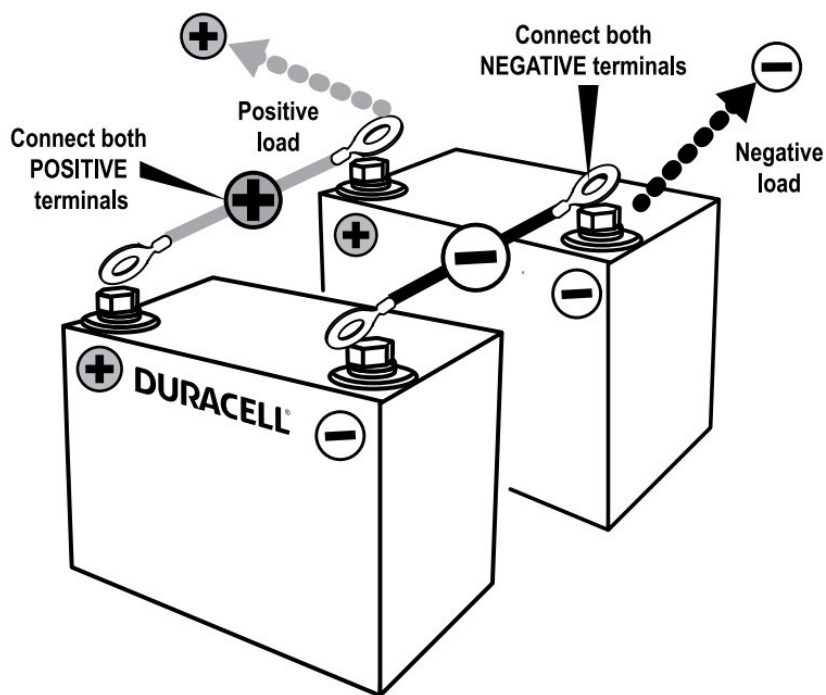
Connecting Additional Batteries

Refer to the diagrams below to connect your battery to additional batteries for added run time. For best results, please be sure that all batteries are fully charged before connecting together. You may connect up to a maximum total of 4 batteries using the connection methods shown below.

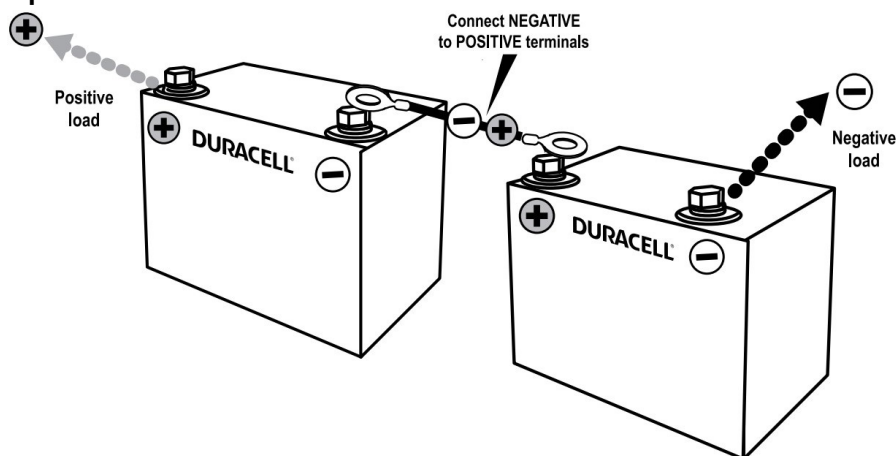
IMPORTANT SAFETY NOTES:

DO NOT connect your Lithium Iron Phosphate (LFP) battery to a standard Lead Acid (SLA/AGM). The differing voltages may damage one or both batteries and void your warranty. It is safe to connect this battery to another LFP battery, or to a Lithium-Ion (Li Ion) battery using the options below. Before connecting your batteries, please consult your vehicle and/or device user manuals to determine which option below will best suit your application.

Option 1: Parallel connection



Option 2: Series connection



Reference

Battery Cable Wire Gauge Guide

Please consult the guide below to determine the right length and wire gauge for your battery installation. Generally, the longer the cable, the thicker the wire gauge required. The maximum recommended battery cable length is 23 feet (7 meters).

Wire Gauge (AWG) (<i>copper wire</i>)	8	100A6	Battery4	2	1/0	2/0	4/0
Maximum Cable Length (feet) (<i>2% voltage drop</i>)	N/A	2.9	4.6	7.2	11.5	14.5	23

Troubleshooting Guide

Problem

Charger will not detect or charge the battery

What it means

The battery may be in a protection mode due to low or high temperature

What to do

Allow the battery temperature to warm or cool to within the operating temperature range (see Product Specifications below for details),

Frequently Asked Questions

. Can use this battery to start my car, truck or boat engine?

"This battery is NOT designed with the cold crank current output needed to be an effective engine starting battery. This battery is designed to be a long lasting, reliable energy storage device.

Is it better to wire the batteries in parallel or series? The only reason to wire multiple batteries in series is to increase the voltage output to meet the requirements of your system.

"This 12V battery can be combined with other lithium batteries in series to achieve 24V (2 batteries in series) or 48V (4 batteries in series). Do not connect more than 4 batteries together in parallel or series.

How long will this battery last?

It is designed to last 3000-5000 charge cycles maintaining 80% of its energy capacity. Under normal use conditions, this means your battery will provide 10 or more years of service

Can the battery be mounted in any position?

Yes, this battery is fully sealed and can be mounted in any position.

Can the battery get wet?

Yes, this battery's housing has an IP6S5 rating which will protect from dirt, dust, and temporary exposure to water. Do not submerge the battery in water.

Will cold weather damage the battery?

This battery is rated for safe storage at temperatures between -5°(23 °F) - 45°(113 °F). It can be used in cold temperatures down to -20°(°F), but it cannot be recharged in temperatures below 0° (32 °F). Prolonged exposure to extreme temperatures may damage the cells and reduce your battery's functional life.

Product Specifications

Battery Specifications

Chemistry Lithium Iron Phosphate (LFP)

Capacity 100Ah (+-1)

Voltage 128 Vdc

Energy 128 KWh

Charging voltage 146202V

Cycle life 23,000 (100%DOD) / 26,000 (80%DOD)

Max continuous charge current 50A

Max continuous discharge current 100A

Warranty

Contacting Customer Support

If you experience any problems or have any questions regarding your Duracell product, see technical support s availabl. Cal or email while you have access to your Duracell product.

Be prepared to provide the following information

- Name, address and telephone number
- Name of the Duracell product
- Make and model of any items or devices that you are using with the Duracell product
- Symptoms of the problem(s) and what led to them
- Dated recelpt, screenshot copy of original order confirmation of registration confirmation

Technical Support s available by telephone:

U.S. and Canada (800) 300-1857 Outside of the US/Canada: (805) 437-7765 Witen inguires should be directed to: Batery-Biz Inc.; Duracell Product Inquiry 1380 Flynn Road, Camarill, CA 93012, USA

Email inquiries may be sent to: info@DuracellPower.com

Registration / Additional Languages

For complete warranty coverage, please register your Duracell product within fourteen days of purchase.

Visit DuracellPower.com/Register

or scan the QR code below to register.



Accessories

Maximize your battery performance, minimize your charging times.

The right charger makes all the difference when it comes to maintaining your LFP battery. We recommend the use of a battery charger that is specifically designed for the Lithium-Iron Phosphate chemistry for the most rapid and reliable charging.

- **Duracell Battery Charger/Maintainers** provide an ideal economical support system for your battery. Available in a variety of power levels to suit your charging needs, these universal chargers work with both standard Sealed Lead-Acid batteries and Lithium batteries.

Additional Duracell battery charger features include:



Sample shown (Available models may vary)

- Maintenance charging allows you to keep your battery safely charged between uses — 16X great for stored batteries or vehicles used only periodically or seasonally
- Multi-stage charging ensures optimal battery performance without overcharging Sampleshown (Avalale mocs may vary)
- Selects the correct charging voltage for your battery
- IP65 weatherproof construction is ideal for outdoor use
- Select models are wall mountable with the integrated mounting holes (hardware included)

Documents / Resources

	<p>DURACELL UM-DRB100LFP-R3 100Ah 12.8V LiFePO4 Deep Cycle Battery [pdf] User Guide</p> <p>UM-DRB100LFP-R3 100Ah 12.8V LiFePO4 Deep Cycle Battery, UM-DRB100LFP-R3, 100Ah 12.8V LiFePO4 Deep Cycle Battery, LiFePO4 Deep Cycle Battery, Deep Cycle Battery, Cycle Battery, Battery</p>
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