Redodo 24V200Ah

Redodo 24V 200Ah LiFePO4 Battery User Manual

Model: 24V200Ah

Product Overview

The Redodo 24V 200Ah LiFePO4 Battery is a high-performance, long-lasting lithium iron phosphate battery designed for various applications including off-grid solar systems, RVs, vans, backup power, and home energy storage. It features a robust Battery Management System (BMS) for enhanced safety and reliability.

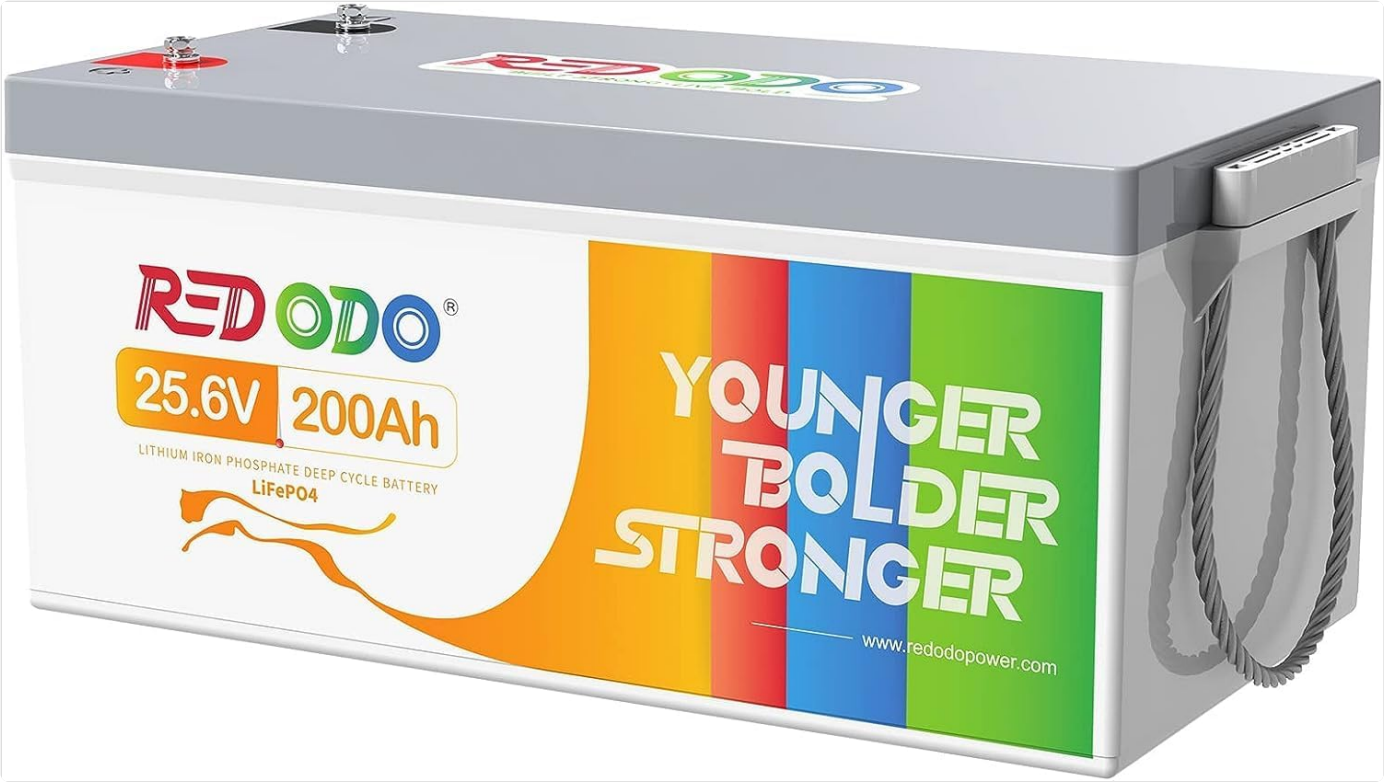

Figure 1: Redodo 24V 200Ah LiFePO4 Battery, showcasing its compact design and branding.

Key Features

- **High Energy Density:** Provides 5120Wh capacity with a weight of 82.67lbs, offering powerful backup.
- **Long Cycle Life:** Built with Grade A LiFePO4 cells, offering 4000+ deep cycles at 100% Depth of Discharge (DOD) and up to

15000 cycles at 60% DOD, ensuring a lifespan of over 10 years.

- **Advanced 200A BMS:** Integrated Battery Management System protects against overcharging, over-discharging, over-current, short circuits, and high-temperature cut-off, safeguarding both the battery and your system.
- **Scalable System:** Supports up to 4 parallel and 2 series connections (4P2S) for a maximum 51.2V 800Ah LiFePO4 battery system, reaching up to 40.96kWh energy.
- **Low Maintenance:** Requires minimal maintenance, reducing long-term costs.

Safety Information and Warnings

Please read all safety instructions carefully before installation or use. Failure to follow these instructions may result in serious injury, property damage, or electric shock.

⚠ **WARNING:** A damaged lithium iron phosphate battery must not be installed or used under any circumstances. Immediately after unpacking, the lithium iron phosphate battery must be inspected for any damage. If the lithium iron phosphate battery is damaged, please contact your reseller.

⚠ **WARNING:** An external charge of the lithium iron phosphate battery must only be carried out with chargers recommended by the battery manufacturer.

⚠ **WARNING:** The lithium iron phosphate battery must never be short-circuited.

⚠ **WARNING:** In case of undervoltage tripping, the lithium iron phosphate battery must be recharged as soon as possible.

⚠ **WARNING:** When using the lithium iron phosphate battery, the parameters mentioned in the technical data sheet for the use of lithium iron phosphate batteries must always be respected.

⚠ **WARNING:** A lithium iron phosphate battery must never be overcharged, as this would permanently damage the battery. Only chargers with an automatic charge stop function should be used.

⚠ **WARNING:** If the lithium iron phosphate battery becomes too hot during charging, the charging process must be interrupted.

⚠ **WARNING:** The charging current must not exceed the maximum charging current indicated on the technical data sheet.

⚠ **WARNING:** The lithium iron phosphate battery must be charged before use. When the charger is no longer used, the lithium iron phosphate battery must be disconnected from the charger.

⚠ **WARNING:** To ensure a long lifespan of the lithium iron phosphate battery and ensure safety, a charger allowing the parameters mentioned in the technical data sheet to be adjusted must be used. Other chargers should only be used if it is certain that the charging voltage does not exceed the charging voltage limits of the lithium iron phosphate battery at any stage of the charge.

⚠ **WARNING: DO NOT DISASSEMBLE:** Never disassemble these cells. Disassembly can lead to an internal short circuit in the cell, which may result in gas production, inflammation, an explosion, or other problems.

⚠ **WARNING: ELECTROLYTE IS HARMFUL:** Normally, there should be no liquid electrolyte from Li-Fe batteries, but if electrolyte comes into contact with skin or eyes, it is necessary to immediately dilute with fresh water and consult a doctor.

⚠ **WARNING: DO NOT THROW CELLS INTO WATER:** Do not immerse the battery in liquids such as water, sea water, non-alcoholic beverages, fruit juices, coffee, or other beverages.

⚠ **WARNING: DO NOT USE DAMAGED CELLS:** If abnormal cell properties are observed, such as damage to the plastic casing or the cell, deformation of the cell pack, an electrolyte odor, electrolyte leakage, and other abnormalities, the cells must no longer be used. Cells that smell of electrolyte or are leaking must be kept away from fire to prevent inflammation or explosion.

⚠ **WARNING: DO NOT USE IN CERTAIN LOCATIONS:** Do not use the battery in places with a strong magnetic field, as this could easily damage the battery's safety protection device and create hidden dangers.

AVERTISSEMENT

Une batterie au lithium-phosphate de fer endommagée ne doit en aucun cas être installée ou utilisée. Immédiatement après le déballage, la batterie au lithium-phosphate de fer doit être inspectée pour détecter tout dommage. Si la batterie au lithium-phosphate de fer est endommagée, veuillez contacter votre revendeur.

- Une charge externe de la batterie au lithium-phosphate de fer ne doit être effectuée qu'avec les chargeurs recommandés par le fabricant de la batterie.
- La batterie au lithium-phosphate de fer ne doit jamais être court-circuitée.
- En cas de déclenchement par sous-tension, la batterie au lithium-phosphate de fer doit être rechargée dès que possible.
- Lors de l'utilisation de la batterie au lithium-phosphate de fer, les paramètres mentionnés sur la fiche technique pour l'utilisation des batteries au lithium-phosphate de fer doivent toujours être respectés.
- Une batterie au lithium-phosphate de fer ne doit jamais être surchargée, car cela endommagerait définitivement la batterie. Seuls les chargeurs avec une fonction d'arrêt automatique de la charge doivent être utilisés.
- Si la batterie au lithium-phosphate de fer devient trop chaude pendant la charge, le processus de charge doit être interrompu.
- Le courant de charge ne doit pas dépasser le courant de charge maximal indiqué sur la fiche technique.
- La batterie au lithium-phosphate de fer doit être chargée avant utilisation.
- Lorsque le chargeur n'est plus utilisé, la batterie au lithium-phosphate de fer doit être déconnectée du chargeur.
- Pour garantir une longue durée de vie de la batterie au lithium-phosphate de fer et assurer la sécurité, un chargeur permettant de régler les paramètres mentionnés sur la fiche technique doit être utilisé. D'autres chargeurs ne doivent être utilisés que s'il est certain que la tension de charge ne dépasse pas les limites de tension de charge de la batterie au lithium-phosphate de fer à aucun stade de la charge.

⚠ INTERDICTION DE DÉMONTAGE

Ne démontez jamais les cellules. Le démontage peut entraîner un court-circuit interne dans la cellule, ce qui peut entraîner une production de gaz, une inflammation, une explosion ou d'autres problèmes.

⚠ L'ÉLECTROLYTE EST NOCIF

Normalement, il ne devrait pas y avoir de liquide provenant de l'électrolyte dans les batteries Li-Fe, mais si l'électrolyte entre en contact avec la peau ou les yeux, il est nécessaire de le diluer immédiatement avec de l'eau fraîche et de consulter un médecin

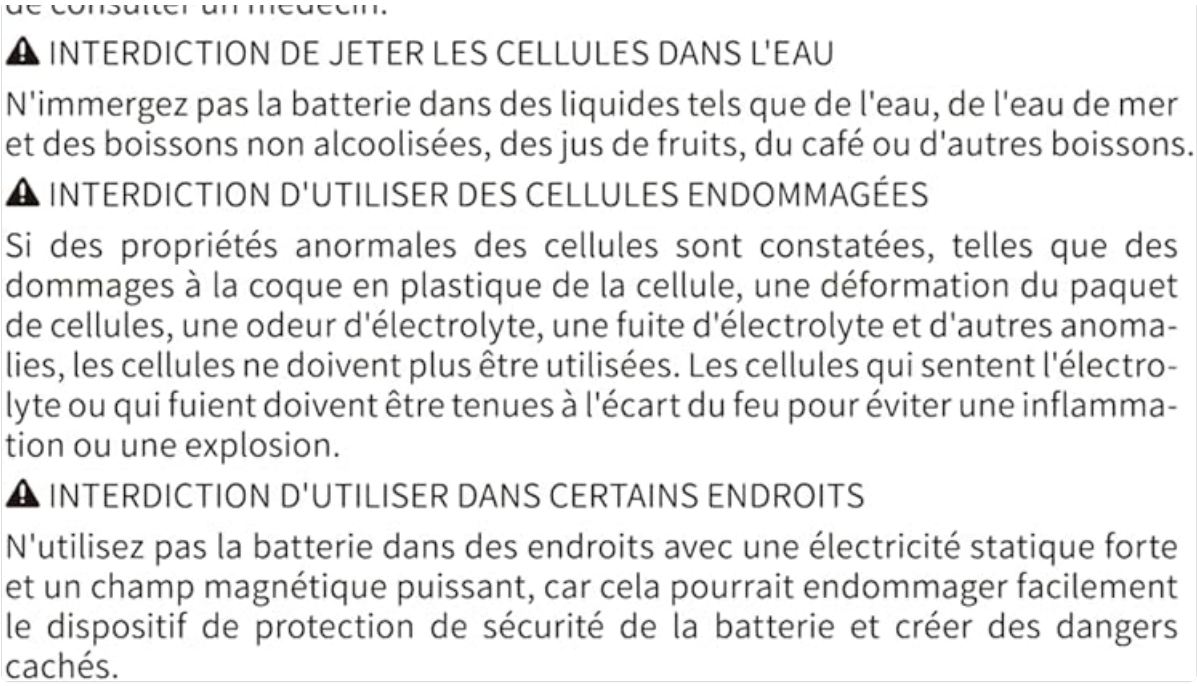

Figure 2: Original safety warnings provided with the product, translated for user convenience.

Specifications

Attribute	Value
Brand	Redodo
Size	24V200Ah
Product Dimensions	10.55"D x 20.47"W x 8.66"H
Number Of Cells	1
Resistance	40 Microohms
Terminal	M8 Terminal
Automotive Fit Type	Universal Fit
Manufacturer	Redodo

Figure 3: Detailed dimensions and terminal specifications for the Redodo 24V 200Ah battery.

Model	 12V100Ah	 12V100Ah Mini	 12V100Ah Group 24	 12V100Ah Low Temp	 12V100Ah OTCB	 12V100Ah Heating
Battery Box	Group 31	/	Group 24	Group 31	/	Group 31
Dimension	L13*W6.77*H8.43	L10.24*W5.24*H8.96	L10.24*W6.61*H8.3	L13*W6.77*H8.43	L10.79*W8.13*H8.07	L13*W6.77*H8.43
Weight	22.04lbs	19.84lbs	21.56lbs	22.15lbs	24.84lbs	23.32lbs
BMS	100A	100A	100A	100A	100A	100A
Max. Continuous Output Power	1280W	1280W	1280W	1280W	1280W	1280W
Recommend Charge Current	20A (0.2C)	20A (0.2C)	20A (0.2C)	20A (0.2C)	20A (0.2C)	20A (0.2C)
Max. Continuous Charge Current	100A	100A	100A	100A	100A	100A
Max. Cont Discharge Current	100A	100A	100A	100A	100A	100A
Max. Discharge Current (1 Second)	400A	400A	400A	500A	500A	330A
Charge Voltage	14.4V±0.2V	14.4V±0.2V	14.4V±0.2V	14.4V±0.2V	14.4V±0.2V	14.4V±0.2V
Charge Method	CC/CV	CC/CV	CC/CV	CC/CV	CC/CV	CC/CV
Functions	/	/	/	Low Temp Cutoff (32°F/0°C)	Low Temp Cutoff / Touch Control	Self-heating / Low Temp Cutoff
Charge Temp	32°F~122°F 0°C~50°C	32°F~122°F 0°C~50°C	32°F~122°F 0°C~50°C	32°F~122°F 0°C~50°C	32°F~122°F 0°C~50°C	32°F~122°F 0°C~50°C
Discharge Temp	-4°F~140°F -20°C~60°C	-4°F~140°F -20°C~60°C	-4°F~140°F -20°C~60°C	-4°F~140°F -20°C~60°C	-4°F~140°F -20°C~60°C	-4°F~140°F -20°C~60°C
Storage Temp	14°F~122°F -10°C~50°C	14°F~122°F -10°C~50°C	14°F~122°F -10°C~50°C	14°F~122°F -10°C~50°C	14°F~122°F -10°C~50°C	14°F~122°F -10°C~50°C

Figure 4: Comparison table showing specifications for various Redodo 12V100Ah battery models, including dimensions, weight, BMS, and temperature ranges.

Setup and Installation

Before installation, ensure all components are present and undamaged. Always wear appropriate personal protective equipment (PPE) including gloves and eye protection.

Connecting Batteries in Series or Parallel

The Redodo 24V 200Ah battery supports a maximum 4P2S configuration, allowing for a 51.2V 800Ah system. Ensure all batteries are of the same voltage and capacity when connecting in series or parallel. Use appropriate cables and connectors rated for the expected current.

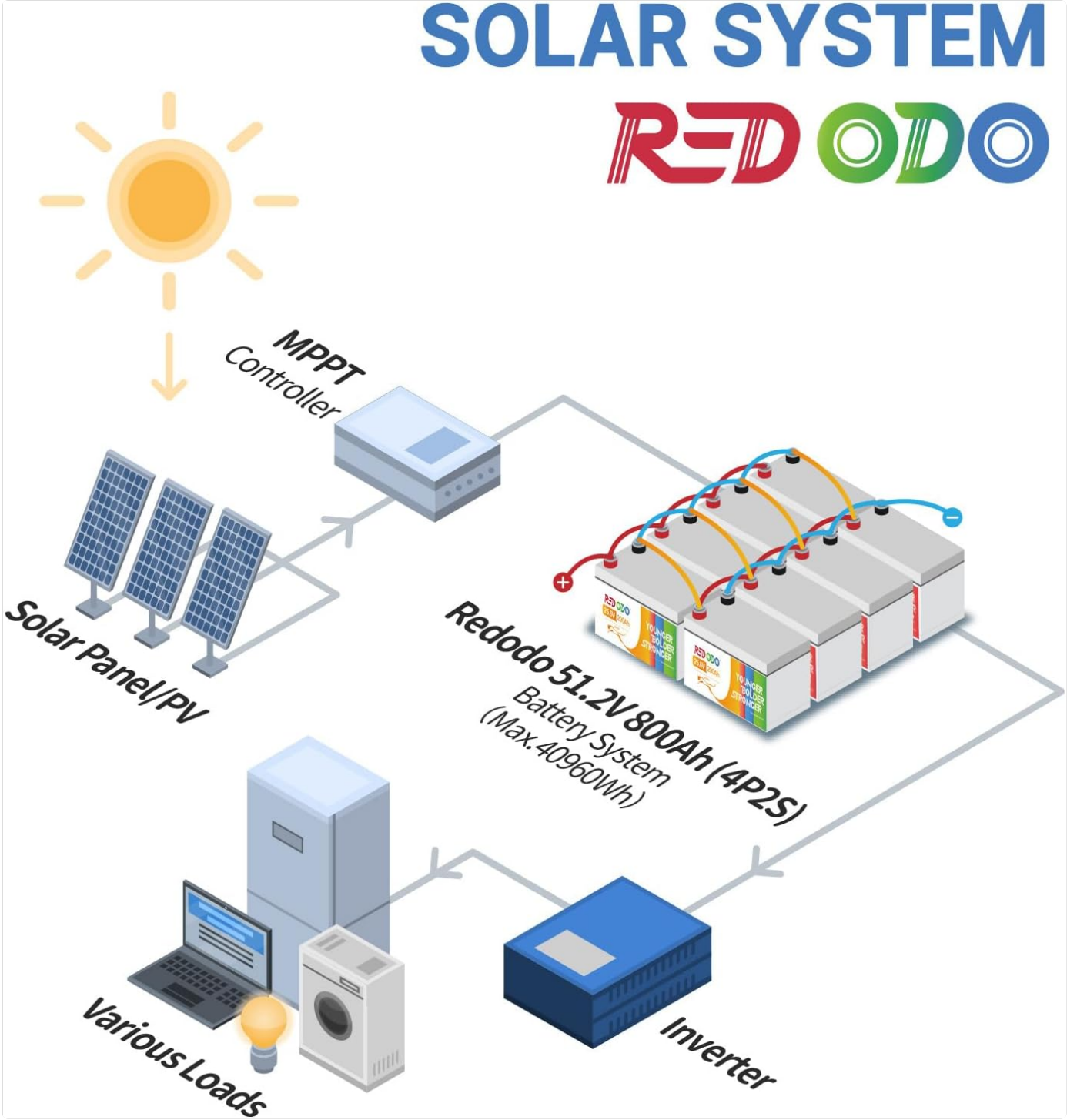

Figure 5: Illustration of a solar system setup demonstrating how Redodo batteries can be connected in a 4P2S (4 parallel, 2 series) configuration to power various loads via an inverter.

Terminal Connections

Use the provided M8 terminal posts and isolation caps for secure and safe connections. Ensure all connections are tight to prevent arcing and overheating.

Operating the Battery

Charging

The battery can be charged using a compatible LiFePO4 charger, solar panels with an MPPT controller, or a DC to DC generator charger. Always use chargers specifically designed for LiFePO4 batteries to ensure optimal performance and safety.

Figure 6: Overview of fast charging options for the Redodo LiFePO4 battery, including generator, solar panels with MPPT, and a dedicated LiFePO4 charger, with estimated charging times.

Discharging and Applications

The 24V 200Ah battery is suitable for powering a wide range of appliances and systems. Its high capacity and stable voltage output make it ideal for extended use.

Figure 7: Examples of appliances powered by the Redodo battery, including TV, fridge, coffee maker, and water heater, with their respective power consumption and estimated run times.

Figure 8: The Redodo battery providing power for an RV, highlighting its versatility for mobile and outdoor applications.

Figure 9: The Redodo battery as part of a home solar system, illustrating its role in reducing electricity bills and providing backup power.

Performance Overview

The Redodo LiFePO4 battery offers superior performance compared to traditional lead-acid batteries, providing higher energy density and better stability.

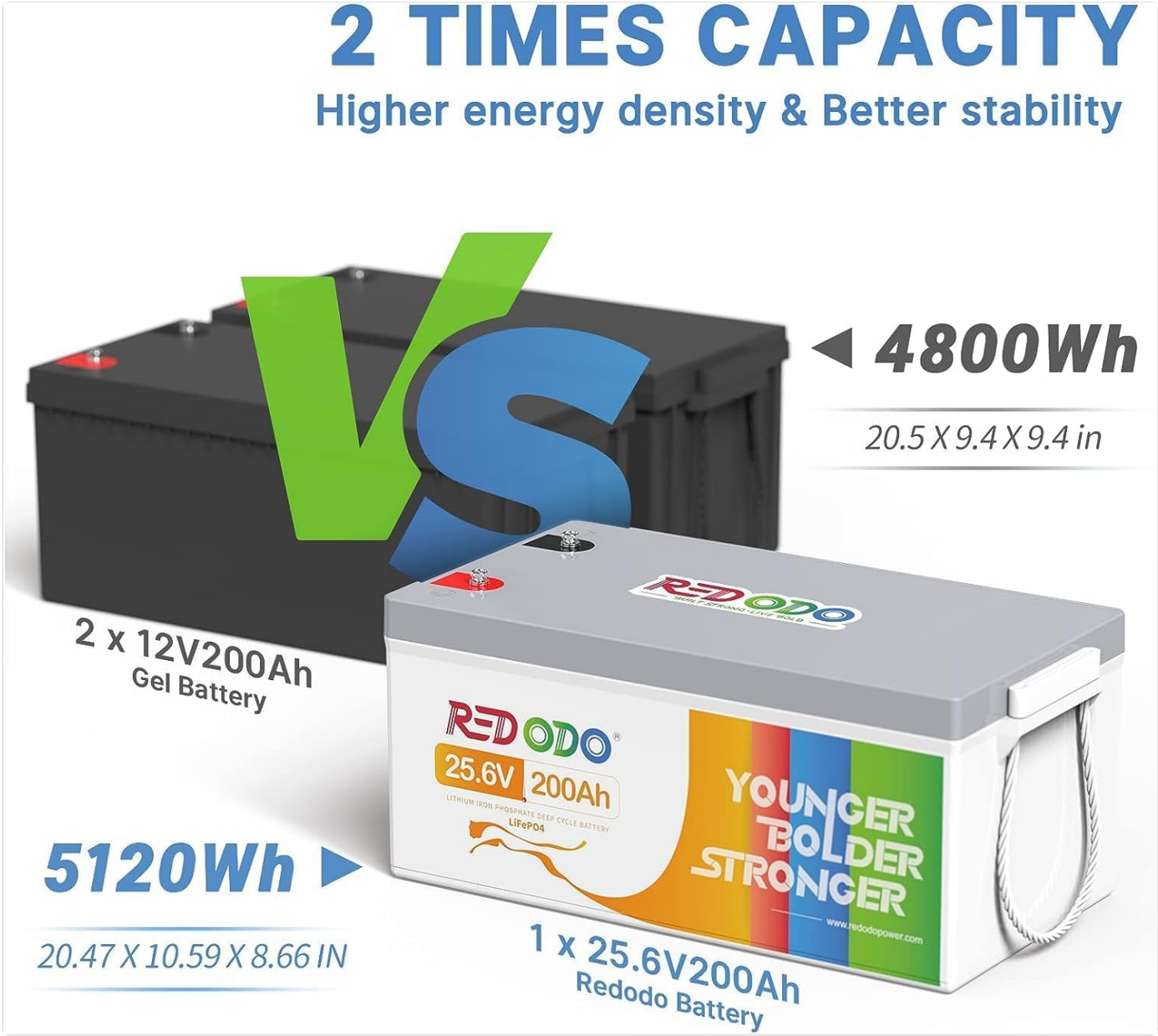

Figure 10: Visual comparison demonstrating the Redodo 25.6V 200Ah LiFePO4 battery's superior energy capacity (5120Wh) compared to two 12V200Ah Gel Batteries (4800Wh).

Official Product Videos

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Video 1: "Beyond 101% Capacity for Redodo LiFePO4 Battery". This video demonstrates the battery's actual capacity exceeding its stated rating, showcasing its robust performance in various tests.

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Video 2: "Redodo 24V 100ah lifepo4 battery". This video provides an overview of the Redodo 24V 100Ah LiFePO4 battery, highlighting its features and benefits for various applications. While this specific video features a 100Ah model, the general principles and quality apply to the 200Ah model.

Maintenance

Redodo LiFePO4 batteries are designed for low maintenance. However, regular checks can help ensure optimal performance and longevity:

- Keep terminals clean and free of corrosion.
- Ensure all connections are secure.

- Store the battery in a cool, dry place when not in use for extended periods.
- Avoid exposing the battery to extreme temperatures.
- Charge the battery before long-term storage and periodically during storage to maintain charge.

Troubleshooting

If you encounter issues with your Redodo battery, consider the following common troubleshooting steps:

- **Battery not charging:**
  - Verify the charger is specifically designed for LiFePO4 batteries and is functioning correctly.
  - Check all cable connections for looseness or corrosion.
  - Ensure the battery's BMS has not triggered a protection mode (e.g., due to over-discharge or over-temperature).
- **Battery not providing power:**
  - Check the battery's state of charge. It might be deeply discharged.
  - Inspect all connections to the load for proper contact.
  - Confirm the load's power requirements do not exceed the battery's continuous discharge current or the BMS's limits.
- **Unusual heat or smell:**
  - Immediately disconnect the battery from all loads and chargers.
  - Contact Redodo customer support. Do not attempt to open or repair the battery.

Warranty and Support

Redodo provides one-on-one customer service and lifetime technical support for its products. The package includes a quick start guide, a product manual, 4 terminal posts, and 2 isolation caps. For any questions or assistance, please feel free to contact Redodo customer support.
For more information or to contact support, visit the official Redodo website or refer to the contact details provided in your product packaging.