

dumfume DFBattery-12V400A

Dumfume 12V 400Ah LiFePO4 Lithium Battery User Manual

Model: DFBattery-12V400A

1. IMPORTANT SAFETY INFORMATION

Read all safety warnings and instructions before using the battery. Failure to follow these instructions may result in electric shock, fire, or serious injury.

- Do not short circuit, reverse connect, bump, or disassemble the battery.
- Do not heat or burn the battery.
- Do not immerse the battery in any liquid.
- Use only a compatible lithium iron phosphate battery charger.
- Store the battery in a clean, dry, and well-ventilated place.
- Keep the battery charged between 30-50% for long-term storage. It is recommended to charge the battery at least once every 3 months.



Image 1.1: The Dumfume 12.8V 400Ah LiFePO4 Lithium Battery, displaying critical safety warnings on its label.



Image 1.2: Visual warnings against using the battery as a starting battery, in humid conditions, for golf carts, or incinerating/immersing it in water.

2. PRODUCT OVERVIEW

The Dumfume 12V 400Ah LiFePO4 Lithium Battery is designed for deep cycle applications, offering high capacity and a long lifespan. It features a built-in Battery Management System (BMS) for comprehensive protection.

2.1 Key Features

- **High Capacity:** 12V 400Ah (5120Wh) for extended power.
- **Long Lifespan:** 4000-15000+ deep cycles, significantly outperforming lead-acid batteries.
- **Integrated BMS:** 200A BMS provides protection against overcharge, over-discharge, overcurrent, short circuits, and extreme temperatures.
- **Stable Voltage:** Maintains stable voltage even under heavy loads up to 4000W.
- **Expandable:** Can be connected in series-parallel configurations for higher voltage and capacity.
- **Durable Construction:** Crafted with high-strength, impact-resistant ABS casing for heat and flame resistance.

Perfekter Ersatz für Blei-Säure

Unsere



✓ Kapazität: 5120 Wh	✗ Kapazität: 1200 Wh
✓ Gewicht: 37,5kg	✗ Gewicht: 58,7kg
✓ Lebensdauer: <10 Jahre	✗ Lebensdauer: 1-3 Jahre
✓ Lebenszyklen: 4000–15000	✗ Lebenszyklen: 200-500
✓ BMS: Ja	✗ BMS: Nein

Image 2.1: A comparison illustrating the superior performance of the Dumfume LiFePO4 battery compared to lead-acid alternatives, noting higher capacity, lighter weight, extended lifespan, increased cycle count, and integrated BMS.

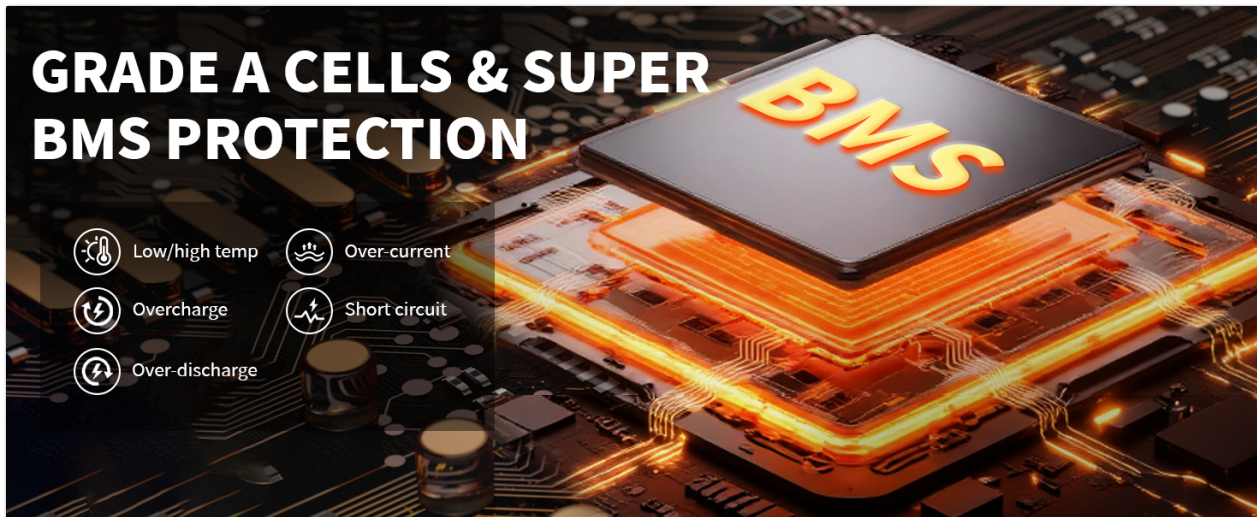


Image 2.2: An illustration detailing the advanced Battery Management System (BMS) protection, which includes safeguards against low/high temperatures, over-current, overcharge, short circuits, and over-discharge.

3. SETUP AND INSTALLATION

3.1 Unpacking

Carefully remove the battery from its packaging. Inspect for any visible damage. If damage is found, contact customer support immediately.

3.2 Initial Charge

It is recommended to fully charge the battery before its first use to ensure optimal performance and calibration of the BMS.

3.3 Connecting Batteries (Series/Parallel)

This battery can be connected in series or parallel to achieve higher voltage or capacity. For example, up to 4 units can be connected in a 1S4P (1 series, 4 parallel) configuration to achieve 51.2V 400Ah (20.48kWh) capacity, suitable for 48V solar inverters and whole-home backup systems.

- When connecting in series or parallel, all batteries must be identical (same brand, type, voltage, capacity, and BMS) and purchased within 1 month of each other to ensure compatibility and balanced operation.
- Always use appropriate cables and connectors rated for the expected current.
- Ensure all connections are secure and properly insulated.

3.4 Physical Dimensions and Terminals

The battery dimensions are approximately L20.47 x W10.59 x H8.66 inches (L52.0 x W26.9 x H22.0 cm). It weighs approximately 68.78 lbs (31.2 kg). The battery is equipped with M8 terminals.

ABMESSUNGEN

Produktgröße: L49,5*B26,5*H22,0cm (Ohne Griff)

L53,0*B26,5*H22,0cm (Mit Griff)



Terminal: M8



Image 3.1: Detailed diagram illustrating the physical dimensions of the battery in centimeters and specifying the M8 terminal type.

4. OPERATING INSTRUCTIONS

4.1 General Use

The Dumfume LiFePO4 battery is suitable for a wide range of deep cycle applications, including:

- Recreational Vehicles (RVs)
- Solar energy systems
- Home energy storage
- Off-grid applications
- Fishing and camping power
- Backup power systems



Image 4.1: A visual representation of the battery's diverse applications, such as powering RVs, solar installations, camping equipment, and home backup systems.



Image 4.2: An overview of the wide range of uses for the battery, including recreational vehicles, camping, powering trolling motors, integration with solar panels, and providing backup power.

4.2 Temperature Considerations

The built-in BMS includes advanced temperature control. It will automatically cut off charging or discharging in extreme heat or cold to protect the battery and extend its lifespan.

- Charging stops at 32°F (0°C) and below.
- Charging recovers at 41°F (5°C) and above.
- Discharging stops at -4°F (-20°C) and below.



Image 4.3: Illustration of the battery's performance in extreme environments, detailing temperature thresholds for automatic charging and discharging cut-offs and recovery.

5. MAINTENANCE

Proper maintenance ensures the longevity and optimal performance of your Dumfume LiFePO4 battery.

- **Regular Charging:** If the battery is not in regular use, charge and discharge it once every 6 months to prevent damage from disuse.
- **Storage:** For long-term storage, ensure the battery is charged to 30-50% of its capacity. Store in a cool, dry, and well-ventilated area, away from direct sunlight and extreme temperatures.
- **Cleaning:** Keep the battery terminals clean and free from corrosion. Use a dry cloth to wipe down the battery casing.
- **Inspection:** Periodically inspect the battery for any signs of physical damage or loose connections.

6. TROUBLESHOOTING

If you encounter issues with your Dumfume LiFePO4 battery, refer to the following common troubleshooting points:

- **Battery Not Charging/Discharging:** The built-in BMS may have activated a protection mode due to overcharge, over-discharge, overcurrent, short circuit, or extreme temperature. Allow the battery to return to normal operating conditions or address the fault condition.
- **Voltage/Current Deviations:** Due to variations in temperature, humidity, measurement methods, and instruments, voltage and current readings may deviate by 1% to 5%. This is considered normal.
- **Reduced Performance:** Ensure the battery is adequately charged and that all connections are secure. Verify that the load is within the battery's specifications.

If problems persist or you have safety concerns, please feel free to contact Dumfume customer support for assistance.

7. SPECIFICATIONS

Feature	Specification
Brand	dumfume
Model	DFBattery-12V400A
Nominal Voltage	12.8V
Capacity	400Ah
Energy	5120Wh
Built-in BMS	200A
Cycle Life	4000-15000+ cycles
Dimensions (L x W x H)	20.47 x 10.59 x 8.66 inches (52.0 x 26.9 x 22.0 cm)
Item Weight	68.78 lbs (31.2 kg)
Terminal Type	M8
Self-Discharge Rate	<3% per month
Operating Temperature Range	BMS controlled (Charging stops <0°C, Discharging stops <-20°C)
Casing Material	High-strength, impact-resistant ABS

8. WARRANTY AND SUPPORT

Dumfume is committed to providing reliable products and customer satisfaction.

- **Warranty:** Specific warranty terms and duration should be consulted from your purchase documentation or the official Dumfume website.
- **Customer Support:** The Dumfume Support Team is available to assist with any questions, concerns, or issues you may encounter during the use of your battery.
- **Safety Concerns:** If you have any safety concerns regarding the battery, please contact support immediately.

For further assistance, please refer to the contact information provided with your product or visit the official Dumfume website.