OSCAL BP3600

OSCAL BP3600 Expansion Battery User Manual

Model: BP3600

1. Introduction and Overview

The OSCAL BP3600 Expansion Battery is a high-capacity LiFePO4 solar generator designed to provide reliable and versatile power for various applications, from home backup to outdoor adventures. It offers robust performance, advanced safety features, and flexible expandability to meet diverse energy needs.

Figure 1: OSCAL BP3600 Expansion Battery. This image displays the main unit of the OSCAL BP3600, showcasing its compact design, integrated display, and wheels for portability.

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Video 1: OSCAL PowerMax 3600 Portable Power Station Overview. This video provides a comprehensive look at the PowerMax 3600,

2. KEY FEATURES

- **Expandable Capacity:** The PowerMax 3600 can expand its capacity from 3.6kWh up to an impressive 57.6kWh by adding dedicated BP3600 expansion batteries (sold separately), providing extended power backup.

- **High Power Output:** Equipped with 4 AC outlets, 4 USB-A outputs, and 2 100W fast USB-C outputs, supporting over 99% of essential appliances.

- **Advanced TI Chip:** Features an all-new TI Chip that is 10% more responsive and 50% faster than its counterparts, ensuring efficient power delivery.

- **Foolproof Control Panel:** Designed with larger buttons and an intuitive LED display for easy operation and instant knowledge of battery status, catering to all ages.

- **Durable LiFePO4 Battery:** Utilizes a highly safe LiFePO4 battery with a long lifespan of approximately 10 years, maintaining 80% of its factory-shipped capacity after 3500 charge-discharge cycles.

- **Pure Sine Wave Output:** Provides stable and clean power, switchable between 50Hz/60Hz frequency, suitable for sensitive electronics without risk of damage.

- **Portability:** Designed with smooth wheels and telescopic handles, allowing for easy transport and maneuverability, similar to a trolley case.

Figure 2: Multi-feature overview of the PowerMax 3600. This image highlights several key features including remote control via app, 14 output ports, 5ms UPS switch, LiFePO4 battery, 1800W high-speed charging, and expandable capacity.

Adopting a highly safe LiFePO4 battery

It achieves a long lifespan of approximately 10 years even with daily use, with 3500 cycles. After 3500 charge-discharge cycles, it can maintain 80% of the factory-shipped capacity.

Figure 3: Internal structure of the LiFePO4 battery. This image provides a transparent view of the PowerMax 3600, illustrating the highly safe LiFePO4 battery cells and internal components, emphasizing its long lifespan.

3. SETUP

1. **Unpacking:** Carefully remove the OSCAL BP3600 and all accessories from the packaging. Retain the packaging for future storage or transport.
2. **Initial Charge:** Before first use, fully charge the power station using the provided AC charging cable. Connect the AC input port to a standard wall outlet. The display will indicate charging status.
3. **Connecting Accessories:** Connect any necessary cables or devices to the appropriate output ports (AC, USB-A, USB-C) as needed.
4. **Power On:** Press and hold the main power button to turn on the unit. The intuitive LED display will illuminate, showing battery level and other vital information.

4. OPERATING INSTRUCTIONS

- **Turning On/Off:** Press and hold the main power button for a few seconds to turn the unit on or off. Individual AC/DC/USB output sections have their own power buttons for selective use.
- **Connecting Devices:** Plug your electronic devices or appliances into the corresponding output ports. Ensure the device's power requirements do not exceed the power station's output limits.
- **Monitoring Display:** The intuitive LED display provides real-time information on power levels, input/output wattage, and remaining charge time.
- **Smart App Control:** Download the OSCAL PowerMax smart app to remotely monitor the power station's status and control its functions from your smartphone. This includes turning outputs on/off and checking detailed battery information.
- **Lighthouse-like Signal Light:** Utilize the built-in signal light for communication, especially in emergencies. Through the smart app, you can generate Morse code signals for numbers (0-9) and alphabets (A-Z).

Figure 4: Remote monitoring and control via Smart App. This image shows a user interacting with the OSCAL PowerMax 3600 through a smartphone application, demonstrating the ease of monitoring and control from a distance.

5. CHARGING OPTIONS

The OSCAL BP3600 offers multiple flexible charging methods to ensure you always have power:

- **AC Wall Charging:** Achieve an 80% charge in just 57 minutes with 1800W high-speed AC charging, and a full charge in approximately 1.2 hours.

- **Solar Panel Charging:** Connect compatible solar panels (e.g., PM100/PM200, sold separately) for cost-free recharging with a maximum input of 1600W.
- **Car Charging:** Power supply is possible even during travel by charging the unit from your vehicle's 12V outlet.
- **Smart Generator Charging:** Connect to a gasoline generator for rapid recharging, fully charging devices with a maximum of 2200W in 1.57 hours.
- **Lead-Acid Battery Charging:** Supports charging from lead-acid batteries, providing an alternative power source in emergencies.
- **Water Turbine Charging:** Capable of recharging via a 2200W Max Water Turbine in 1.96 hours.
- **EV Charging Station:** Can be recharged from a 2200W Max EV Charging Station in 1.96 hours.

Figure 5: AC and Solar Panel Charging. This image illustrates the dual charging capabilities of the PowerMax 3600, showing it being charged simultaneously from a wall outlet and a solar panel, achieving a full charge in 1.2 hours with a maximum input of 2400W.

Figure 6: Car Charging. This image demonstrates the convenience of charging the PowerMax 3600 inside a car, ensuring power supply during travel.

Smart generator charging

Generate power with gasoline and supply electricity to PowerMax 3600. You can fully charge devices with a maximum of 2200W in 1.57 hours.

Figure 7: Smart Generator Charging. This image shows the PowerMax 3600 being charged by a gasoline generator, highlighting its ability to fully charge devices with a maximum of 2200W in 1.57 hours.

Lead-acid battery charging

PowerMax 3600 supports various charging methods, including charging with lead-acid batteries. You can use it with peace of mind in emergencies without worrying about running out of power.

Figure 8: Lead-Acid Battery Charging. This image illustrates the PowerMax 3600's compatibility with lead-acid batteries for charging, providing peace of mind during emergencies.

6. Applications and Use Cases

The OSCAL BP3600 is a versatile power solution for a wide range of scenarios:

- **Home Backup:** Provides essential power during outages, backing up your home grid within 5 milliseconds.
- **Outdoor Activities:** Ideal for camping, RV trips, and other outdoor adventures, powering everything from coffee makers to electric grills.
- **Professional Use:** Capable of powering heavy-duty tools like electric lawn mowers and electric routers, making it suitable for commercial and outdoor work.
- **Emergency Situations:** Equipped with a loud low battery beeping alarm and the ability to power critical medical equipment like cardiac pacers, oxygen generators, and CPAP machines.
- **Electric Vehicle Charging:** Supports charging top-level electric vehicles like Tesla Model S and various electric scooters, tricycles, and golf carts, extending their travel range.
- **Recreational Vehicles:** Provides power for caravans, van campers, SUV campers, school bus campers, and motorhomes, meeting diverse outdoor charging needs.

3.8Hrs
800W Coffee Maker

3.2Hrs
1000W Electric Skillet

6Hrs
500W Washer

3.8Hrs
800W Toaster

Figure 9: Powering Household Appliances. This image shows the PowerMax 3600 connected to various kitchen appliances, demonstrating its capability to power common household items for extended periods.

273 Times
11W Phone

167 Times
18W camera

75 Times
40W Drone

67 Hrs
45W Mini Fridge

Figure 10: Charging Small Electronics. This image illustrates the PowerMax 3600's ability to charge multiple small electronic devices, such as phones, cameras, and drones, making it ideal for outdoor use.

46Hrs
65W Projector

3.2Hrs
1000W Electric Grill

3.2Hrs
1000W Electical Lawn Mower

3Hrs
1100W Cutting Machine
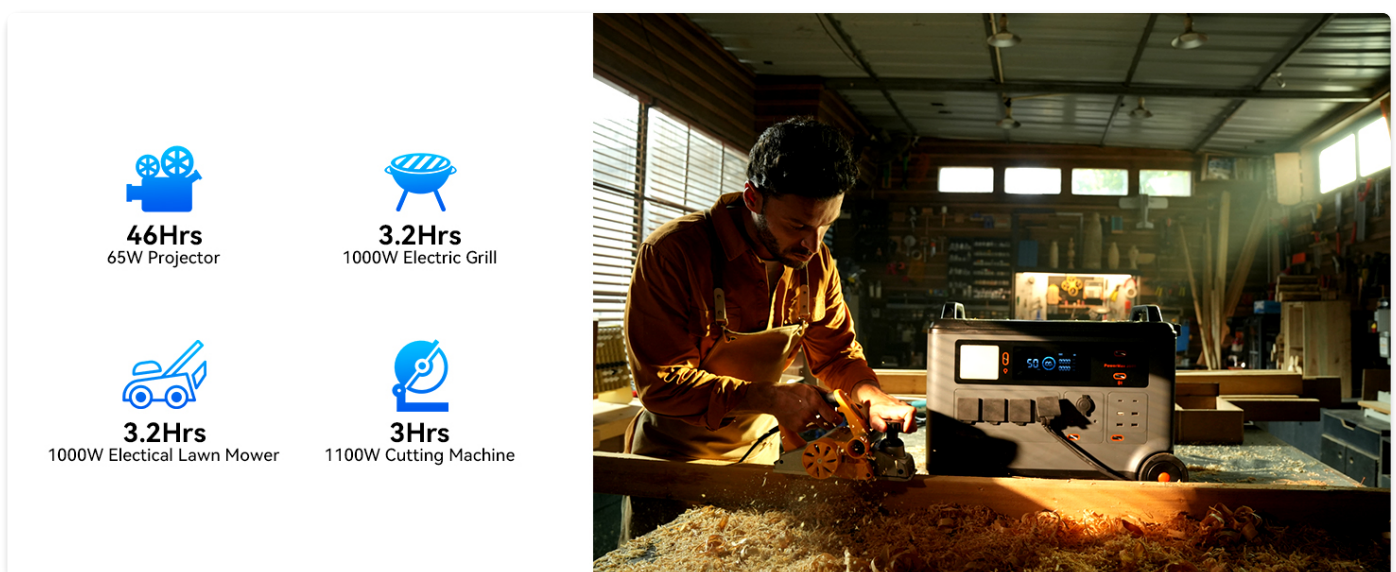
Figure 11: Powering Workshop Tools. This image shows the PowerMax 3600 providing power to a cutting machine in a workshop setting, demonstrating its capability for demanding tools.

7. SAFETY AND DURABILITY

The OSCAL BP3600 is built with robust safety features and durable materials to ensure reliable operation in various environments:

- **Advanced BMS Protection:** Incorporates comprehensive protection against overvoltage, undervoltage, overcurrent, overload, discharge at low/high temperatures, short circuits, and other battery-related issues.
- **UL94V-0-rated Flame-retardant Casing:** The casing is designed to effectively reduce the risk of fires, enhancing safety.
- **UV Light Protection:** Provides protection against harmful UV rays, ensuring longevity when used outdoors.
- **Loud Low Battery Beeping Alarm:** A built-in alarm provides timely alerts when the battery is low, ensuring safety during critical situations.
- **IP21-rated Dust Resistance:** Engineered to resist dust ingress, allowing for seamless use in dusty environments.
- **IP21-rated Splash Resistance:** Offers protection against splashing water, making it suitable for outdoor use in various weather conditions.
- **Shock Resistance:** Designed to withstand vertical shocks up to 0.8 meters, ensuring durability during transport and use.
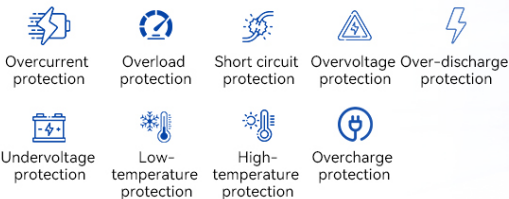

Figure 12: Advanced BMS Battery Protection Functions. This diagram illustrates the comprehensive battery management system (BMS) protections, including overcurrent, overload, short circuit, overvoltage, over-discharge, undervoltage, low-temperature, high-temperature, and overcharge protection.

8. MAINTENANCE

- **Cleaning:** Regularly wipe the exterior of the power station with a soft, dry cloth. Avoid using abrasive cleaners or solvents. Ensure all ports are free from dust and debris.
- **Storage:** When not in use for extended periods, store the power station in a cool, dry place away from direct sunlight and extreme temperatures. It is recommended to charge the unit to 50-80% before storage and recharge every 3-6 months to maintain battery health.
- **Battery Care:** To maximize battery lifespan, avoid fully discharging the unit frequently. Recharge the unit promptly after use.
- **Ventilation:** Ensure the ventilation openings are not blocked during operation to prevent overheating.

9. TROUBLESHOOTING

- **Unit Not Turning On:** Ensure the battery is charged. If the unit has been stored for a long time, it may require an initial charge.
- **No Output from Ports:** Check if the individual output sections (AC, DC, USB) are turned on. Verify that the connected device is functioning correctly and its power requirements are within the unit's specifications.
- **Charging Issues:** Ensure the charging cable is securely connected to both the power station and the power source. Check

if the power source is active. If using solar panels, ensure they are positioned correctly to receive adequate sunlight.

- **Overload Protection:** If the unit shuts down unexpectedly, it might be due to an overload. Disconnect some devices and restart the unit.
- **Temperature Protection:** The unit may shut down if operating outside its safe temperature range (-20°C to 55°C). Allow it to return to a safe operating temperature.

10. SPECIFICATIONS

Attribute	Detail
Brand	OSCAL
Model Name	BP3600
Output Wattage	3600W
Starting Wattage	6000 Watts (Surge)
Fuel Type	Electric
Power Source	Battery Powered
Recommended Uses	Camping, Commercial, Residential
Special Feature	Automatic Shut Down
Included Components	BP3600
Product Dimensions	23.23"L x 13.78"W x 17.36"H
Material	ABS
Engine Type	4 Stroke
Runtime	1 hour (at specified load)
Total Power Outlets	10
Frequency	60 Hz
UPC	810175528762

11. WARRANTY AND SUPPORT

The OSCAL BP3600 Expansion Battery comes with a **2-year warranty**. For any technical support, troubleshooting assistance, or warranty claims, please refer to the contact information provided with your purchase documentation or visit the official OSCAL website.

Documents - OSCAL – BP3600

[OSCAL BP3600 Power Pack User Manual](#)

User manual for the OSCAL BP3600 Lithium-ion Battery Power Pack, detailing its features, specifications, and usage instructions.

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