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**MWXNE 3000-UPS**

# MWXNE 3000W Heavy Duty Sump Pump Battery Backup User Manual

Model: 3000-UPS

## 1. PRODUCT OVERVIEW

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The MWXNE 3000W Heavy Duty Sump Pump Battery Backup system is designed to provide reliable power to your sump pump during power outages, ensuring your basement remains dry. This uninterruptible power supply (UPS) automatically switches to battery power in under 10 milliseconds when grid power is lost, offering seamless operation. It features a pure sine wave output, ensuring compatibility and safety for sensitive appliances.



Figure 1.1: MWXNE 3000W Sump Pump Battery Backup System. The image displays the main unit, power cord, battery cables (red and black), spare fuses, and a wrench, indicating a complete package for installation.



Figure 1.2: The MWXNE 3000W Sump Pump Backup Power System installed in a basement, connected to a sump pump and a battery, illustrating its function in preventing basement flooding during power outages.

## 2. KEY FEATURES

- **Automatic Power Switching:** Switches from grid power to battery power in less than 10ms during outages.
- **High Power Output:** Delivers up to 3000W and 27.5A, supporting single and dual pump systems.
- **Pure Sine Wave Output:** Provides clean, stable power equivalent to grid power, protecting sensitive electronics.
- **Integrated Battery Charger:** Built-in 20A charger compatible with most common battery types, featuring overcharge protection and trickle charging.
- **Comprehensive Safety Protections:** Includes 4 GFCI outlets, under-voltage, over-voltage, overload, overheating, short circuit, and reverse polarity protection.
- **LCD Display:** Real-time monitoring of system status, including input/output voltage, frequency, load power, and error indicators.
- **Easy Installation:** Comes with all necessary AC and DC cables for quick and secure setup. Features side-mounting holes for flexible installation.



Figure 2.1: Illustration of Pure Sine Wave Technology. This image compares the smooth waveform of pure sine wave output from the MWXNE system to the stepped waveform of modified sine wave inverters, highlighting the benefit for appliance longevity.

### 3. SAFETY PRECAUTIONS

Read all safety instructions carefully before installation and operation. Failure to follow these instructions may result in electric shock, fire, or serious injury.

- Ensure the unit is installed in a dry, well-ventilated area, away from flammable materials.
- Always connect the ground wire to a proper earth ground.
- Do not open the unit casing. There are no user-serviceable parts inside. Refer all servicing to qualified personnel.
- Use only recommended battery types and ensure correct polarity when connecting batteries.
- The integrated GFCI outlets provide critical protection against ground faults. Do not bypass or disable them.
- Disconnect all power sources (AC and DC) before performing any maintenance or troubleshooting.

# ESSENTIAL SAFETY PROTECTION WITH **GFCI**

Defying the Danger of Electrical Shocks



Figure 3.1: Close-up view of the GFCI (Ground Fault Circuit Interrupter) outlets on the MWXNE system, emphasizing their role in preventing electrical shocks by cutting power upon detecting a ground fault.



Figure 3.2: An internal diagram illustrating the various protection mechanisms of the MWXNE system, including over-temperature, short circuit, low/over voltage, overload, battery low/over voltage, and reverse polarity protection.

## 4. PACKAGE CONTENTS

Upon unpacking, please verify that all items listed below are present and undamaged:

- MWXNE 3000W Sump Pump Battery Backup Unit
- AC Input Power Cable
- DC Battery Connection Cables (Red for Positive, Black for Negative)
- Spare Fuses

- Wrench for Terminal Connections
- User Manual (this document)

## 5. SETUP AND INSTALLATION

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The MWXNE battery backup system is designed for straightforward installation. Follow these steps for a fast and safe setup:

1. **Mounting:** Choose a suitable location for the unit. It can be installed flat on a surface or mounted on a wall using the side-mounting holes. Ensure the location is dry, well-ventilated, and easily accessible for connections and monitoring.
2. **Battery Connection:** Connect the DC battery cables to your 12V battery (sold separately). Ensure the red cable connects to the positive (+) terminal and the black cable connects to the negative (-) terminal of the battery. *Incorrect polarity can damage the unit.*
3. **AC Input Connection:** Plug the AC input power cable into a standard 120 VAC wall outlet.
4. **Sump Pump Connection:** Plug your sump pump(s) into one of the GFCI outlets on the front panel of the MWXNE unit.
5. **Grounding:** Connect a ground wire from the unit's ground terminal to a reliable earth ground.
6. **Power On:** Flip the power switch on the unit to the "ON" position. The LCD display will illuminate, and the system will begin operation.



Figure 5.1: Detailed diagram of the MWXNE unit's front and side panels, labeling components such as GFCI outlets, LCD display, AC input, ground terminal, USB port, power switch, charge LED, working LED, positive/negative terminals, and cooling fan.

## 6. OPERATING INSTRUCTIONS

The MWXNE system operates in two primary modes, automatically switching between them to ensure continuous power for your sump pump.

### 6.1. Operating Modes

- **Grid Mode:** When grid power is available, the system prioritizes mains power to operate the sump

pump. Simultaneously, the built-in charger will charge the connected battery.

- **Off-grid Mode (Battery Backup):** In the event of a power outage, the system automatically and swiftly switches to battery power within 10 milliseconds, ensuring the sump pump continues to operate without interruption.

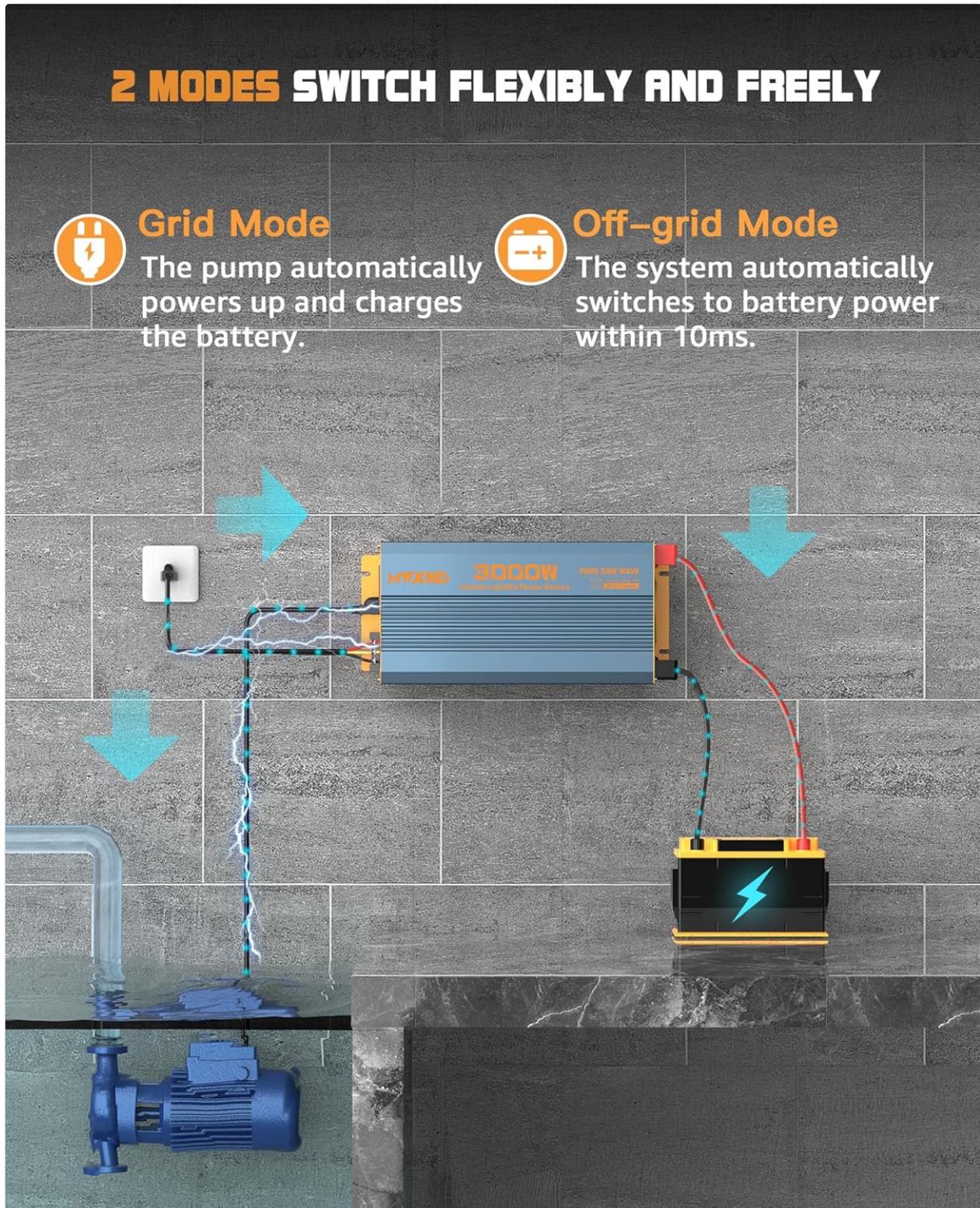


Figure 6.1: Visual representation of the two operating modes: Grid Mode (pump powered by grid, battery charging) and Off-grid Mode (pump powered by battery during outage).

## 6.2. LCD Display

The LCD display provides real-time information about the system's status and performance. Monitor the following indicators:

- **Input Voltage:** Displays the incoming AC voltage from the grid.
- **Output Voltage:** Shows the AC voltage supplied to the sump pump.
- **Frequency:** Indicates the AC frequency (e.g., 60Hz).
- **Load Power:** Displays the current power consumption of the connected sump pump(s).
- **Battery Level:** Shows the charge status of the connected battery.
- **Working Temperature:** Displays the internal temperature of the unit.
- **Protection Indicators:** Icons for under-voltage, over-voltage, overload, overheating, short circuit, and pure sine wave status.



Figure 6.2: A detailed view of the LCD display, showing various real-time monitoring parameters such as input/output voltage, frequency, load power, battery status, and protection indicators.

## 7. CHARGING MODE AND BATTERY COMPATIBILITY

### 7.1. Charging Process

The MWXNE 3000W system features a built-in 20A battery charger. When grid power is available, the unit automatically charges the connected battery. Once the battery is fully charged, the system switches to a trickle charging mode to maintain the battery's health and prevent overcharging, thereby extending its lifespan.

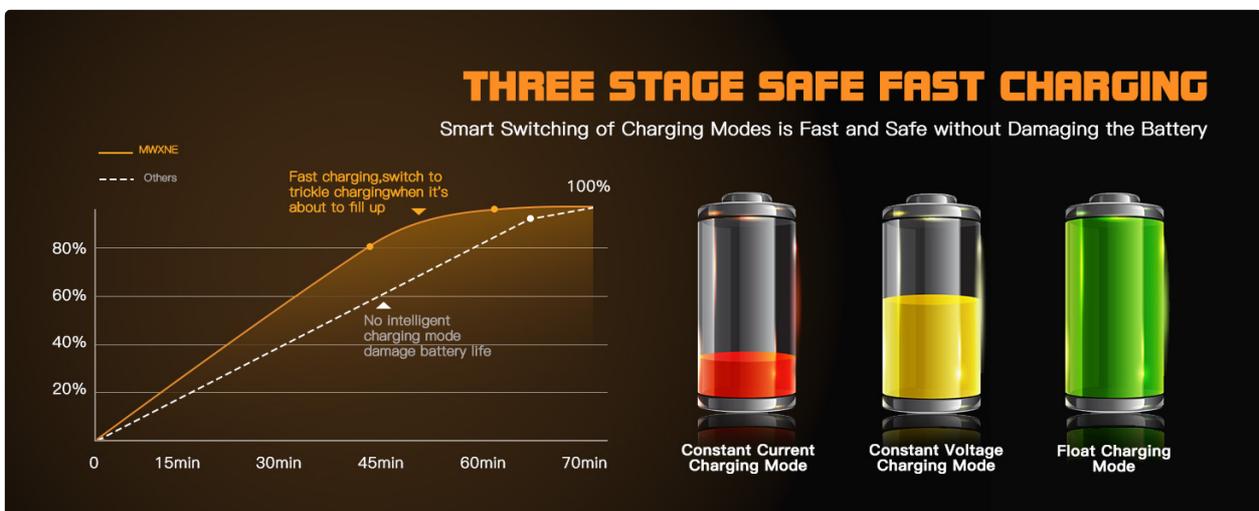


Figure 7.1: Illustration of the three-stage safe fast charging method: Constant Current Charging Mode, Constant Voltage Charging Mode, and Float Charging Mode, designed to optimize battery charging and extend battery life.

## 7.2. Compatible Battery Types

The system's 20A battery charger is compatible with a wide range of 12V battery types. The three-stage charging method is optimized to protect and extend the lifespan of these batteries:

- GEL (Gel Cell)
- AGM (Absorbed Glass Mat)
- EFB (Enhanced Flooded Battery)
- SLD (Sealed Lead-Acid Deep Cycle)
- FLD (Flooded Lead-Acid)
- LI (Lithium-ion)

*Note: Battery is sold separately. Ensure the battery capacity is sufficient for your expected backup duration.*

## COMPATIBLE BATTERY TYPE

Compatible with most types of batteries, the Three-stage Charging Method is used to protect and extend the battery's lifespan.

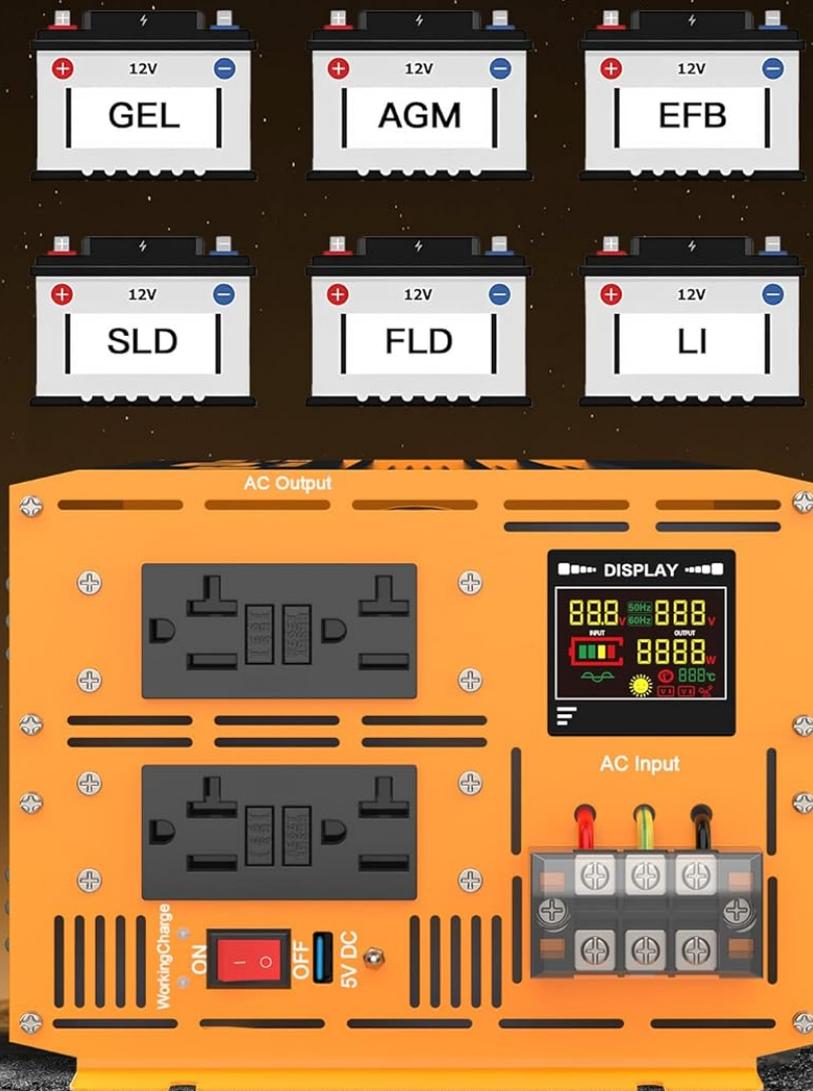


Figure 7.2: Visual guide to compatible 12V battery types, including GEL, AGM, EFB, SLD, FLD, and LI, indicating the versatility of the MWXNE system's charging capabilities.

## 8. MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your MWXNE Sump Pump Battery Backup System.

- **Keep Clean:** Periodically wipe down the unit with a dry cloth to remove dust and debris. Ensure ventilation openings are clear.
- **Check Connections:** Annually inspect all electrical connections (AC input, DC battery cables, sump pump plugs) to ensure they are secure and free from corrosion.

- **Battery Health:** Monitor your battery's health. If using lead-acid batteries, check electrolyte levels if applicable and keep terminals clean. Consider replacing batteries every 3-5 years, or as recommended by the battery manufacturer.
- **Test System:** Periodically test the system by simulating a power outage (e.g., by unplugging the AC input) to ensure it switches to battery power correctly and the sump pump operates as expected.

## 9. TROUBLESHOOTING

This section provides solutions to common issues you might encounter. For problems not listed here, please contact customer support.

Problem	Possible Cause	Solution
Unit does not power on.	Power switch is OFF. Battery not connected or low. AC input not connected. Blown fuse.	Ensure power switch is ON. Check battery connections and charge level. Verify AC input cable is securely plugged in. Inspect and replace fuses if necessary (use spare fuses provided).
Sump pump not running on battery backup.	Battery is depleted. Overload protection activated. Sump pump issue.	Allow battery to charge. Reduce load or check for short circuit in sump pump. Test sump pump directly with grid power.
LCD display shows an error code.	Specific protection activated (e.g., over-voltage, overload).	Refer to the LCD display section (6.2) for icon meanings. Address the specific issue indicated.

## 10. SPECIFICATIONS

Attribute	Detail
Model Number	3000-UPS
Power Output	3000W
Current Output	Up to 27.5A
Input Voltage	120 VAC (Grid Power)
Output Waveform	Pure Sine Wave
Battery Charger	20A (Built-in)
Switching Time	<10ms
Item Weight	22.2 pounds
Package Dimensions	22 x 12 x 10 inches
Color	Blue

Attribute	Detail
Material	Aluminum
Certification	UL, FCC, CE, ROHS
Battery Capacity (Recommended)	300 Amp Hours (Note: Battery sold separately)

## 11. WARRANTY AND CUSTOMER SUPPORT

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MWXNE is committed to providing high-quality products and attentive customer service. For any questions, technical assistance, or warranty claims, please contact MWXNE customer support through the retailer's platform or the official MWXNE website.

Please retain your proof of purchase for warranty purposes.

*Note: Specific warranty terms and conditions may vary. Refer to your purchase documentation or contact customer support for details.*