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› Zendure SolarFlow 2400 AC Home Energy Storage System with AB3000X Batteries User Manual

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Model: SolarFlow 2400 AC + 3 AB3000X

1. INTRODUCTION AND OVERVIEW

The Zendure SolarFlow 2400 AC is an advanced home energy storage system designed to optimize solar power usage and reduce electricity costs. It integrates AI-powered energy management to intelligently store and distribute energy from your solar panels. This system is compatible with various rooftop inverters and offers expandable battery capacity to meet diverse household energy needs.



Figure 1.1: Zendure SolarFlow 2400 AC system installed at a modern home with solar panels on the roof.

2. SAFETY INFORMATION

Please read and understand all safety instructions before installing or operating the Zendure SolarFlow 2400 AC system. Failure to follow these instructions may result in electric shock, fire, serious injury, or property damage.

- **Professional Installation:** For discharge power exceeding 800W, professional electrician installation on a dedicated line is required.
- **Water and Moisture:** Do not expose the system to rain or moisture. Ensure the installation area is dry and well-ventilated.
- **Ventilation:** Maintain adequate clearance around the unit for proper ventilation to prevent overheating.
- **Children and Pets:** Keep the system out of reach of children and pets.
- **Damage Inspection:** Before each use, inspect the system for any signs of damage. Do not operate if damaged.
- **Emergency Shutdown:** Familiarize yourself with the emergency shutdown procedures for the system and your home's electrical panel.

3. PACKAGE CONTENTS

Verify that all items are present in your package:

- SolarFlow 2400 AC Unit (x1)
- AB3000X Battery (x3)
- Installation Accessories
- User Manual

4. PRODUCT FEATURES

- **Plug and Play Installation:** The SolarFlow 2400 AC is designed for easy installation, compatible with all rooftop inverters. For grid connection exceeding 800W discharge, professional electrical installation is required.
- **AI Power Management System:** Features machine learning capabilities to recommend optimal energy consumption plans based on production, consumption data, weather conditions, and electricity prices. Supports multiple smart meters (Zendure 3CT/TIC, Shelly Pro 3EM/3EM, EverHome EcoTracker).
- **2400W AC Output:** Supports 2400W grid-connected power with rapid conversion from 0 to 2400W in 3 seconds. Output power can be adjusted in 1W increments if above 50W.
- **Expandable Capacity up to 17.28 kWh:** The SolarFlow 2400 AC can be combined with up to 6 AB3000X batteries, allowing for a maximum storage capacity of 17.28 kWh. This enables storing excess solar energy during the day for use at night.

Jusqu'à

42 %

d'économie grâce à la gestion énergétique par IA.



2 880 Wh à

17 280 Wh

Capacité

Entrée CA

2 400 W

Sortie

2 400 W



Figure 4.1: Expandable capacity of the SolarFlow system with AB3000X batteries.

5. SETUP INSTRUCTIONS

Follow these steps for initial setup of your Zendure SolarFlow system:

1. **Unpacking:** Carefully remove all components from the packaging and verify against the package contents list.
2. **Placement:** Choose a suitable location for the SolarFlow 2400 AC unit and AB3000X batteries. Ensure the area is dry, well-ventilated, and protected from direct sunlight and extreme temperatures. The system has an IP65 rating for outdoor use.
3. **Battery Connection:** Connect the AB3000X batteries to the SolarFlow 2400 AC unit using the provided cables. Ensure secure connections.
4. **Solar Panel Connection:** Connect your existing solar panels or micro-inverter to the SolarFlow 2400 AC unit. Refer to the detailed wiring diagrams in the full manual for specific connections.
5. **Grid Connection (Plug and Play):** For basic 800W grid output, plug the SolarFlow 2400 AC into a standard AC outlet.
6. **Advanced Grid Connection (Professional Installation):** If you require more than 800W discharge to

the grid, consult a qualified electrician to install the system on a dedicated electrical line. This ensures compliance with local regulations and safe operation.

7. **App Setup:** Download the Zendure app and follow the on-screen instructions to connect your SolarFlow system. This enables monitoring and AI-powered energy management.

SolarFlow 2400 AC+ AB3000X

Gestion énergétique par IA sans effort, façonnant l'avenir du stockage intelligent



Figure 5.1: SolarFlow 2400 AC connected to an AC outlet.



Figure 5.2: Energy flow diagram during daytime operation.

6. OPERATING INSTRUCTIONS

Once installed, the SolarFlow 2400 AC system operates largely autonomously, managed by its AI system. Use the Zendure app for monitoring and advanced settings.

6.1 AI Power Management

The integrated AI system continuously learns your energy patterns. It collects data on historical electricity production and consumption, weather forecasts, dynamic electricity prices, and battery levels to optimize energy storage and discharge. This intelligent management aims to maximize self-consumption of solar energy and minimize reliance on the grid during peak pricing periods.



Figure 6.1: AI Power Management System Overview.

6.2 Energy Flow and Usage

- **Daytime:** Solar panels generate electricity. This power is first used by household appliances. Excess power is stored in the AB3000X batteries. If batteries are full, remaining excess power can be fed back

into the grid (subject to local regulations and professional installation for higher power).

- **Nighttime/Low Solar Production:** When solar production is low or absent, the system automatically draws power from the stored energy in the AB3000X batteries to power your home. This reduces reliance on grid electricity, especially during expensive peak hours.
- **Backup Power:** The system can provide up to 2400W of off-grid backup power to critical appliances during grid outages.



Figure 6.2: System providing backup power to a refrigerator.



Figure 6.3: Energy flow diagram during nighttime operation.

6.3 Monitoring with the Zendure App

The Zendure app provides real-time monitoring of your system's status, energy production, consumption, and battery levels. You can also adjust settings and view energy reports to understand your usage patterns.

7. MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your SolarFlow system.

- **Cleaning:** Keep the SolarFlow unit and batteries clean and free from dust and debris. Use a soft, dry cloth for cleaning. Do not use liquid cleaners.
- **Connection Checks:** Periodically inspect all cables and connections for wear, damage, or looseness. Ensure they are securely fastened.
- **Ventilation:** Ensure that the ventilation openings on the unit are not blocked.
- **Software Updates:** Keep the Zendure app and system firmware updated to benefit from the latest features and improvements.
- **Battery Health:** The system's AI manages battery health. Avoid fully discharging the batteries frequently to prolong their lifespan.

8. TROUBLESHOOTING

If you encounter issues with your SolarFlow system, refer to the following common troubleshooting steps:

Problem	Possible Cause	Solution
System not powering on	Loose power connection, discharged battery, system fault.	Check all power cables. Ensure batteries are charged. If problem persists, contact support.
No power output	Overload, battery low, output port disabled.	Reduce connected load. Check battery level in app. Ensure output ports are enabled.
Solar panels not charging batteries	Poor solar input, incorrect connection, inverter issue.	Check solar panel connections. Ensure sufficient sunlight. Verify inverter operation.
App not connecting to system	Wi-Fi issue, Bluetooth issue, system offline.	Ensure system is powered on and within Wi-Fi/Bluetooth range. Restart app and system.

For more detailed troubleshooting or issues not listed here, please refer to the comprehensive troubleshooting guide in the Zendure app or contact Zendure customer support.

9. SPECIFICATIONS

Feature	Detail
Manufacturer	Zendure
Model Reference	SF2400 & 3*AB3000X
Style	SolarFlow 2400 AC + 3 AB3000X
AC Input	2400W
AC Output	2400W
Battery Capacity (Expandable)	Up to 17.28 kWh (with 6 AB3000X batteries)
Included Components	SF2400 and 3 AB3000X
Efficiency	Up to 93% (AC input and output)
AI Management	Yes, with machine learning for energy optimization
Smart Meter Compatibility	Zendure 3CT/TIC, Shelly Pro 3EM/3EM, EverHome EcoTracker



Figure 9.1: Key specifications and energy savings.

17,28 kWh Capacité Extensible

Chaque SolarFlow 2400 AC peut
utiliser jusqu'à 6 AB3000X



Figure 9.2: System efficiency details.

10. WARRANTY AND SUPPORT

Zendure products are designed for reliability and performance. For warranty information, please refer to the warranty card included with your product or visit the official Zendure website. For technical support, troubleshooting assistance, or any inquiries, please contact Zendure customer service through their official channels.

Zendure is committed to providing innovative energy solutions and customer satisfaction.