

NINILADY Rewindagic 1200W Wind Solar MPPT Hybrid Charge Controller

NINILADY Rewindagic 1200W Wind Solar MPPT Hybrid Charge Controller User Manual

MODEL: REWINDAGIC 1200W (48V, WITH SOFTWARE)

1. Introduction

This manual provides essential information for the safe and efficient operation of your NINILADY Rewindagic 1200W Wind Solar MPPT Hybrid Charge Controller. Please read this manual thoroughly before installation and use to ensure optimal performance and longevity of the product. This controller is designed for off-grid wind and solar power systems, managing power from both sources to charge batteries.

Key Features:

- **Waterproof Design:** Features waterproof, anti-corrosion, and insulated protections for the circuit board and housing.
- **Optional TTL232 Communication:** Standard TTL232 communication micro-port for easy system monitoring on a computer. Includes USB to RS232 cable for data exchange.
- **Reverse Connection Protection:** No damage occurs if solar power input is reverse-connected. The controller resumes operation after correction.
- **Boost MPPT Input Technology:** Automatic wind turbine MPPT (Maximum Power Point Tracking) mode or 5-segment matching curve input configuration to maximize power generation efficiency at low wind speeds.
- **Multiple Output Modes:** Offers various output modes including light control, time control, and morning light for diverse applications.

2. Safety Information

Always observe the following safety precautions to prevent injury or damage to the controller and connected equipment:

- Ensure all connections are correct and secure before applying power.

- Do not attempt to disassemble or repair the controller yourself. Contact qualified personnel for service.
- Install the controller in a well-ventilated area, away from flammable materials and direct sunlight.
- Wear appropriate personal protective equipment (PPE) during installation, including insulated gloves and eye protection.
- Verify battery voltage and polarity before connecting to the controller.
- The controller is designed for specific voltage systems (12V/24V AUTO, 48V). Ensure your system matches the controller's rating.

3. Product Overview

The Rewindagic 1200W Hybrid Charge Controller integrates wind and solar power management into a single unit. It features robust protection mechanisms and a user-friendly interface for monitoring and control.



Figure 3.1: Front view of the controller with clearly labeled Wind Input, Battery, Solar Input, and Output terminals.



Figure 3.2: Side view displaying the 'ENERGY MANAGER' digital screen and 'UP'/'DOWN' control buttons for navigation.



Figure 3.3: Top view of the controller, featuring a label with detailed specifications and operating modes.

4. Specifications

Feature	Specification
Rated System Voltage	48V (Auto 12V/24V models also available)
Rated Wind Power	1000W
Rated Solar Power	200W
Controller Power Mode	Battery and Solar
Maximum Input Voltage	60V
DC Output Current	Equal to Battery Voltage
Maximum Output Current	40A
Display Content	LED Display
Insulation Grade	IP41
Package Weight	1 kg

Protection Features:

- **Wind:** Over-speed protection, over-current protection, induced lightning strike protection.

- **Solar:** Reverse connection protection.
- **Battery:** Reverse polarity protection (fuse burn-out), over-voltage protection, low-voltage protection (for street lights).

5. Setup and Installation

Follow these steps for proper installation of your hybrid charge controller. Ensure all power sources are disconnected before making any connections.

1. **Mounting the Controller:** Select a dry, cool, and well-ventilated location. Mount the controller securely using appropriate fasteners. Ensure adequate space around the unit for heat dissipation.
2. **Battery Connection:** Connect the battery cables to the 'BATTERY' terminals on the controller. Ensure correct polarity (positive to positive, negative to negative). This connection should be made first.
3. **Solar Panel Connection:** Connect the solar panel cables to the 'SOLAR INPUT' terminals. Verify correct polarity.
4. **Wind Turbine Connection:** Connect the wind turbine cables to the 'WIND INPUT' terminals. Ensure proper phase connection for AC wind turbines or polarity for DC wind turbines.
5. **Load Output Connection (Optional):** If using the load output feature, connect your DC loads to the 'OUT+' and 'OUT-' terminals. Observe polarity.
6. **Power On:** Once all connections are secure, connect the battery bank. The controller display should illuminate. Then, connect the solar panels and wind turbine.



Figure 5.1: Close-up of the terminal block, showing clear labels for Wind Input, Battery, Solar Input, and Output connections.

6. Operating Instructions

The controller's LED display provides real-time system data. Use the 'UP' and 'DOWN' buttons to navigate

through different parameters.

Display Content:

- **Wind:** Input voltage, current, power, cumulative power, RPM, unloading current.
- **Solar:** Input voltage, current, power, cumulative power.
- **Battery:** Voltage, charging current, power, cumulative power.
- **System:** Remaining battery power, temperature.

Software Monitoring (for models with software):

Connect the controller to a computer using the provided USB to RS232 cable. Install the monitoring software (typically provided on a CD or available for download from the manufacturer's website). The software allows for detailed data logging, parameter configuration, and real-time system monitoring, enhancing control and analysis of your power system.

7. Maintenance

Regular maintenance ensures the longevity and optimal performance of your charge controller.

- **Cleaning:** Periodically clean the exterior of the controller with a dry, soft cloth. Ensure ventilation openings are free from dust and debris. Do not use liquid cleaners.
- **Connections:** Annually inspect all wiring connections for tightness and corrosion. Loose connections can cause overheating and poor performance.
- **Environment:** Ensure the installation environment remains within the specified operating temperature and humidity ranges.
- **Firmware Updates:** Check the manufacturer's website for any available firmware updates for your controller model.

8. Troubleshooting

This section addresses common issues you might encounter with your charge controller.

Problem	Possible Cause	Solution
Controller display is off	No power from battery or solar/wind input. Loose battery connection.	Check battery connections and voltage. Ensure solar/wind inputs are active.
No charging from solar panel	Solar panel disconnected or shaded. Reverse polarity. Faulty panel.	Check solar panel connections and polarity. Ensure panels are receiving sunlight. Test panel voltage.
No charging from wind turbine	Wind turbine disconnected. Insufficient wind speed. Faulty turbine.	Check wind turbine connections. Verify wind speed is adequate for generation. Test turbine output.
Over-voltage or Low-voltage alarm	Battery voltage outside safe operating range.	Check battery health and charge level. Ensure system voltage matches controller rating.
Software not connecting	Incorrect cable connection. Driver issues. Software not installed correctly.	Verify USB to RS232 cable is securely connected. Install necessary drivers. Reinstall software.

9. Warranty and Support

NINILADY products are manufactured to high-quality standards. This product comes with a standard manufacturer's warranty covering defects in materials and workmanship under normal use. Please refer to your purchase documentation for specific warranty terms and duration.

For technical support, troubleshooting assistance, or warranty claims, please contact your retailer or the manufacturer directly. Have your product model number and purchase date available when contacting support.