

WERCHTAY 100W

WERCHTAY 100 Watt Monocrystalline Solar Panel User Manual

1. INTRODUCTION

This manual provides essential information for the safe and efficient use of your WERCHTAY 100 Watt Monocrystalline Solar Panel. Please read these instructions thoroughly before installation and operation to ensure optimal performance and longevity of your solar panel. This product is designed to convert sunlight into electrical energy for various off-grid applications, including homes, camping, RVs, boats, and caravans.

2. SAFETY INFORMATION

- Always wear appropriate personal protective equipment (PPE) such as gloves and eye protection during installation and maintenance.
- Do not attempt to disassemble or modify the solar panel. Unauthorized modifications can void the warranty and pose safety risks.
- Avoid touching the electrical terminals with bare hands when the panel is exposed to sunlight, as it can generate voltage.
- Ensure all wiring connections are secure and properly insulated to prevent electrical shock or short circuits.
- Keep the solar panel away from flammable gases or liquids.
- Mount the solar panel securely to prevent it from falling or being dislodged by wind.
- In case of damage to the glass or frame, do not attempt to repair it. Contact customer support.

3. PRODUCT OVERVIEW

The WERCHTAY 100 Watt Monocrystalline Solar Panel is a high-efficiency module designed for reliable power generation. It features 18 BB (Busbar) cells, contributing to its enhanced performance and durability. The panel is constructed with robust materials to withstand various environmental conditions.

3.1 Key Features

- **High Efficiency:** Utilizes monocrystalline silicon cells with an efficiency of 24% for optimal power conversion.
- **Durable Construction:** Features an anti-corrosion frame and IP68 waterproof junction box and connectors for long-term outdoor use.
- **Easy Installation:** Equipped with pre-drilled mounting holes for convenient setup.
- **Weather Resistant:** Designed to withstand significant wind loads (2400Pa) and snow loads (5400Pa).

3.2 Components

The solar panel consists of several layers and components working together to generate electricity.





Figure 1: Front and back view of the WERCHTAY 100 Watt Monocrystalline Solar Panel, showing the solar cells and the junction box with cables.

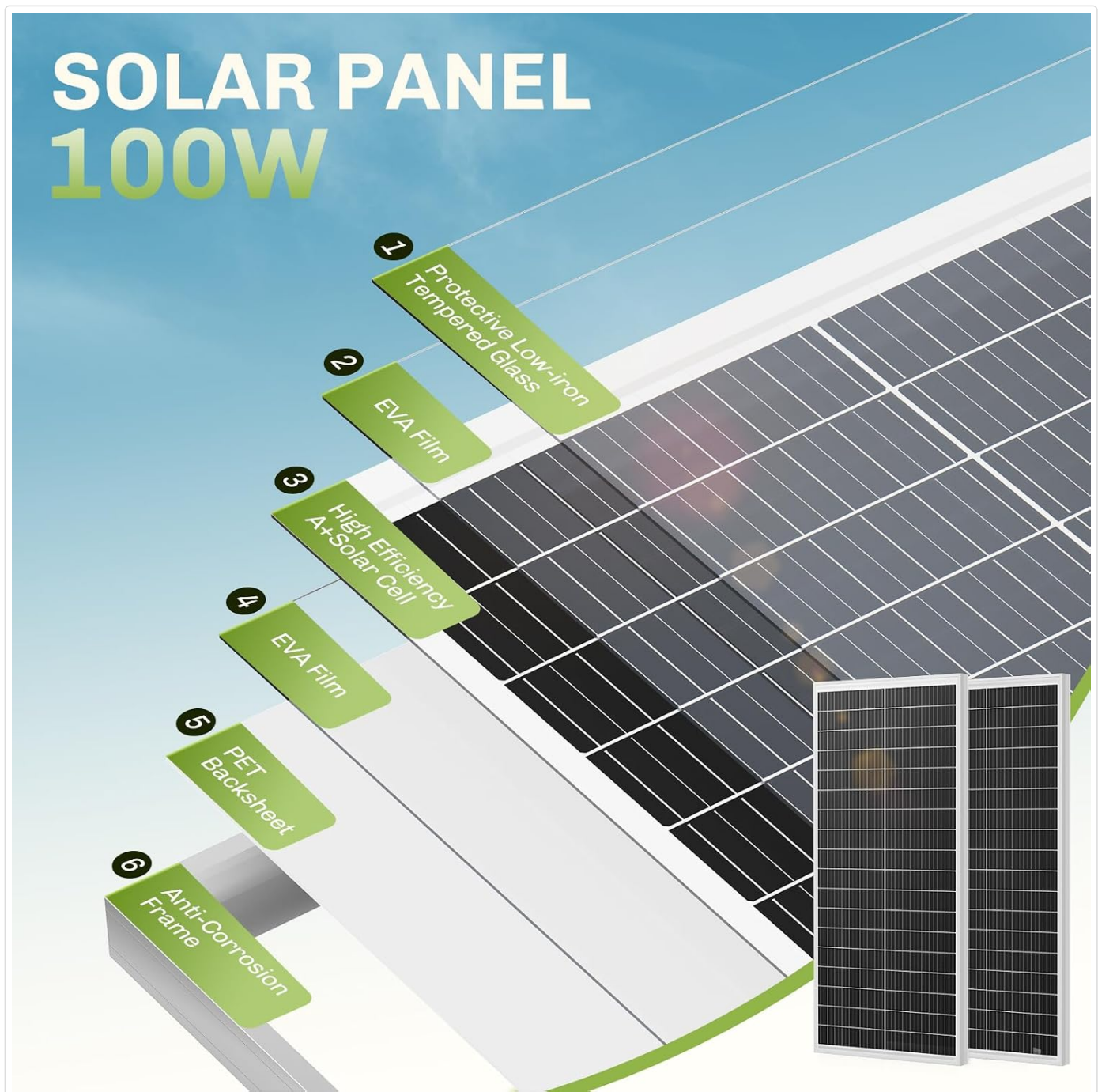


Figure 2: Exploded view diagram illustrating the layers of the solar panel, including protective low-iron tempered glass, EVA film, high-efficiency A+ solar cell, PET backsheet, and anti-corrosion frame.



Figure 3: Detailed view highlighting key features such as the IP68 waterproof junction box, easy mounting pre-drilled holes, anti-corrosion frame, and IP68 waterproof MC-4 connectors.

4. SETUP AND INSTALLATION

Proper installation is crucial for the performance and safety of your solar panel. Consider the following steps:

4.1 Site Selection

- Choose a location that receives maximum direct sunlight throughout the day, free from shading by trees, buildings, or other obstructions.
- Consider the angle and orientation of the panel to optimize sun exposure based on your geographical location and seasonal variations.

4.2 Mounting

- Use appropriate mounting hardware (not included) suitable for the chosen surface (e.g., rooftop, RV, boat deck, ground mount).
- Securely fasten the panel using the pre-drilled holes on the frame. Ensure the mounting structure is strong enough to support the panel's weight and withstand wind loads.
- Maintain adequate ventilation around and beneath the panel to prevent overheating, which can reduce efficiency.

APPLICABLE INSTALLATION SCENARIOS



Figure 4: Examples of applicable installation scenarios, including residential rooftops, RVs, boats, and carports.

4.3 Electrical Connections

- Connect the solar panel to a compatible charge controller using the integrated MC-4 connectors.
- Ensure correct polarity (+ to + and - to -) when connecting to the charge controller and battery bank. Incorrect wiring can cause damage to the system.
- If connecting multiple panels, consult a qualified electrician or refer to specific wiring diagrams for series or parallel configurations.

5. OPERATING INSTRUCTIONS

Once installed and connected, the WERCHTAY 100 Watt Monocrystalline Solar Panel operates automatically by converting sunlight into electricity. The charge controller will regulate the power flow to your battery bank or connected devices.

- Ensure the solar panel is exposed to direct sunlight for optimal power generation.
- Monitor your charge controller's display (if applicable) to verify proper charging and battery status.
- The panel is designed for 12V/24V systems. Ensure your charge controller and battery bank are compatible with the panel's voltage output.

GRADE A+ SOLAR CELL



Figure 5: Illustration demonstrating the solar panel's high conversion rate, showing daytime optical energy conversion to night electric energy with 25% higher conversion rate.

6. MAINTENANCE

Regular maintenance helps ensure the long-term performance and efficiency of your solar panel.

- **Cleaning:** Periodically clean the surface of the solar panel to remove dust, dirt, leaves, or other debris that may obstruct sunlight. Use a soft cloth and mild, non-abrasive cleaning solution with water. Avoid harsh chemicals or abrasive materials.
- **Inspection:** Regularly inspect the panel for any physical damage, such as cracks in the glass, bent frames, or loose connections. Check wiring for signs of wear or damage.
- **Connections:** Ensure all electrical connections remain tight and free from corrosion.
- **Shading:** Monitor the installation area for new sources of shading that may develop over time (e.g., growing trees).



Figure 6: The solar panel installed on a rooftop, demonstrating its ability to withstand various weather conditions, including wind loads up to 2400Pa and snow loads up to 5400Pa.

7. TROUBLESHOOTING

If your solar panel system is not performing as expected, consider the following common issues and solutions:

7.1 Low or No Power Output

- **Check for Shading:** Ensure the panel is not shaded by any objects. Even partial shading can significantly reduce output.
- **Clean the Panel:** Dust, dirt, or debris on the panel surface can reduce efficiency. Clean the panel as described in the Maintenance section.
- **Inspect Connections:** Verify that all electrical connections (MC-4 connectors, wiring to charge controller) are secure and free from corrosion or damage.
- **Check Charge Controller:** Ensure the charge controller is functioning correctly and is set to the appropriate battery type and voltage. Refer to your charge controller's manual.
- **Sunlight Conditions:** Power output will naturally be lower on cloudy days or during early morning/late afternoon hours.

7.2 Battery Not Charging

- **Verify Panel Output:** Check if the solar panel is producing voltage and current (requires a multimeter).
- **Charge Controller Status:** Check the indicators on your charge controller for error codes or charging status.
- **Battery Health:** Ensure your battery is in good condition and capable of accepting a charge.

8. SPECIFICATIONS

Attribute	Value
Brand	WERCHTAY
Model Number	100W
Material	Monocrystalline Silicon
Maximum Power	100 Watts
Efficiency	24%
Product Dimensions (L x W x H)	39.76" x 18.11" x 1.18" (101cm x 46cm x 3cm)
Item Weight	12.32 pounds (5.6 Kilograms)
Maximum Voltage	19.5 Volts
AC Adapter Current	5.13 Amps
Upper Temperature Rating	55 Degrees Celsius
Included Components	Case (referring to the junction box)
Power Source	Battery Powered (intended for charging batteries)
Color	White (frame)

9. WARRANTY AND SUPPORT

For warranty information or technical support, please refer to the product packaging or contact WERCHTAY customer service directly. Keep your purchase receipt as proof of purchase for any warranty claims.

For further assistance, please visit the [WERCHTAY Store on Amazon](#).

Ask a question about this manual

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

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Email

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After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question