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› WERCHTAY 100 Watt Solar Panel Kit Instruction Manual

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INSTRUCTION MANUAL

Product Overview

The WERCHTAY 100 Watt Solar Panel Kit is designed to provide efficient and reliable power for various off-grid applications. This kit includes a 100W monocrystalline solar panel, a 10A solar charge controller, solar cables, and Z-mounting brackets, making it suitable for RVs, marine setups, camping, trailers, and other 12V battery charging needs. Key features include a high conversion rate with A+ grade monocrystalline solar cells, a smart 3-stage PWM charge controller for optimal battery charging, and durable construction designed to withstand harsh weather conditions.



Figure 1: Complete WERCHTAY 100 Watt Solar Panel Kit, showing the solar panel, charge controller, connecting cables, and Z-mounting brackets.

APPLICABLE SCENARIOS



Figure 2: Various applications for the solar panel kit, including sunrooms, greenhouses, RVs, marine vessels, and residential rooftops.

Setup and Installation

The WERCHTAY 100 Watt Solar Panel Kit is designed for easy installation with its plug-and-play connectors and pre-drilled holes on the panel frame. Follow these steps for a successful setup:

- 1. Unpack Components:** Carefully remove all items from the packaging. Verify that you have the 100W solar panel, 10A charge controller, 4 Z-mounting brackets, and connecting cables.
- 2. Choose Mounting Location:** Select a location that receives maximum direct sunlight throughout the day. The Z-mounting brackets are ideal for securing the panel to flat surfaces like RV rooftops, boat decks, or shed roofs.
- 3. Mount the Solar Panel:** Use the provided Z-mounting brackets and hardware to securely attach the solar panel to your chosen surface. Ensure the panel is firmly fixed to prevent movement due to wind or vibration.
- 4. Connect the Charge Controller:** Connect the solar panel to the 10A solar charge controller using the provided solar cables. Ensure correct polarity (positive to positive, negative to negative). The controller is compatible with both 12V and 24V systems.

5. **Connect to Battery:** Connect the charge controller to your 12V rechargeable battery (e.g., LiFePO₄, Lithium Ion, AGM, SLA, GEL, EFB, MF) using appropriate battery cables (not included). Always connect the battery to the controller first, then the solar panel.
6. **Connect to Load (Optional):** If you are connecting a DC load directly to the controller, ensure the load's voltage and current requirements are within the controller's specifications.

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Video 1: Unboxing and overview of the WERCHTAY solar panel, demonstrating its compact size, plug-and-play connectors, and durable construction suitable for various outdoor applications.

High Quality Materials for Long Use

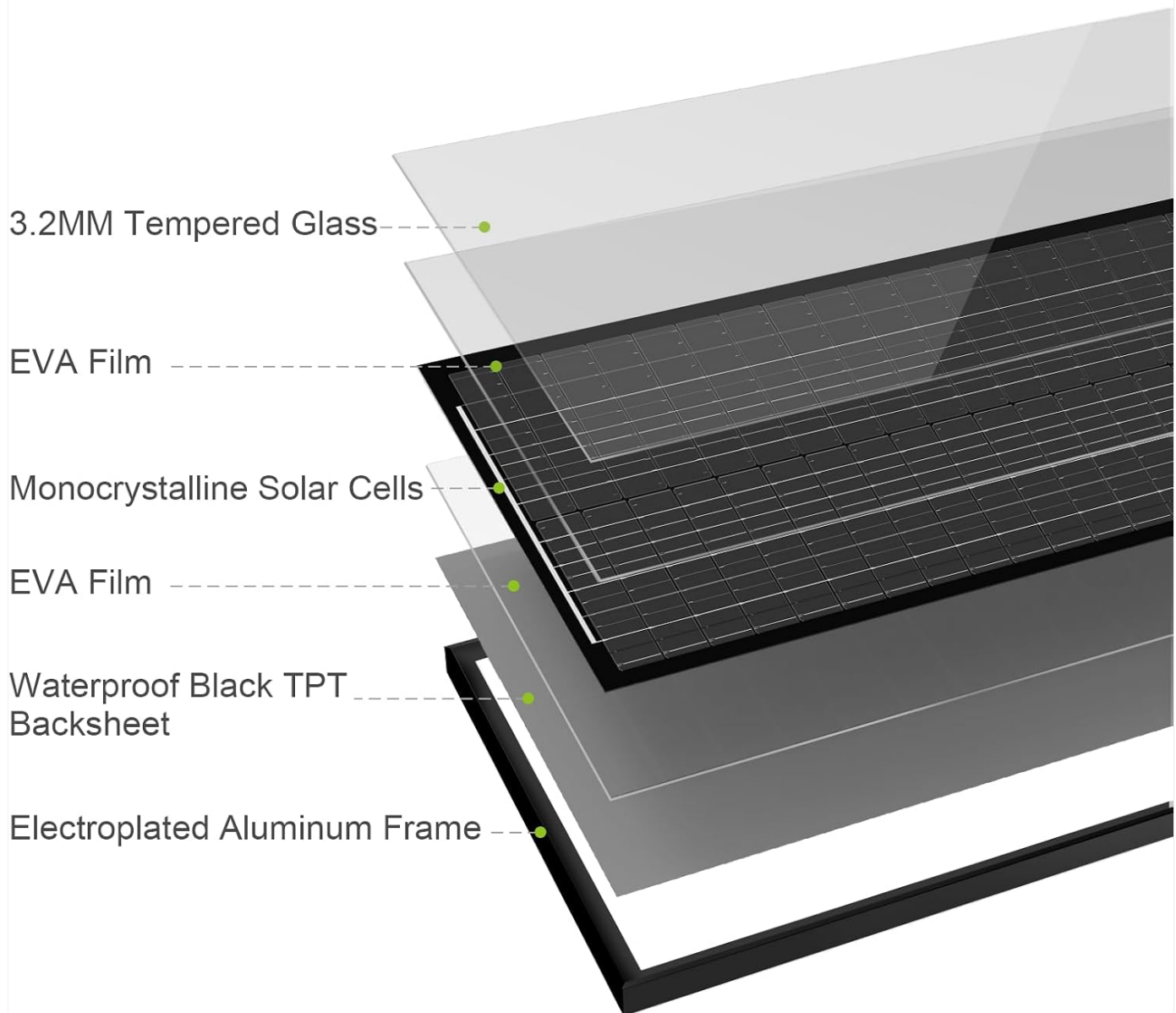


Figure 3: Diagram illustrating a typical solar panel system setup for residential use, showing connections between solar panels, charge controller, battery, and household appliances.

Operating Principles

The WERCHTAY 100 Watt Solar Panel converts sunlight directly into electrical energy. This energy is then regulated by the 10A solar charge controller before being stored in your connected 12V battery. The controller employs a 3-stage PWM (Pulse Width Modulation) regulation charging mode, which includes direct charge, lifting charge, and floating

charge, to optimize battery health and lifespan.

The monocrystalline A+ solar cells ensure a high efficiency conversion rate of up to 24%, maximizing power generation even in varying light conditions. The panel is designed to output approximately 500Wh of power per day with 5-6 hours of direct sunlight.



Figure 4: Illustration of the solar panel's daily power output (500Wh) and key features such as high transmittance, anti-UV, anti-aging properties, and ability to generate electricity in low light conditions.

Maintenance

Regular maintenance ensures optimal performance and longevity of your solar panel kit. The WERCHTAY solar panel is constructed with high-quality materials designed for durability and resistance to environmental factors.

- **Cleaning:** Periodically clean the surface of the solar panel with a soft cloth and water to remove dust, dirt, leaves, or other debris that may reduce efficiency. Avoid abrasive cleaners or harsh chemicals.
- **Inspection:** Regularly inspect the solar panel, wiring, and connections for any signs of damage, corrosion, or loose connections. Ensure all mounting hardware remains secure.

- **Weather Resistance:** The panel features a low-iron tempered glass surface and a corrosion-resistant aluminum frame, capable of withstanding high winds (2400Pa) and snow loads (5400Pa). It is 100% waterproof and rustproof, designed for decades of use.

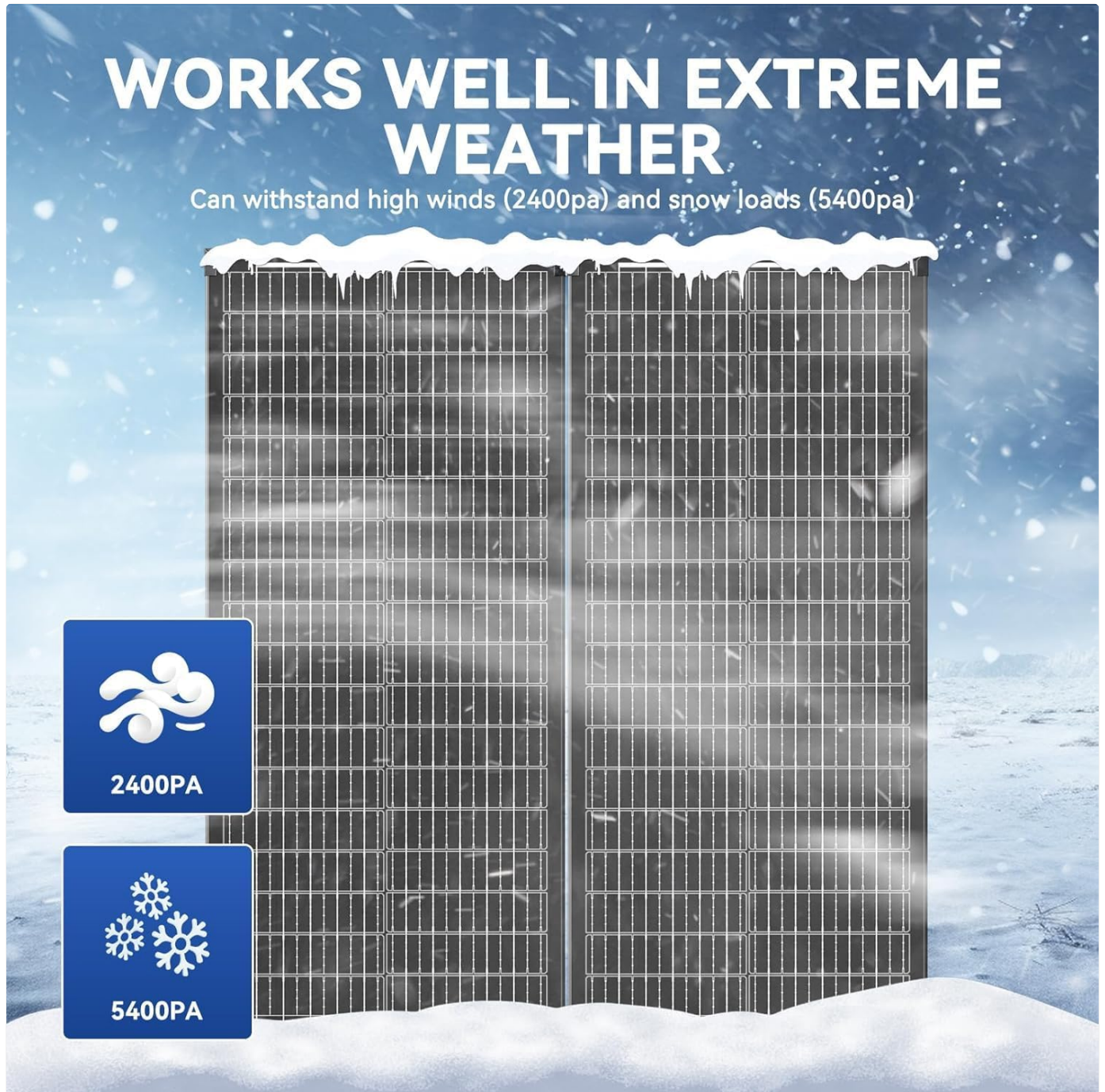


Figure 5: Exploded view showing the high-quality material layers of the solar panel, including 3.2MM Tempered Glass, EVA Film, Monocrystalline Solar Cells, Waterproof Black TPT Backsheet, and Electroplated Aluminum Frame.

CHARGE CONTROLLER USAGE

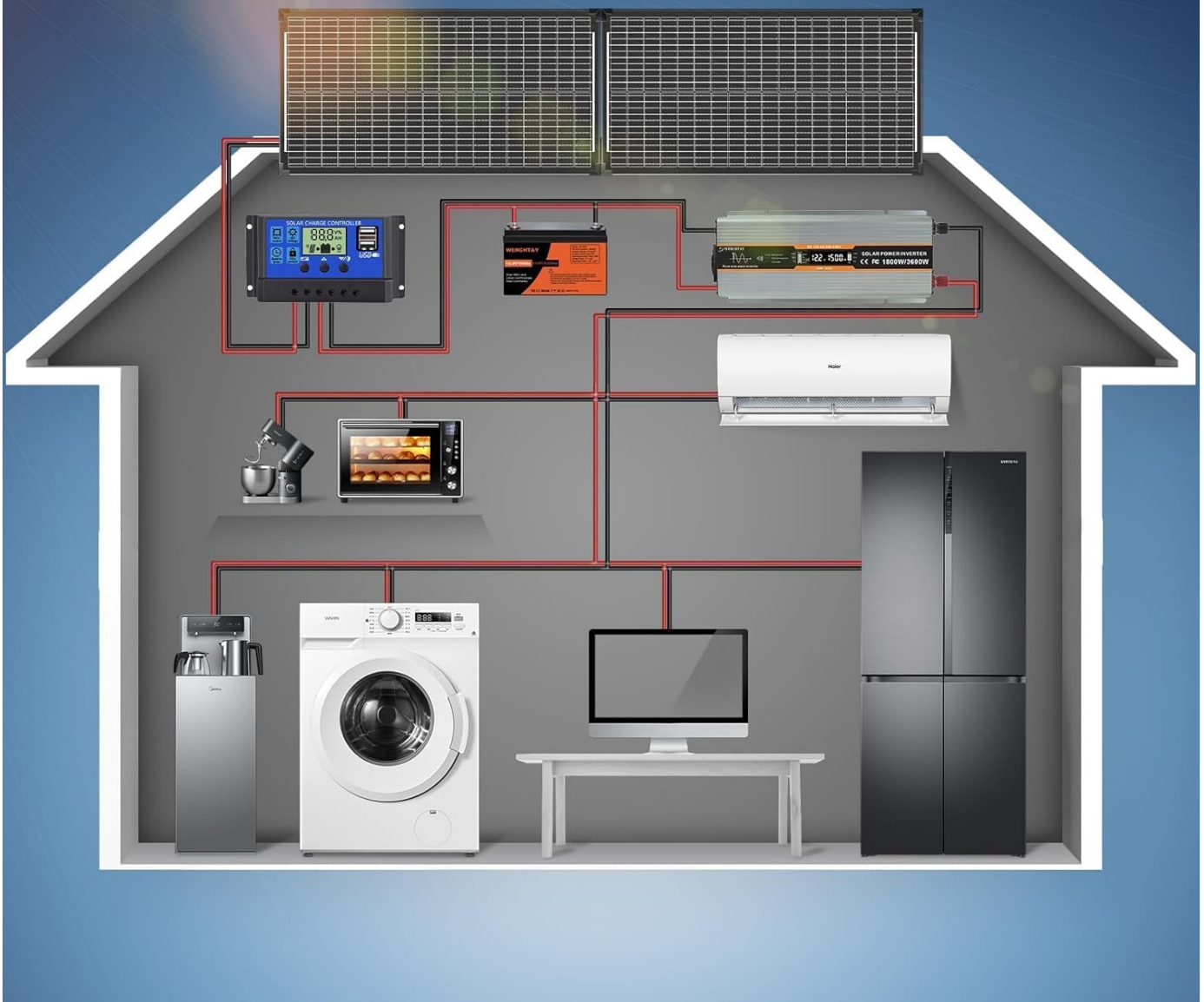


Figure 6: Visual representation of the solar panel's ability to withstand extreme weather conditions, specifically high wind loads (2400Pa) and heavy snow loads (5400Pa).

Troubleshooting

If you encounter issues with your solar panel kit, consider the following common troubleshooting steps:

- **No Power Output:**
 - Check all cable connections for secure and correct polarity.
 - Ensure the solar panel is receiving direct sunlight and is not shaded.
 - Verify the charge controller display for error codes or status indicators.
 - Inspect cables for any cuts or damage.
- **Battery Not Charging:**
 - Confirm the battery is properly connected to the charge controller.

- Check the battery voltage; if it's too low, the controller might not initiate charging.
- Ensure the solar panel is producing sufficient voltage (refer to specifications).
- **Controller Malfunction:** The 10A charge controller has built-in overcurrent protection, short circuit protection, reverse connection protection, and open circuit protection. Most issues will result in automatic recovery without damage to the controller. If problems persist, contact customer support.

Specifications

Feature	Detail
Brand	WERCHTAY
Model	100 Watt Solar Panel Kit
Material	Monocrystalline
Product Dimensions (L x W x H)	39.76" x 18.11" x 1.18" (1010 x 460 x 30 mm)
Item Weight	12 Pounds (5.44 kg)
Efficiency	24% (A+ Grade Cells)
Maximum Power (Pmax)	100 Watts
Maximum Voltage	19.5 Volts
AC Adapter Current	5.13 Amps
Output Voltage	12 Volts
Charge Controller	10A 12V/24V PWM Solar Charge Controller
Included Components	100W Solar Panel, 10A Charger Controller, 4 Z-Mounting Brackets, Connecting Cables
Wind Load Resistance	2400 Pa
Snow Load Resistance	5400 Pa

PRODUCT SIZE

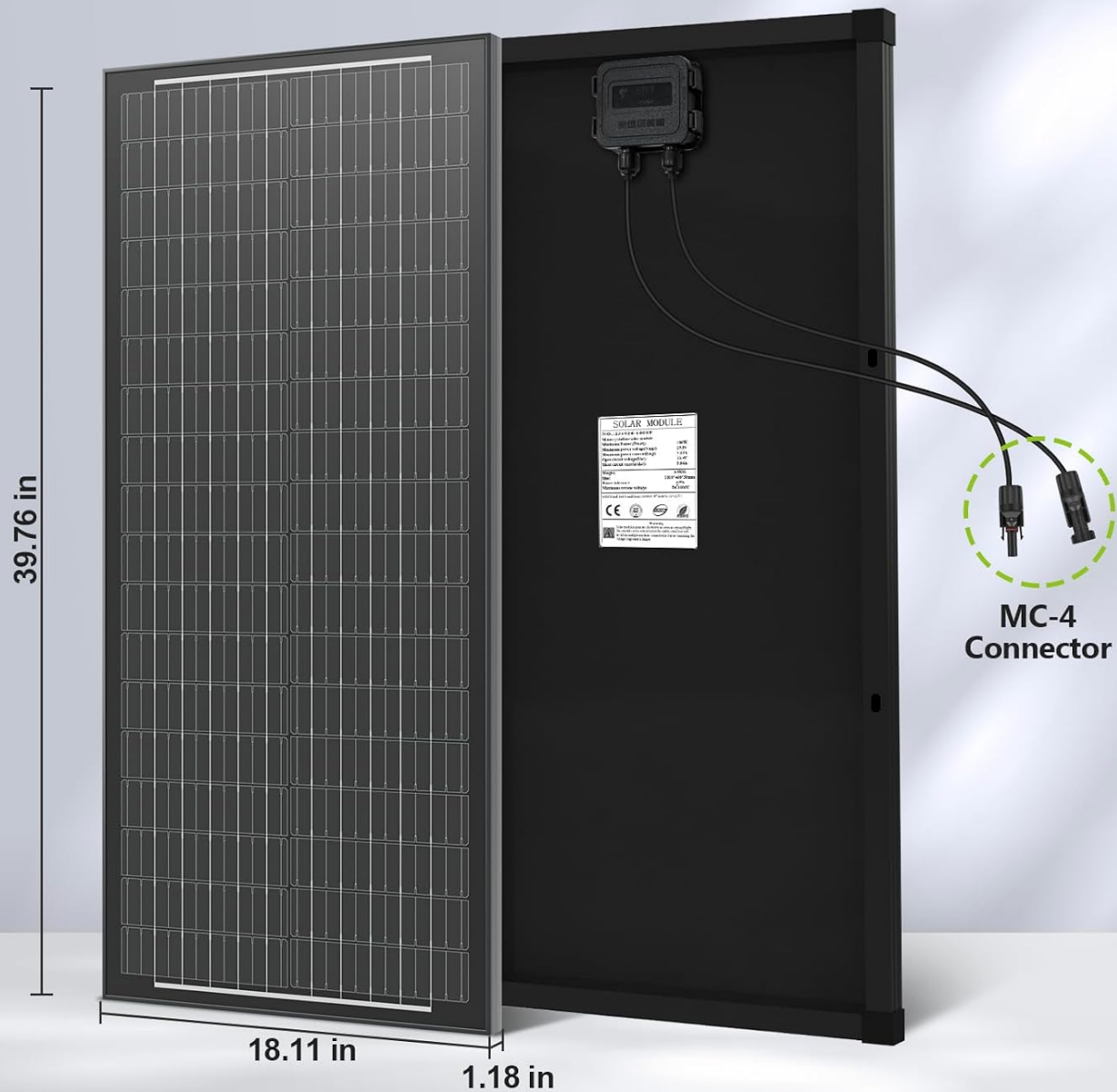
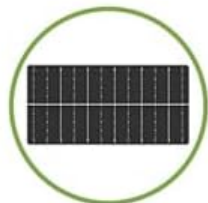


Figure 7: Detailed dimensions of the WERCHTAY 100 Watt Solar Panel, highlighting its length, width, and thickness for installation planning.

BLACK BACKSHEET FOR HIGHER EFFICIENCY GENERATION



A+ Grade Cells



Monocrystalline



High Efficiency
Conversion

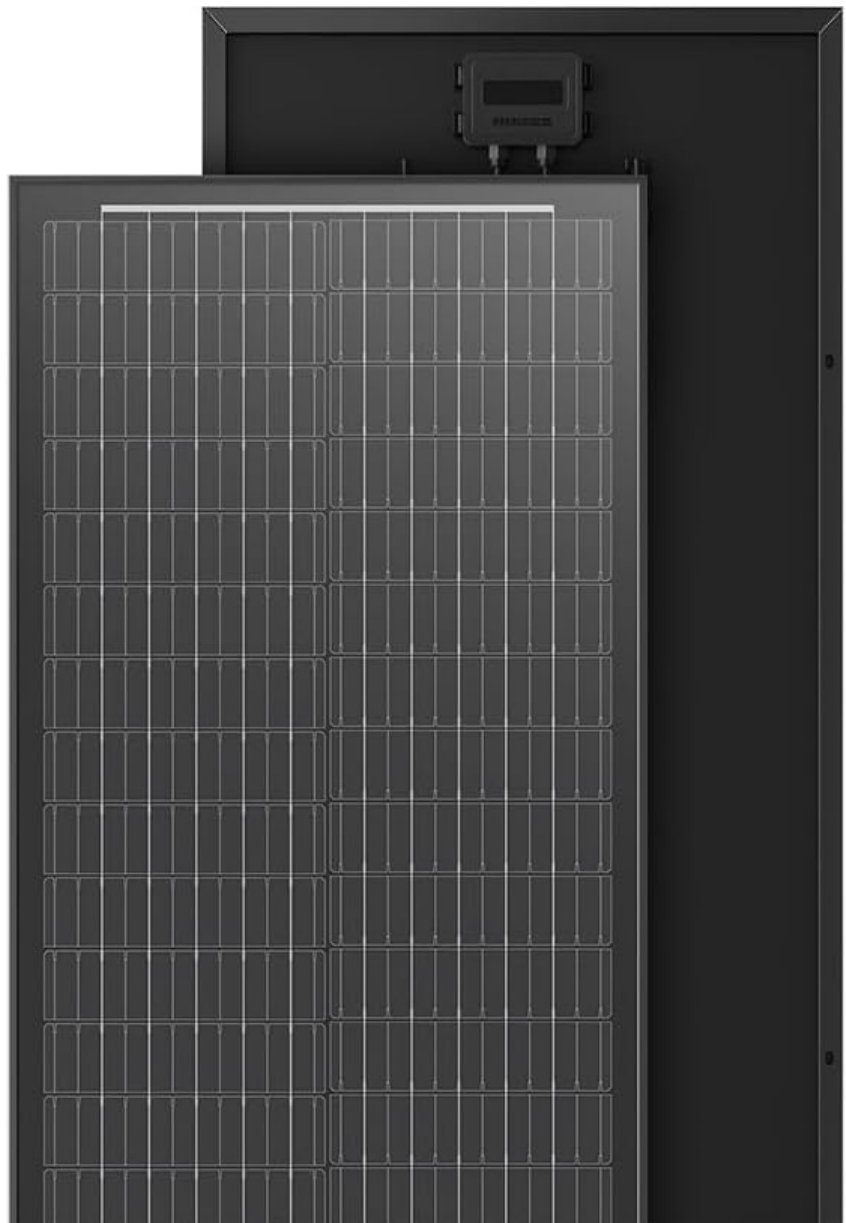


Figure 8: Information on the solar panel's efficiency, highlighting A+ Grade Cells, Monocrystalline technology, and 25% high efficiency conversion.

Warranty and Support

WERCHTAY is committed to providing high-quality products and excellent customer service. Your 100 Watt Solar Panel Kit comes with comprehensive support:

- **After-Sale Service:** We provide one year after-sale service from the date of purchase.
- **Technical Support:** Lifetime technical support is available for all your product-related queries and assistance.
- **Customer Service:** Our 7x24 hours after-sales service team is dedicated to ensuring your questions are answered promptly, typically within one day.

For any inquiries or support needs, please refer to the contact information provided with your purchase or visit the official

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.

Name

Anonymous

Email

you@example.com

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