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› SGPWOSAY SUNGOLDPOWER SG-Panel-460WBG 460W Bifacial Monocrystalline Solar Panel User Manual

**SGPWOSAY SG-Panel-460WBG**

# **SGPWOSAY SUNGOLDPOWER SG-Panel-460WBG 460W Bifacial Monocrystalline Solar Panel User Manual**

Model: SG-Panel-460WBG

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## **1. INTRODUCTION**

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This manual provides essential information for the safe and efficient installation, operation, and maintenance of your SGPWOSAY SUNGOLDPOWER 460W Bifacial Monocrystalline Solar Panels. Please read this manual thoroughly before installation and retain it for future reference.

The SUNGOLDPOWER 16BB N-Type 460W Bifacial Monocrystalline PERC solar panel is designed for high efficiency, capable of generating up to 30% more energy compared to standard monofacial panels by absorbing light from both sides. These panels offer high durability against various climatic conditions, including heat, cold, snow, and wind.



Figure 1: SUNGOLDPOWER 460W Bifacial Monocrystalline Solar Panel.



Figure 2: Comparison illustrating the energy generation advantage of bifacial solar panels over monofacial panels. Bifacial panels can generate up to 598W from both sides, while monofacial panels generate up to 460W from one side, resulting in 30% more energy generation for bifacial panels. They are ideal for elevated, flat surfaces.

## 2. SAFETY INSTRUCTIONS

Always prioritize safety during installation and operation. Failure to follow these instructions may result in injury or damage to the product.

- **Electrical Hazard:** Solar panels generate electricity when exposed to light. Avoid contact with live electrical parts.
- **Qualified Personnel:** Installation should only be performed by qualified personnel with knowledge of electrical systems and local building codes.
- **Handling:** Handle panels with care. Do not drop, scratch, or apply excessive pressure to the glass surface.
- **Tools:** Use insulated tools when working with electrical connections.
- **Fire Hazard:** Do not install panels near flammable gases or vapors.
- **Personal Protective Equipment (PPE):** Wear appropriate PPE, including safety glasses, gloves, and

protective footwear.

- **Working at Heights:** Exercise extreme caution when working on rooftops or elevated structures. Use appropriate fall protection.

### 3. PACKAGE CONTENTS

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Each package contains the following items:

- SUNGOLDPOWER 460W Bifacial Monocrystalline Solar Panel (Quantity: 2 per package, if purchased as a 2-pack)

*Note: Mounting hardware and cabling are typically sold separately and are not included in the standard panel package.*

### 4. SETUP AND INSTALLATION

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These solar panels are designed for versatile installation, accommodating various methods without requiring complex calculations for mounting and tilt angles. However, proper planning and secure mounting are crucial for optimal performance and safety.

1. **Site Selection:** Choose an installation location that receives maximum sunlight throughout the day, free from shading. Consider the structural integrity of the mounting surface.
2. **Mounting Structure:** Install a robust mounting structure suitable for solar panels. The panels feature a corrosion-resistant aluminum frame and preserved mounting holes for secure attachment. Ensure the structure can withstand local wind and snow loads.
3. **Panel Mounting:** Carefully lift and position each solar panel onto the mounting structure. Secure the panels using appropriate bolts and clamps through the preserved mounting holes. Refer to local building codes and manufacturer guidelines for specific mounting requirements.
4. **Electrical Connections:** Connect the solar panels in series or parallel as required by your solar system design. Ensure all connections are tight and waterproof. Use appropriate MC4 connectors and cabling. Always connect the ground wire.
5. **System Integration:** Connect the solar panel array to your charge controller, inverter, and battery bank (if applicable) according to their respective manuals.

## Product size & details

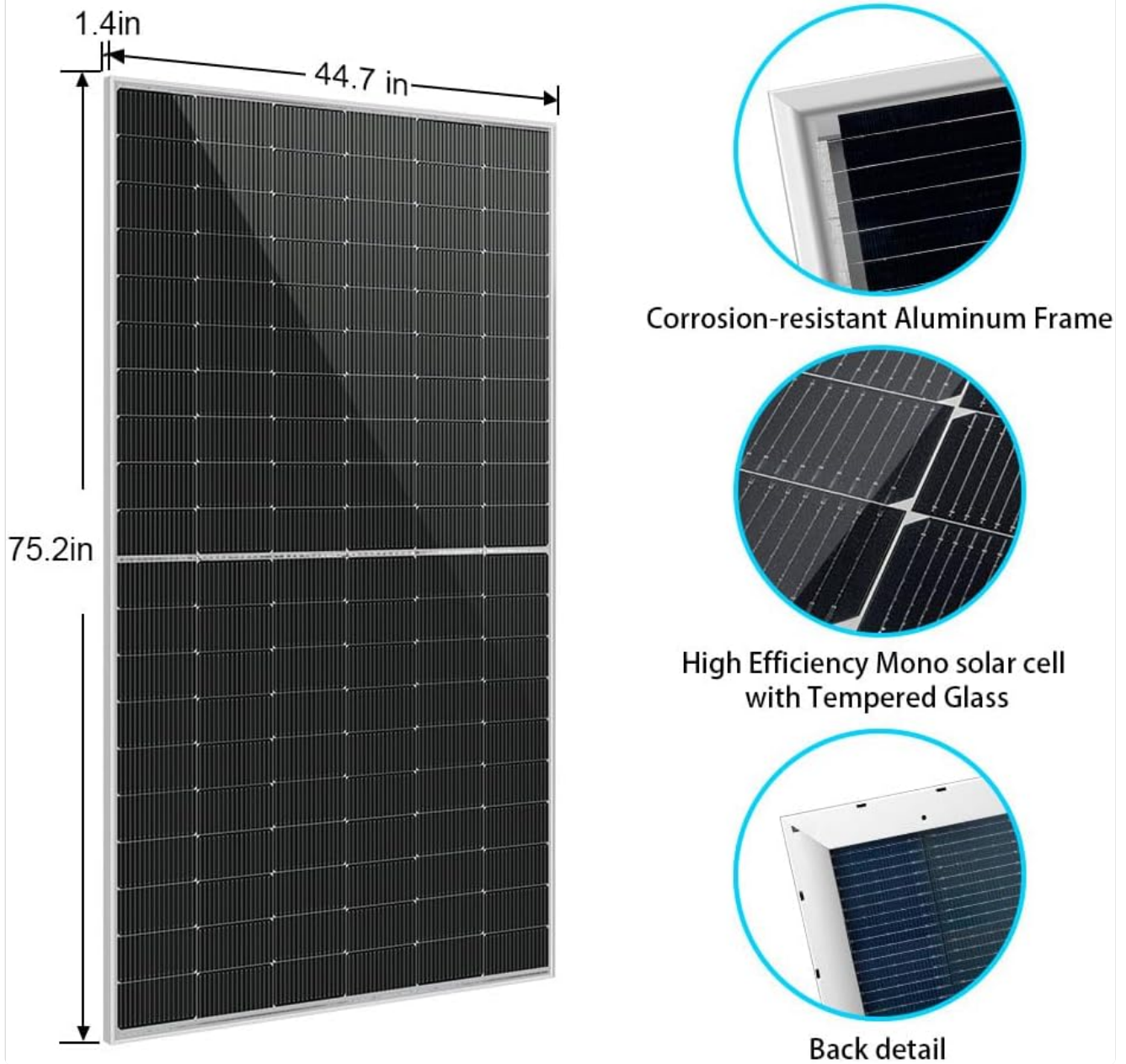


Figure 3: Detailed view of the solar panel showing its dimensions (approximately 75.2 inches x 44.7 inches x 1.4 inches), corrosion-resistant aluminum frame, high-efficiency mono solar cells with tempered glass, and back detail.

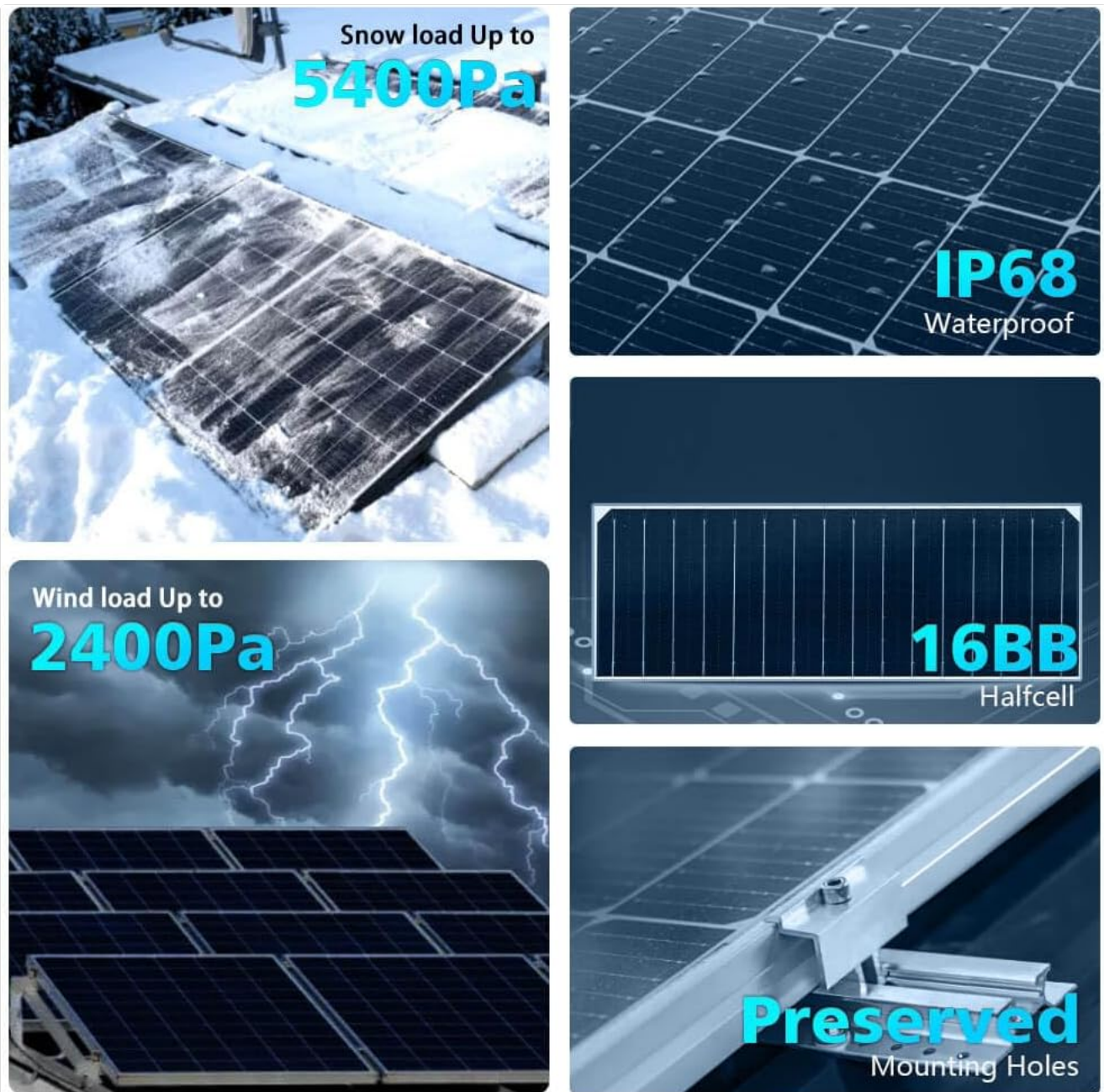


Figure 4: Illustrates the durability features of the solar panel, including snow load tolerance up to 5400Pa, wind load tolerance up to 2400Pa, IP68 waterproof rating, 16BB half-cell technology, and preserved mounting holes for secure installation.

## 5. OPERATING INSTRUCTIONS

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Once installed and connected, your SUNGOLDPOWER solar panels will begin generating electricity when exposed to sunlight. The bifacial design allows for power generation from both the front and rear sides, maximizing energy harvest, especially in elevated or reflective environments.

- **Monitoring:** Regularly monitor your solar system's performance through your charge controller or inverter display to ensure optimal energy production.
- **Shading:** Minimize shading on the panels as much as possible, as even partial shading can significantly reduce output.
- **Environmental Factors:** Output will vary based on sunlight intensity, temperature, and panel cleanliness.

## 6. MAINTENANCE

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Regular maintenance ensures the longevity and efficiency of your solar panels.

- **Cleaning:** Clean the panel surfaces periodically to remove dust, dirt, leaves, and other debris that can reduce efficiency. Use a soft cloth and water. Avoid abrasive cleaners or harsh chemicals.
- **Inspection:** Annually inspect the panels for any physical damage, such as cracks in the glass or frame. Check all electrical connections for corrosion or looseness.
- **Snow Removal:** While panels are designed to withstand snow loads up to 5400Pa, heavy snow accumulation can block sunlight. Carefully remove snow using a soft brush or squeegee, avoiding sharp objects.
- **Vegetation Control:** Trim any nearby trees or vegetation that may cause shading.

## 7. TROUBLESHOOTING

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

- **Low Power Output:**
  - Check for shading on the panels.
  - Ensure panels are clean and free of debris.
  - Verify all electrical connections are secure and free of corrosion.
  - Confirm the inverter or charge controller is operating correctly.
- **No Power Output:**
  - Check all circuit breakers and fuses in the system.
  - Inspect wiring for any disconnections or damage.
  - Ensure there is sufficient sunlight.
- **Physical Damage:**
  - If a panel is physically damaged (e.g., cracked glass), it may need replacement. Do not attempt to repair damaged panels yourself.

For persistent issues, contact customer support or a qualified solar technician.

## 8. SPECIFICATIONS

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Technical specifications for the SGPWOSAY SUNGOLDPOWER SG-Panel-460WBG 460W Bifacial Monocrystalline Solar Panel:

<b>Feature</b>	<b>Specification</b>
Model Number	SG-Panel-460WBG
Peak Power (Pmax)	460W
Open-Circuit Voltage (Voc)	41.75V
Voltage at Pmp (Vmp)	34.5V
Optimum Circuit Current (Imp)	13.3A
Short-Circuit Current (Isc)	14.13A
Material	Monocrystalline Silicon
Product Dimensions (L x W x H)	191.01 x 113.54 x 3.56 cm (75.2 x 44.7 x 1.4 inches)
Item Weight	27.44 kg
Special Feature	Bifacial
Maximum Power (System)	920 Watts (for 2 panels)
IP Rating	IP68 Waterproof
Snow Load Tolerance	Up to 5400Pa
Wind Load Tolerance	Up to 2400Pa
Cell Type	16BB Halfcell

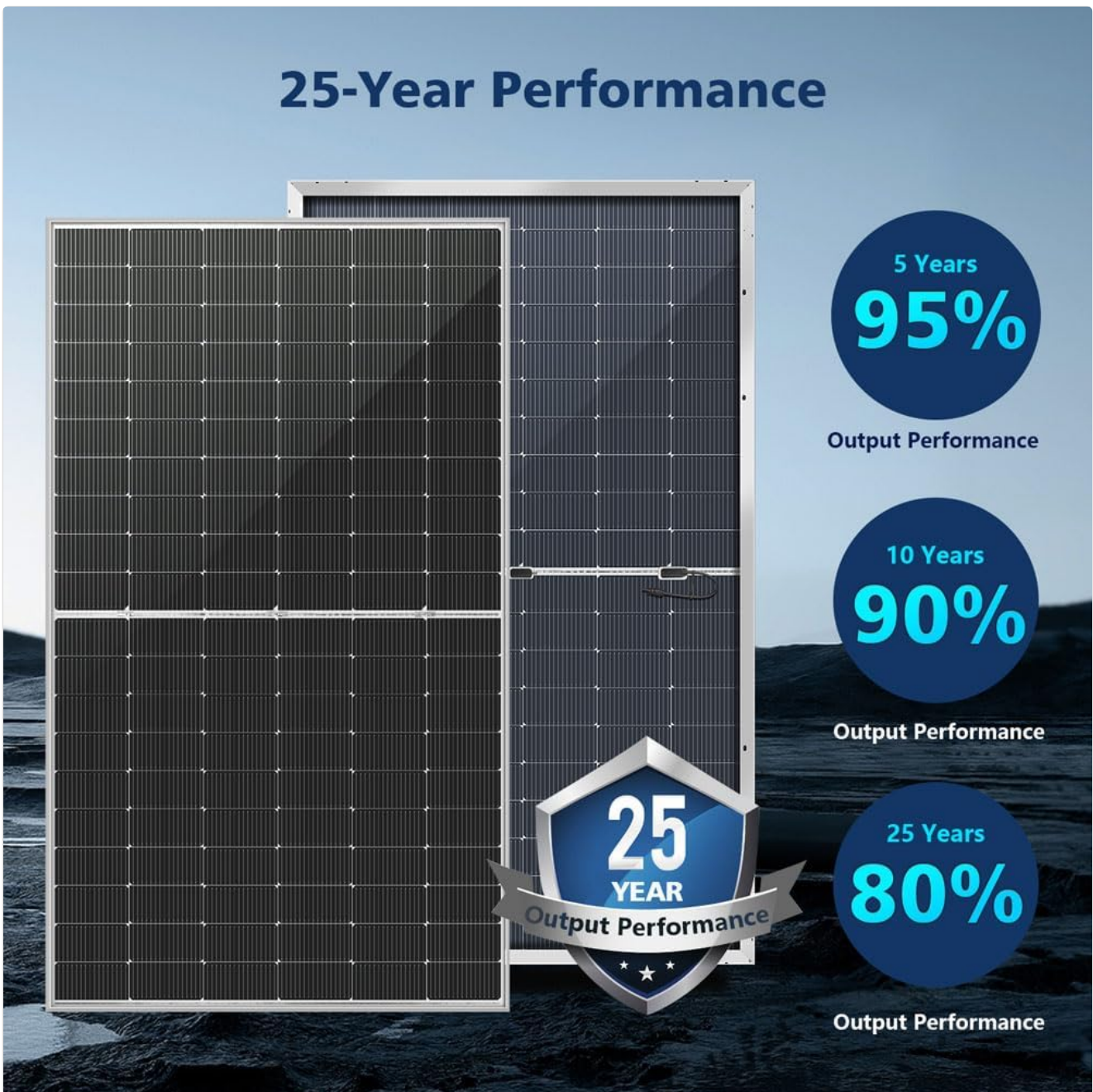


Figure 5: Illustrates the 25-year performance guarantee, showing 95% output performance after 5 years, 90% after 10 years, and 80% after 25 years.

## 9. WARRANTY AND SUPPORT

SGPWOSAY SUNGOLDPOWER solar panels come with a performance warranty, ensuring reliable energy output over time. As indicated, the panels are designed to maintain 95% output performance after 5 years, 90% after 10 years, and 80% after 25 years.

For warranty claims, technical assistance, or customer support, please refer to the contact information provided at the point of purchase or visit the official SGPWOSAY website.

You may also be eligible for residential clean energy tax credits if your solar PV system was installed in the US between January 1, 2017, and December 31, 2034. Consult with a tax professional for eligibility details.