Callsun Callsun-DB200W

Callsun N-Type 16BB 400W Bifacial Solar Panel (2 Pack 200W) Instruction Manual

Model: Callsun-DB200W

1. Introduction

This manual provides essential information for the safe and efficient installation, operation, and maintenance of your Callsun N-Type 16BB 400W Bifacial Solar Panel system. Please read this manual thoroughly before using the product and retain it for future reference. Proper adherence to these instructions will ensure optimal performance and longevity of your solar panels.

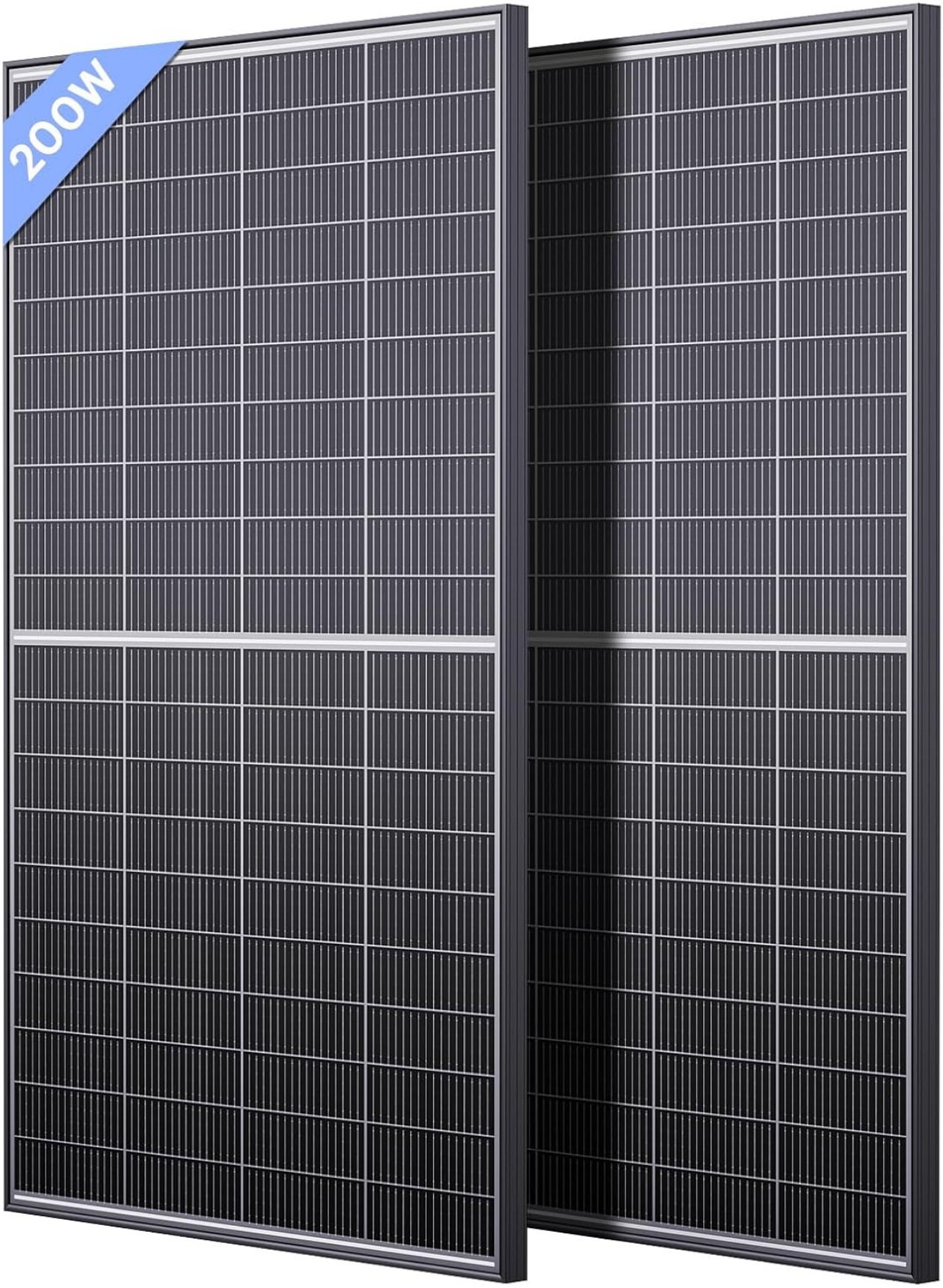

Figure 1: Callsun N-Type 16BB 200W Bifacial Solar Panels (2-pack)

2. Safety Information

- Always wear appropriate personal protective equipment (PPE) during installation and maintenance.
- Do not attempt to disassemble or modify the solar panel. Unauthorized modifications can void the warranty and pose safety risks.

- Ensure all electrical connections are secure and properly insulated to prevent electric shock.
- Avoid touching the solar panel's surface with sharp objects.
- Keep children and pets away from the solar panel during operation.
- Consult a qualified electrician for complex wiring or system design.

3. Product Features

3.1 N-Type 16BB High-Efficiency Solar Cells

The Callsun 200W solar panel utilizes advanced N-type solar cells with 16BB (Busbar) technology, achieving up to 25% conversion efficiency. N-type cells offer higher power output and enhanced reliability compared to traditional P-type cells. The 16BB design minimizes hot spots and hidden cracks, contributing to superior performance and extended lifespan.

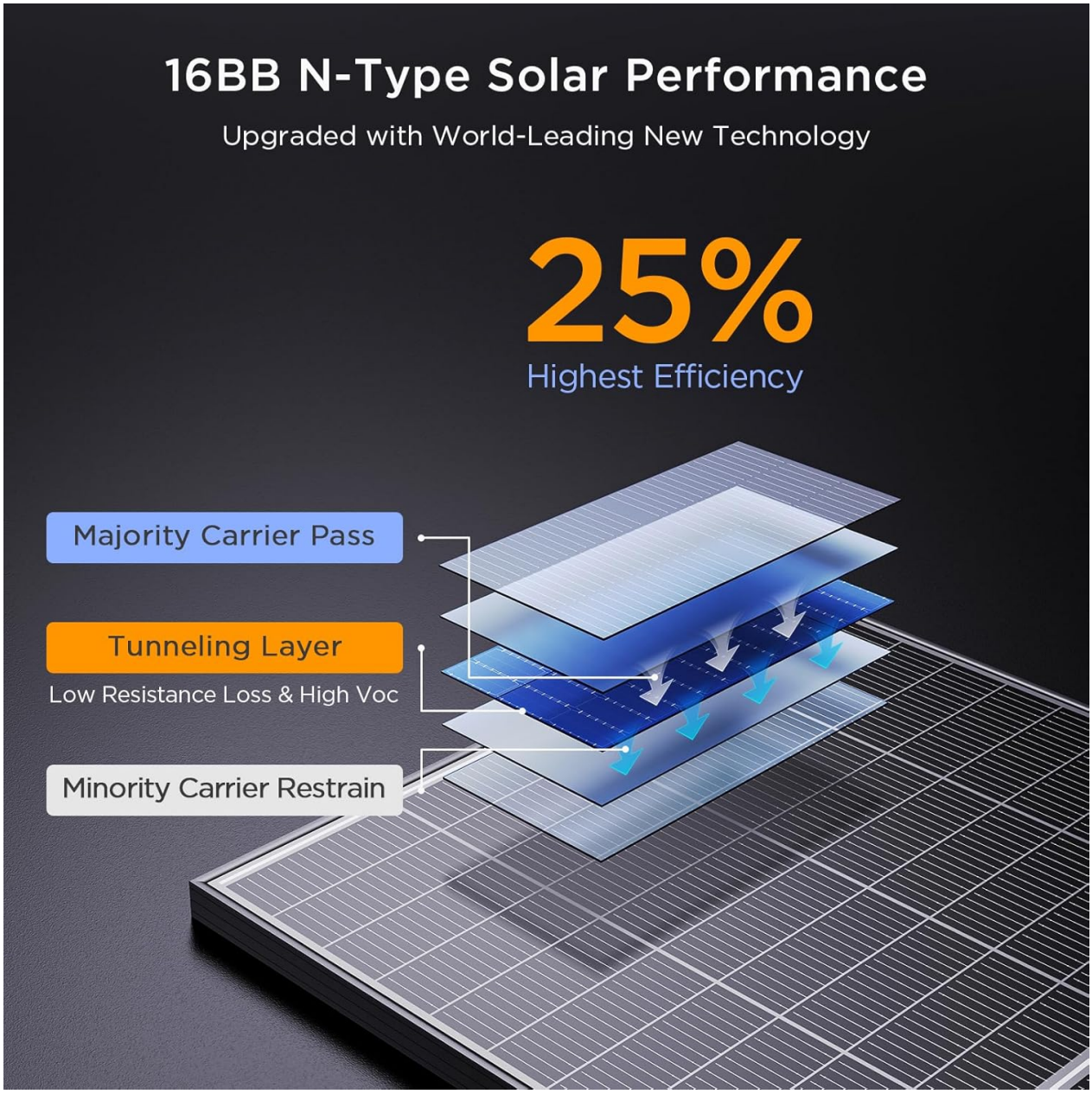

Figure 2: N-Type 16BB Solar Cell Performance

3.2 Bifacial Technology

These solar panels feature a transparent backsheet, allowing them to capture sunlight from both the front and

rear surfaces. This bifacial design harnesses direct, reflected, and diffuse light, potentially increasing total power output by up to 30% compared to conventional single-sided panels.

Figure 3: Bifacial Technology for Enhanced Light Absorption

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Video 1: Demonstration of Callsun Bifacial Solar Panel Performance

3.3 TwinCell Anti-Shade Design

The innovative dual-module parallel design divides the panel into two independent halves. If one section is shaded by an obstruction, the other half continues to generate power. This design improves shading tolerance by up to 50% compared to traditional panels, ensuring more reliable energy output.

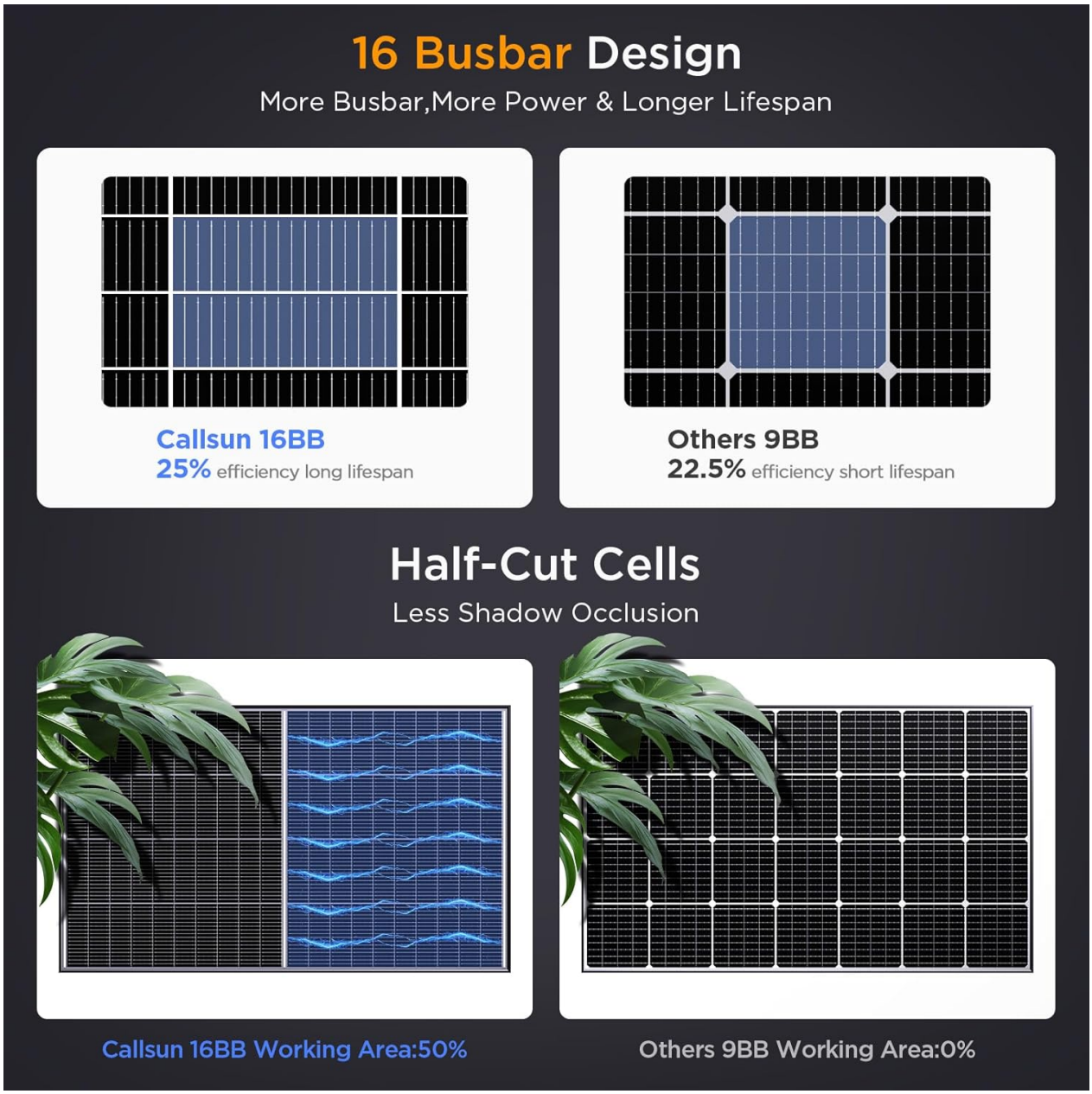

Figure 4: TwinCell Anti-Shade Technology

3.4 Durable Construction

Constructed with ultra-strong tempered glass, corrosion-resistant aluminum, and IP68 waterproof technology, these panels are engineered to withstand harsh weather conditions and offer a lifespan of up to 30 years.

Figure 5: IP68 Waterproof and Durable Design

3.5 Optimized for Various Applications

The compact size (51.3 x 30.3 x 1.4 inches, 23.8 lbs) makes these panels ideal for Class B vans, RVs, marine vessels, home rooftops, and other off-grid systems where space is a consideration.

Figure 6: Versatile Applications for Callsun Solar Panels

4. Package Contents

- 2 x Callsun 200W N-Type 16BB Bifacial Solar Panels

5. Specifications

Attribute	Value
Brand	Callsun
Model Number	Callsun-DB200W
Material	Aluminum, Monocrystalline Silicon, Tempered Glass
Product Dimensions (L x W x H)	51.3" x 30.3" x 1.4"
Item Weight	23.8 Pounds

Efficiency	25%
Maximum Power (Pmax)	200 Watts (per panel) / 400 Watts (2-pack)
Maximum Voltage (Vmp)	23.74 Volts
AC Adapter Current	8.43 Amps
Upper Temperature Rating	185 Degrees Fahrenheit
Special Features	25% High Efficiency, Anti-Shade, Bifacial Solar Panel, N type 16BB Solar Panel

6. Setup & Installation

6.1 Connecting to a Battery System

Follow these steps to connect your solar panel to a battery system via a solar charge controller:

1. **Connect the Solar Charge Controller to the Battery:** Use appropriate battery cables to connect the solar charge controller to your 12V or 24V battery. Ensure correct polarity (positive to positive, negative to negative).
2. **Connect the Solar Panel to the Solar Charge Controller:** Use the provided solar connectors and cables to link the solar panel to the solar charge controller. Again, verify correct polarity.

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Video 2: Guide to Connecting Solar Panel to a Battery

6.2 Mounting Options

Each panel features pre-drilled holes on the back for quick and secure mounting. These holes are compatible with large rail mounts, tilt mounting brackets, and Z-brackets, allowing for flexible installation on various surfaces such as RV roofs, van tops, or ground mounts.

Figure 7: Easy Setup with Pre-drilled Mounting Holes

6.3 System Diagrams

Refer to the following diagrams for typical 12V and 24V system configurations. Ensure all components (solar charge controller, battery cables, solar extension cables, parallel connectors) are correctly integrated.

Figure 8: 12V and 24V System Diagrams

7. Operating Instructions

7.1 Optimal Efficiency

For optimal efficiency, ensure the front of the solar panel is facing the sun during use. It is generally recommended to install solar panels at an angle of 30° to 45° to maximize sunlight exposure throughout the day.

Figure 9: Proper Installation Angle for Maximum Sunlight

7.2 Performance in Extreme Heat

The Callsun solar panel is engineered with a low temperature coefficient of just -0.3%/K, which helps reduce power loss and ensures stable, consistent performance even in scorching summer heat. This design maximizes energy output in high-temperature environments.

7.3 Testing Accuracy

When testing solar panel output, it is recommended to use a dedicated solar panel tester for accurate and reliable results. Power stations may introduce energy loss during charging or have maximum input power limits, which can affect measurement accuracy.

Figure 10: Recommended Tools for Accurate Power Testing

8. Maintenance

- Regularly inspect the solar panel surface for dirt, dust, leaves, or other debris. Clean the surface with a soft cloth and mild, non-abrasive cleaner if necessary.
- Check all electrical connections periodically to ensure they are tight and free from corrosion.
- Inspect cables for any signs of damage, fraying, or wear. Replace damaged cables immediately.
- Ensure proper ventilation around the solar panel and charge controller to prevent overheating.

9. Troubleshooting

9.1 Low Power Output

- **Shading:** Ensure the panel is not shaded by trees, buildings, or other obstructions. Even partial shading can significantly reduce output.
- **Orientation/Angle:** Verify the panel is optimally angled and oriented towards the sun.
- **Dirt/Debris:** Clean the panel surface to remove any accumulated dirt or debris.
- **Cloudy Weather:** Output will naturally be lower on cloudy or overcast days.
- **Temperature:** While designed for heat, extreme temperatures can still affect efficiency.

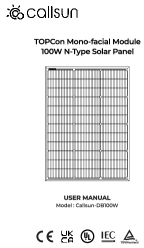
9.2 No Power Output

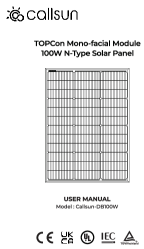
- **Connections:** Check all electrical connections between the panel, charge controller, and battery for looseness or incorrect polarity.
- **Charge Controller:** Ensure the charge controller is functioning correctly and is compatible with your battery type.
- **Damaged Panel/Cables:** Inspect the panel and cables for any visible damage.

10. Warranty & Support

Callsun backs each 200W bifacial solar panel with a 10-year warranty for materials and workmanship. Additionally, there is a 25-year commitment to maintain at least 84.5% of the original power output.
For technical support, questions regarding your Callsun solar panels, or assistance with designing your solar system, please contact Callsun customer service. Refer to the product packaging or the official Callsun website for contact details.

Related Documents - Callsun-DB200W

	Callsun TOPCon Mono-facial Module 100W N-Type Solar Panel User Manual User manual for the Callsun TOPCon Mono-facial Module 100W N-Type Solar Panel, detailing product specifications, usage precautions, maintenance, and warranty information.

	[Callsun TOPCon Mono-facial Module 100W N-Type Solar Panel User Manual] User manual for the Callsun TOPCon Mono-facial Module 100W N-Type Solar Panel, detailing product specifications, usage precautions, maintenance, and warranty information.