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Callsun CS-P-100w

Callsun 200W Solar Panel (2x100W) User Manual

Brand: Callsun | Model: CS-P-100w

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1. INTRODUCTION

This manual provides essential information for the safe and efficient use of your Callsun 200W (2x100W) Monocrystalline Solar Panel system. Please read it thoroughly before installation and operation.

Product Features:

- **Enhanced Power Design:** Callsun 100W solar panels are engineered to deliver up to 100W output under optimal conditions, providing efficient energy generation.
- **Versatile System Integration:** These 100W solar panels are suitable for building 12V or 24V battery systems, making them ideal for on-grid, off-grid, and hybrid power setups in various applications such as homes, gardens, RVs, boats, and agricultural uses. They also support expansion of existing solar systems.
- **Durable Construction:** Crafted with low-iron tempered glass and corrosion-resistant aluminum frames, these IP67 waterproof panels are designed to withstand snow, rain, and heat, ensuring reliable performance for decades.
- **Easy Installation:** Each 100W solar panel measures 42.13 × 22.68 × 1.18 inches and weighs 10.58 lbs. They feature 4 pre-drilled mounting holes for quick installation and are compatible with most popular solar systems. Panels can be connected in series or parallel to meet different power requirements.

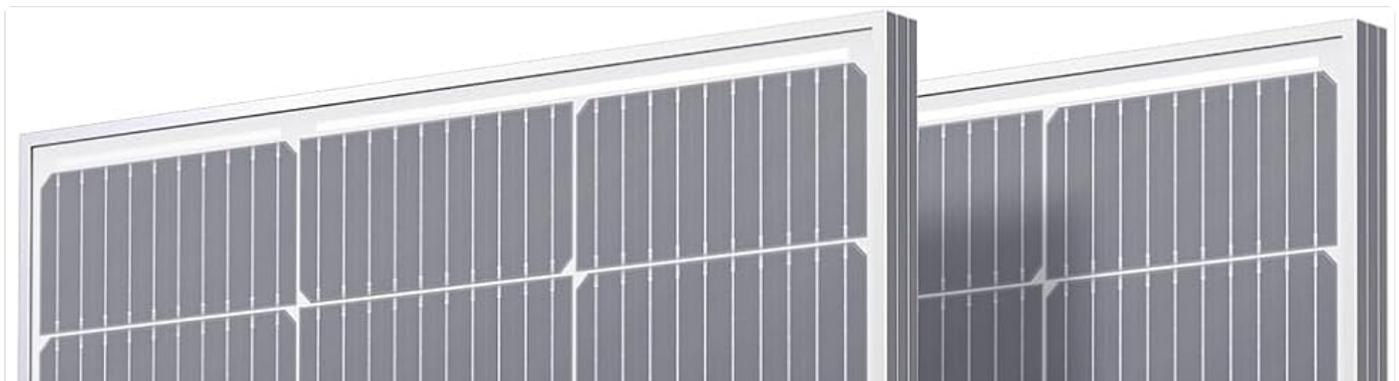




Figure 1: Two Calsun 100W Monocrystalline Solar Panels.



Figure 2: Examples of solar panel applications on RVs, boats, off-road vehicles, and rooftops.

2. SAFETY INFORMATION

Always prioritize safety during installation and operation of solar panels. Failure to follow these instructions may result in injury or damage to equipment.

- **Professional Installation:** If you are unsure about any part of the installation process, consult a qualified electrician or solar professional.
- **Electrical Safety:** Solar panels generate electricity when exposed to light. Always cover the panels with an opaque material during installation and wiring to prevent electrical shock. Ensure all connections are secure and properly insulated.
- **Handling:** Solar panels are fragile. Handle with care to avoid dropping or impacting the glass surface. Wear appropriate personal protective equipment (PPE), including gloves and safety glasses.
- **Inspection:** Upon delivery, carefully inspect the packaging and the panels for any signs of damage. If damage is

found, document it with photos and contact customer service immediately.

- **Environmental Considerations:** Do not install panels in areas prone to excessive shading, as this can reduce efficiency and potentially damage the panels. Ensure proper ventilation around the panels.

3. PRODUCT OVERVIEW AND COMPONENTS

Your Callsun 200W solar panel system includes the following components:

- 2 x 100W Monocrystalline Solar Panels
- User Manual (this document)

Panel Construction:

The Callsun solar panels are constructed with multiple layers for optimal performance and durability:

- **Protective Tempered Glass:** Low-iron tempered glass provides durability and light transmission.
- **EVA Film:** Encapsulates the solar cells for protection against moisture and vibration.
- **Monocrystalline A+ Solar Cell:** High-efficiency monocrystalline silicon cells for maximum power conversion.
- **High Weatherproof Backsheet:** Protects the rear of the panel from environmental factors.
- **Anodized Aluminum Frame:** Provides structural integrity and corrosion resistance.

High Efficiency Solar Panel

Upgraded with PERC Technology

23%
Conversion Efficiency

Protective Tempered Glass

EVA Film

Monocrystalline A+ Solar Cell

EVA Film

High Weatherproof Backsheet

Anodized Aluminum Frame

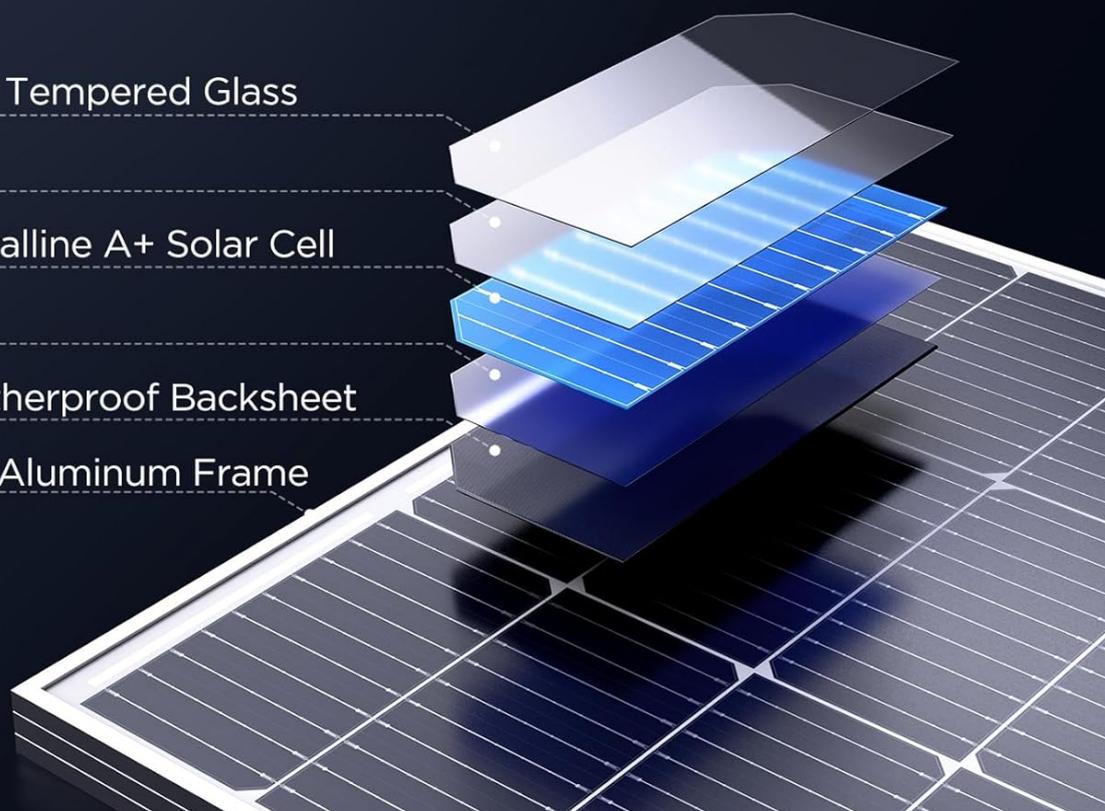


Figure 3: Internal structure of the Callsun solar panel, highlighting its layers.

4. SETUP AND INSTALLATION

The Callsun solar panels are designed for straightforward installation. Follow these guidelines for optimal setup:

Physical Installation:

- **Mounting:** Each panel features 4 pre-drilled mounting holes for secure attachment to various surfaces. Ensure the mounting structure is robust enough to support the panel's weight (10.58 lbs per panel) and withstand environmental forces like wind and snow.
- **Dimensions:** Each panel measures 42.13 × 22.68 × 1.18 inches. Plan your installation space accordingly.
- **Wiring:** Panels can be connected in series to increase voltage or in parallel to increase current, depending on your system's requirements (12V/24V). Use appropriate connectors and ensure all electrical connections are tight and protected from weather.

Easy Setup

Simple to Install and Fit All Roof Types



Figure 4: Panel dimensions and key features for easy setup, including pre-drilled holes and waterproof junction box.

Installation Video Guide:

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Video 1: Callsun 100W Solar Panel overview and basic setup demonstration.

5. OPERATION FOR MAXIMUM OUTPUT

To ensure your solar panels operate at their peak efficiency, consider the following factors:

Optimal Placement and Angle:

- **Tilt Angle:** The recommended tilt angle for solar panels is typically between 30° and 45° to maximize sunlight capture throughout the day. Adjusting the angle seasonally can further optimize performance.
- **Orientation:** Solar panels should face the sun directly to capture maximum sunlight. In the Northern Hemisphere,

panels generally face south; in the Southern Hemisphere, they face north.

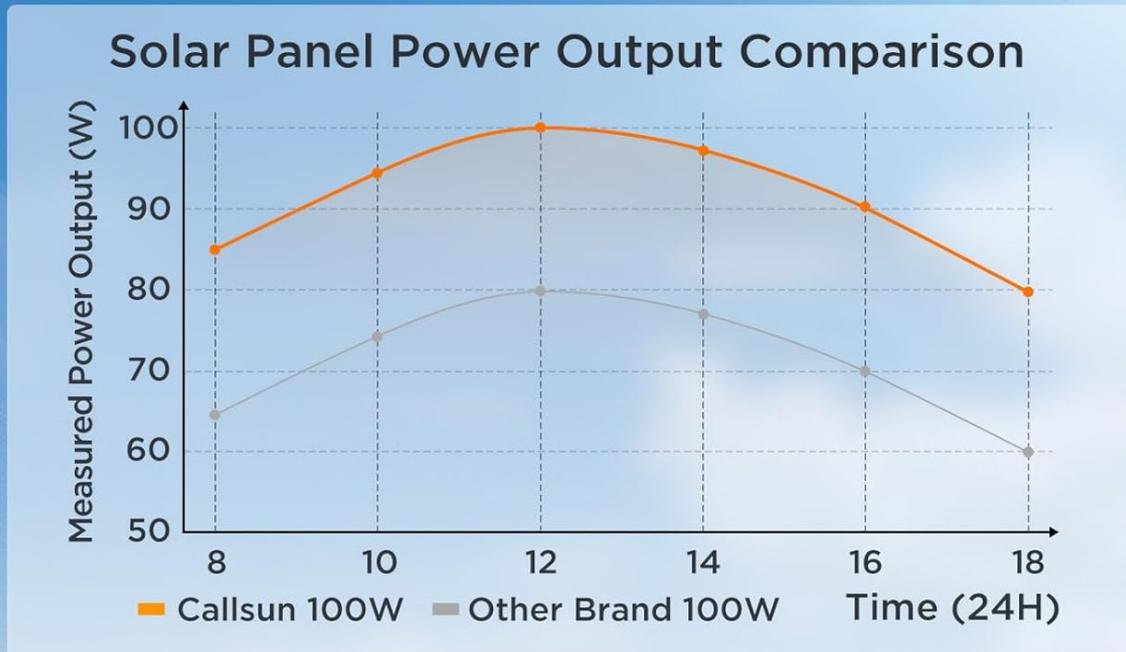
- **Avoid Shading:** Ensure panels are not shaded by objects such as trees, buildings, or other panels. Even partial shading can significantly reduce the overall power output of the entire array.



Figure 5: Callsun 100W panel demonstrating higher power output compared to typical 100W panels.

Callsun 100w Solarpanel

Your Best Option



ⓘ Note: Data for reference only. Real-world results may vary.

Figure 6: Solar panel power output comparison over time, illustrating Callsun's consistent higher performance.

Operational Video Guide:

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Video 2: Instructions on how to properly use solar panels for maximum output, covering tilt angle, shading, and orientation.

6. MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your solar panels.

- **Cleaning:** Clean the panels regularly, especially in areas with high dust levels or frequent bird activity. Use a soft cloth and water to remove dirt, dust, and debris. Avoid abrasive cleaners or harsh chemicals.
- **Inspection:** Periodically inspect the panels for any physical damage, such as cracks in the glass, loose frames, or damaged wiring. Check for signs of corrosion on the aluminum frames.
- **Connection Checks:** Ensure all electrical connections are secure and free from corrosion. Loose connections can

lead to power loss or safety hazards.

- **Weather Resistance:** The panels are IP67 waterproof and designed to withstand various weather conditions, including snow, rain, and heat. However, extreme weather events may require additional inspection.



Figure 7: IP67 waterproof rating ensures durability in all environments.

Reliable and Durable

30 Years Commitment to Maintain 87.4% Output



5400Pa Max
Snow Load



-4F
Temperature



2400Pa Max
Wind Load



185F
Temperature

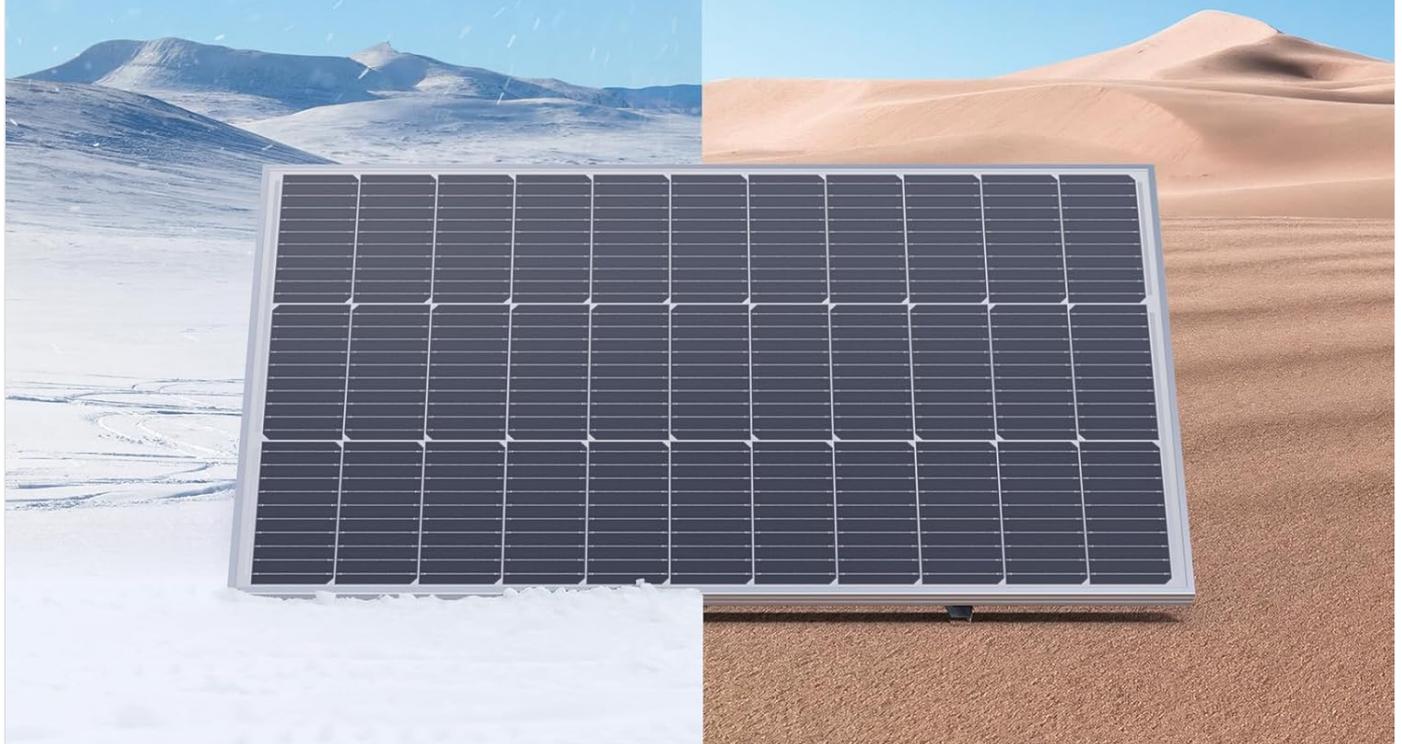


Figure 8: Panels are built to last, withstanding snow loads up to 5400Pa and wind loads up to 2400Pa, and operating in temperatures from -4F to 185F.

7. TROUBLESHOOTING

If you experience issues with your solar panel system, consider the following common troubleshooting steps:

- **Low Power Output:**

- Check for shading on the panels. Even small shadows can significantly reduce output.
- Verify the tilt angle and orientation are optimized for the current season and sun path.
- Clean the panel surfaces to remove dirt, dust, or debris that may be blocking sunlight.
- Inspect all wiring connections for looseness or corrosion.

- **No Power Output:**

- Ensure all connections from the panels to your charge controller/inverter are correctly made and secure.

- Check for any blown fuses or tripped circuit breakers in your system.
- Verify that the panels are receiving adequate sunlight.

- **Inaccurate Test Results:**

When testing solar panel output, using a power station for measurement can sometimes lead to inaccurate readings due to energy loss within the power station itself or its maximum input power limit. For more accurate and reliable results, it is recommended to use a dedicated solar panel tester.

8. SPECIFICATIONS

Technical specifications for the Callsun 100W Monocrystalline Solar Panel:

Feature	Detail
Max. Power at STC (Pmax)	100W
Max. Power Voltage at STC (Vmp)	18.55V
Max. Power Current at STC (Imp)	5.41A
Open-circuit Voltage at STC (Voc)	21.95V
Short-circuit Current at STC (Isc)	5.68A
Cell Type	Monocrystalline Silicon, PERC 10BB, 182mm
Cell Efficiency	23%
Power Tolerance	0~+5%
Maximum System Voltage	1000V DC
Maximum Series Fuse Rating	15A
First Year Degradation Rate	2%
Linear Degradation Rate	0.55%
Commitment to maintain 87.4% output	30 Years
Waterproof Rating	IP67
Material	Anodized Aluminium Alloy Frame, Low-iron Tempered glass, Monocrystalline Silicon Cell
Product Dimensions (each panel)	42.13"L x 22.68"W x 1.18"H
Item Weight (each panel)	10.58 lbs (21.2 lbs for 2 panels)
Upper Temperature Rating	85 Degrees Celsius

*STC (Standard Test Condition): Irradiance 1000W/m², Cell Temperature 25°C, Air Mass 1.5.

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Figure 9: Detailed technical specifications of the Callsun 100W Solar Panel.

9. WARRANTY AND SUPPORT

Callsun is committed to providing high-quality products and excellent customer service.

- **Product Warranty:** We offer 10 years of technical support for materials and workmanship.
- **Performance Guarantee:** A 30-year guarantee is provided to maintain 87.4% linear power output.
- **Customer Service:** Our dedicated 24/7 customer service team is available to assist with any questions or issues you may encounter. Please refer to your purchase documentation for contact details or visit the official Callsun website.

7X24 Hours Online Customer Service



Figure 10: Callsun offers 24/7 online customer service for support.