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› AeternaSol 200W N-Type Solar Panel Instruction Manual

AeternaSol AS200SP18V18BB

AeternaSol 200W N-Type Solar Panel

Model: AS200SP18V18BB

Instruction Manual

1. INTRODUCTION

Thank you for choosing the AeternaSol 200W N-Type Solar Panel. This manual provides essential information for the safe and efficient installation, operation, and maintenance of your solar panel. Please read this manual thoroughly before use and retain it for future reference.



Image 1.1: AeternaSol 200W Black Solar Panel.

Product Features:

- **25% High-Efficiency:** AeternaSol 200W N-Type A+ Grade Cell with 18 BB Full-Welding Busbars ensures stable output and high efficiency.
- **Exclusive IP68 Junction Box:** Equipped with potting technology to prevent water ingress, minimize short circuits, and inhibit rust and corrosion.
- **11 AWG 100% Oxygen-Free Copper Wire:** Provides superior electrical conductivity and can withstand up to 25A current, with a UV-resistant jacket for extended lifespan.
- **Durable MC4 Connector:** Features galvanized copper pins and a robust PPO shell for higher current rating and compatibility.
- **More Durable Aluminum Alloy Frame:** Sturdy, rust-resistant frame with pre-drilled holes for easy installation and additional sealant to protect cells.

2. SAFETY INFORMATION

Please observe the following safety precautions to prevent personal injury or damage to the solar panel:

- Only qualified installers and technicians should perform work on these modules.
- Solar panels produce electricity when exposed to light. Handle with care.
- Do not disconnect under load.
- Do not damage or scratch the rear surface of the module.
- Avoid touching the electrical terminals with bare hands.
- Ensure all connections are secure and properly insulated to prevent electrical shock.
- Wear appropriate personal protective equipment (PPE) during installation and maintenance.

3. PACKAGE CONTENTS

Verify that all components are present and undamaged upon unpacking:

- 1 x AeternaSol 200W N-Type Solar Panel

4. SETUP AND INSTALLATION

The AeternaSol 200W N-Type Solar Panel is designed for various applications, including off-grid RVs, boats, and rooftops. The panel features pre-drilled holes for effortless installation and durable MC4 connectors for reliable connections.

Compact Size, Huge Power

AeternaSol

Monocrystalline solar module

Solar Panel Technical Parameters	200W
Maximum Power (P _{max})	200W±3%
Operating Voltage (V _{mpp})	24.96
Operating Current (I _{mpp})	8.14
Open-Circuit Voltage (V _{oc})	26.27
Short-Circuit Current (I _{sc})	9.35

Maximum System Voltage (V _{sys max})	DC1000V
IP Rating (IP)	IP68
Dimensions	1440*670*30mm

Warning

Only qualified installers and technicians should install or perform maintenance work on these modules. This unit produces electricity when exposed to light. Follow all applicable electrical safety precautions. Do not disconnect under load. Do not damage or scratch the rear surface of the module.



Solar Panel Technical Parameters	200W	Operating Current (I _{mpp})	8.14	Maximum System Voltage (V _{sys max})	DC1000V
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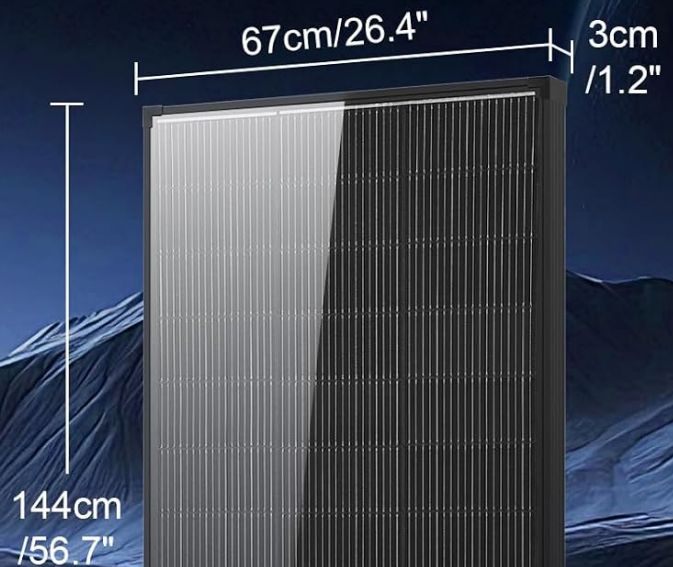
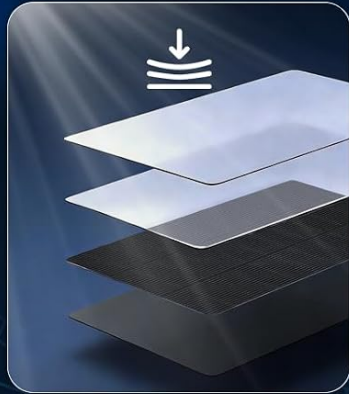


Image 4.1: Solar panel dimensions (144cm x 67cm x 3cm) and warning regarding professional installation.

Installation Steps:

- Site Selection:** Choose a location that receives maximum direct sunlight throughout the day, free from shading by trees or buildings.
- Mounting:** Securely mount the solar panel using appropriate mounting hardware (not included) through the pre-drilled holes in the aluminum alloy frame. Ensure the mounting structure is robust enough to withstand local wind and snow loads.
- Wiring:** Connect the MC4 connectors from the solar panel to your charge controller. Ensure correct polarity (positive to positive, negative to negative). The panel uses 11 AWG oxygen-free copper wire for optimal conductivity.
- System Integration:** Connect the charge controller to your battery bank and then to your inverter, if applicable. Refer to the diagrams in the Operating Instructions section for series and parallel connection examples.

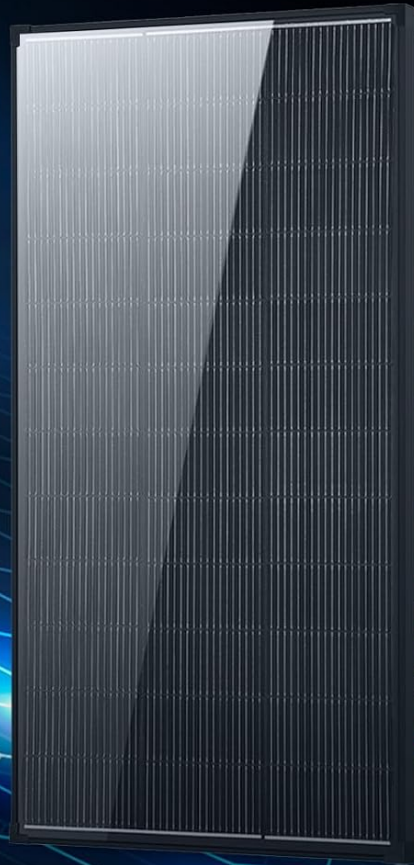
3.2mm Low-iron Tempered Photovoltaic Glass



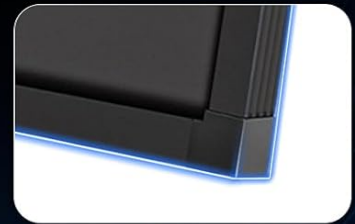
More Light Transmittance



Durable Tempered Glass



1.2mm Anti-Corrosion Aluminum Alloy Frame



More Robust Aluminum Alloy Frame



Pre-drilled Holes for Easy Installation



Sealant Prevent Air to Corrode Monocrystalline Cell



Resists Rust Over Time

Image 4.2: Details of the 3.2mm low-iron tempered photovoltaic glass and 1.2mm anti-corrosion aluminum alloy frame, highlighting pre-drilled holes for easy installation.

Durable IP68 Potting-Tech Junction Box

The image is a comparison graphic between two types of junction boxes. On the left, under the heading 'OURS', is a white, square junction box with a black base, labeled 'IP68 Potting Tech'. A small inset image shows a person in a blue protective suit and mask performing 'Tin-plated Welding'. A large blue 'VS' graphic with a lightning bolt is in the center. On the right, under the heading 'Others', is a standard grey junction box. Below these are four rows of comparison points, each with a smiley face icon for 'OURS' and a frowny face icon for 'Others'.

OURS	Others
No Water short circuit risk 😊	☹️ Water Short circuit risk
30 Years J-Box Rusting proof 😊	☹️ 5 Years Rusting proof
Lower Heat Generation 😊	☹️ Higher Heat Generation
Long Lifespan 😊	☹️ Short Lifespan

Image 4.3: Comparison of AeternaSol's durable IP68 potting-tech junction box against standard junction boxes, emphasizing no water short circuit risk and longer lifespan.

Your browser does not support the video tag.

Video 4.1: An overview of the AeternaSol 200W Solar Panel, showcasing its features and design. (Source: AeternaSol Direct)

5. OPERATING INSTRUCTIONS

Once installed, your AeternaSol solar panel will convert sunlight into electrical energy. This energy is then managed by a charge controller to safely charge your battery bank.

Connection Methods:

Solar panels can be connected in parallel or series depending on your system's voltage and current requirements. Always consult with a qualified professional for complex system designs.



Image 5.1: Diagram illustrating how to connect multiple solar panels in parallel to increase current output while maintaining system voltage.

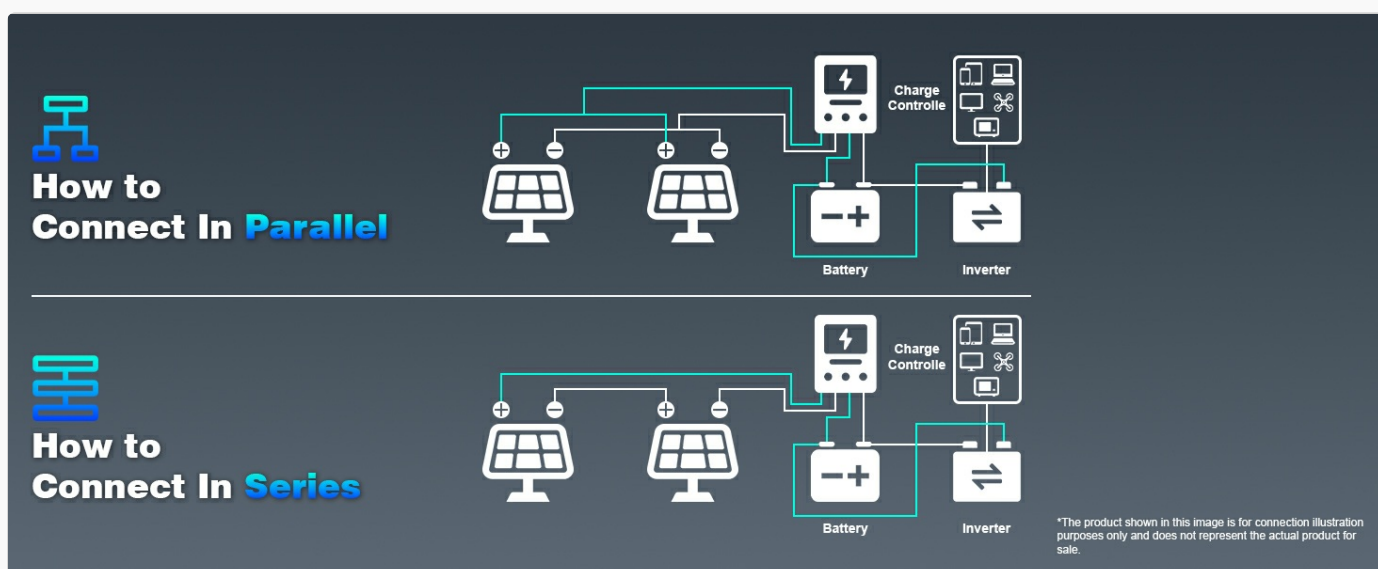


Image 5.2: Diagram illustrating how to connect multiple solar panels in series to increase voltage output while maintaining system current.

Key Operational Features:

- **Reverse Current Blocking Diode:** The integrated junction box includes a blocking diode to prevent energy drain from the battery back to the panel during periods of low light or darkness.
- **High Performance in Diverse Conditions:** The N-Type A+ cells and robust construction ensure reliable power generation across a wide range of environmental conditions, from -40°F to 185°F.

Reverse Current Blocking Diode Junction Box

No energy drains at night



Reverse Current
Blocking



Blocking Diode
Inside

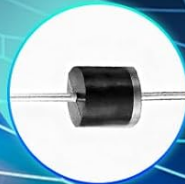


Image 5.3: Illustration of the reverse current blocking diode inside the junction box, preventing energy loss at night.

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Video 5.1: A brief demonstration of the AeternaSol 200W Solar Panel's features. (Source: AeternaSol Direct)

6. MAINTENANCE

Regular maintenance ensures optimal performance and longevity of your solar panel.

- **Cleaning:** Periodically clean the surface of the solar panel with a soft cloth and water to remove dust, dirt, and debris that can reduce efficiency. Avoid abrasive materials or harsh chemicals.
- **Inspection:** Regularly inspect the panel for any physical damage, such as cracks in the glass, loose connections, or corrosion on the frame or wiring.
- **Wiring Check:** Ensure all electrical connections, especially the MC4 connectors and junction box, are secure and free from damage or signs of overheating.
- **Shading:** Monitor the installation area for new sources of shading (e.g., growing trees) that might impact panel

performance.

7. TROUBLESHOOTING

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

- **No Power Output:**

- Check for sufficient sunlight exposure.
- Verify all electrical connections are secure and correct.
- Inspect the MC4 connectors and wiring for damage.
- Ensure the charge controller is functioning correctly and connected properly to the battery.

- **Low Power Output:**

- Clean the panel surface to remove dirt or debris.
- Check for partial shading from nearby objects.
- Verify the panel's angle and orientation are optimized for sun exposure.
- Ensure the battery is not fully charged, as the charge controller may reduce output.

- **Physical Damage:** If the panel glass is cracked or the frame is bent, contact AeternaSol support for assistance. Do not attempt to repair damaged components yourself.

8. SPECIFICATIONS

AeternaSol Upgraded N-Type A+ Cell

Delivers more energy than P-Type Module

N-Type Monocrystalline



25%

Cell Efficiency
Stable Output

GradeA+ Cell



No Microracks

EL Tested

Lower Degradation Rate



25 Years
Service Life

0.4%

1% DR 1st Year
0.4% DR Linear

N-Type
25%
Cell Efficiency

P-Type
21%-23%
Cell Efficiency



Image 8.1: Illustration of AeternaSol's upgraded N-Type A+ Cell technology, highlighting 25% cell efficiency and low degradation rate.

Specification	Value
Brand	AeternaSol
Model Number	AS200SP18V18BB
Maximum Power (Pmax)	200 Watts
Cell Efficiency	25%
Output Voltage	18 Volts
Maximum Voltage (Vmp)	24.96 Volts
Amperage Capacity (Imp)	8.14 Amps

Specification	Value
Product Dimensions (L x W x H)	26.37" x 1.18" x 56.69" (67cm x 3cm x 144cm)
Item Weight	22 Pounds
Material	Monocrystalline, Aluminum, Tempered Glass, Tributyl Tin
Junction Box Rating	IP68
Included Components	1x200w N-Type solar panel

9. WARRANTY AND SUPPORT

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

- **Material and Workmanship Warranty:** The solar panel comes with a 5-year warranty covering defects in materials and workmanship.
- **Performance Guarantee:** A 25-year performance guarantee ensures the panel will maintain at least 84.5% of its power output over this period.
- **Seller Support:** We provide 10-year seller support. If you encounter any issues or have questions regarding your solar panel or its services, please feel free to contact AeternaSol Direct anytime.

For support, please visit the AeternaSol store on Amazon or contact our customer service team directly.

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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