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› DOKIO 100W 18V Monocrystalline Solar Panel User Manual

DOKIO DSP-100M

DOKIO 100W 18V Monocrystalline Solar Panel User Manual

Brand: DOKIO | Model: DSP-100M

1. INTRODUCTION TO THE DOKIO 100W MONOCRYSTALLINE SOLAR PANEL

The DOKIO 100W 18V Monocrystalline Solar Panel is designed for efficient power generation in various off-grid applications, including caravans, vans, RVs, boats, and homes. It features high-efficiency monocrystalline solar cells and a robust, waterproof design to ensure reliable performance and a long service life.

This manual provides essential information for the proper setup, operation, maintenance, and troubleshooting of your DOKIO solar panel.

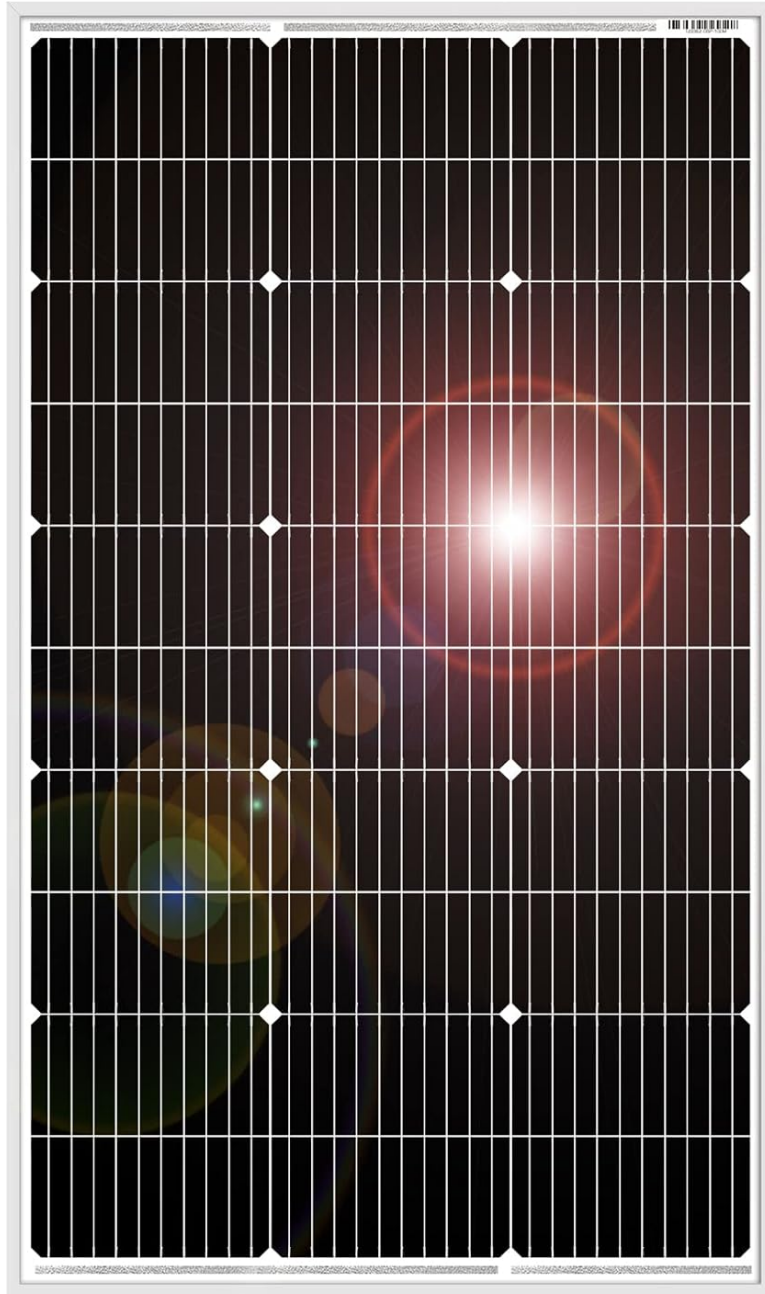


Figure 1.1: The DOKIO 100W Monocrystalline Solar Panel, designed for high efficiency and durability.

Key Features:

- **Powerful High Conversion Efficiency:** Utilizes high-efficiency monocrystalline solar cells with bypass diodes to minimize power loss from shading, ensuring good power generation even on cloudy days.
- **Robust and Waterproof:** Features a corrosion-resistant aluminum frame for extended outdoor use, designed to withstand high wind (2400Pa) and snow loads (5400Pa).
- **Reliable Power Output:** Capable of providing 400-500W of electricity per day, depending on sun availability, making it suitable for various off-grid systems.
- **Long Service Life:** Constructed with advanced encapsulation material and multilayered sheet laminations to enhance cell performance and ensure durability over decades.

WHY DO DOKIO PANELS ARE MORE EXPENSIVE?

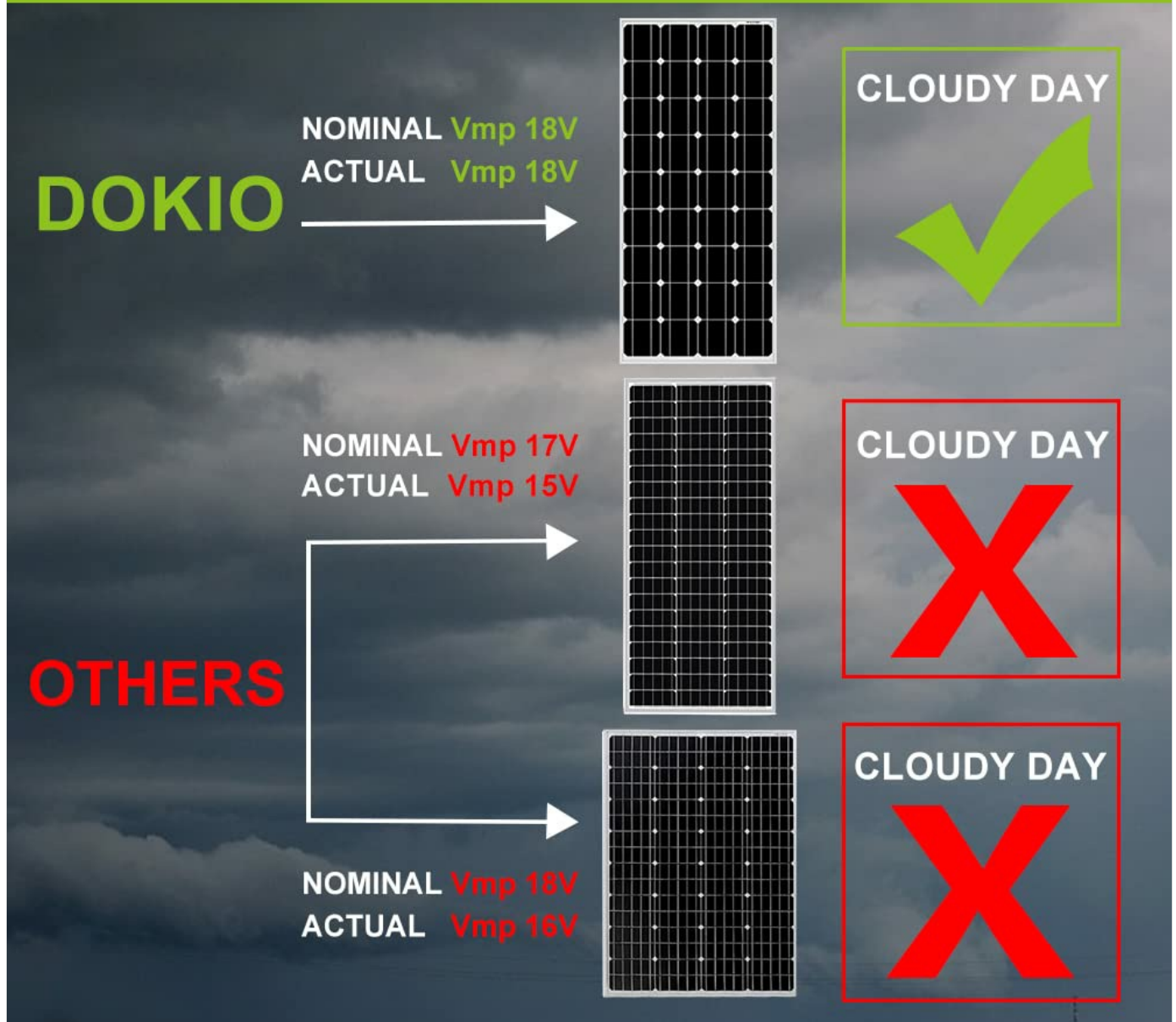


Figure 1.2: Illustration comparing DOKIO's consistent voltage output on cloudy days to other brands, highlighting superior performance.



Figure 1.3: The DOKIO 100W 18V solar panel is engineered to endure severe climate conditions, including high winds and heavy snow loads.

2. WHAT'S IN THE BOX

Upon unpacking your DOKIO 100W Monocrystalline Solar Panel, please verify that all components are present and undamaged.

Package Contents:

- 1 x DOKIO 100W 18V Monocrystalline Solar Panel (with integrated frame)



Figure 2.1: The DOKIO 100W Solar Panel as packaged, ready for installation.

3. SETUP AND INSTALLATION

The DOKIO 100W solar panel is designed for easy installation and compatibility with various mounting surfaces. Ensure the panel is securely fastened and properly connected for optimal performance.

3.1 Mounting the Solar Panel

The panel features 4 mounting holes for attaching fasteners. The corrosion-resistant aluminum frame allows for secure and durable installation in all weather conditions. Choose a location that receives maximum direct sunlight throughout the day.

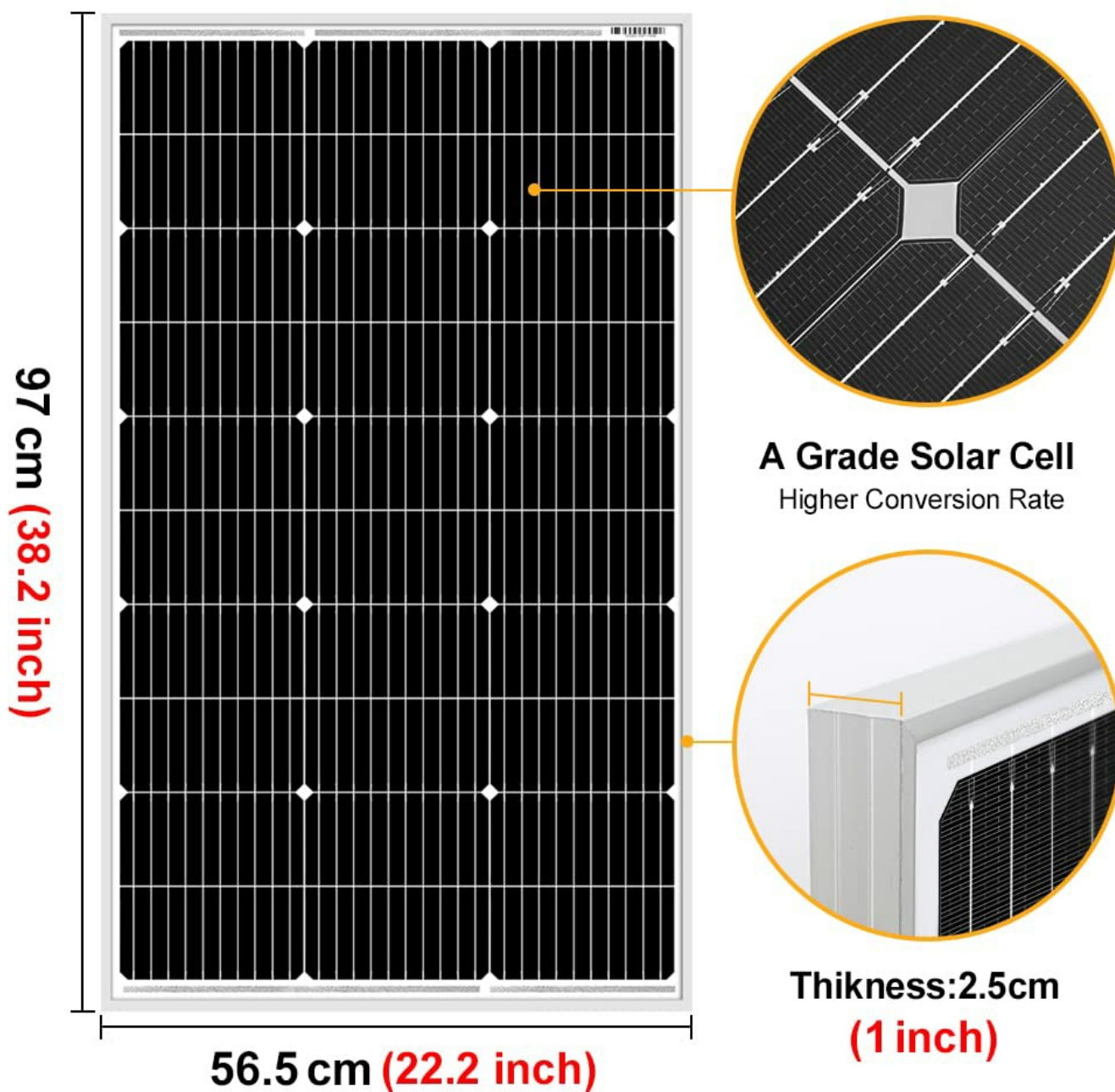


Figure 3.1: Solar panel dimensions: 97 cm (38.2 inch) length, 56.5 cm (22.2 inch) width, and 2.5 cm (1 inch) thickness.



Figure 3.2: Close-up view of the mounting mechanism on the back of the solar panel, illustrating its simple installation process.

3.2 Electrical Connections

The DOKIO solar panel comes with IP67 rated waterproof solar panel connectors and a 90 cm cable length for secure and weather-resistant connections. Ensure all connections are tight and properly insulated.

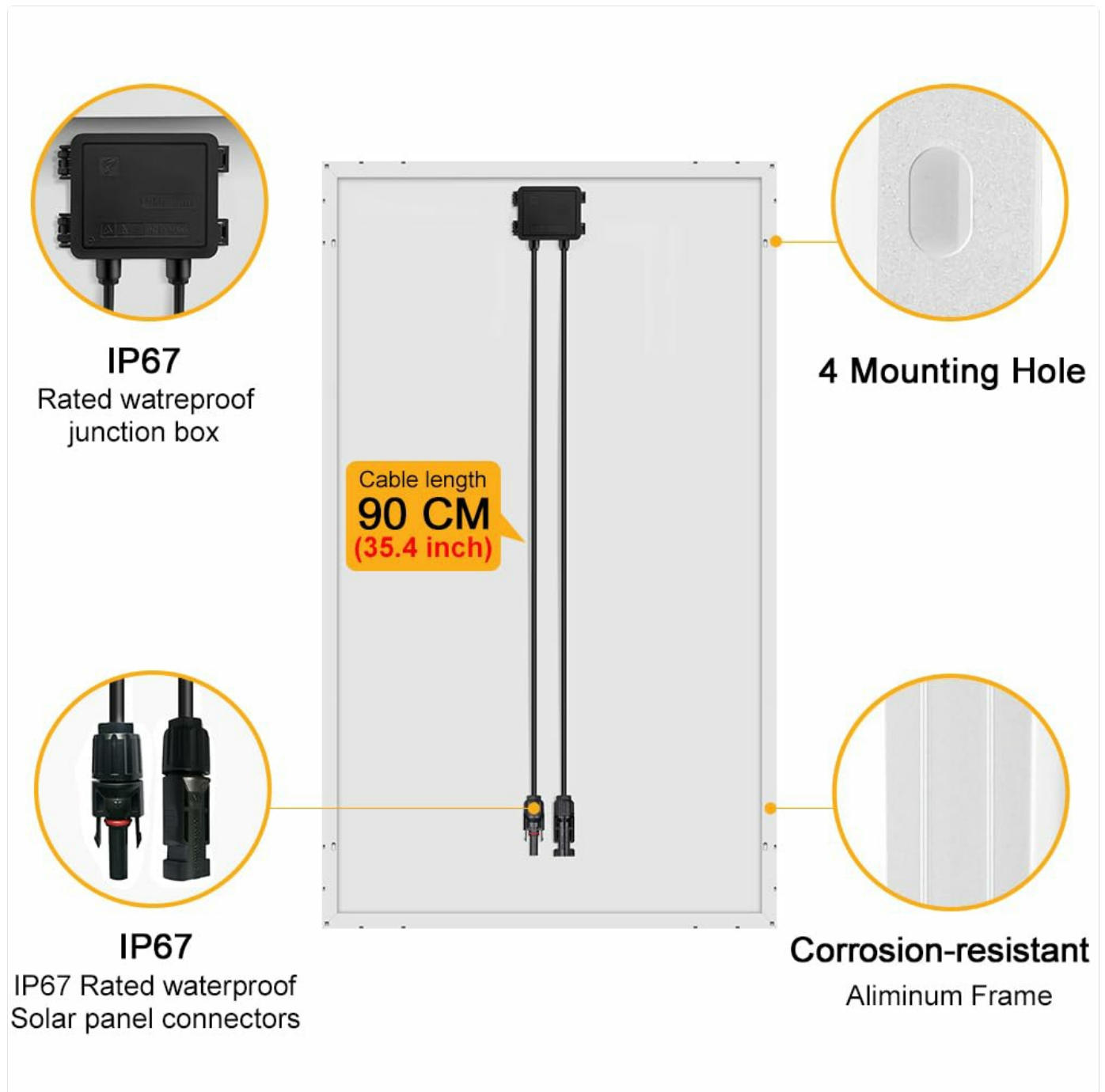


Figure 3.3: Rear view of the solar panel, highlighting the IP67 rated waterproof junction box, 4 mounting holes, and IP67 rated waterproof solar panel connectors with a 90 cm cable.

3.3 Wiring Diagrams

For systems requiring more power, multiple panels can be connected in series or parallel. Always consult a qualified electrician if you are unsure about wiring configurations.



Figure 3.4: Wiring diagrams illustrating how to connect solar panels in series (left) and parallel (right) to a charge controller, battery, and inverter (components not included).

4. OPERATING INSTRUCTIONS

The DOKIO 100W Monocrystalline Solar Panel is designed for automatic operation once properly installed and connected to a compatible charge controller and battery system. Its high-efficiency cells ensure optimal power generation.

4.1 Power Generation

The panel's monocrystalline cells, including Grade A+ cells and an upgraded 9BB cell design, maximize sunlight absorption and conversion. Bypass diodes help maintain performance even if a portion of the panel is shaded.

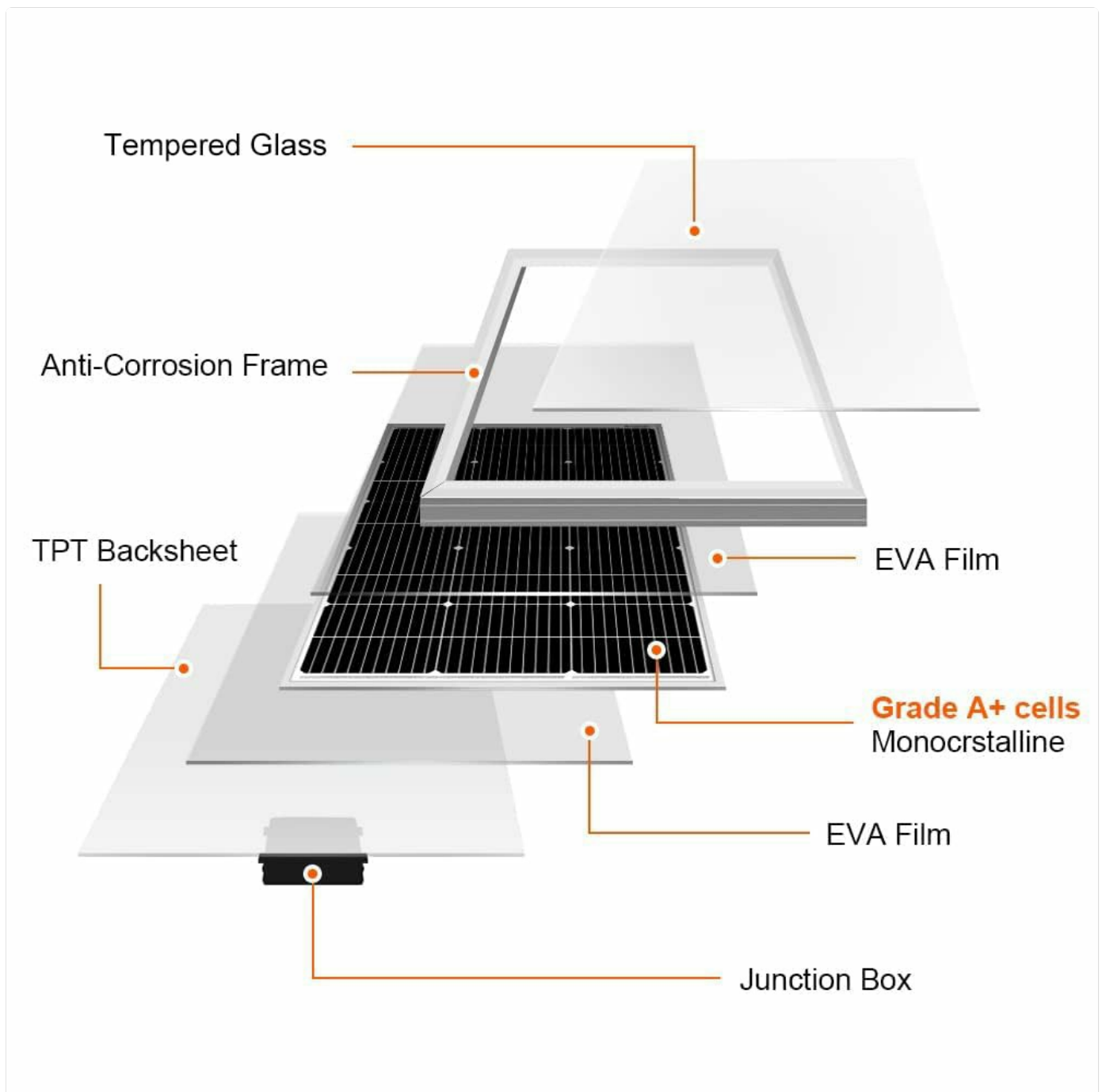


Figure 4.1: Exploded view diagram showing the internal layers of the solar panel, including Tempered Glass, Anti-Corrosion Frame, TPT Backsheet, EVA Film, Grade A+ Monocrystalline cells, and the Junction Box.



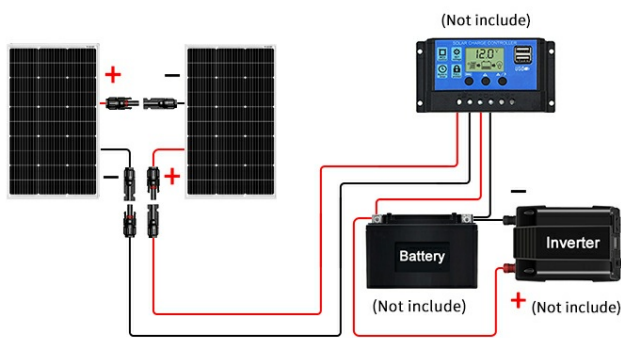
Figure 4.2: Comparison illustrating the higher conversion efficiency achieved with DOKIO's upgraded 9BB cell technology compared to traditional 5BB cells.

4.2 Applications

The DOKIO 100W solar panel is versatile and can be integrated into various systems for sustainable power. Common applications include:

- Motorhomes and RVs
- Caravans and Campervans
- Boats and Yachts
- Off-grid homes and sheds

How to connect in **series**



How to connect in **parallel**

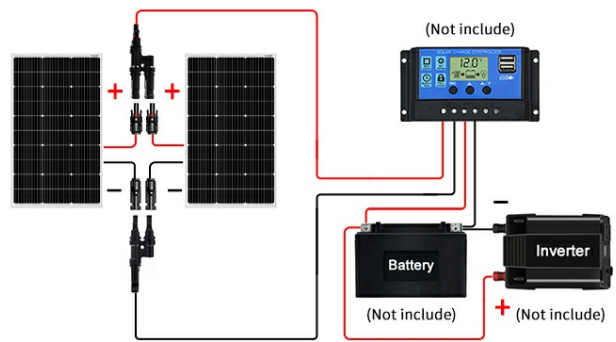


Figure 4.3: Examples of DOKIO solar panel applications, including RVs, residential roofs, and yachts.

5. MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your DOKIO solar panel. The panel's robust construction and advanced encapsulation materials contribute to a long service life.

5.1 Cleaning

To maintain maximum efficiency, periodically clean the surface of the solar panel. Dust, dirt, leaves, and other debris can reduce power output.

- Clean the panel surface occasionally with a soft sponge and soapy water.
- Rinse thoroughly with clean water to remove any soap residue.
- Avoid abrasive cleaners or harsh scrubbing materials that could scratch the glass surface.

5.2 Inspection

Regularly inspect the panel and its connections for any signs of wear or damage.

- Check the aluminum frame for any corrosion or structural damage.
- Inspect the cables and connectors for fraying, cracks, or loose connections.
- Ensure the mounting hardware is secure and the panel is firmly in place.



Figure 5.1: The IP67 waterproof rating ensures the panel's durability against environmental elements, reducing the need for frequent maintenance related to water damage.

6. TROUBLESHOOTING

This section addresses common issues you might encounter with your DOKIO solar panel. For more complex problems, please contact customer support.

6.1 Low Power Output

- **Check for Shading:** Even partial shading can significantly reduce output. Ensure the panel is free from shadows cast by trees, buildings, or other obstructions.
- **Clean the Panel:** A dirty panel will produce less power. Refer to the Maintenance section for cleaning instructions.
- **Inspect Connections:** Loose or corroded wiring can impede power flow. Check all electrical connections, including those to the charge controller and battery.
- **Verify Sunlight Conditions:** Power output is directly dependent on sunlight intensity. Cloudy days or low sun angles (e.g., during winter) will naturally result in lower output.
- **Check Charge Controller:** Ensure your charge controller is functioning correctly and is compatible with your battery type.

6.2 No Power Output

- **Check All Connections:** Ensure all cables are securely connected from the panel to the charge controller and to the battery.
- **Verify Polarity:** Incorrect positive (+) and negative (-) connections can prevent power generation.
- **Test Panel Voltage:** Using a multimeter, measure the open-circuit voltage (Voc) of the panel in direct sunlight. Compare it to the specifications. If it's significantly lower, the panel may be faulty.
- **Check for Physical Damage:** Inspect the panel for any visible cracks, delamination, or severe damage that could affect its function.

7. SPECIFICATIONS

Detailed technical specifications for the DOKIO 100W 18V Monocrystalline Solar Panel (Model: DSP-100M).



Figure 7.1: Detailed electrical specifications for the DOKIO 100W Solar Panel.

DOKIO 100W 18V Monocrystalline Solar Panel Specifications

Attribute	Value
Brand	DOKIO
Model Number	DSP-100M
Wattage	100 watts
Maximum Power (Pmax)	100W ±3%
Maximum Power Voltage (Vmp)	18.00V
Maximum Power Current (Imp)	5.56A
Open Circuit Voltage (Voc)	20.50V
Short Circuit Current (Isc)	6.50A
Normal Operating Cell Temp (NOCT)	-45 to 80°C
Maximum System Voltage	DC1000V
Maximum Series Fuse	15A
Product Dimensions	97 x 56.5 x 2.5 cm (38.2 x 22.2 x 1 inch)
Item Weight	5.3 kg (6.30kgs as per image)
Material	Monocrystalline Silicon
Power Source Type	DC
Efficiency	High Efficiency
Included Components	Frame

8. WARRANTY AND SUPPORT

DOKIO is committed to providing excellent customer service and support for its products.

8.1 Return Policy

This product is typically eligible for a 30-day return policy (refund/replacement) from the date of purchase. Please refer to your retailer's specific return policy for full details.

8.2 Customer Service

If you have any questions, require assistance with setup, or encounter any issues not covered in this manual, the DOKio team is available to help. They strive to answer and solve problems within a short timeframe.

For support, please visit the official DOKIO store or contact their customer service through the platform where you purchased the product.

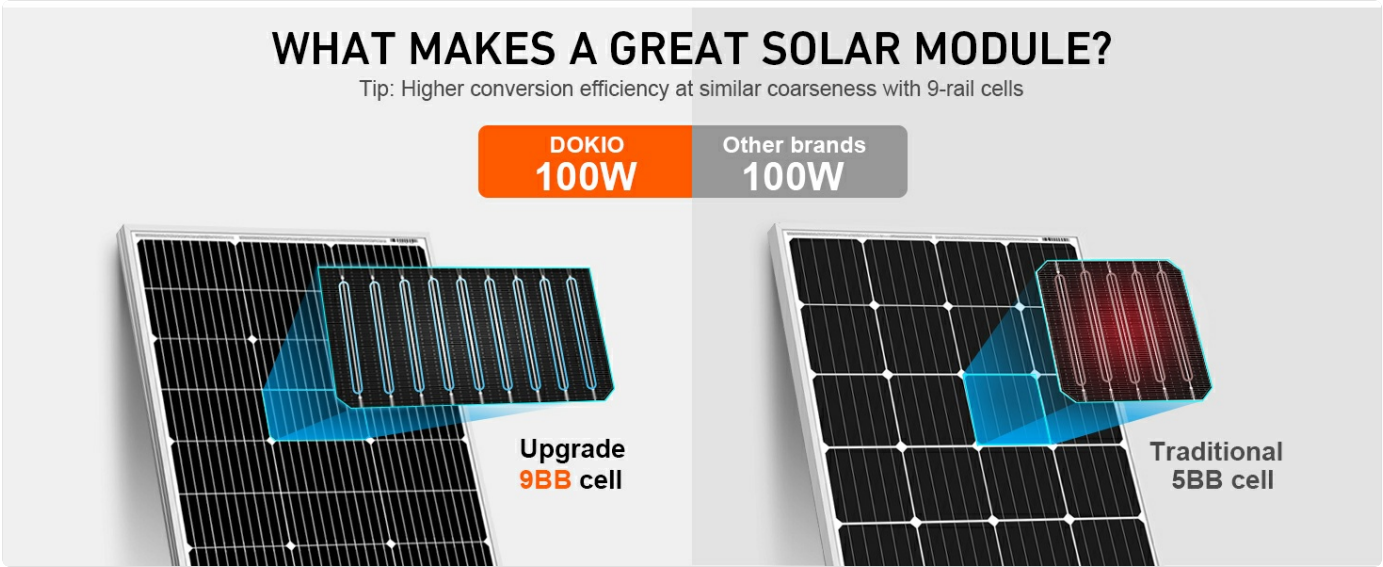


Figure 8.1: DOKIO's commitment to customer service, including local warehouses, fast fulfillment, 24-hour response time, and support for broken packages.

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

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

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