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› DOKIO 2PCS 400 Watt Solar Panels Instruction Manual

DOKIO DSP400M*2

DOKIO 2PCS 400 Watt Solar Panels Instruction Manual

Model: DSP400M*2 | Brand: DOKIO

1. INTRODUCTION

Thank you for choosing DOKIO 2PCS 400 Watt Solar Panels. This manual provides essential information for the safe and efficient installation, operation, and maintenance of your solar panel system. These high-efficiency panels are designed for various off-grid applications, including caravans, RVs, golf cars, electric cars, yachts, boats, tents, and portable power stations. Please read this manual thoroughly before installation and keep it for future reference.

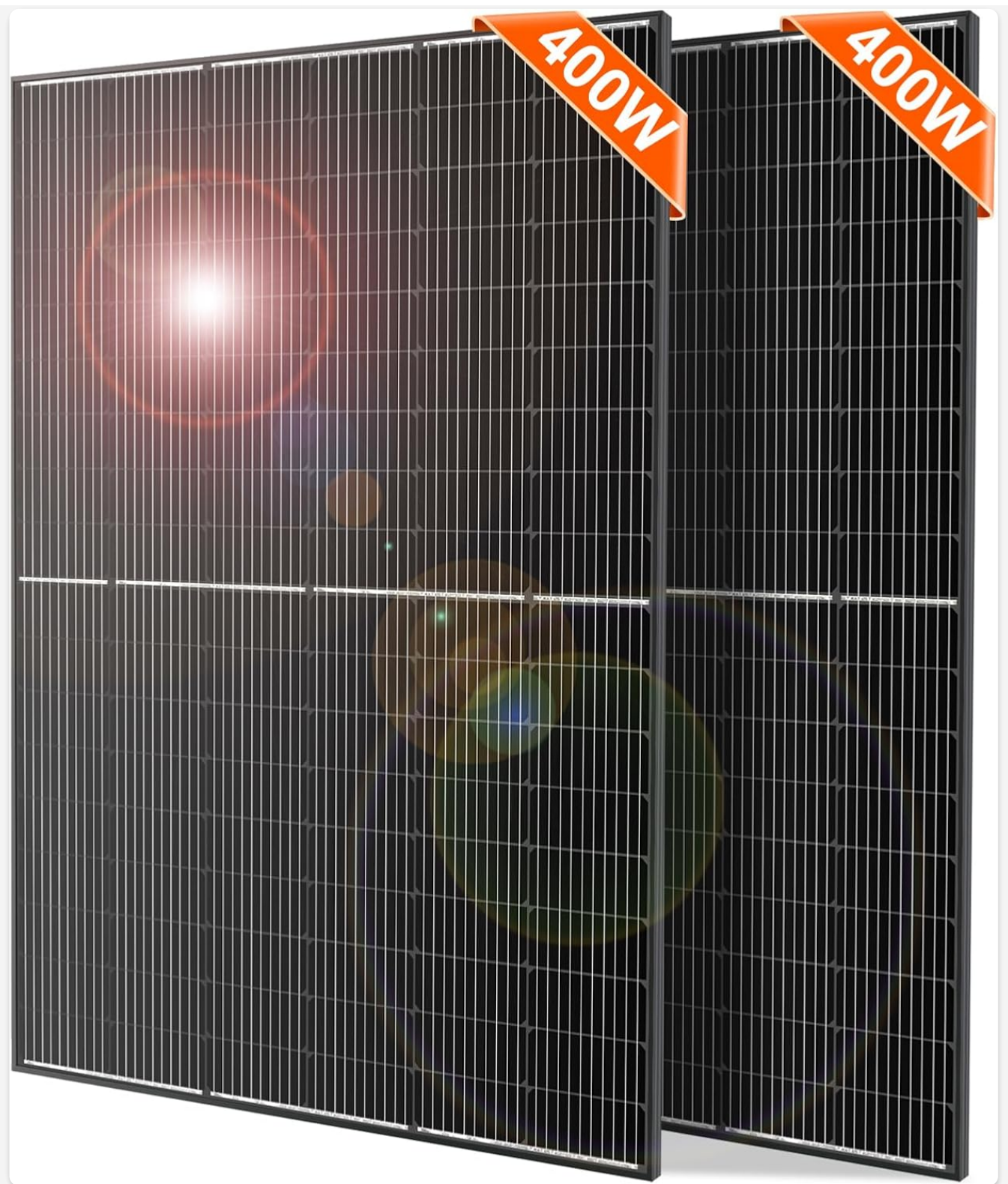


Image 1.1: Two DOKIO 400 Watt Solar Panels, providing a total of 800W power output.

2. SAFETY INFORMATION

Always observe the following safety precautions to prevent personal injury or damage to the solar panels:

- Do not attempt to disassemble, repair, or modify the solar panels.
- Handle the panels with care to avoid dropping or impacting them.
- Ensure proper grounding and wiring according to local electrical codes.
- Avoid touching the electrical terminals when the panels are exposed to sunlight.
- Wear appropriate personal protective equipment (PPE) during installation, including gloves and eye protection.

- Keep children and unauthorized personnel away from the installation area.
- Do not install panels in areas prone to excessive shading, as this can reduce efficiency and potentially damage cells.

3. COMPONENTS

Each DOKIO 400 Watt Solar Panel is constructed with high-quality materials to ensure durability and performance.

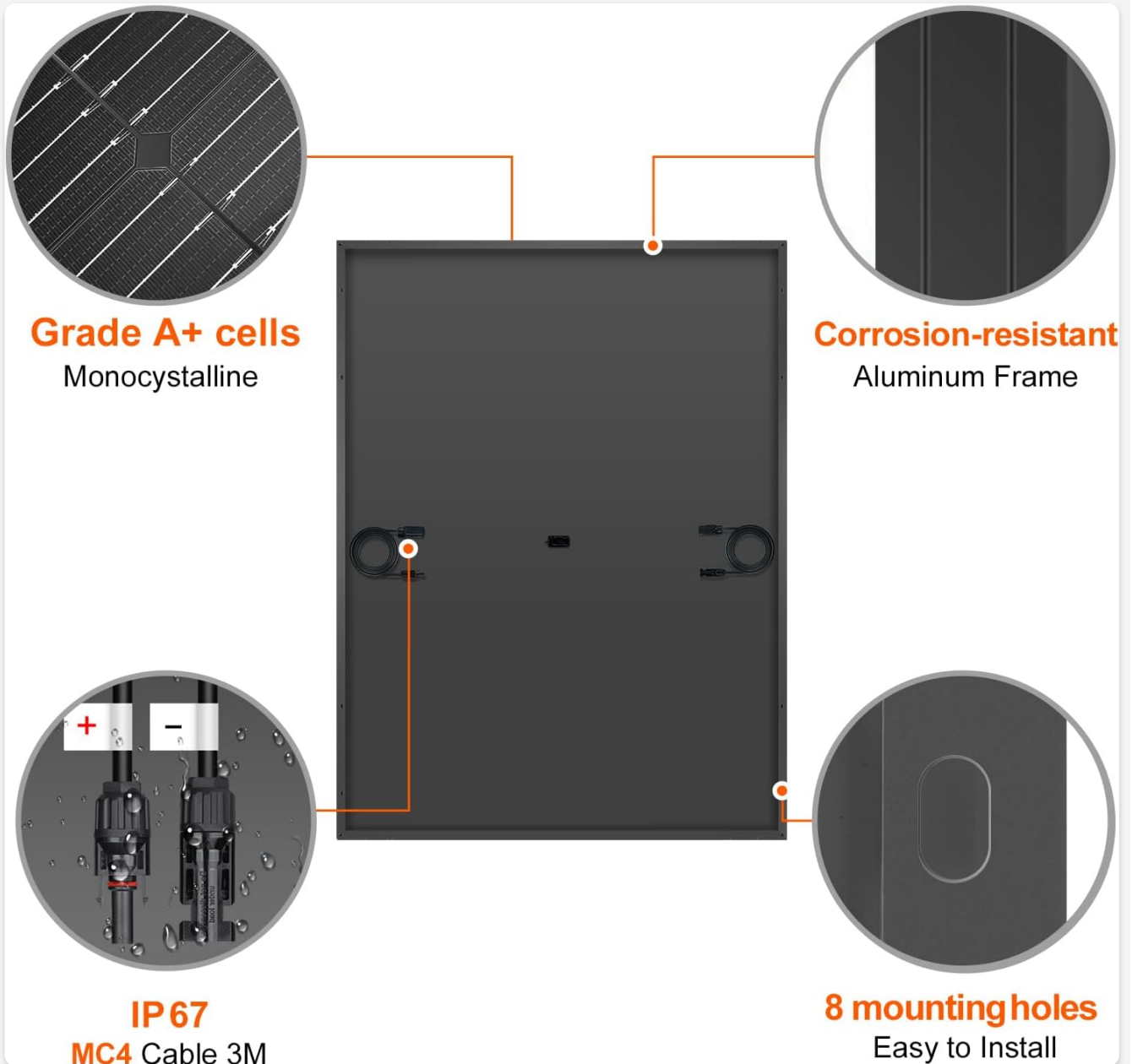


Image 3.1: Exploded view showing the internal structure and components of the solar panel.



Image 3.2: Key components include low-iron tempered glass for optimal light transmission, an IP65 rated junction box for protection against dust and water, IP67 rated solar connectors for secure and waterproof connections, and a rugged aluminum frame for structural integrity.

Included Components:

- 2 x DOKIO 400 Watt Solar Panels
- Bag (for transport/storage)
- Extra long 3m (9.84ft) cable with MC4 connectors

4. SETUP AND INSTALLATION

Proper installation is crucial for optimal performance and longevity of your solar panels. Each panel features pre-drilled holes for easy mounting.

4.1 Site Selection

Choose a location that receives maximum direct sunlight throughout the day, free from shadows cast by trees, buildings, or other obstructions. Consider the angle and orientation for your specific geographic location to maximize energy harvest.



Image 4.1: Example of a rooftop solar panel installation, illustrating the connection points to an inverter and car charging station (components not included with panels).

4.2 Mounting Options

The DOKIO solar panels are versatile and can be installed using various mounting methods:

- **Railed/Flat Roof Mounting:** Securely attach panels to existing roof rails or flat roof structures.
- **Pole Mounts:** Ideal for ground installations where panels can be elevated and angled.
- **Foundation Mounts:** Ground-based installations with a sturdy base.

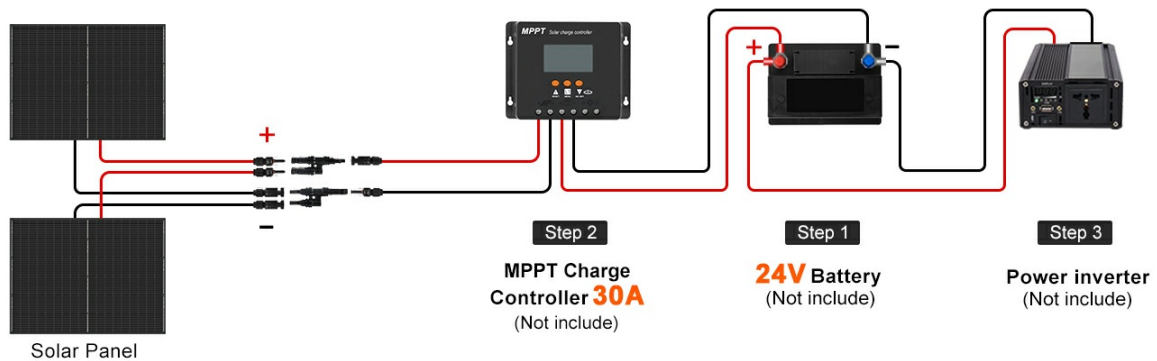


Image 4.2: Visual representation of common mounting options for solar panels.

4.3 Electrical Connection (Parallel)

For connecting multiple panels, parallel wiring is a common method. Ensure your MPPT charge controller can handle the combined voltage and current.

How To **Paralle** Connection



! Parallel: The MPPT controller should be able to accept an input voltage of at least **24V** and be able to handle an input current of at least **30A**.

Image 4.3: Parallel connection diagram. Connect the positive terminals of both solar panels together and the negative terminals together. These are then connected to the MPPT charge controller. The controller connects to a 24V battery, which then powers a power inverter. **Important:** The MPPT controller should be able to accept an input voltage of at least 24V and handle an input current of at least 30A.

The panels come with extra-long 3m (9.84ft) cables for flexible placement.



Image 4.4: Solar panel dimensions (67.8"L x 44.65"W x 2.36"H) and cable length for installation planning.

5. OPERATING THE SOLAR PANELS

Once installed and connected to a compatible charge controller and battery system, your DOKIO solar panels will automatically begin generating electricity when exposed to sunlight. The efficiency of power generation depends on several factors:

- **Sunlight Intensity:** Direct, unobstructed sunlight yields the highest power output.
- **Panel Temperature:** Cooler panel temperatures generally result in higher efficiency.
- **Angle and Orientation:** Panels should be angled towards the sun for maximum exposure.
- **Cleanliness:** Dust, dirt, or debris on the panel surface can reduce efficiency.

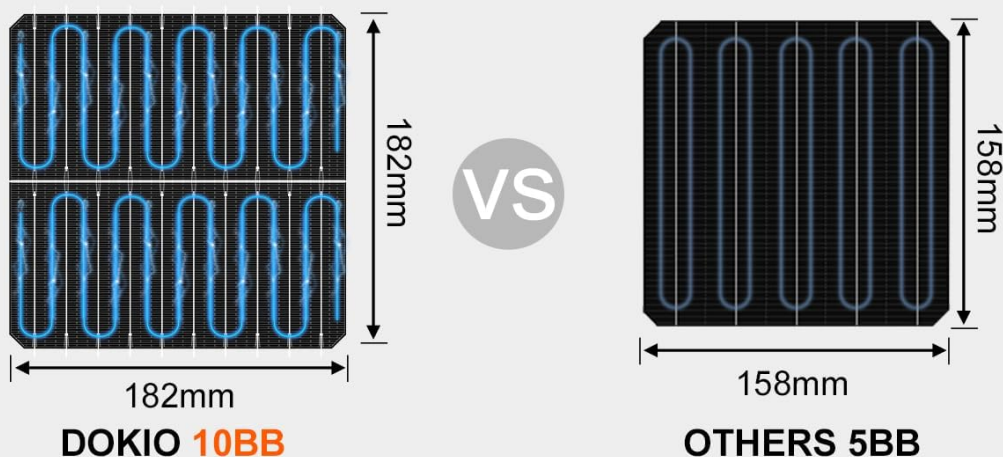
The panels feature N-type cells and Class A+ cells, designed to extend solar power generation time, even in less than ideal conditions.

GRADE A+ MONO CELLS



Image 5.1: Grade A+ mono cells contribute to a high conversion efficiency of 22%.

23% HIGHEST EFFICIENCY



HALF-CUT CELLS

Less Shadow Occultation



Image 5.2: The 10BB (Busbar) design and half-cut cells reduce energy loss and improve performance, especially under partial shading.

Official Product Video: High-Quality Materials

Video 5.1: This video from DOKIO Solar Panel highlights the high-quality materials and advanced features of the 400 Watt solar panels, including the 9 busbars technology and half-cell design for increased power output and reliability.

6. MAINTENANCE

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

- **Cleaning:** Periodically clean the surface of the panels with a soft cloth and water to remove dust, dirt, bird droppings, or other debris that can reduce efficiency. Avoid abrasive cleaners or harsh chemicals.
- **Inspection:** Regularly inspect the panels for any physical damage, such as cracks in the glass, loose frames, or damaged cables. Check electrical connections for corrosion or looseness.
- **Shading:** Ensure no new obstructions (e.g., growing trees) are casting shadows on the panels.

The panels are designed to withstand harsh weather conditions, including strong winds (2400Pa wind load) and snow loads (5400Pa snow load), and are IP65 rated for waterproof protection.

Certified to Withstand Extreme Weather conditions



Image 6.1: DOKIO solar panels are certified to withstand extreme weather conditions, including significant wind and snow loads.

7. TROUBLESHOOTING

If your solar panels are not performing as expected, consider the following common issues and solutions:

Problem	Possible Cause	Solution
Low Power Output	Shading on panels, dirty panel surface, incorrect angle/orientation, cloudy weather, faulty connections.	Remove obstructions, clean panel surface, adjust angle for optimal sun exposure, check all wiring connections, wait for clear weather.
No Power Output	Disconnected cables, faulty charge controller/inverter, severe shading, damaged panel.	Verify all cable connections are secure, check charge controller/inverter status, ensure no shading, inspect panel for visible damage.
Overheating	Insufficient ventilation behind panels.	Ensure adequate airflow around and behind the panels.

If problems persist after troubleshooting, contact DOKIO customer support for assistance.

8. SPECIFICATIONS

Detailed technical specifications for the DOKIO 400 Watt Solar Panel:



Image 8.1: Key electrical and physical specifications for the DOKIO 400W Solar Panel.

Specification	Value
Brand	DOKIO
Model Number	DSP400M*2
Maximum Power (Pmax)	400 Watts (per panel)
Maximum Power Voltage (Vmp)	31.00V
Maximum Power Current (Imp)	13.09A
Open Circuit Voltage (Voc)	37.08V
Short Circuit Current (Isc)	13.24A
Conversion Efficiency	22.00%
Product Dimensions (L x W x H)	67.8" x 44.65" x 2.36" (172.2cm x 113.4cm x 3cm)
Item Weight	96.8 pounds (for 2 panels)
Material	Aluminum, Glass
Connector Type	MC3 or MC4 or Tyco
Waterproof Rating	IP65 (Junction Box), IP67 (Connectors)
Wind Load Resistance	2400Pa
Snow Load Resistance	5400Pa

Specification	Value
Country of Origin	China

9. WARRANTY AND SUPPORT

DOKIO provides a 15-Year Tech Support for its solar panels. As a professional solar system manufacturer, DOKIO is committed to providing professional solutions for any issues you may encounter.

For technical assistance, warranty claims, or any other inquiries, please refer to the contact information provided with your purchase or visit the official DOKIO website.

Note: The power output warranty is transferable.

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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