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› DOKIO 300W 36V Portable Folding Solar Panel Kit Instruction Manual

DOKIO FFSP 36v

DOKIO 300W 36V Portable Folding Solar Panel Kit

User Instruction Manual

1. INTRODUCTION

The DOKIO 300W 36V Portable Folding Solar Panel Kit is a versatile and lightweight power solution designed for various off-grid applications. This kit provides a reliable source of clean energy for charging 24V batteries and compatible power stations, making it ideal for RVs, trailers, trucks, boats, camping, vans, and emergency preparedness. Its compact, foldable design ensures easy transport and storage, while high-efficiency monocrystalline cells maximize energy capture.

2. SAFETY INFORMATION

- Always handle the solar panel with care. Avoid dropping or subjecting it to strong impacts.
- Do not attempt to disassemble, modify, or repair the solar panel or controller. Refer to qualified personnel for service.
- Ensure proper ventilation when charging batteries to prevent gas accumulation.
- Avoid exposing the PWM controller to direct sunlight or extreme temperatures during operation to prevent overheating.
- Disconnect the solar panel from the battery or power station before performing any maintenance or cleaning.
- The solar panel is weather-resistant but not designed for permanent outdoor installation or prolonged exposure to harsh weather conditions. Do not leave it out overnight or during bad weather.
- Keep children and pets away from the solar panel and electrical connections during operation.

3. PACKAGE CONTENTS

Verify that all items are present in your DOKIO 300W 36V Portable Folding Solar Panel Kit:

- 1 x DOKIO 300W Folding Solar Panel
- 1 x PWM Charge Controller (for 24V batteries)
- 1 x 9.8 ft (3 m) Connection Cable

- 1 x 3.3 ft (1 m) Connection Cable
- Various Adapters (including SAE, XT60, DC plugs)
- 1 x User Manual (this document)



Image: The DOKIO 300W 36V Portable Folding Solar Panel Kit, showing the folded panel, PWM controller, various cables, and adapter plugs.



Image: A visual representation of the kit's components, including the carrying bag (A), PWM controller (B), 9.8 ft cable (C), 3.3 ft cable with alligator clips (D), USB cable (E), and various DC adapters (F).

4. SETUP INSTRUCTIONS

4.1 Unfolding and Positioning the Solar Panel

1. Carefully unfold the DOKIO solar panel completely.
2. Position the solar panel in a location that receives maximum direct sunlight throughout the day. Avoid shaded areas from trees, buildings, or other obstructions.
3. For optimal performance, angle the panel directly towards the sun. While the panel does not include integrated stands, external stands can be used to achieve the best angle.

ONLY 2.8CM EASY TO STORE







				
Maximum power	P _{max}	300 W ± 3%		
Open circuit voltage	(V _{oc})	45.00 V		
Maximum power voltage	(V _{mp})	36.00 V		
Short-circuit current	(I _{sc})	9.14 A		
Maximum power current	(I _{mp})	8.89 A		
Net Weight		6.9kg (15lb)		
Unfolded Dimensions		196 x 95 cm / 77 x 37 inch		

Image: The DOKIO 300W solar panel showing its compact folded dimensions (1.1 inches / 2.8 cm thick) and its unfolded dimensions (196 cm x 95 cm / 77 x 37 inches), highlighting its portability.

4.2 Connecting to a Power Station (Solar Generator)

The DOKIO solar panel can directly connect to most portable power stations (solar generators) that have a built-in MPPT controller. In this case, the included PWM controller is not needed.

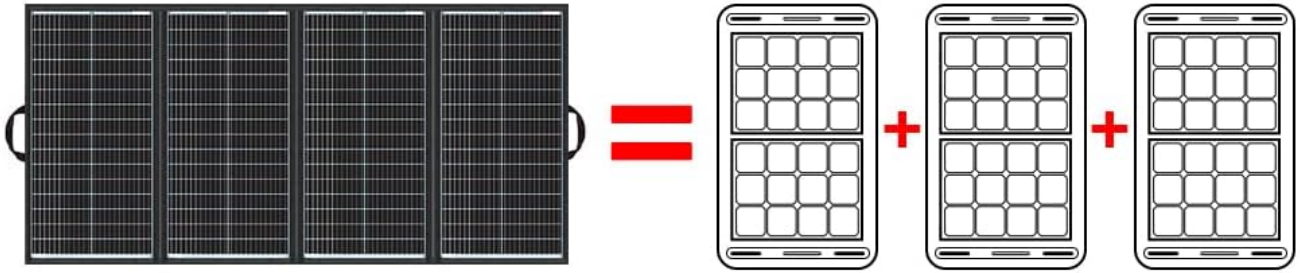
1. Identify the correct adapter plug for your power station from the provided accessory kit. Common connectors include SAE, XT60, and various DC barrel plugs (e.g., 8mm, 5.5x2.1mm).
2. Connect the solar panel's output cable to the appropriate adapter.
3. Plug the adapter into the solar input port of your power station.
4. The 9.8 ft (3 m) cable allows you to place the solar panel in direct sunlight while keeping your power station in a shaded, cooler location for safer and more efficient charging.

Important Note: Some power stations have a limited solar input (e.g., 100-150W). Even with a 300W panel, the usable wattage may not exceed this cap. This is a design feature of the power station, not a defect of the solar panel. Please confirm your power station's specifications before connecting.



Image: Diagram illustrating how to connect the DOKIO solar panel to different brands of solar generators using various adapter types (8mm, 5.5x2.1mm, XT60, 3.5x1.35mm, 5.5/6.4mm).

WHY CHOOSE DOKIO SOLAR PANEL?












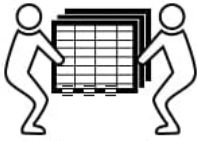
	DOKIO 300W	OTHER 3x100W
Brand	 Founded in 2007	 Newly created
Price	 Affordable	 Expensive
Controller	 LCD Smart	 Basic Controller
Thickness	 0.9" (2.2cm)	 3" (7.6cm)
Portable	 1 Panel	 3 Panels

Image: A DOKIO solar panel deployed in an outdoor environment, demonstrating the use of its 9.84 ft (3m) long cable to keep the power station shaded while the panel is in direct sunlight.

4.3 Connecting to a 24V Battery

When charging a 24V battery (AGM, LiFePO4, Lead-acid, Lithium, GEL), the included PWM charge controller must be used to regulate the voltage and prevent overcharging.

1. Connect the solar panel's output cable to the input terminals of the PWM charge controller.
2. Connect the 3.3 ft (1 m) cable with alligator clips to the battery terminals of the PWM controller.

3. Connect the alligator clips to your 24V battery, ensuring correct polarity (red to positive, black to negative).
4. The PWM controller provides full protections against reverse polarity, overcharge, overload, and short-circuit.
5. The controller also features two USB ports for charging small electronic devices like cell phones.

FOR 95% SOLAR GENERATORS



8mm



5.5X2.1mm



XT60



3.5x1.35mm



5.5/6.4



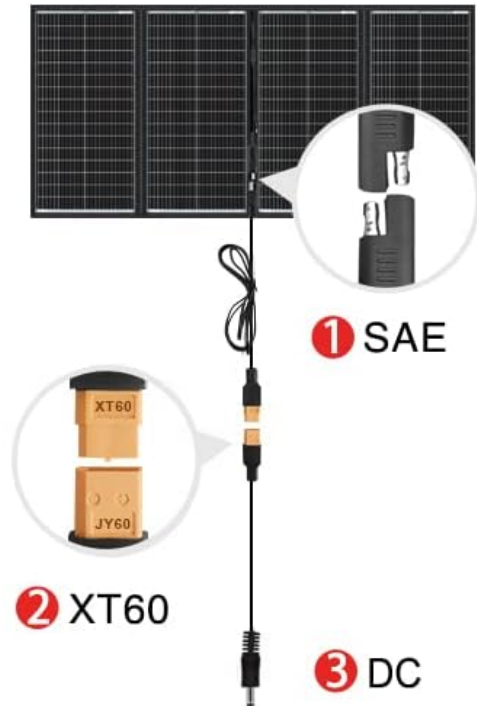
The solar panel output power is affected by the limit input power of different power station

Image: Diagram showing the connection of the DOKIO solar panel to a 24V battery (e.g., in an RV) via the PWM charge controller, which also provides USB charging ports.

TWO USES, WORKS OUT OF THE BOX

Watch The **Video** "HOW TO USE"

For Power Station



NOTE: No need to connect to the controller

For 24v Battery

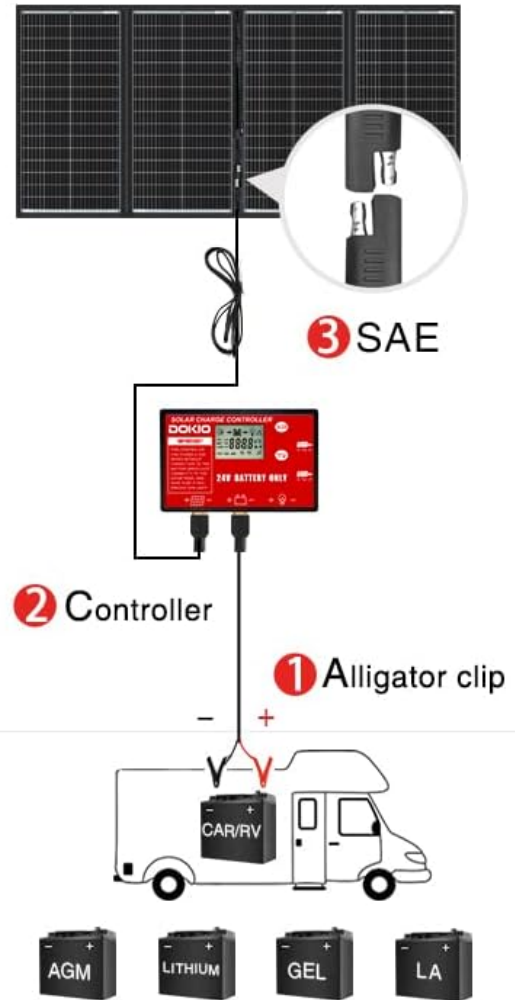


Image: A comprehensive diagram illustrating two primary uses: connecting to a power station (without controller) using SAE, XT60, or DC adapters, and connecting to a 24V battery (with controller) using alligator clips. Various DC adapter types are also shown.



Image: Close-up of the DOKIO PWM charge controller, highlighting its real-time display for battery voltage and charging state, battery protection features, and integrated USB ports for cell phone charging.

5. OPERATING INSTRUCTIONS

5.1 Monitoring Charging

If using the PWM controller, its LCD display will show real-time information such as battery voltage and charging status. Refer to the controller's specific instructions for detailed operation and setting adjustments (e.g., battery type selection for optimal charging).

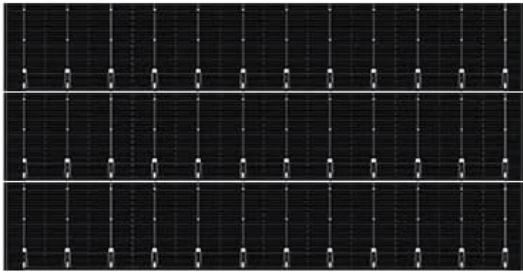
5.2 Maximizing Solar Efficiency

- **Angle to the Sun:** For best results, periodically adjust the panel's angle to face the sun directly as it moves across the sky.
- **Avoid Shade:** Even partial shading of one solar cell can significantly reduce the overall output of the panel. Ensure the entire panel is in direct sunlight.
- **Cleanliness:** Keep the panel surface clean from dust, dirt, leaves, or snow.

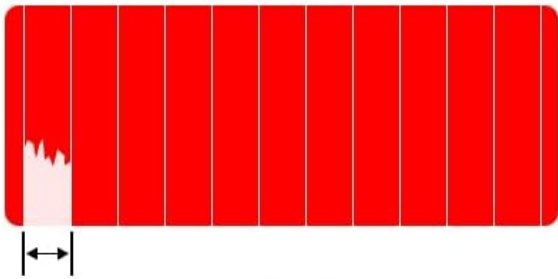
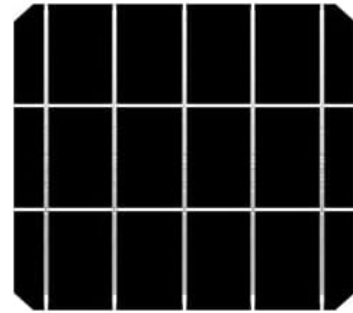
Reduce the impact of microcacks to improve efficiency

DOKIO: 12 Busbars

Conventional: 5 Busbars

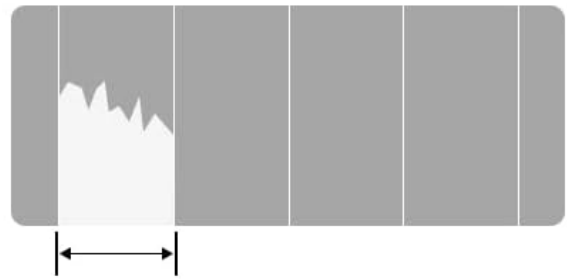


VS



1/12

Risk of microcracks as low as



1/5

Risk of microcracks rises to

Image: Comparison illustrating DOKIO's 12 busbar design which reduces the impact of microcracks and improves efficiency compared to conventional 5 busbar designs, resulting in a lower risk of power loss from cell damage.



Image: Close-up view of the DOKIO solar panel's surface, highlighting its Grade A+ monocrystalline cells, which contribute to high conversion efficiency and better performance in weak light conditions.

6. MAINTENANCE

6.1 Cleaning the Solar Panel

Regular cleaning ensures optimal performance.

- Wipe the surface of the solar panel with a soft, damp cloth to remove dust, dirt, and debris.
- For stubborn grime, use a mild, non-abrasive cleaning solution.
- Do not use harsh chemicals or abrasive materials that could scratch the panel surface.

6.2 Inspecting Cables and Connections

Periodically check all cables and connections for signs of wear, damage, or corrosion.

- Ensure all connections are secure and free from loose wiring.
- Replace any damaged cables or connectors immediately.

6.3 Storage

When not in use, fold the solar panel and store it in its carrying bag in a cool, dry place, away from direct sunlight and extreme temperatures.



Image: Features of the DOKIO solar panel, including its IP65 waterproof rating, high transparency ETFE material for durability, and the convenient carrying bag with a handle for easy transport and storage.

7. TROUBLESHOOTING

7.1 Low Power Output

If your solar panel is not producing the expected power output, consider the following:

- **Sunlight Conditions:** Solar panel output is highly dependent on light intensity and angle. 300W is tested under ideal laboratory conditions. Real-world performance will vary based on weather (cloudiness), time of day, and season.
- **Shading:** Ensure there is no shadow cast on any part of the panel. Even small shadows can significantly reduce output.
- **Panel Angle:** Adjust the panel to face the sun directly.
- **Power Station Input Limit:** As mentioned in Section 4.2, many power stations have a maximum solar input limit (e.g., 100-150W). The panel will only supply up to this limit, regardless of its higher wattage rating.

- **Dirty Panel:** Clean the panel surface as described in Section 6.1.
- **Controller Settings (for 24V batteries):** Ensure the PWM controller is correctly configured for your battery type (e.g., LiFePO4). Incorrect settings can affect charging efficiency.

7.2 Can I connect the panel directly to a battery without a controller?

For most power stations, direct connection is possible as they often have a built-in MPPT controller. However, for direct battery charging (e.g., lead-acid, LiFePO4), it is crucial to use the provided PWM controller. Without the voltage regulation provided by the controller, there is a risk of overcharging and damaging the battery.

7.3 Damaged or Faulty Unit

If your panel arrives damaged or exhibits issues, please contact DOKIO customer support directly. In most cases, issues can be resolved quickly without the need for a return, saving you time and effort.

8. TECHNICAL SPECIFICATIONS

Feature	Specification
Model Number	FFSP 36v
Maximum Power (Pmax)	300W ± 3%
Open Circuit Voltage (Voc)	45.00 V
Maximum Power Voltage (Vmp)	36.00 V
Short-Circuit Current (Isc)	9.14 A
Maximum Power Current (Imp)	8.89 A
Material	Monocrystalline Silicon (Grade A+ cells)
Efficiency	High Efficiency
Net Weight	15.21 lbs (6.9 kg)
Folded Dimensions	Approx. 37.4"L x 0.24"W x 1.1"H (95cm L x 0.6cm W x 2.8cm H)
Unfolded Dimensions	Approx. 37.4"L x 0.24"W x 77.2"H (95cm L x 0.6cm W x 196cm H)
Waterproof Rating	IP65 (weather-resistant, not for permanent submersion)

9. WARRANTY INFORMATION

DOKIO stands behind the quality of its products. For specific warranty terms and conditions, please refer to the documentation included with your purchase or contact DOKIO customer support. Typically, DOKIO offers support for damaged or faulty units, often resolving issues without the need for a return.

10. CUSTOMER SUPPORT

For any questions, technical assistance, or warranty claims regarding your DOKIO 300W 36V Portable Folding Solar Panel Kit, please contact DOKIO customer support through the retailer where you purchased the product or visit the official DOKIO website for contact information.

When contacting support, please have your product model number (FFSP 36v) and purchase details readily available.