

DOKIO DFSP-100M

DOKIO 100W Flexible Monocrystalline Solar Panel User Manual

Model: DFSP-100M

1. INTRODUCTION

Thank you for choosing the DOKIO 100W Flexible Monocrystalline Solar Panel. This manual provides essential information for the safe and efficient use of your solar panel. Please read it thoroughly before installation and operation. This flexible solar panel is designed for various applications, including RVs, boats, camping, and off-grid systems, offering high efficiency and durability.

2. SAFETY INFORMATION

Important Safety Instructions:

- Always handle the solar panel with care. Avoid dropping or subjecting it to sharp impacts.
- Ensure proper ventilation during installation to allow heat dissipation. Do not install directly on flammable materials such as wood, asphalt tiles, fabric, or foam.
- Avoid heat accumulation or hidden cables underneath the panel.
- Do not attempt to disassemble or modify the solar panel. This will void the warranty and may cause damage or injury.
- Wear appropriate personal protective equipment (PPE) during installation, including gloves and eye protection.
- Keep children and pets away from the solar panel during installation and operation.
- In case of damage, disconnect the panel immediately and contact customer support.

3. PRODUCT OVERVIEW

3.1 Key Features

- **Lightweight and Portable:** Approximately 20% the weight of glass-framed panels, with a thickness of only 0.1 cm and a weight of 2.2 kg.
- **Advanced ETFE Lamination:** ETFE material offers higher light transmission and a longer lifespan compared to

PET. The ETFE coating provides superior durability.

- **High Conversion Efficiency:** Utilizes high-efficiency monocrystalline solar cells (23-24%).
- **Bypass Diodes:** Minimizes power drop caused by shading, ensuring good power generation even on cloudy days.
- **Waterproof Design:** The solar panel and junction box are fully waterproof, suitable for outdoor use in all weather conditions.
- **Easy Installation:** Features 4 uniformly spaced metal mounting holes for secure fastening. Can also be mounted using adhesive or Velcro.

3.2 Product Components

The DOKIO 100W Flexible Monocrystalline Solar Panel includes:

- 1x DOKIO 100W Flexible Monocrystalline Solar Panel
- Integrated MC4 connectors for easy connection.

Note: Additional components such as a charge controller, battery, and inverter are not included and must be purchased separately for a complete solar power system.

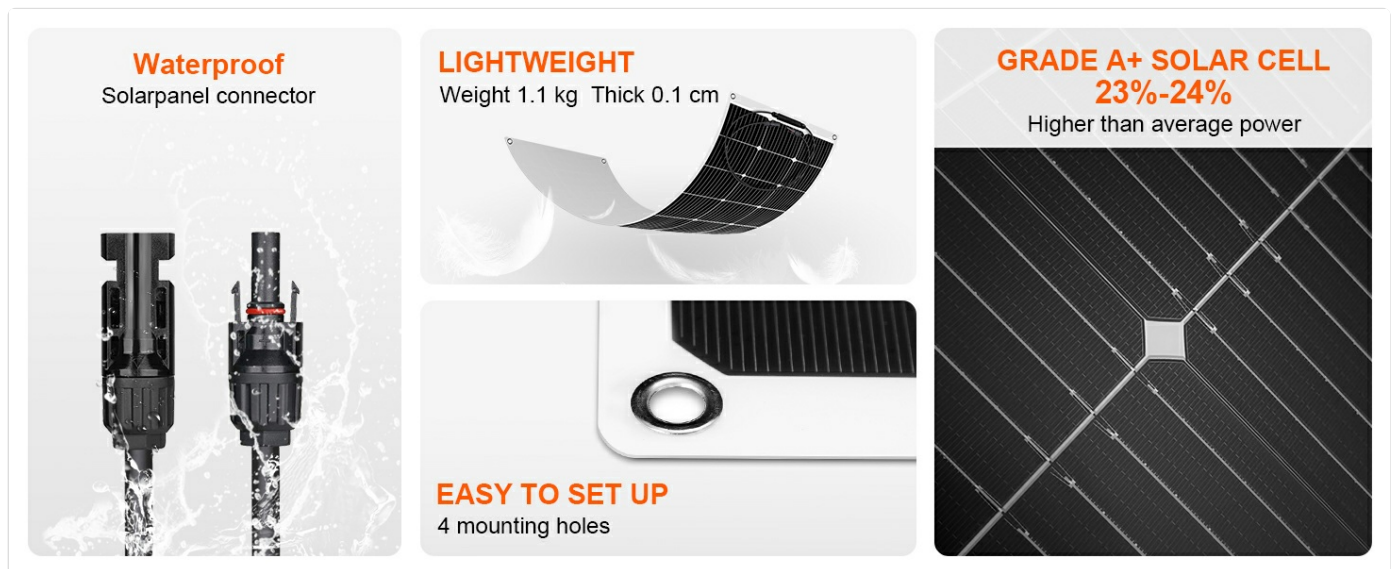


Figure 1: Key features of the DOKIO Flexible Solar Panel.

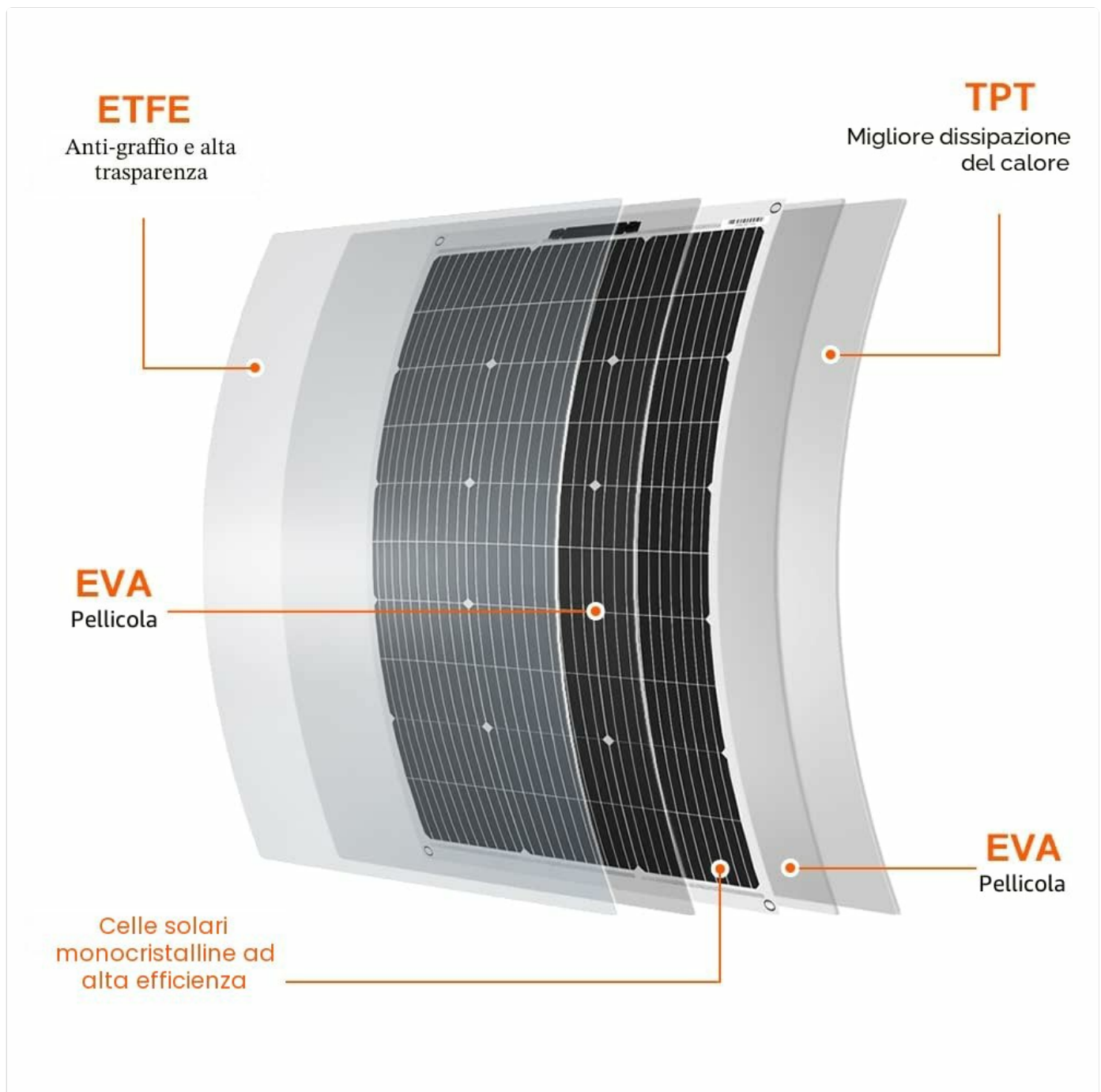


Figure 2: Layer structure of the DOKIO Flexible Solar Panel.

4. SETUP AND INSTALLATION

4.1 Choosing an Installation Location

Select a location that receives maximum direct sunlight throughout the day. The flexible design allows for installation on curved surfaces such as RV roofs or boat decks. Ensure the surface is clean and dry before installation.

Figure 3: Flexible solar panel installed on a curved caravan roof.

4.2 Mounting the Solar Panel

The panel can be mounted using its four pre-drilled metal mounting holes. Alternatively, it can be secured with appropriate adhesive or Velcro for a more flexible attachment.

- **For RVs/Boats:** When installing on the roof of an RV or boat, a thermal insulation layer must be pre-installed on the back of the panel. This improves ventilation between the panel and the surface, preventing heat buildup and ensuring optimal performance.
- **For Balconies:** The panel can be easily hung on a balcony using stainless steel zip ties (not included).

Recommended Installation Method



Can be easily hung on the balcony using stainless steel zip ties (not included).



When installed on the roof of an RV, a thermal insulation layer must be pre-installed on the back of the panel to improve ventilation between the panel and the RV.

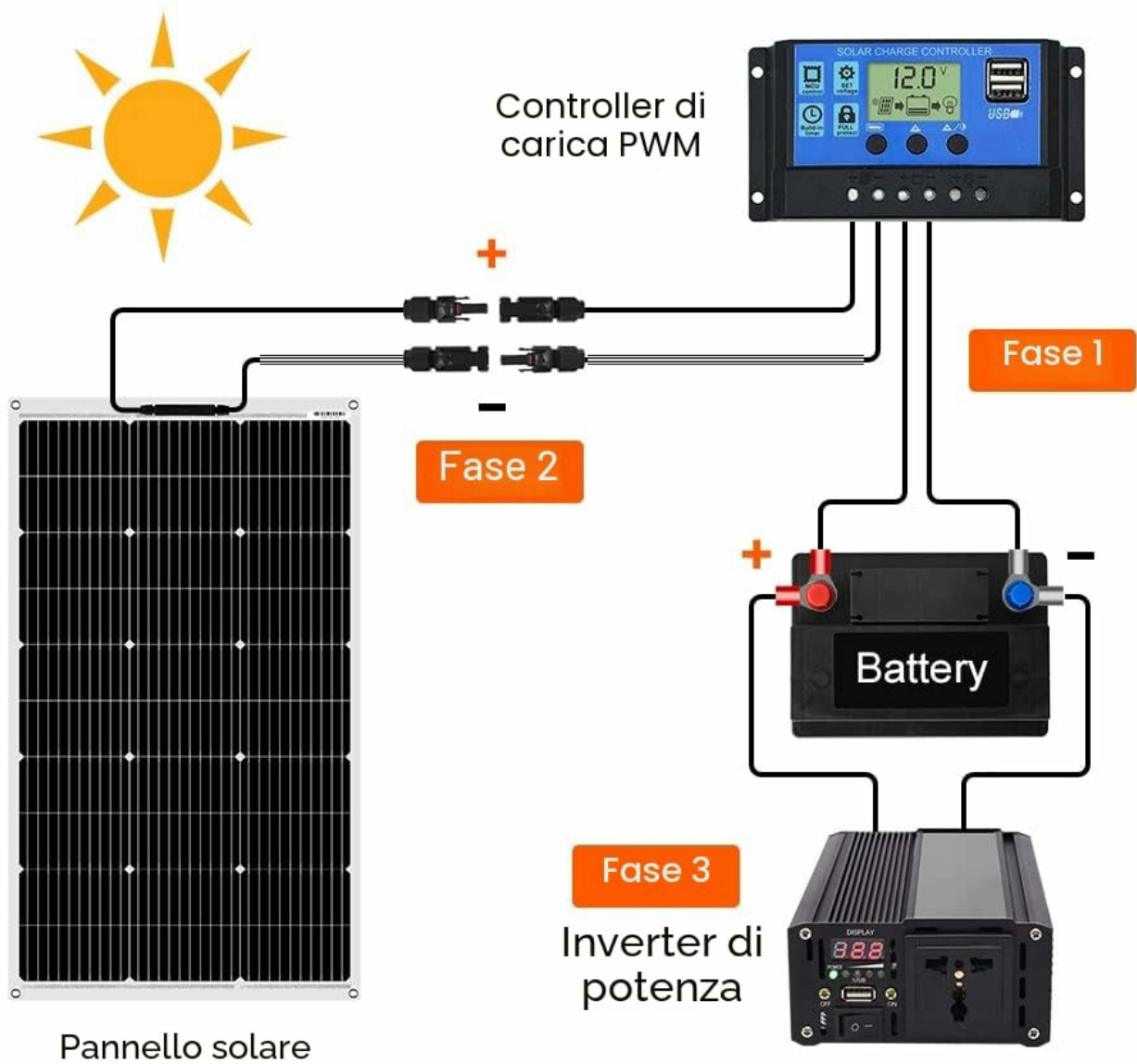
Figure 4: Recommended installation methods for balconies and RVs.

4.3 Electrical Connections

The solar panel comes with integrated MC4 connectors. Connect the positive (+) and negative (-) terminals of the solar panel to a compatible solar charge controller. Ensure all connections are secure and correctly polarized.

Connection Types:

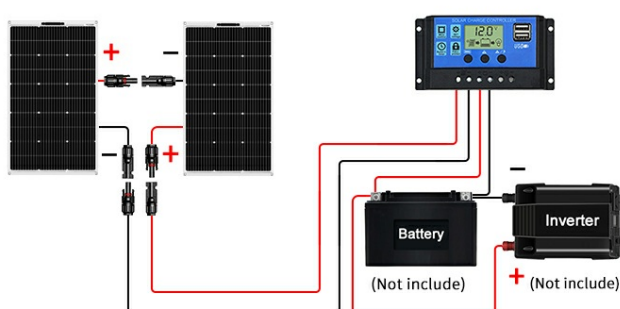
- **Series Connection:** Increases total voltage. Connect the positive of one panel to the negative of the next.
- **Parallel Connection:** Increases total current. Connect positive to positive and negative to negative.



Oltre al pannello solare flessibile, altri prodotti devono essere acquistati separatamente

Figure 5: Basic solar power system connection diagram.

How to connect in **series**



How to connect in **parallel**

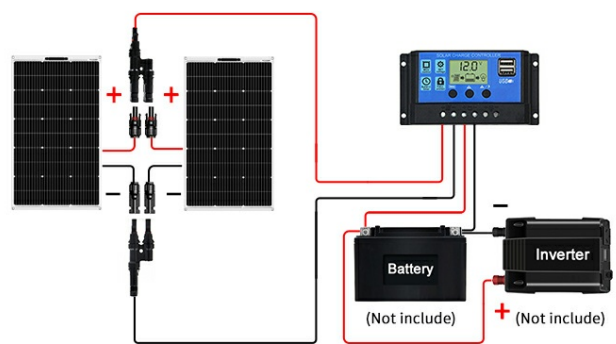


Figure 6: Series and Parallel connection methods for solar panels.

5. OPERATING INSTRUCTIONS

Once installed and connected to a charge controller and battery system, the DOKIO solar panel will begin generating electricity when exposed to sunlight.

- **Optimal Performance:** For best results, ensure the panel is positioned to face the sun directly. Adjust its angle periodically to maximize energy harvest, especially during different seasons or times of day.
- **Monitoring:** Use a compatible solar charge controller with a display to monitor the charging status, battery voltage, and current output from the solar panel.
- **Power Measurement:** When measuring power output, connect the multimeter directly to the solar panel's MC4 connectors for accurate readings. Do not measure power through the charge controller output for panel-specific readings.



Figure 7: Correct and incorrect methods for measuring solar panel power.

6. MAINTENANCE

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

- **Cleaning:** Periodically clean the surface of the solar panel with a soft cloth and mild soapy water to remove dust, dirt, and debris. Avoid abrasive cleaners or harsh chemicals. Ensure the panel is dry before reconnecting to the system if it was disconnected for cleaning.
- **Inspection:** Regularly inspect the panel for any physical damage, such as cracks, delamination, or frayed cables. Check all electrical connections for tightness and corrosion.
- **Shading:** Ensure no objects (leaves, branches, snow, etc.) are shading the panel, as even partial shading can significantly reduce power output due to bypass diodes.

7. TROUBLESHOOTING

Problem	Possible Cause	Solution
No power output or low power output	Insufficient sunlight or heavy shading.	Relocate panel to direct sunlight; remove any shading.
	Dirty panel surface.	Clean the panel surface.
	Loose or incorrect electrical connections.	Check and secure all MC4 connections and wiring.
	Damaged panel or cables.	Inspect panel and cables for visible damage. Contact support if damaged.
	Faulty charge controller or battery.	Test charge controller and battery separately.
Panel overheating	Lack of ventilation behind the panel.	Ensure adequate airflow around and behind the panel.
	Installation on flammable material without air gap.	Install a thermal insulation layer or create an air gap if mounted on flammable surfaces.
Water ingress in junction box	Improper sealing or damage to the junction box.	Inspect the junction box for cracks or loose seals. Contact support if damaged.

8. SPECIFICATIONS

Parameter	Value
Brand	DOKIO
Model Number	DFSP-100M
Material	Monocrystalline Silicon
Maximum Power (Pmax)	100 Watts
Maximum Power Voltage (Vmp)	18 Volts
Open Circuit Voltage (Voc)	21.5 Volts
Maximum Power Current (Imp)	5.81 Amperes
Efficiency	High Efficiency (23-24%)
Product Dimensions (L x W x H)	97.5 cm x 56.5 cm x 0.1 cm
Item Weight	2.2 Kilograms
Connector Type	MC4

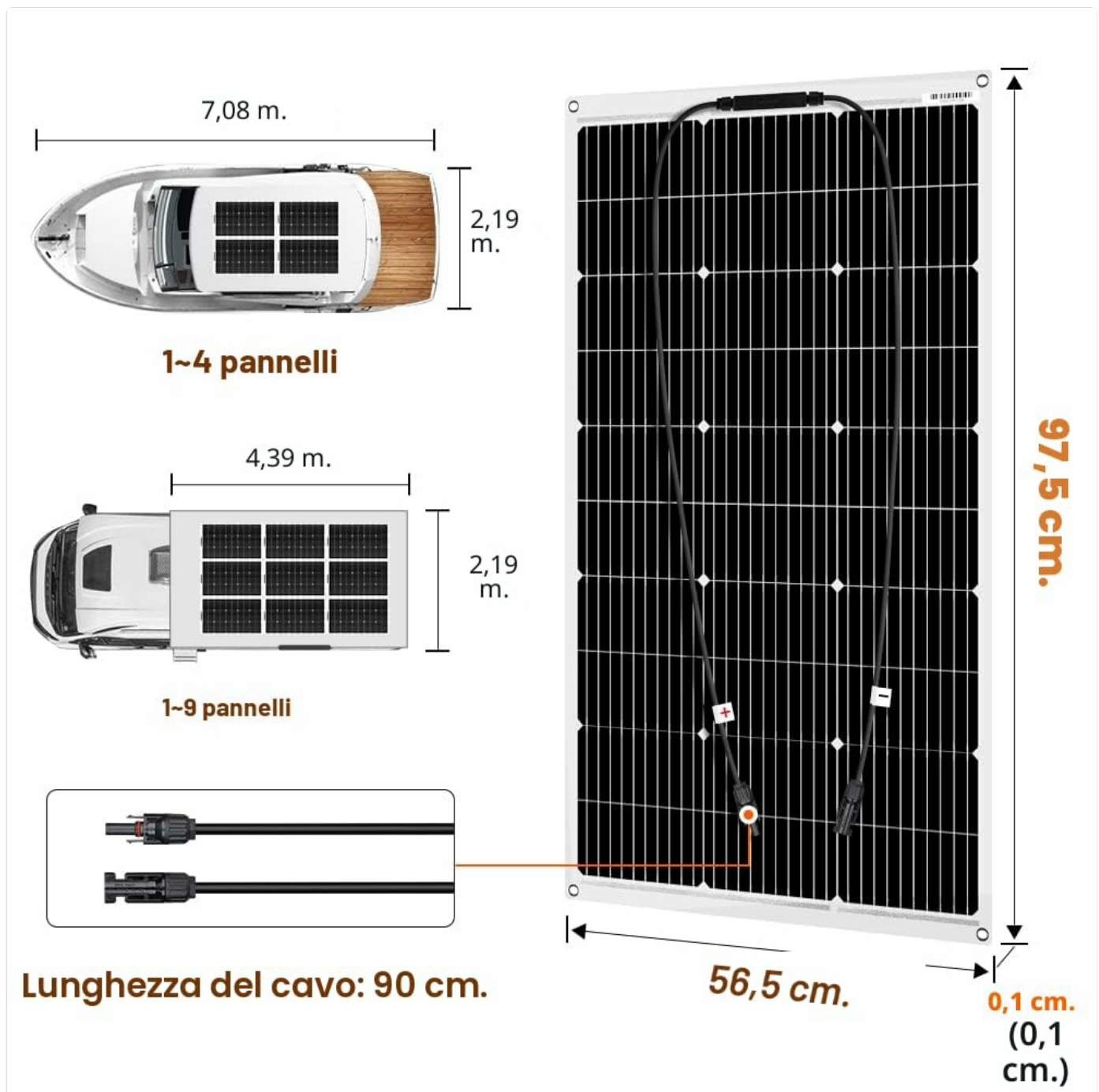


Figure 8: DOKIO Flexible Solar Panel dimensions and cable length.

9. WARRANTY AND SUPPORT

DOKIO is committed to providing quality products and customer satisfaction. While specific warranty details are not provided in this manual, please refer to your purchase documentation or the official DOKIO website for comprehensive warranty information.

Customer Support: If you have any questions, encounter issues, or require assistance with your DOKIO solar panel, please contact our customer service team. We are dedicated to providing satisfactory solutions.

You can typically find contact information on the DOKIO brand store page on Amazon or through the official DOKIO website.

