

- Manuals.plus /
- › ALLPOWERS /
 - › ALLPOWERS SF100 Flexible Solar Panel User Manual

ALLPOWERS AP-SF-100

ALLPOWERS SF100 Flexible Solar Panel User Manual

Model: AP-SF-100 | Brand: ALLPOWERS

INTRODUCTION

The ALLPOWERS SF100 Flexible Solar Panel is a high-efficiency, lightweight, and durable solar solution designed for various applications, including RVs, boats, cabins, and other uneven surfaces. This manual provides essential information for the safe and effective use of your solar panel.



Image: The ALLPOWERS SF100 Flexible Solar Panel, showcasing its bendable design and compact form factor.

Key Features

- **Lightweight & Extremely Flexible:** Weighing only 5.29 lbs and 0.11 inch thin, this panel is easy to carry and can be bent into a U-shape (up to 260° curve) to fit curved surfaces like RV fronts and roofs.

SUPER LIGHT AND FLEXIBLE



Image: Illustration demonstrating the panel's flexibility, bending up to a 260-degree curve, highlighting its lightweight design at 2.4KG (5.29 lbs).

- **Easy to Install:** Features MC-4 output ports for connection to power stations or home solar systems. Includes 6 straps for secure installation on RVs, roofs, campers, trailers, boats, cabins, sheds, tents, and yachts.

WIDELY USE IN DAILY LIFE

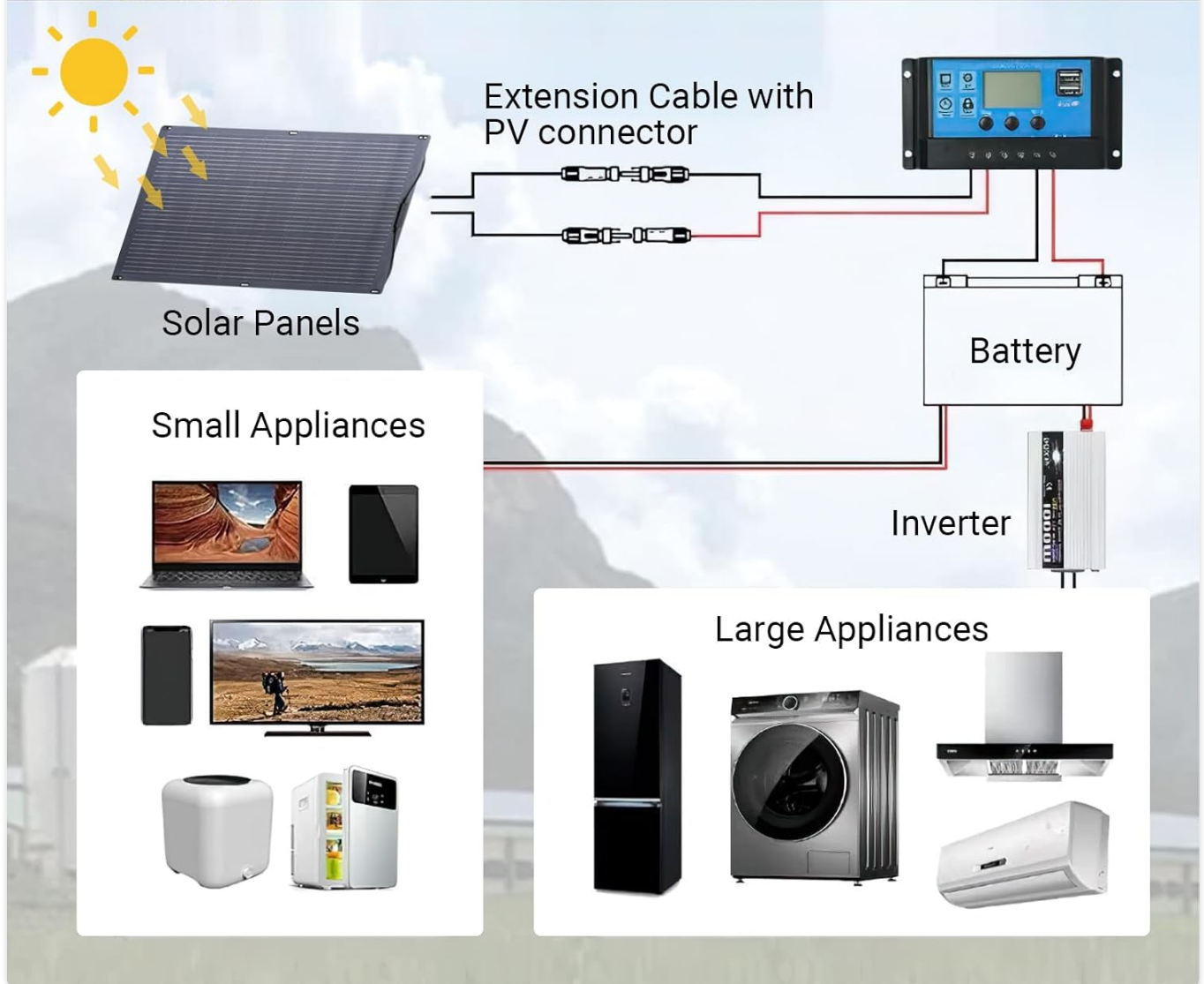


Image: A diagram illustrating how the solar panel connects to a battery and inverter, powering both small and large appliances, demonstrating its wide applicability.

- **High Conversion Efficiency:** Utilizes advanced Monocrystalline material, achieving a conversion rate of 23%-25%. The Honeycomb ETFE surface and MC-4 ports minimize loss, maximizing power generation.

23% - 25% HIGH CONVERSION EFFICIENCY

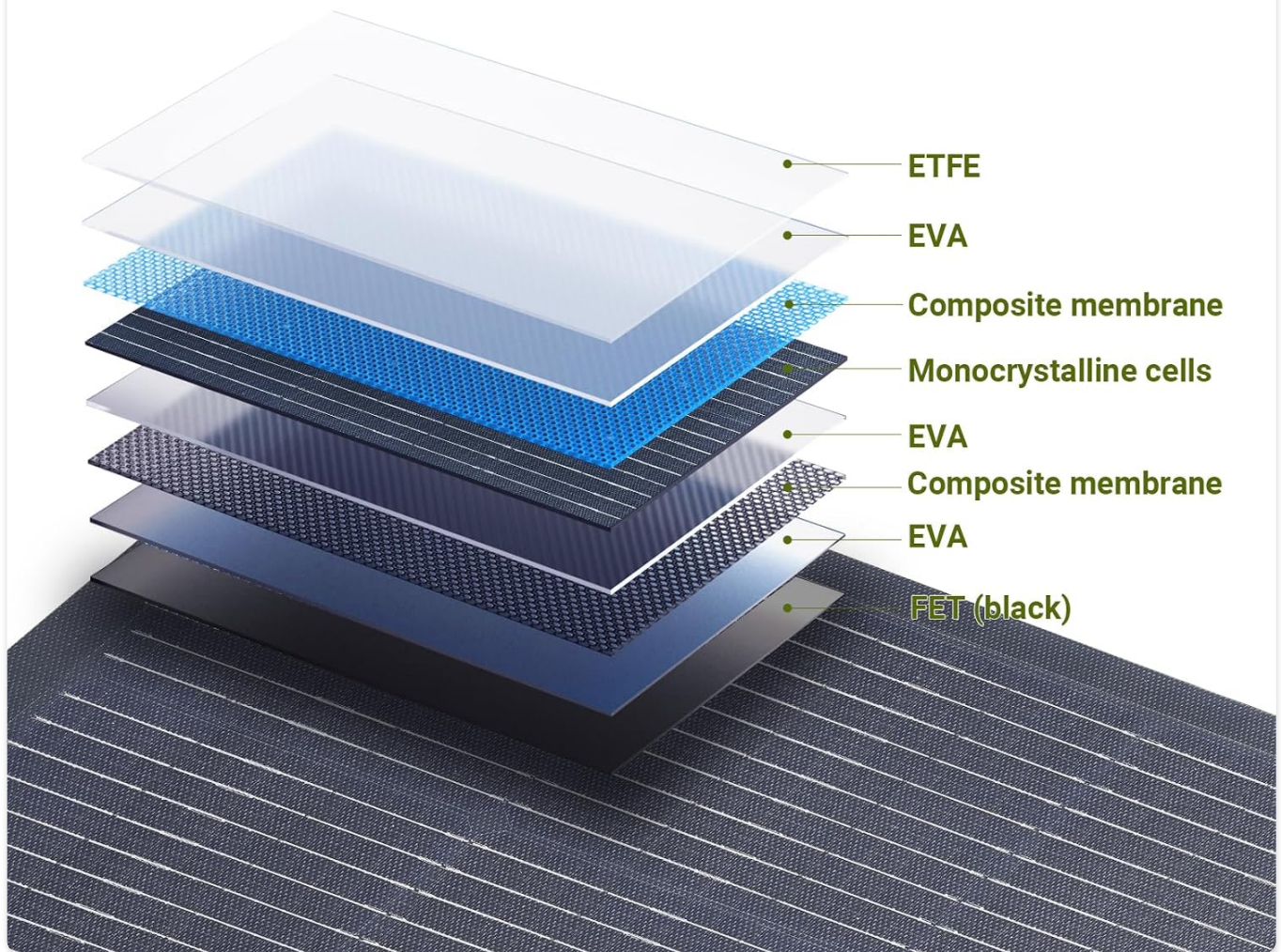


Image: An exploded view diagram showing the layers of the solar panel, including the ETFE surface, EVA, composite membrane, monocrystalline cells, and FET (black) layer, illustrating its high conversion efficiency.

- **Durable Material for All Weather:** The IP68 waterproof ETFE material resists extreme weather conditions (high temperature, freezing, sandstorms, rainstorms). Features a bypass diode for input overcurrent and reverse protection.

IP68 WATERPROOF

Suitable for balcony, RV, roofs, boats



Image: The solar panel partially submerged in water, illustrating its IP68 waterproof rating and suitability for various environments like balconies, RVs, roofs, and boats.

- **Long Lifespan:** Properly used, the SF100 can last for over 10 years.

SPECIFICATIONS

Attribute	Detail
Brand	ALLPOWERS
Model Number	AP-SF-100
Material	Monocrystalline Silicon
Product Dimensions	39.68"L x 22.83"W x 0.11"H
Item Weight	5.29 pounds
Efficiency	23%-25% High Conversion Efficiency
Connector Type	Solar connector (MC4)

Maximum Voltage	12 Volts (24V / 12V compatible)
Maximum Power	100 Watts
Water Resistance	IP68



Waterproof Junction Box



Solar Connector



Stainless Steel Ring Durable

Image: Detailed view of the solar panel's components, including the waterproof junction box, MC4 solar connectors, and durable stainless steel rings for mounting.

SETUP

- Unpack the Panel:** Carefully remove the solar panel from its packaging. Inspect for any visible damage.
- Choose a 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, boat decks, or van tops. Ensure the surface is clean and dry before installation.
- Mounting:**
 - Use the provided straps or appropriate adhesives (not included) to secure the panel. The stainless steel rings at the

corners are designed for secure attachment.

- For optimal performance, ensure the panel is angled towards the sun. While the panel can gather sunlight from different angles due to its surface design, direct perpendicular exposure is most efficient.



Image: Examples of the solar panel's versatile applications, including installation on boats, RVs, residential roofs, and for camping setups.

4. Connect to System:

- Connect the MC-4 output ports of the solar panel to your charge controller, power station, or solar system using compatible cables (not included unless specified).
- Ensure all connections are secure and properly polarized (+ to + and - to -) to prevent damage.

OPERATING INSTRUCTIONS

Once installed and connected, the ALLPOWERS SF100 Flexible Solar Panel will begin converting sunlight into electrical energy. The panel is designed for automatic operation when exposed to sufficient sunlight.

- **Sunlight Exposure:** For optimal performance, ensure the panel is exposed to direct, unobstructed sunlight. Shading on any part of the panel can significantly reduce its output.

- **Monitoring Output:** If your system includes a charge controller or power station with a display, monitor the input wattage to confirm the panel is generating power. Output will vary based on sunlight intensity, angle, and temperature.
- **Angle Adjustment:** While the panel's ETFE surface is designed to gather sunlight from different angles, periodically adjusting the panel's angle to directly face the sun can maximize energy harvest, especially during different times of the day or seasons.



Image: An illustration detailing how the transparent dots and matrix-distributed dots on the panel's surface refract and utilize sunlight from various angles, enhancing conversion efficiency.

MAINTENANCE

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

- **Cleaning:**
 - Clean the surface of the solar panel periodically to remove dust, dirt, leaves, or other debris that may accumulate and reduce efficiency.
 - Use a soft cloth and mild, non-abrasive cleaning solution with water. Avoid harsh chemicals or abrasive materials that could scratch the ETFE surface.

- Clean when the panel is cool, typically in the morning or evening.
- **Inspection:**
 - Regularly inspect the panel for any physical damage, such as cracks, delamination, or discoloration.
 - Check all electrical connections (MC-4 connectors, junction box) for corrosion, loose fittings, or signs of overheating. Ensure the waterproof seals are intact.
 - Verify that the panel is securely mounted and that straps or adhesives are holding firm.
- **Environmental Considerations:** The IP68 rating ensures resistance to water and dust. However, extreme temperatures (both high and low) can affect performance. Ensure proper ventilation around the panel, especially when mounted on surfaces that can trap heat.

TROUBLESHOOTING

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

Problem	Possible Cause	Solution
No power output / Low power output	◦ Panel is shaded ◦ Dirty panel surface ◦ Loose or corroded connections ◦ Incorrect wiring polarity ◦ Insufficient sunlight (cloudy day, wrong time of day) ◦ Overheating	◦ Relocate panel to full sun or remove obstruction ◦ Clean the panel surface ◦ Check and secure all MC-4 connections; clean any corrosion ◦ Verify correct wiring (+ to +, - to -) ◦ Wait for brighter conditions or adjust angle ◦ Ensure adequate airflow around the panel
Panel appears damaged (e.g., bubbles, discoloration)	◦ Manufacturing defect ◦ Extreme environmental stress ◦ Improper installation leading to localized heat buildup	◦ Cease use immediately to prevent further damage or safety risks. ◦ Contact ALLPOWERS customer support for warranty claim or replacement.
Junction box or cables are hot	◦ Overload or short circuit ◦ Loose connections ◦ Damaged wiring	◦ Disconnect panel from system immediately. ◦ Inspect all wiring and connections for damage or looseness. ◦ Consult a qualified electrician if unsure.

WARRANTY AND SUPPORT

The ALLPOWERS SF100 Flexible Solar Panel comes with a **3-Year Warranty**. This warranty covers defects in materials and workmanship under normal use.

For warranty claims, technical support, or any inquiries regarding your product, please contact ALLPOWERS customer service through the platform where you purchased the product or visit the official ALLPOWERS website for contact information.

Please retain your proof of purchase for warranty validation.

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

Open the live page

<https://manuals.plus/asin/B0C9Q13BMV>

More documents and user manuals: <https://manuals.plus/>