FOSSiBOT SP420

FOSSiBOT SP420 420W Foldable Solar Panel User Manual

Model: SP420 | Brand: FOSSiBOT

1. Introduction and Overview

The FOSSiBOT SP420 is a high-efficiency 420W foldable monocrystalline solar panel designed for portable power generation. It features a durable, waterproof, and scratch-resistant ETFE coating, making it suitable for various outdoor activities. With a conversion efficiency of up to 23.4%, it provides reliable power for your portable power stations, such as the FOSSiBOT F2400 and F3600, in diverse environments including camping, RV trips, and emergency blackouts.



Image 1.1: The FOSSiBOT SP420 420W Portable Solar Panel in a camping setting, demonstrating its portability and ease of use for outdoor power needs.



Image 1.2: The FOSSiBOT SP420 Foldable Solar Panel showcasing its compact, lightweight design for easy transport during outdoor adventures.



Image 1.3: Various applications of the FOSSiBOT SP420, including RV travel, camping, emergency power during blackouts, and fishing trips.

2. Safety Instructions

Please read and understand all safety instructions before operating the FOSSiBOT SP420 solar panel. Failure to follow these instructions may result in electric shock, fire, or serious injury.

- Do not attempt to disassemble, repair, or modify the solar panel.
- Keep the solar panel away from fire, heat sources, and flammable materials.
- Avoid exposing the solar panel to corrosive substances or extreme temperatures.
- Handle the solar panel with care to prevent damage to the cells or frame.
- Ensure all connections are secure and properly insulated before use.
- Do not immerse the solar panel in water, despite its IP67 rating, to prevent damage to connectors.
- Keep out of reach of children.

3. Package Contents

Verify that all items are present in your package:

- FOSSiBOT SP420 Foldable Solar Panel
- Storage Bag
- 3-in-1 MC4 Charging Cable (Anderson, XT90, DC5521 connectors)
- User Manual

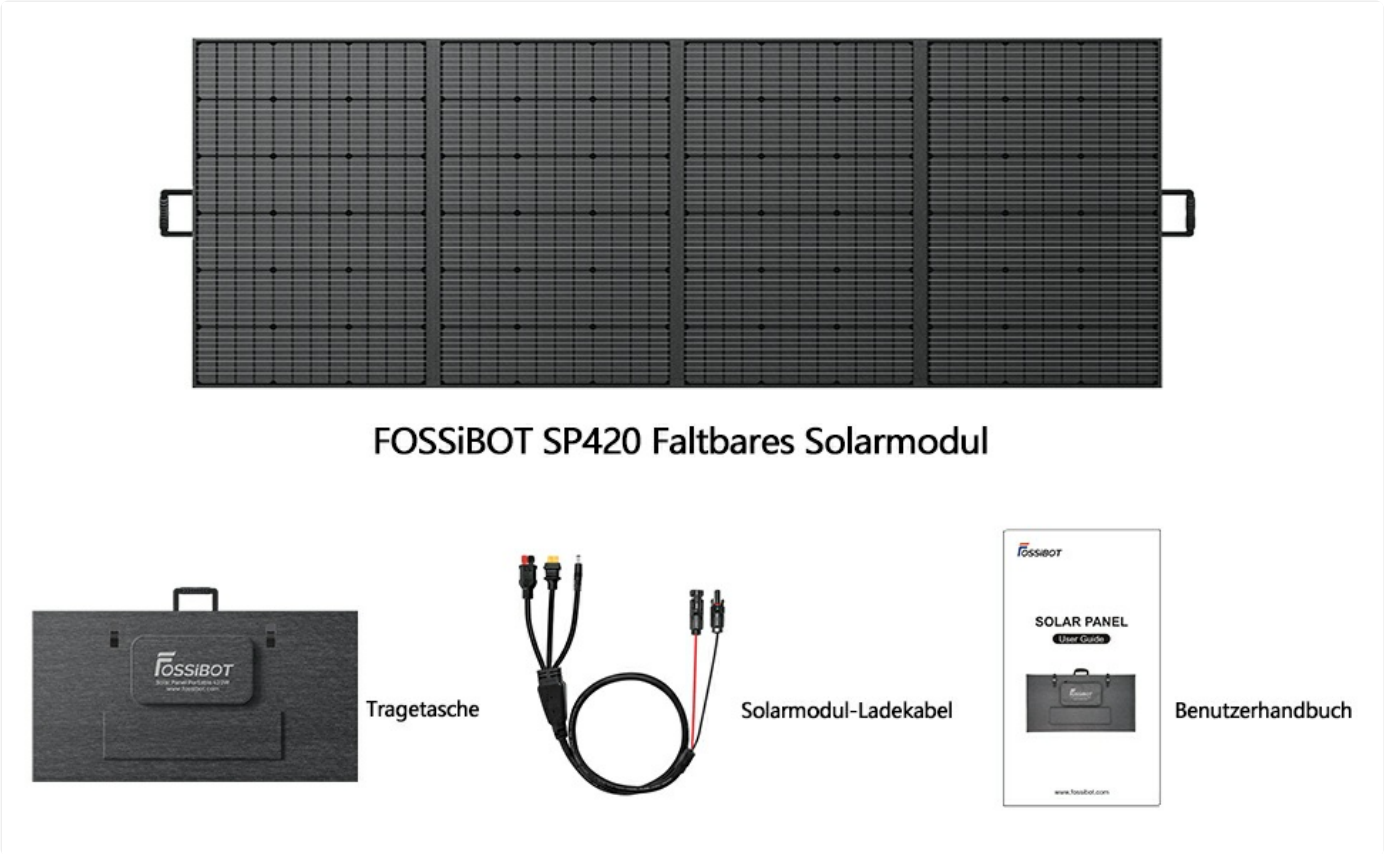


Image 3.1: Contents of the FOSSiBOT SP420 package, including the solar panel, storage bag, connection cables, and user manual.

4. Setup Instructions

Follow these steps to set up your FOSSiBOT SP420 solar panel:

1. **Unfold the Solar Panel:** Carefully unfold the FOSSiBOT SP420 solar panel on a flat, stable surface.
2. **Deploy Kickstands:** Locate the adjustable kickstands on the back of the panel. Snap them into place to support the panel.
3. **Adjust Angle:** Adjust the kickstands to achieve the optimal angle for direct sunlight exposure. The panel can be adjusted to 35°, 40°, 45°, or 50° to maximize solar energy absorption.
4. **Position for Sunlight:** Orient the solar panel directly towards the sun. Ensure no shadows are cast on the panel, as this can significantly reduce efficiency.



Image 4.1: The adjustable kickstand support of the FOSSiBOT SP420, illustrating how to unfold the panel, snap the kickstands, and adjust the angle for efficient solar energy capture.

5. Operating Instructions

The FOSSiBOT SP420 solar panel is designed for high-efficiency charging of compatible portable power stations.

1. **Connect to Power Station:** Use the provided 3-in-1 MC4 charging cable to connect the solar panel to your portable power station. The cable includes Anderson, XT90, and DC5521 connectors for wide compatibility.
2. **Verify Connection:** Ensure the connection is secure. Most power stations will indicate when they are receiving a charge.
3. **Monitor Charging:** Monitor the charging status on your power station. Charging times will vary based on sunlight intensity, panel angle, and the capacity of your power station. For example, the FOSSiBOT F3600 can be fully charged in approximately 2 hours and 16 minutes with four SP420 panels.
4. **Optimal Performance:** For best results, ensure the panel is in direct sunlight and free from obstructions. The monocrystalline solar cells offer up to 23.4% conversion efficiency.

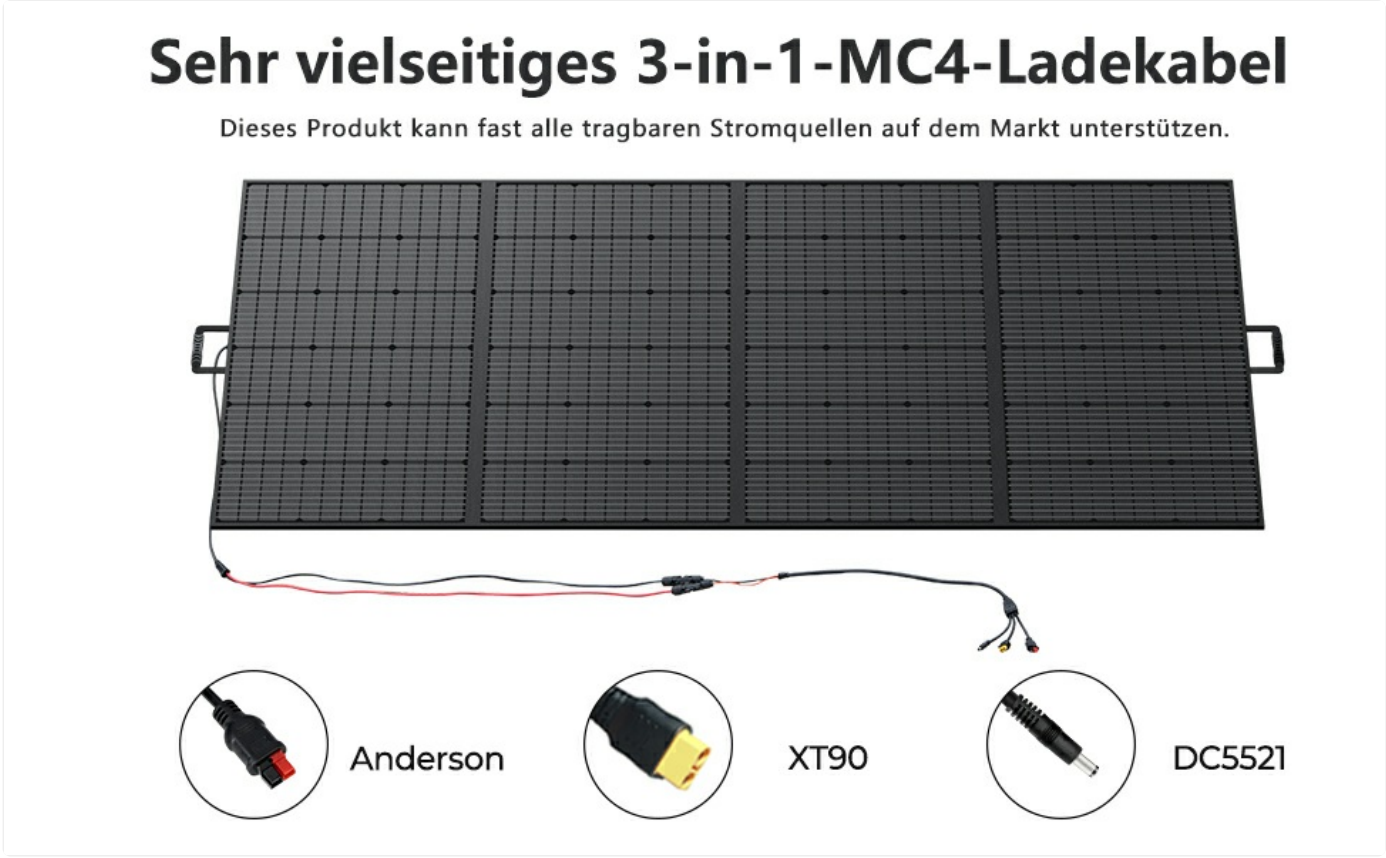


Image 5.1: The versatile 3-in-1 MC4 charging cable, featuring Anderson, XT90, and DC5521 connectors, ensuring broad compatibility with various portable power stations.

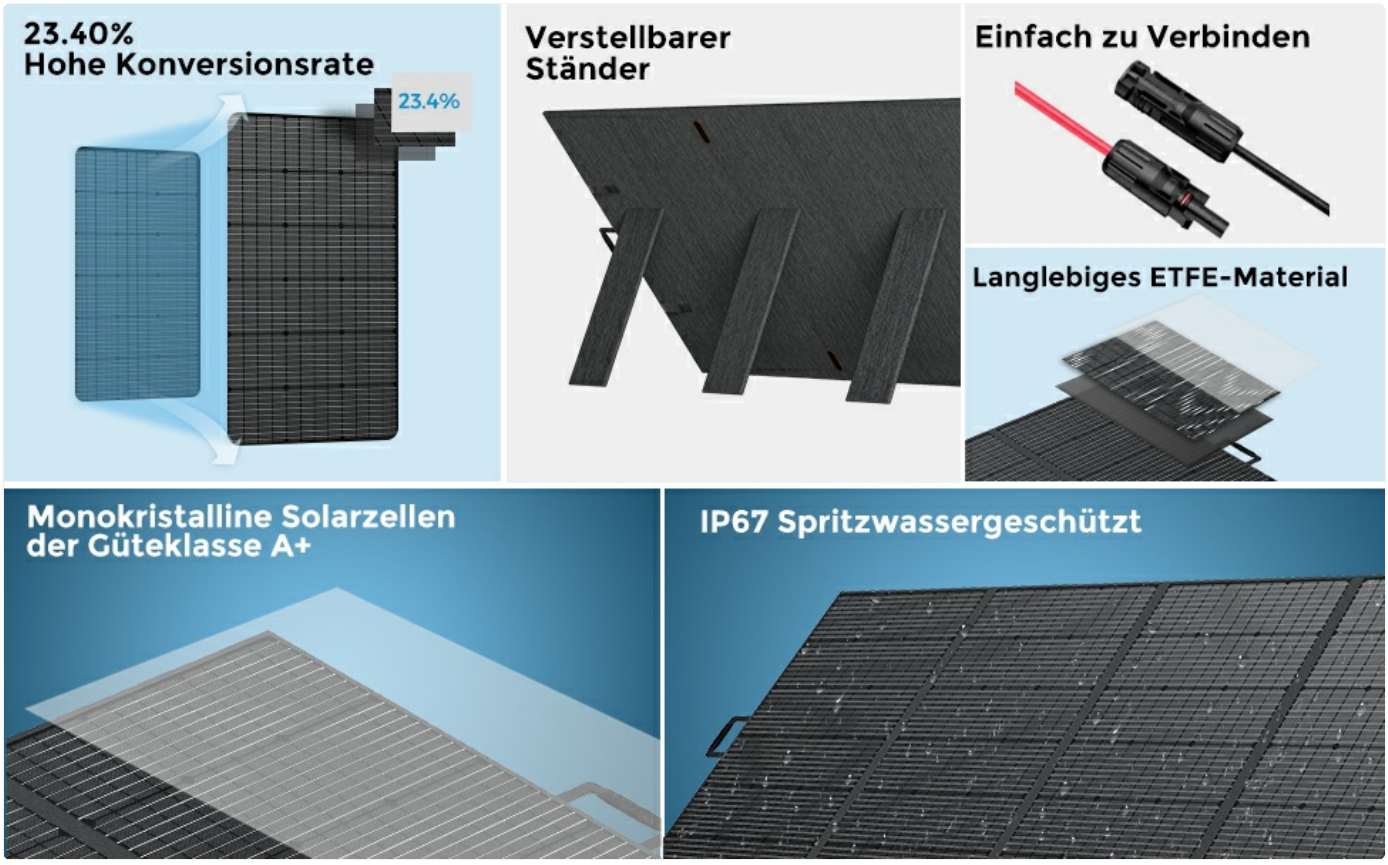


Image 5.2: An illustration detailing the high-efficiency and durable construction of the FOSSiBOT solar panel, emphasizing its 23.5% conversion rate compared to other polycrystalline panels.



Image 5.3: A diagram outlining the estimated charging times for FOSSiBOT F2400 and F3600 power stations when connected to the SP420 solar panel, illustrating the efficiency of the charging system.

6. Maintenance

Proper maintenance ensures the longevity and optimal performance of your FOSSiBOT SP420 solar panel.

- **Cleaning:** Regularly clean the surface of the solar panel with a soft, damp cloth to remove dust, dirt, and debris. Avoid abrasive cleaners or harsh chemicals that could damage the ETFE coating.
- **Inspection:** Periodically inspect the panel for any signs of physical damage, such as cracks, scratches, or frayed cables. Ensure all connectors are clean and free from corrosion.
- **Water Resistance:** The panel features an IP67 waterproof rating, making it resistant to dust and temporary immersion in water. However, it is recommended to wipe it dry after exposure to rain or moisture to prevent water ingress into connectors over time.
- **Storage:** When not in use, fold the solar panel and store it in its protective storage bag in a cool, dry place away from direct sunlight and extreme temperatures.



Image 6.1: The FOSSiBOT SP420 solar panel demonstrating its IP67 waterproof and dustproof capabilities, ensuring durability in various weather conditions.

7. Troubleshooting

If you encounter issues with your FOSSiBOT SP420 solar panel, refer to the following common troubleshooting steps:

- **No Power Output:**
  - Ensure the panel is in direct sunlight and not shaded.
  - Check all cable connections between the solar panel and the power station. Ensure they are secure and correctly inserted.
  - Verify that the power station is turned on and configured to accept solar input.
  - Inspect the cables and connectors for any visible damage.
- **Low Power Output:**
  - Clean the surface of the solar panel to remove any dirt or debris that may be blocking sunlight.
  - Adjust the angle of the solar panel to face the sun directly. The optimal angle changes throughout the day and with seasons.
  - Ensure there are no partial shadows on the panel, as even small shadows can significantly reduce output.
  - Consider environmental factors such as cloudy weather or haze, which naturally reduce solar efficiency.
- **Panel Not Folding Correctly:**
  - Check for any obstructions or debris in the folding mechanism.
  - Ensure the panel is clean and dry before folding.

If these steps do not resolve the issue, please contact customer support.

8. Specifications

Feature	Specification
Brand	FOSSiBOT
Model Number	SP420
Max Power	420 Watt
Efficiency	23.4%
Max Voltage	32 Volts
Amperage	13.1 A
Product Dimensions (Unfolded L x W x H)	2.23L x 0.55W x 1.03H meters
Folded Size	55 x 51.8 cm
Material	Glass (ETFE coating)
Connector Type	MC4
Included Components	SP420 Solar Panel, 3-in-1 MC4 Charging Cable, Storage Bag, User Manual
Manufacturer	FOSSiBOT
ASIN	B0DCZ8JT8X

9. Warranty and Support

Warranty Information: The FOSSiBOT SP420 Foldable Solar Panel comes with a **2-year manufacturer's warranty** from the date of purchase. This warranty covers defects in materials and workmanship under normal use. It does not cover damage caused by misuse, accidents, unauthorized modifications, or natural disasters.

Customer Support: For technical assistance, warranty claims, or any questions regarding your FOSSiBOT SP420 solar panel, please contact FOSSiBOT customer support through their official website or the retailer where the product was purchased. Please have your purchase receipt and product model number (SP420) ready when contacting support.

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

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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