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› TerraVolt 500W Portable Solar Panel Instruction Manual

## TerraVolt 500W Solar Panel

# TerraVolt 500W Portable Solar Panel Instruction Manual

Model: 500W Solar Panel

## 1. INTRODUCTION

This manual provides essential information for the safe and efficient use of your TerraVolt 500W Portable Solar Panel. Please read these instructions carefully before operating the device. This solar panel is designed to provide reliable power for various applications, including outdoor activities and as a backup power source.

## 2. PRODUCT OVERVIEW

The TerraVolt 500W Portable Solar Panel features high-efficiency monocrystalline silicon cells and ETFE film for durability. It is designed to be foldable and lightweight for portability, offering a maximum power output of 500W.

# High Conversion Efficiency

## 400W Solar Panel



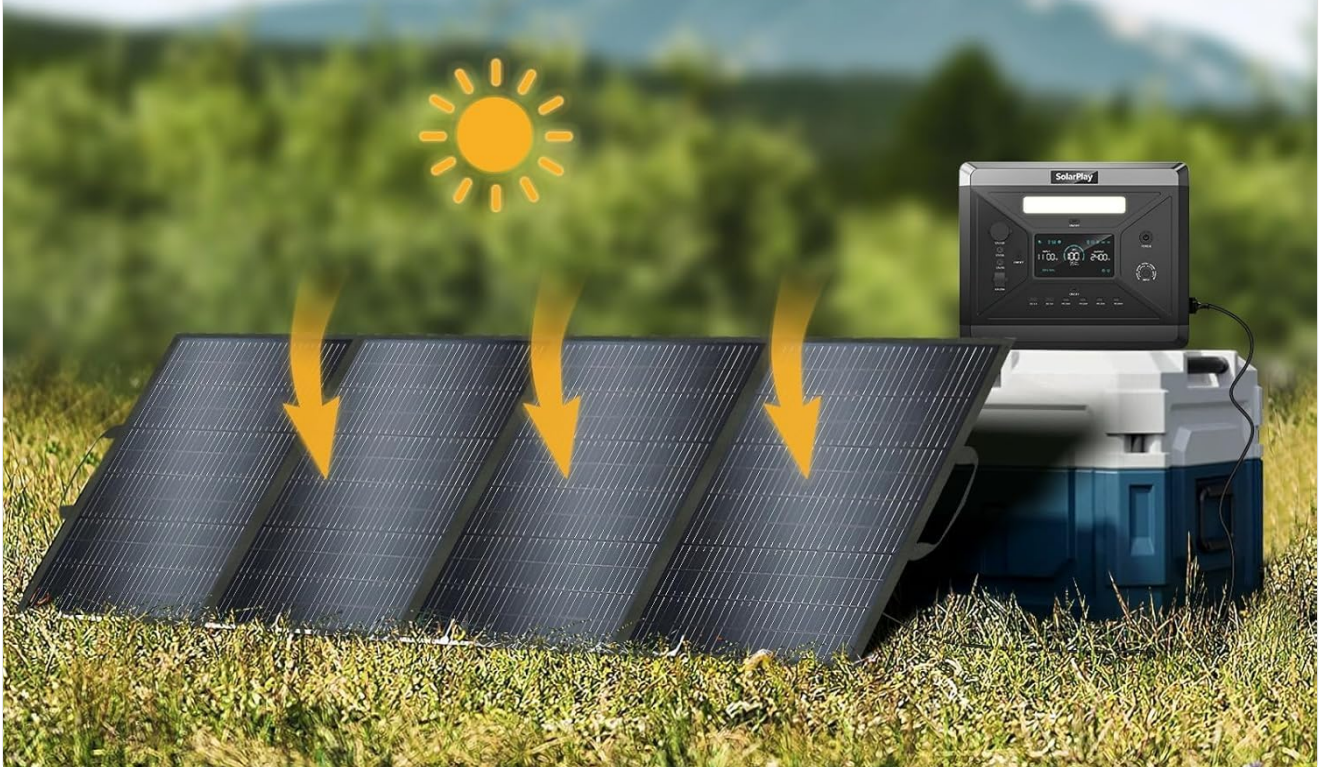
Cell Efficiency  
**23.4%**



Open Circuit Voltage  
**21.6V**



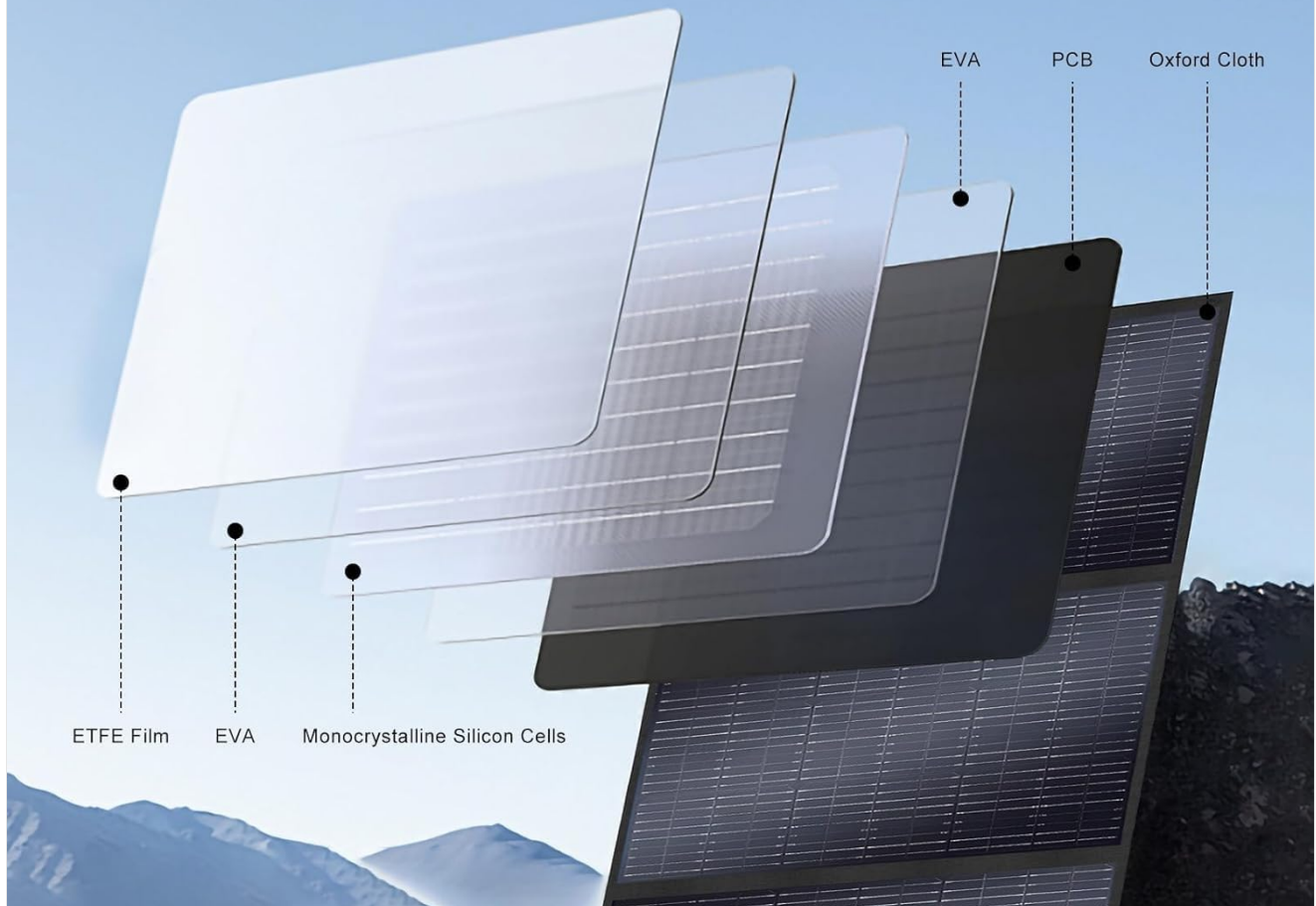
Output Power  
**400W max**



**Image 1:** The TerraVolt portable solar panel unfolded, demonstrating its high conversion efficiency. This image illustrates the panel's ability to convert sunlight into electrical energy, showing an output of 400W max, though the product is rated for 500W. It is shown connected to a power station, highlighting its primary use case.

# Excellent Protective Craftsmanship

ETFE Film provides effective protection and improves solar energy utilization



**Image 2:** An exploded view illustrating the protective craftsmanship of the TerraVolt solar panel. It highlights the layers, including the ETFE film, EVA, monocrystalline silicon cells, PCB, and Oxford Cloth, which contribute to its durability and efficiency.

## 3. SETUP INSTRUCTIONS

- 1. Unfold the Solar Panel:** Carefully unfold the four panels of the TerraVolt 500W solar panel. Ensure all sections are fully extended.
- 2. Position for Optimal Sunlight:** Place the unfolded solar panel in a location with direct sunlight. Angle the panel towards the sun to maximize energy absorption. Avoid shaded areas.
- 3. Connect to a Power Station/Generator:** Use the appropriate cables to connect the solar panel to your compatible power station or solar generator. Ensure connections are secure.
- 4. Series or Parallel Connection (Optional):** For increased voltage or current, multiple TerraVolt solar panels (up to three) can be connected in series or parallel. Refer to your power station's specifications for acceptable power ranges and consult the manufacturer if assistance is needed for the connection process.

## 4. OPERATING INSTRUCTIONS

Once set up, the solar panel will begin converting sunlight into electricity. The panel features a high conversion efficiency of up to 23.4%.

- **Charging Devices:** Connect your devices or power station to the solar panel's output ports. The panel provides an output voltage of up to 21V (max) and an output current of up to 26.67A (max).
- **Optimal Operating Temperature:** The panel operates efficiently within an ambient temperature range of -10°C to 70°C. The optimal operating temperature is +25°C.
- **Monitoring:** Monitor your power station's display to confirm charging status and power input from the solar panel.

## 5. MAINTENANCE

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- **Cleaning:** Regularly clean the surface of the solar panel with a soft, damp cloth to remove dust, dirt, or debris. Avoid abrasive cleaners or harsh chemicals that could damage the ETFE film.
- **Storage:** When not in use, fold the solar panel and store it in a dry, cool place away from direct sunlight and extreme temperatures.
- **Waterproof Rating:** The panel has an IP67 waterproof rating, meaning it is protected against dust and can withstand immersion in water up to 1 meter for 30 minutes. However, prolonged exposure to heavy rain or submersion is not recommended.
- **Inspection:** Periodically inspect cables and connectors for any signs of wear or damage.

## 6. TROUBLESHOOTING

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- **No Power Output:**
  - Ensure the panel is in direct sunlight and not shaded.
  - Check all cable connections between the panel and the power station.
  - Verify the power station is compatible and correctly configured for solar input.
- **Low Power Output:**
  - Adjust the panel's angle to face the sun directly.
  - Clean the panel surface if it's dirty.
  - Cloudy weather or low light conditions will reduce output.
  - Ensure the ambient temperature is within the optimal operating range.
- **Damaged Panel:** The open circuit voltage (Voc) is 18V and the short circuit current (Isc) is 22.2A, which helps ensure stable power supply even if a portion of the panel is damaged. However, significant damage may affect performance.

If issues persist, please contact customer support.

## 7. SPECIFICATIONS

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| Feature            | Specification    |
|--------------------|------------------|
| Model Number       | 500W Solar Panel |
| Maximum Power (Pm) | 500W             |

|                               |  |
|-------------------------------|--|
| Conversion Efficiency         | Up to 23.4%                                    |
| Output Voltage (Max)          | 21V  |
| Output Current (Max)          | 26.67A   |
| Open Circuit Voltage (Voc)    | 18V  |
| Short Circuit Current (Isc)   | 22.2A  |
| Unfolded Size                 | 78 x 240 x 0.35 cm (30.7 x 94.5 x 0.13 inches) |
| Weight                        | 12.5 kg (27.5 lbs)                             |
| Operating Temperature         | -10°C to 70°C                                  |
| Optimal Operating Temperature | +25°C  |
| Waterproof Rating             | IP67   |
| Power Source                  | Corded Electric                                |
| Special Feature               | Fast Charging                                  |

## 8. WARRANTY INFORMATION

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The TerraVolt 500W Portable Solar Panel is backed by a five-year manufacturer's warranty. This warranty covers defects in materials and workmanship under normal use. Please retain your proof of purchase for warranty claims.

## 9. SUPPORT

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For technical assistance, warranty claims, or any questions regarding your TerraVolt 500W Portable Solar Panel, please contact TerraVolt customer support. Contact information can typically be found on the product packaging or the official TerraVolt website.