Sunway Solar 5W solar trickle charger and maintainer

Sunway Solar Panel Car Battery Trickle Charger & Maintainer 5W 12V User Manual

Model: 5W Solar Trickle Charger and Maintainer

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1. Introduction

This manual provides instructions for the proper installation, operation, and maintenance of your Sunway Solar Panel Car Battery Trickle Charger & Maintainer. This device is designed to keep your 12V batteries charged and maintained using solar power, preventing discharge from parasitic drains in vehicles, RVs, boats, and other applications.

2. Important Safety Information

Read all instructions before using this product.

- Ensure correct polarity when connecting to the battery. Incorrect polarity can damage the charger, battery, or vehicle electronics.
- Do not attempt to open or modify the solar panel or its components.
- Keep the solar panel and connections dry. Avoid submerging in water.
- Do not expose the solar panel to extreme heat or open flames.
- Use only with 12V rechargeable batteries.
- Keep out of reach of children.
- Always disconnect the charger from the battery before performing any maintenance or cleaning.

3. Package Contents

Verify that all components are present in your package:

- 1x Sunway Solar Panel (5W)
- 1x Battery Clamp Cable
- 1x Cigarette Lighter Plug Cable
- 4x Suction Cups
- 1x LED Charging Indicator (integrated into cable)



Image 1: Contents of the Sunway Solar Panel Charger package, including the solar panel, battery clamps, cigarette lighter adapter, and suction cups.

4. Product Overview

The Sunway Solar Panel Charger features high-efficiency monocrystalline solar cells and a durable ABS plastic housing. It is designed for trickle charging and maintaining 12V batteries.

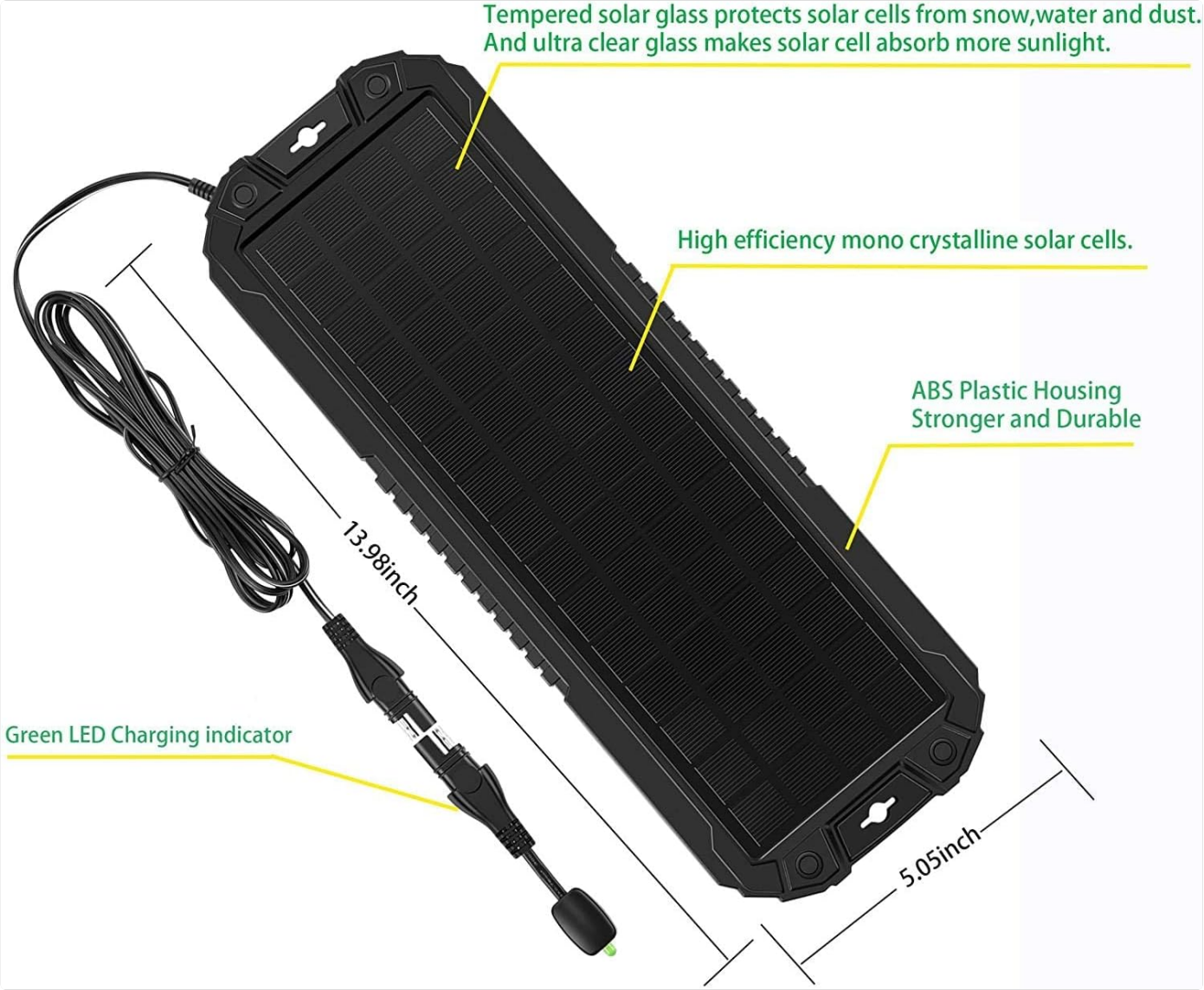


Image 2: Diagram illustrating the dimensions (approximately 13.98 inches by 5.05 inches) and key features of the solar panel, including tempered solar glass, high-efficiency monocrystalline solar cells, durable ABS plastic housing, and the green LED charging indicator.

Key Features:

- **High-Efficiency Solar Cells:** Monocrystalline solar cells for effective power generation.
- **Durable Construction:** Covered with ultra-clear PV glass and housed in durable ABS plastic.
- **Built-in Diode:** Prevents reverse charging from the battery to the solar panel.
- **LED Charge Indicator:** A 12V LED lights up when the panel is actively charging.
- **Versatile Connectivity:** Includes both cigarette lighter adapter and alligator battery terminal clamps.
- **Wide Compatibility:** Suitable for 12V $LiFePO_4$, Lithium Ion, Wet, Gel, SLA, AGM, and Deep Cycle batteries in various vehicles and equipment.

5. Setup and Installation

The Sunway Solar Panel Charger offers flexible installation options. Choose the method most suitable for your application.

5.1 Mounting the Solar Panel

For optimal performance, position the solar panel in an area that receives maximum direct sunlight throughout the day. The panel can be mounted using the included suction cups or by utilizing the integrated mounting holes.

- **Using Suction Cups:** Attach the four suction cups to the back of the solar panel and press firmly onto a clean, smooth surface (e.g., windshield, window).
- **Using Mounting Holes:** The panel features holes on its frame for permanent mounting with screws (not included) if desired.



Image 3: The solar panel positioned on a vehicle dashboard, demonstrating a typical mounting scenario for charging a car battery.



Image 4: The solar panel attached to a vehicle's windshield using suction cups, allowing for direct sunlight exposure.

5.2 Connecting to the Battery

WARNING: Before connecting, ensure the polarity is correct. Some third-party extension cables or existing battery pigtails may have reversed polarity compared to standard conventions. Always verify with a voltmeter if unsure.

The charger provides two connection options:

- **Option 1: Cigarette Lighter Plug**
    1. Ensure the vehicle's ignition is off.
    2. Plug the cigarette lighter adapter into the vehicle's 12V accessory socket.
    3. Connect the solar panel's main cable to the cigarette lighter adapter.
    4. The green LED indicator will illuminate if charging is active and sufficient sunlight is present.
- **Option 2: Alligator Battery Terminal Clamps**
    1. Ensure the vehicle's ignition is off.
    2. Connect the **RED** alligator clamp to the **POSITIVE (+)** terminal of the 12V battery.
    3. Connect the **BLACK** alligator clamp to the **NEGATIVE (-)** terminal of the 12V battery.
    4. Connect the solar panel's main cable to the alligator clamp cable.
    5. The green LED indicator will illuminate if charging is active and sufficient sunlight is present.



Image 5: The Sunway Solar Panel connected to both the cigarette lighter adapter and the battery clamp cable, illustrating the two primary connection methods.



Image 6: A detailed diagram showing the front and back views of the charger, the 2.4m main cable, battery clamps, cigarette lighter plug, and the charging LED indicator. A critical note warns users to ensure correct polarity before final connection, especially when using non-Sunway Solar extension cables or regulators.

6. Operating Instructions

Once properly connected and exposed to sufficient sunlight, the Sunway Solar Panel Charger will automatically begin trickle charging your 12V battery.

- **Charging Indicator:** The green LED on the cable will illuminate when the solar panel is generating power and actively charging the battery. If the LED is not lit, ensure the panel is receiving direct sunlight and all connections are secure.
- **Automatic Operation:** The charger is designed to prevent overcharging and will maintain the battery at an optimal level. It operates automatically as long as sunlight is available.
- **Placement:** For best results, place the solar panel where it can receive maximum direct sunlight without obstruction.



Image 7: An illustration depicting the Sunway Solar Panel's compatibility with various 12V battery types found in cars, trucks, motorcycles, RVs, boats, tractors, ATVs, and snowmobiles.

7. Maintenance

The Sunway Solar Panel Charger requires minimal maintenance.

- **Cleaning:** Periodically wipe the surface of the solar panel with a soft, damp cloth to remove dust, dirt, or debris that may obstruct sunlight and reduce efficiency. Do not use abrasive cleaners or solvents.
- **Connection Check:** Regularly inspect all cables and connections for any signs of wear, damage, or corrosion. Ensure connections remain secure.
- **Storage:** If storing the charger for an extended period, disconnect it from the battery and store it in a cool, dry place away from direct sunlight.

8. Troubleshooting

Problem	Possible Cause	Solution
Green LED not lighting up.	Insufficient sunlight. Loose or incorrect connection. Battery is fully charged. Damaged cable or panel.	Move panel to direct sunlight. Check all connections for security and correct polarity. Verify battery charge level. Inspect for physical damage.

Problem	Possible Cause	Solution
Battery not maintaining charge.	Panel not receiving enough sunlight. Excessive parasitic drain on battery. Battery is faulty or at end of life. Incorrect connection or polarity.	Relocate panel for better sun exposure. Identify and address vehicle's parasitic drains. Test battery condition with a battery tester. Recheck all connections and polarity.
Polarity issues with existing pigtails.	Incompatibility with non-standard wiring.	Use the provided battery clamps or verify polarity with a voltmeter before connecting to third-party accessories. Contact Sunway Solar for compatible extension cables if needed.

9. Product Specifications

Brand	Sunway Solar
Model Number	5W solar trickle charger and maintainer
Maximum Power	5 Watts
Maximum Voltage	12 Volts
AC Adapter Current	0.42 Amps
Material	Monocrystalline Silicon, ABS Plastic
Efficiency	High Efficiency
Item Weight	0.68 Kilograms (1.49 pounds)
Package Dimensions	15.79 x 6.1 x 1.34 inches
Battery Cell Type Compatibility	$LiFePO_4$, Lithium Ion, Wet, Gel, SLA, AGM, Deep Cycle 12V batteries
Included Components	1 solar panel, 1 battery clamp, 1 cigarette lighter plug, 4 suction cups, 1 LED charging indicator

10. Warranty and Support

Sunway Solar offers a **12-month warranty** on this product. For warranty claims, technical support, or inquiries, please contact Sunway Solar customer service through your purchase platform or visit the official Sunway Solar store online.
For compatible extension cables or solar regulators, please refer to Sunway Solar's official product listings to ensure correct polarity and compatibility.

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