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› POWOXI 12V 12W Solar Battery Charger and Maintainer Manual (Model PWM-12W)

POWOXI PWM-12W

POWOXI 12V 12W Solar Battery Charger and Maintainer Manual

MODEL: PWM-12W

1. Introduction

This manual provides essential instructions for the safe and efficient use of your POWOXI 12V 12W Solar Battery Charger and Maintainer. This device is designed to keep your 12V batteries charged and maintained using solar power, preventing discharge and extending battery life. It features a Smart PWM Controller for optimal charging and is suitable for various vehicles and equipment.

2. Safety Information

- Always ensure proper polarity when connecting to a battery. Connect positive to positive and negative to negative.
- Do not attempt to open or modify the solar panel or controller. Refer all servicing to qualified personnel.
- Keep the device away from flammable gases and liquids.
- Ensure the solar panel is placed in a well-ventilated area during operation.
- Avoid placing heavy or sharp objects on the glass surface of the solar module.
- Do not use strong solvents or similar chemicals to clean the solar panel. Use a soft, damp cloth.
- This product is not a toy. Keep out of reach of children.

3. Package Contents

- POWOXI 12W Solar Panel with Smart PWM Controller
- Battery Alligator Clips (for direct battery connection)
- Cigarette Lighter Adapter (for in-vehicle charging)

- O-ring Terminal Connectors (for permanent battery connection)
- Suction Cups (for mounting the solar panel)
- User Manual

4. Product Features

- **Smart PWM Built-in Controller:** Automatically adjusts voltage for optimal charging, preventing overcharge and extending battery life. Provides 3-stage protection.
- **Smart Internal Protection System:** Prevents battery damage and overcharging. Features a built-in smart protection system and blocking diode structure to ensure no overvoltage or short circuit.
- **Durable Construction:** The 12W solar car battery charger features high-transparency, low-iron tempered glass for high strength, impact resistance, and wind/snow resistance. The ABS+PC frame is stronger than flexible solar panels, preventing bending and protecting car paint.
- **Versatile Compatibility:** Compatible with 12V batteries, including AGM, SLA, EFB, LifePo4, and Lithium-ion types.
- **Easy Installation:** Simple to install and use. Connects via the car power outlet (cigarette lighter socket) or directly to the battery with alligator clips or O-ring terminals.

5. Setup and Installation

5.1 Connecting to the Battery

The POWOXI solar charger offers multiple connection options for your convenience:

1. **Using Alligator Clips:** Connect the red alligator clip to the positive (+) terminal of your 12V battery and the black alligator clip to the negative (-) terminal. Ensure a secure connection.
2. **Using O-ring Terminals:** For a more permanent connection, attach the O-ring terminals to your battery posts. Connect the red O-ring to the positive (+) terminal and the black O-ring to the negative (-) terminal.
3. **Using Cigarette Lighter Adapter:** Plug the cigarette lighter adapter into your vehicle's 12V power outlet. Note that some vehicles may not provide power to this outlet when the engine is off.

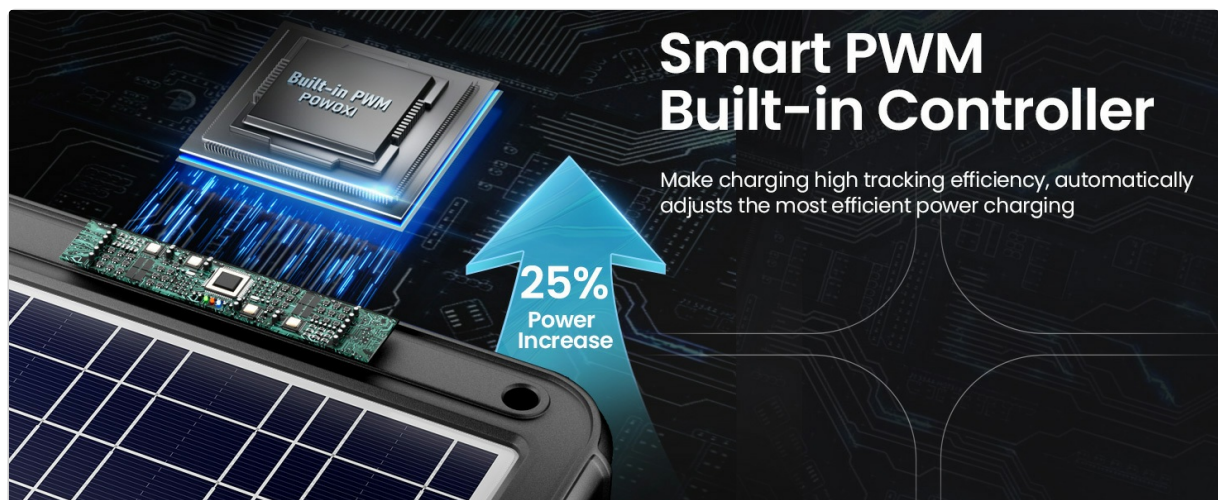


Image: The POWOXI solar charger comes with multiple connection options for different battery types and vehicle setups.

5.2 Mounting the Solar Panel

Position the solar panel in a location that receives maximum direct sunlight. The panel can be mounted using the included suction cups on a windshield or other smooth surface, or secured using the integrated

mounting holes.

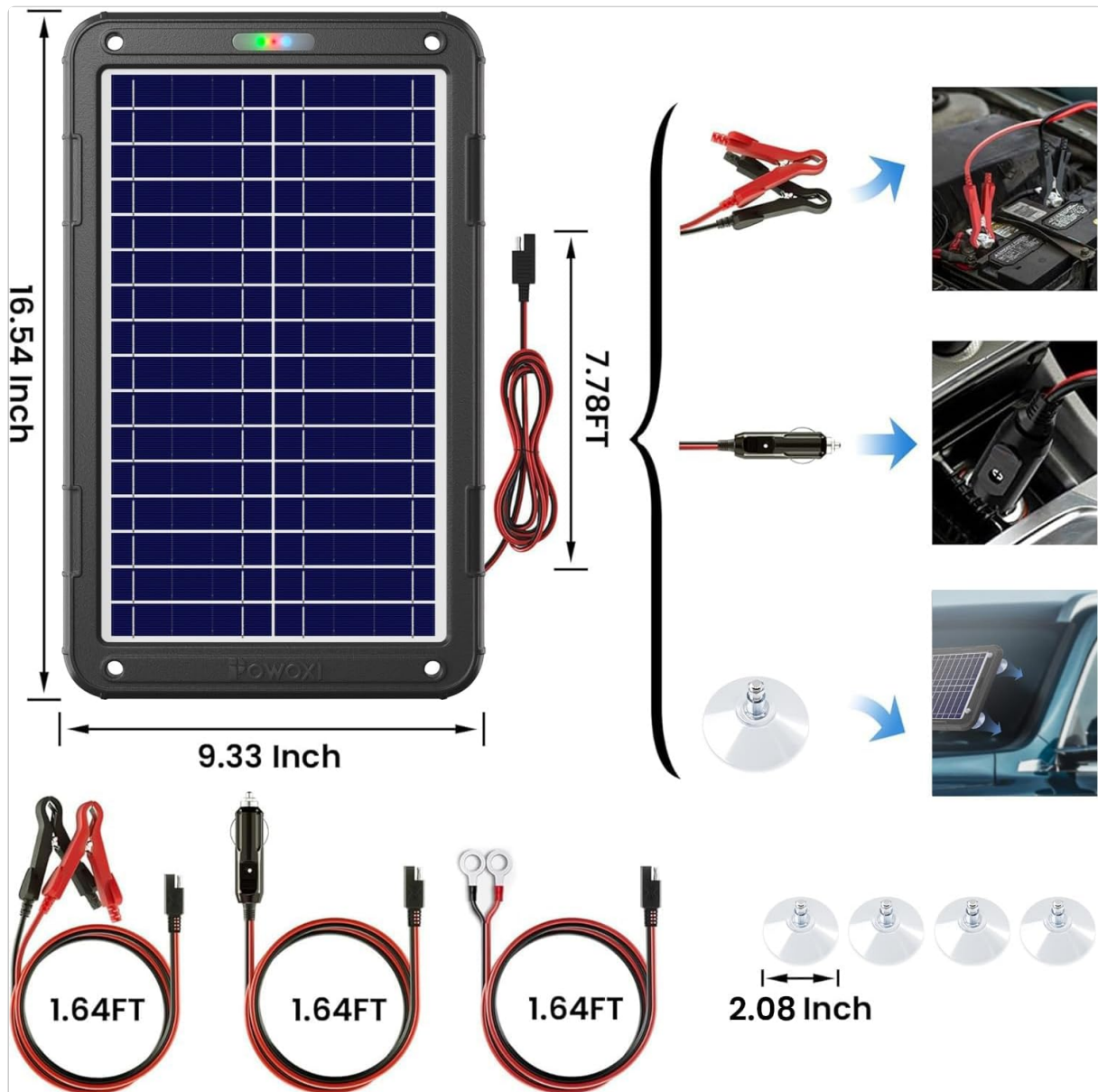


Image: The solar panel's dimensions and included accessories for flexible mounting and connection.

6. Operating Instructions

Once connected and exposed to sunlight, the solar charger will automatically begin charging and maintaining your 12V battery.

6.1 Smart PWM Controller

The integrated Smart PWM (Pulse Width Modulation) controller optimizes the charging process. It intelligently adjusts the charging voltage and current to prevent overcharging, which can damage your battery. This 3-stage charging process ensures your battery is charged efficiently and safely, prolonging its lifespan.



Image: The Smart PWM controller ensures high tracking efficiency and optimal power charging.

6.2 LED Indicator Lights

The solar panel features 3 LED indicator lights to provide real-time status updates:

- **Green Light:** Indicates that battery charging is complete.
- **Red Light:** Indicates that the battery is currently charging.
- **Blue Light:** Indicates that the panel is receiving sufficient sunlight.



Image: The LED indicators provide clear status of the charging process and sunlight reception.

7. Maintenance

- **Cleaning:** Regularly clean the solar panel surface with a soft, damp cloth to ensure optimal sunlight absorption. Avoid abrasive materials or harsh chemicals.
- **Connection Check:** Periodically inspect all connections (alligator clips, O-ring terminals, cigarette lighter adapter) to ensure they are secure and free from corrosion.
- **Weather Resistance:** The panel is designed with IP65 waterproofing, making it resistant to running water and various weather conditions. No additional maintenance is typically required for weather protection.

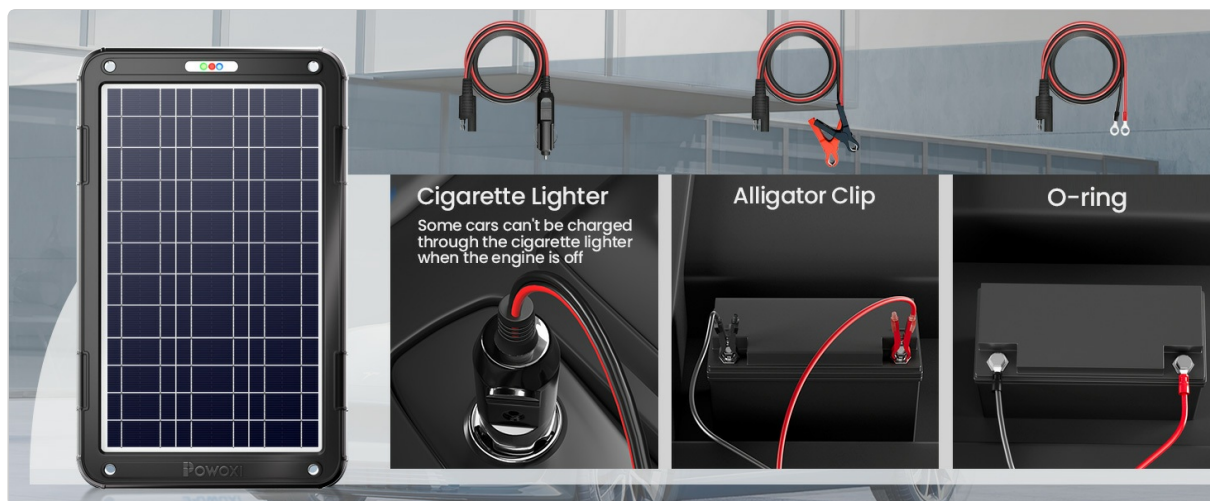


Image: The IP65 waterproof rating ensures durability and resistance to environmental elements.

8. Troubleshooting

- **No Charging Indication (Red Light Off):**
 - Ensure the solar panel is receiving direct sunlight. The blue LED should be on.
 - Check all connections to the battery or cigarette lighter for proper contact.
 - Verify the battery voltage is below the full charge threshold (green light off).
- **Battery Not Holding Charge:**
 - Confirm the solar panel is clean and free from obstructions.
 - Check the battery's health. If the battery is old or severely discharged, it may not accept a charge effectively.
 - Ensure the charger's output matches the battery's voltage requirements (12V).
- **Panel Not Sticking with Suction Cups:**
 - Clean both the suction cups and the mounting surface thoroughly.
 - Moisten the suction cups slightly before applying pressure to create a stronger seal.

9. Specifications

Specification	Value
Model Number	PWM-12W
Product Dimensions	18.31"D x 1.85"W x 9.84"H
Item Weight	2.91 pounds
Output Voltage	12 Volts (DC)
Power Output	12W
Waterproof Rating	IP65
Operating Temperature	-40 to 137 °C (as per product description)

Specification	Value
Certifications	CE, RoHS

10. Warranty and Support

For warranty information or technical support, please refer to the contact details provided on the product packaging or visit the official POWOXI website. Keep your purchase receipt for warranty claims.