

POWOXI MPPT Pro-15W

POWOXI MPPT Pro-15W 12V Solar Battery Charger Instruction Manual

Model: MPPT Pro-15W

1. INTRODUCTION

The POWOXI MPPT Pro-15W 12V Solar Battery Charger is designed to efficiently maintain and trickle charge 12V batteries using solar energy. Featuring an innovative MPPT (Maximum Power Point Tracking) controller, this device maximizes charging efficiency by dynamically adjusting to sunlight intensity, ensuring optimal performance even in varying weather conditions. It is suitable for a wide range of 12V battery types and vehicles, including cars, RVs, boats, motorcycles, trailers, trucks, snowmobiles, and tractors.

2. PRODUCT FEATURES

- **Innovative MPPT Built-in Controller:** Maximizes charging efficiency with up to 99% conversion. The 15W MPPT charger adjusts power based on sunlight intensity, ensuring superior performance even on cloudy days compared to non-MPPT chargers.
- **Smart Maximum Power Point Tracking:** POWOXI-MPPT optimizes energy extraction for changing conditions, ensuring efficient solar power harnessing by dynamically adjusting to the environment for maximum output.
- **Comprehensive Battery Protection:** MPPT controllers include a float/maintenance stage to prevent overcharging, extending battery life and improving energy efficiency. Compatible with various 12V batteries, including gel, AGM, SLA, VRLA, and lithium-ion.
- **3 LED Indicator Lights:** The solar charger has three lights: blue for sunlight reception, red for charging, and green for a fully charged battery. The MPPT takes 2 seconds for calculation and LED status updates.
- **Robust and Long-lasting Materials:** Made with PC+ABS+Tempered glass, these solar panels withstand -40 to 137°C and are IP65 waterproof, enduring heavy rain. ABS+PC frames are stronger than flexible panels and won't damage car paint like aluminum frames.
- **Voltage Detection Statement:** The solar battery charger built-in MPPT controller adjusts voltage based on the load, so voltage tests may show below 14V. Once connected to a battery, the open-circuit charging voltage stays within 21V.

3. PACKAGE CONTENTS

Please ensure all items are present and in good condition:

- POWOXI MPPT Pro-15W Solar Panel
- Alligator Clips (for direct battery connection)
- Cigarette Lighter Adapter (for in-vehicle charging)
- O-Ring Terminals (for permanent battery connection)
- Suction Cups (for windshield mounting)
- Fabric Storage Bag



Image: POWOXI MPPT Pro-15W Solar Panel with all included accessories, showing various connection options and mounting suction cups.

4. SETUP INSTRUCTIONS

4.1 Mounting the Solar Panel

The solar panel can be mounted in various locations to ensure maximum sun exposure:

1. **Windshield Mounting:** Attach the provided suction cups to the back of the solar panel and firmly press them onto the inside of your vehicle's windshield. Ensure the panel faces the sun directly.
2. **Exterior Mounting:** The robust PC+ABS frame allows for outdoor placement. Position the panel on the dashboard, roof, or any other location that receives direct sunlight.

Unfold the Power

Lightweight, Long-lasting and Powerful

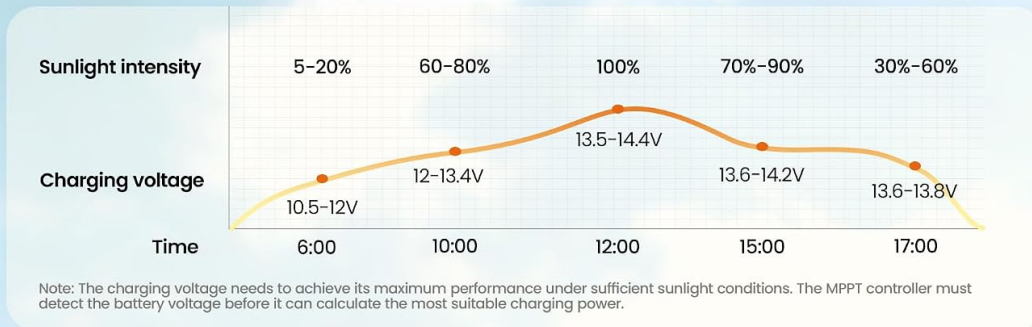


Image: The solar panel is shown mounted on the interior of a car's windshield using suction cups, facing outwards to capture sunlight.

4.2 Connecting to the Battery

Choose the appropriate connection method for your vehicle:

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 Cigarette Lighter Adapter:** Plug the cigarette lighter adapter into your vehicle's 12V accessory socket. Note that some vehicles may only provide power to this socket when the ignition is on.
3. **Using O-Ring Terminals:** For a more permanent installation, attach the O-ring terminals directly to your battery posts. Connect the red terminal to positive (+) and the black terminal to negative (-).

Innovative MPPT Built-in Controller

Make charging high tracking efficiency, automatically adjusts the most efficient power charging

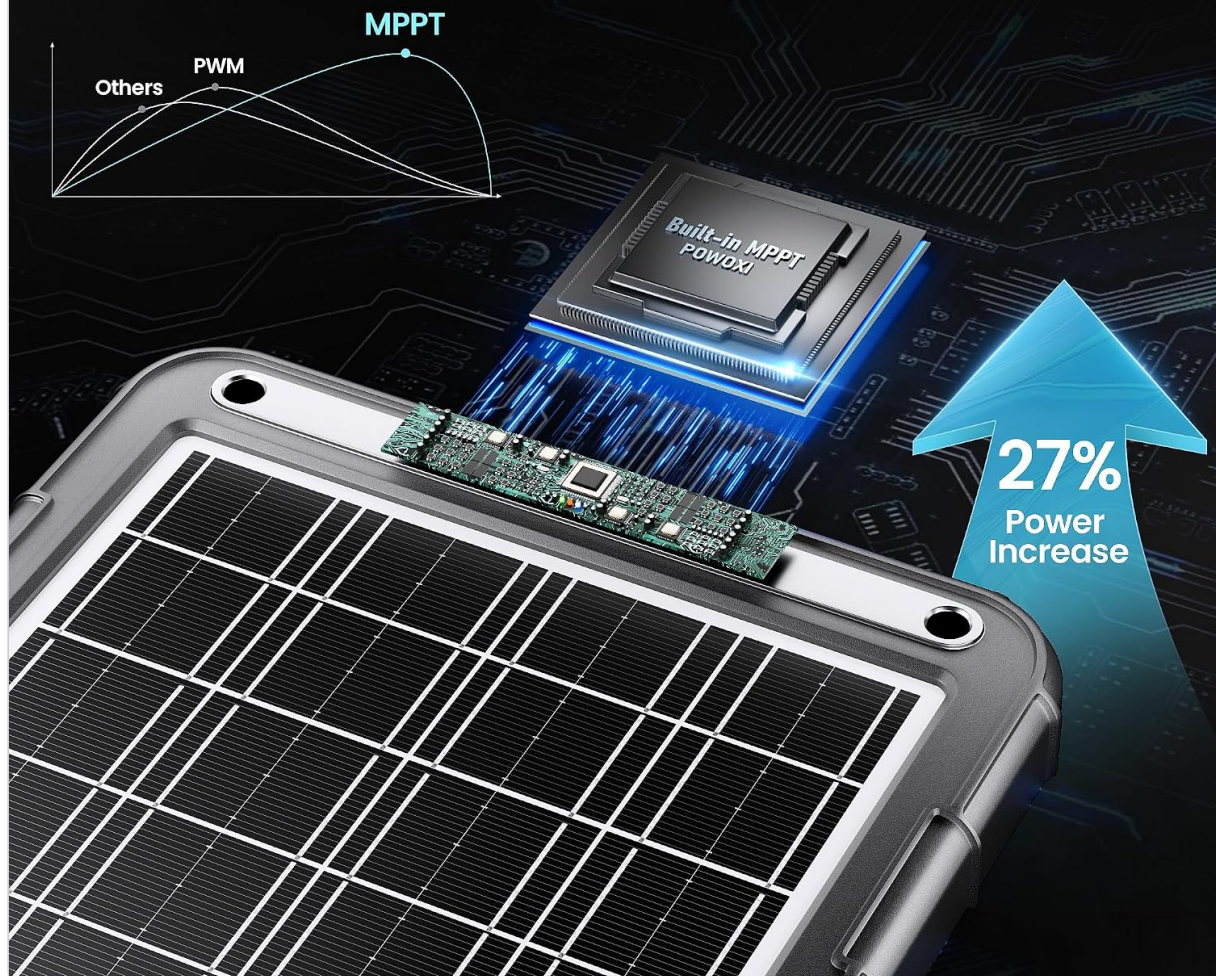


Image: The solar panel is connected to a car battery under the hood using red and black alligator clips.

Video: This video demonstrates the setup of the POWOXI solar battery charger, showing how to connect it to a car battery and highlighting its features.

5. OPERATING INSTRUCTIONS

5.1 LED Indicator Lights

The solar charger features three LED indicator lights to provide real-time status:

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

The MPPT controller takes approximately 2 seconds to calculate and update the LED status.

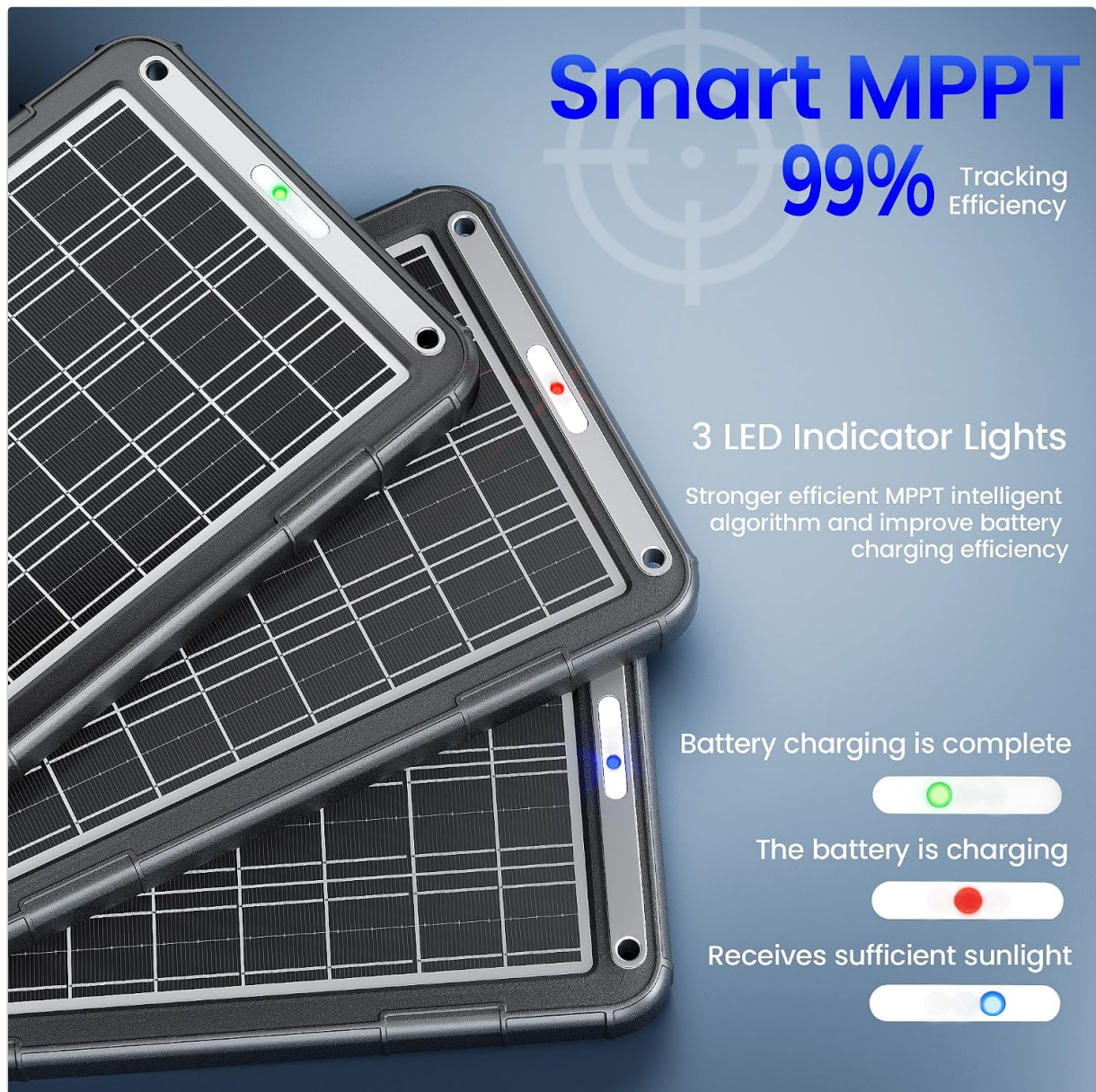


Image: A detailed view of the solar panel's LED indicators, illustrating the meaning of blue (sunlight), red (charging), and green (charged) lights.

5.2 Battery Compatibility

The POWOXI MPPT Pro-15W is compatible with various 12V battery types, including:

- Gel batteries
- AGM (Absorbent Glass Mat) batteries
- SLA (Sealed Lead-Acid) batteries
- VRLA (Valve Regulated Lead-Acid) batteries
- Lithium-ion batteries



Image: The solar panel is depicted with different types of 12V batteries, emphasizing its broad compatibility.

6. MAINTENANCE

To ensure optimal performance and longevity of your POWOXI MPPT Pro-15W Solar Battery Charger, follow these maintenance guidelines:

- **Cleaning the Solar Panel:** Regularly wipe the surface of the solar panel with a soft, damp cloth to remove dust, dirt, and debris. A clean surface ensures maximum sunlight absorption. Avoid using abrasive cleaners or harsh chemicals.
- **Checking Connections:** Periodically inspect all connections (alligator clips, cigarette lighter adapter, or O-ring terminals) to ensure they are secure and free from corrosion. Loose or corroded connections can hinder charging efficiency.
- **Storage:** When not in use for extended periods, store the solar panel in its fabric storage bag in a cool, dry place away from direct sunlight and extreme temperatures.

7. TROUBLESHOOTING

If you encounter issues with your POWOXI MPPT Pro-15W Solar Battery Charger, refer to the following common problems and solutions:

- **No LED Lights or Blue Light Not On:**

- Ensure the solar panel is exposed to direct sunlight. Move it to a location with unobstructed sun exposure.
- Check for any physical obstructions on the panel surface (dirt, leaves, snow).

- **Red Light Not On (Not Charging):**

- Verify that the battery connections are secure and correctly polarized (red to positive, black to negative).
- Confirm that the battery is a 12V type and compatible with the charger.
- If using the cigarette lighter adapter, ensure your vehicle's accessory socket provides continuous power when the ignition is off. Some vehicles require the ignition to be on for power.
- The battery might already be fully charged (green light should be on).

- **Incorrect Polarity Indication (if applicable):**

- Always connect the red terminal to the positive (+) battery post and the black terminal to the negative (-) battery post. Reversing polarity can damage the battery or charger.

- **Voltage Test Shows Below 14V:**

- As per the Voltage Detection Statement, the built-in MPPT controller adjusts voltage based on the load. The open-circuit charging voltage stays within 21V once connected to a battery. This is normal operation.

8. SPECIFICATIONS

Brand	POWOXI
Model Number	MPPT-Solar Battery Charger 15W
Material	Monocrystalline Silicon, PC+ABS, Tempered Glass
Product Dimensions	9.45"L x 2.17"W x 16.93"H
Efficiency	High Efficiency
Maximum Voltage	14.4 Volts
Maximum Power	15 Watts
Output Voltage	12 Volts
Item Weight	3.16 pounds

9. WARRANTY & SUPPORT

The POWOXI MPPT Pro-15W Solar Battery Charger comes with a **12-Month After-Sales Service**. The product quality is guaranteed by CE/ROHS certifications.

Additionally, POWOXI offers **free lifetime technical support**. If you have any questions, require assistance, or need to claim warranty service, please contact the manufacturer directly through their official support channels. Your feedback helps us improve our products and services.

