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› POWOXI 20W Solar Battery Charger Maintainer User Manual

POWOXI ABS Solar 20W

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Model: ABS Solar 20W

1. INTRODUCTION

The POWOXI 20W Solar Battery Charger Maintainer is designed to efficiently charge and maintain 12-volt batteries using solar power. Featuring an external smart 3-stage PWM charge controller, this kit is suitable for a wide range of applications including cars, marine vehicles, motorcycles, RVs, and other 12V battery systems. It provides a reliable and eco-friendly solution for year-round battery maintenance, preventing discharge and extending battery life.



Figure 1.1: Complete POWOXI 20W Solar Battery Charger Maintainer Kit.



Figure 1.2: Wide Range of Applications for the POWOXI Solar Charger.

2. SAFETY INFORMATION

Please read all safety instructions carefully before using the product. Failure to follow these instructions may result in electric shock, fire, or serious injury.

- Ensure the solar panel is clean and free of debris for optimal performance.
- Do not attempt to open or modify the solar panel or controller. There are no user-serviceable parts inside.
- Keep the product away from flammable materials and excessive heat.
- Always connect the controller to the battery before connecting the solar panel to the controller. Disconnect in reverse order.
- Verify correct polarity (+ to + and - to -) when connecting to the battery to prevent damage.
- This product is designed for 12V batteries only. Do not use with other voltage systems.
- The controller offers overcharge, overvoltage, short circuit, and invert polarity protection. However, always exercise caution during installation.



Figure 2.1: POWOXI Charge Controller with Safety Features.

3. PACKAGE CONTENTS

Please check the package contents to ensure all items are present and undamaged:

- 1 x 20W Solar Panel
- 1 x External 3-Stage PWM Charge Controller (8 AMP)
- 1 x SAE to Battery Clamp Cable
- 1 x SAE to O-Ring Terminal Cable
- 1 x SAE to Cigarette Lighter Plug Cable
- 1 x SAE to 5V USB Charging Cable
- 4 x Suction Cups (for mounting)

4. PRODUCT OVERVIEW

The POWOXI 20W Solar Battery Charger Maintainer consists of a high-efficiency single-crystal silicon solar panel and an intelligent charge controller. The solar panel is encased in a durable ABS+PC frame, providing scratch and drop resistance. The external charge controller manages the charging process, protecting your battery from various electrical issues.

Large Solar Panel with Controller

Large ABS Solar Panel can charge 5v phone and 12v battery, External intelligent 3-stage PWM charging controller adopts fast charging.



Figure 4.1: Large ABS Solar Panel with Controller.



Figure 4.2: POWOXI 8 AMP Charge Controller.



Figure 4.3: Durable ABS+PC Frame for Scratch Protection.

5. SETUP

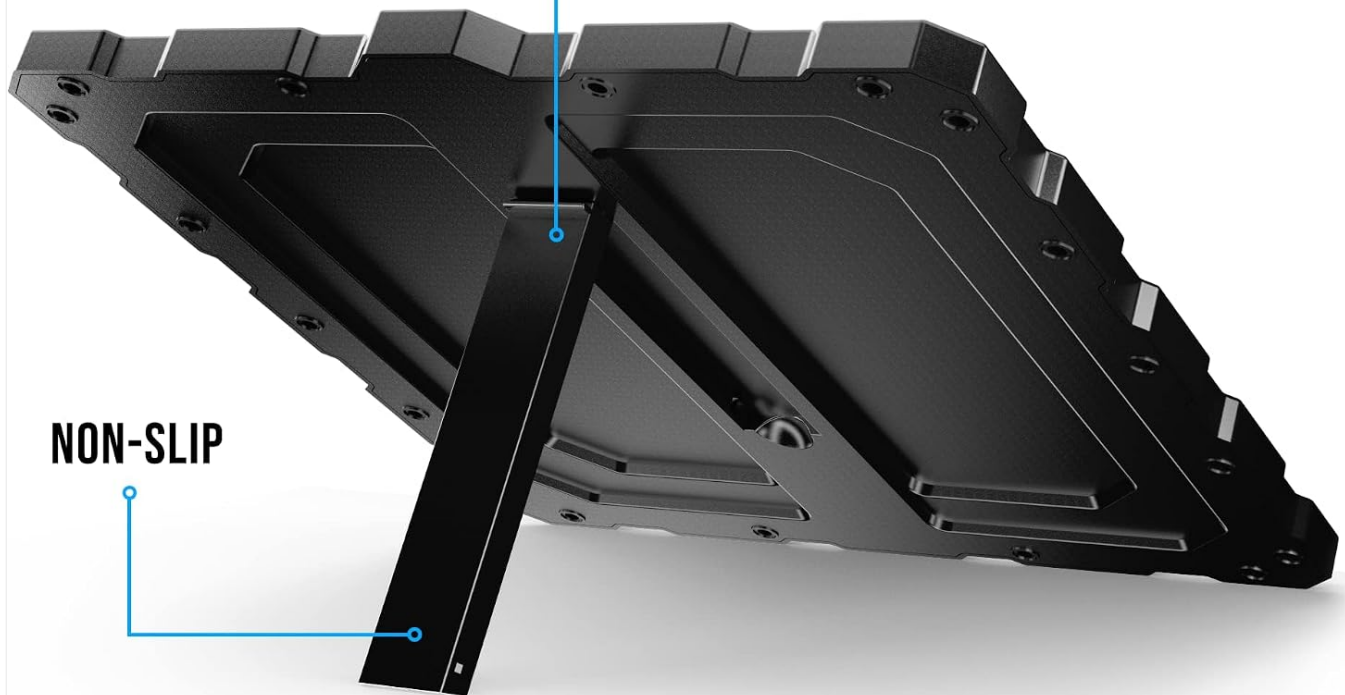
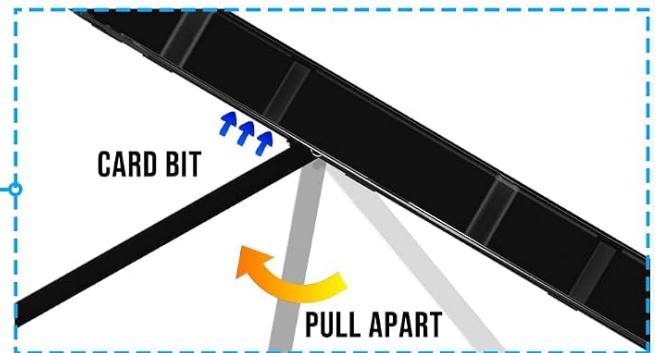
Follow these steps to set up your POWOXI Solar Battery Charger Maintainer:

1. **Position the Solar Panel:** Place the solar panel in a location that receives maximum direct sunlight. The integrated kickstand allows for optimal angling towards the sun. You can also use the included suction cups to mount it on a windshield or other smooth surface.
2. **Connect the Solar Panel to the Controller:** Connect the cable from the solar panel to the input port of the 8 AMP Charge Controller. Ensure a secure connection.
3. **Connect the Controller to the Battery:** Choose the appropriate cable (battery clamps, O-ring terminals, or cigarette lighter plug) for your battery type. Connect this cable to the output port of the charge controller. Then, connect the other end to your 12V battery, ensuring correct polarity (red to positive, black to negative).
4. **Verify Connection:** Once all connections are made, the LED indicators on the controller will show the charging

STAND UP

Getting Straight Sunlight

Higher Conversion



NON-SLIP

Figure 5.1: Solar Panel with Integrated Kickstand for Optimal Sunlight.



Figure 5.2: Connection Procedure for Charging.

Your browser does not support the video tag.

Video 5.1: Official product video demonstrating the setup and features of the Upgraded Large ABS 20W Solar Battery Charger Maintainer.

6. OPERATING INSTRUCTIONS

The POWOXI solar charger operates automatically once connected. The intelligent 3-stage PWM controller optimizes charging for efficiency and battery longevity.

LED Indicator Status:

Indicator	Status	Meaning
Blue Light (Connected)	On	Solar panel is receiving sufficient sunlight.
Red Light (Charging)	On	Battery is currently charging.
Green Light (Charged)	On	Battery is fully charged.
Blue + Red Lights	On	Battery is charging.
Blue + Red + Green Lights	On	Battery is fully charged.

The controller automatically shuts down at night to save power and restarts during the day, ensuring safe year-round battery maintenance.

USB Charging Feature:

The included SAE to 5V USB charging cable allows you to charge mobile devices directly from the solar panel. When using this feature, connect the USB cable directly to the solar panel's SAE output, bypassing the 8 AMP charge controller. This ensures your mobile devices receive the correct voltage.



Figure 6.1: Solar Panel to 5V USB Charging.

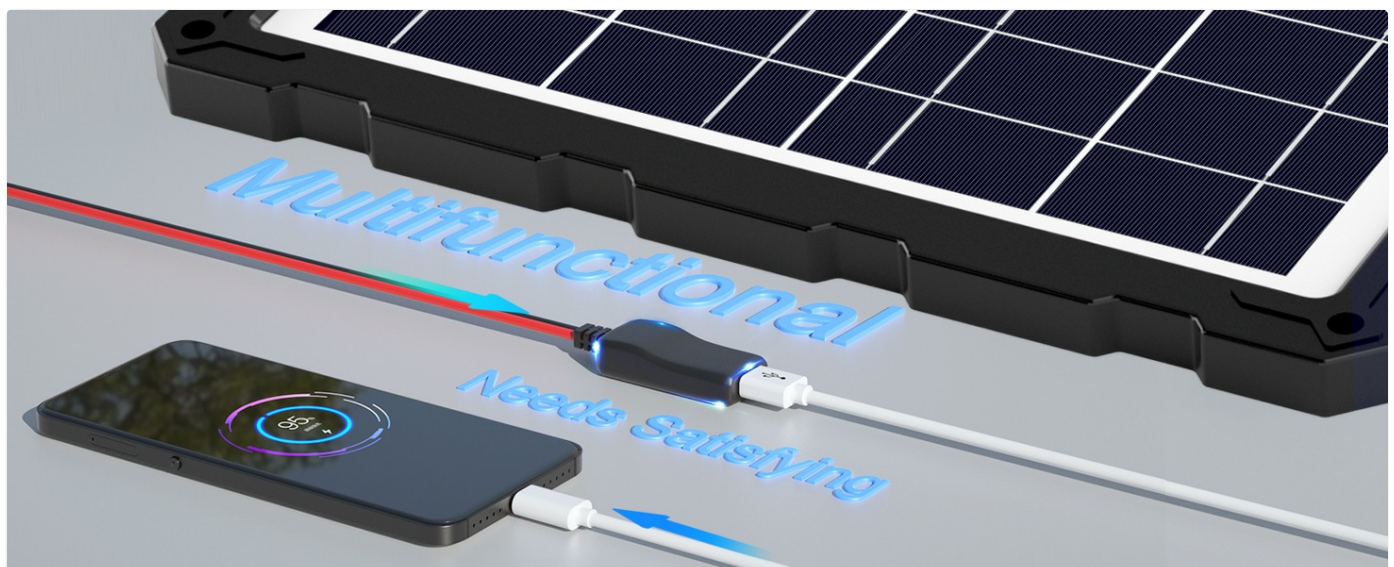


Figure 6.2: Multifunctional Charging for Mobile Devices.

7. MAINTENANCE

To ensure optimal performance and longevity of your POWOXI Solar Battery Charger Maintainer, follow these maintenance guidelines:

- **Cleaning:** Regularly wipe the surface of the solar panel with a soft, damp cloth to remove dust, dirt, and debris. A clean panel ensures maximum sunlight absorption.
- **Connections:** Periodically check all cable connections to ensure they are secure and free from corrosion.
- **Storage:** If storing the unit for an extended period, disconnect it from the battery and store it in a cool, dry place away from direct sunlight.
- **Inspection:** Inspect the cables and the unit for any signs of damage, such as frayed wires or cracks in the casing. Do not use if damaged.



Figure 7.1: IP65 Waterproof and Heat-Resistant Design.

8. TROUBLESHOOTING

If you encounter issues with your POWOXI Solar Battery Charger Maintainer, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
No LED lights on controller	No sunlight, poor connection, or faulty unit.	Ensure panel is in direct sunlight. Check all connections. If problem persists, contact support.
Battery not charging (Red light off)	Insufficient sunlight, battery fully charged, or poor connection.	Relocate panel to better sunlight. Check if green light is on (battery full). Verify all cable connections.
USB charging not working	USB cable connected to controller instead of panel, or insufficient sunlight.	Connect the SAE to USB cable directly to the solar panel's SAE output. Ensure adequate sunlight.

Problem	Possible Cause	Solution
Battery still drains	Excessive parasitic drain on battery, or battery is faulty.	Check vehicle for excessive power draw. Have battery tested by a professional. This charger is for maintenance, not rapid charging a dead battery.

9. SPECIFICATIONS

Feature	Detail
Product Model	ABS Solar 20W
Solar Panel Type	Single-crystal silicon
Rated Power	20 Watts
Input Voltage	12 Volts
Charge Controller Type	External 3-Stage PWM
Max Controller Current	8 Amps
Product Dimensions	15.94 x 2.17 x 16.93 inches (Solar Panel)
Item Weight	5.7 pounds
Frame Material	ABS+PC
Protection Features	Overcharge, Overvoltage, Short Circuit, Invert Polarity
Certifications	CE/ROHS

10. WARRANTY AND SUPPORT

POWOXI provides a 12-month after-sales service for this product. Your premium solar battery charger is guaranteed by CE/ROHS certifications.

For technical support, warranty claims, or any questions regarding your product, please contact POWOXI customer service. Free lifetime technical support is available.

Your feedback is valuable and helps us improve our products and services.

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.

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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