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> SUNER POWER BC-12W Pro 12W 12V Solar Battery Charger & Maintainer Instruction Manual

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PRODUCT OVERVIEW

The SUNER POWER BC-12W Pro is a waterproof 12W 12V solar battery charger and maintainer designed to keep your 12-volt batteries optimally charged. It features UltraSmart MPPT (Maximum Power Point Tracking) technology for high efficiency and an improved 3-stage charging algorithm to extend battery life. This device is suitable for a wide range of vehicles and battery types.



Image: The SUNER POWER BC-12W Pro solar battery charger and maintainer.

KEY FEATURES

- **Ultra-Smart MPPT Technology:** Delivers high tracking efficiency up to 99% and peak conversion efficiency of 98%, improving utilization rate by 20%-30% compared to traditional PWM chargers.
- **Improved 3-Stage Charging:** Utilizes Bulk, Absorption, and Float stages to effectively charge 12-volt batteries, ensuring safe recharging and extended battery life.
- **Free Maintenance:** Automatically stops charging when the battery is full and resumes when discharge occurs, providing worry-free maintenance.
- **Full Safety Protections:** Built-in safeguards against over-charge, over-discharge, over-voltage, over-current, over-load, short circuit, reverse polarity, and over-temperature. It is also waterproof and spark-proof.
- **Wide Compatibility:** Compatible with 12-volt sealed lead-acid batteries including flooded, gel, AGM, SLA, maintenance-free, and LiFePO4 lithium batteries. Ideal for cars, automotive, marine, RVs, power sports, boats, dump trailers, motorcycles, trolling motors, tractors, and ATVs.
- **High-Efficiency Mono Crystalline Solar Cells:** Made of premium Grade A+ solar cells with 21%-30%

efficiency, tempered solar glass, and a durable corrosion-resistant frame.

- **Easy to Use:** Starts charging immediately upon detecting a battery. Features pre-designed holes for quick mounting with included suction cups and plug-and-play cables.



Image: The SUNER POWER Solar Battery Charger Pro highlighting its MPPT technology and robust design.

SETUP

Package Contents

- 1 x 12W Solar Charger PRO
- 1 x Battery Clamp Cable
- 1 x Cigarette Lighter Cable
- 1 x Bare Wire Cable
- 4 x Suction Cups
- 1 x User Manual

Mounting the Solar Panel

The solar panel can be mounted using the included suction cups. Ensure the mounting surface is clean and dry for optimal adhesion. The panel should be placed in direct sunlight for maximum efficiency.

Weatherproof & Durable

No worry about deformation, perfect solar charger of all weather

Transmittance
92%-95%

Temperature
-40°F-140°F

Pressure
2400Pa-5400Pa

Weather
Hail resistance

IP67



Image: The solar panel mounted on a car windshield using suction cups.

Connecting to Your Battery

The charger comes with three different connection cables:

- **Battery Clamp Cable:** Connect the red clamp to the positive (+) terminal of your 12V battery and the black clamp to the negative (-) terminal.
- **Cigarette Lighter Cable:** Plug this into your vehicle's 12V cigarette lighter socket. Note that some vehicles may require the ignition to be on for the socket to be active.
- **Bare Wire Cable:** For custom installations, connect the bare wires directly to your battery terminals or a suitable 12V power source, ensuring correct polarity.

Always ensure correct polarity (red to positive, black to negative) to prevent damage to the battery or charger.

Compatible with

Multiple 12V Batteries



CHEMISTRIES

Flooded, GEL, Maintenance-free, AGM, Seal-Lead Acid and Lithium Batteries

TYPES

Starter, Deep-cycle, Marine, Powersport, Car, RV, Trailer and more



Image: Diagram showing the three available connection methods for the solar charger.

OPERATING INSTRUCTIONS

LED Indicator Status

The solar charger features an LED indicator that provides feedback on its operational status:

- **Solid Red:** Indicates error or reversed polarity.
- **Solid Green:** Battery is fully charged.
- **Blinking Red:** Working to charge the battery (activated).
- **Blinking Green:** Sunshine is effective (not active yet).



Image: Close-up of the LED indicator on the solar panel.

Charging Process

Once connected and exposed to sufficient sunlight, the charger will automatically begin its 3-stage charging process (Bulk, Absorption, Float) to optimize battery health and performance. The MPPT technology ensures maximum power extraction from the solar panel.

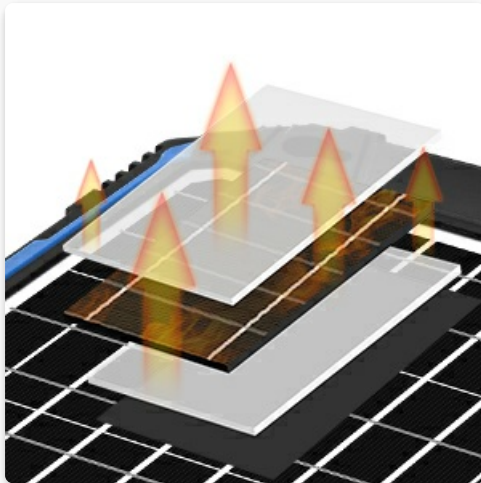


Image: Diagram illustrating the high-efficiency mono crystalline solar cell layers.

Video Demonstration: Smart Solar Battery Charger & Maintainer

Your browser does not support the video tag.

Video: An official seller video demonstrating the features and operation of the SUNER POWER Smart Solar Battery Charger & Maintainer.

MAINTENANCE

The SUNER POWER solar charger is designed for free maintenance. It automatically manages the charging process to prevent overcharging or undercharging. To ensure optimal performance, keep the solar panel surface clean from dust, dirt, and debris. Use a soft, damp cloth for cleaning.

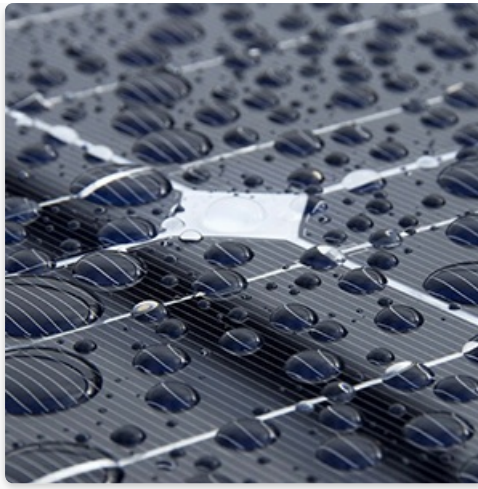


Image: Close-up of the IP65 waterproof solar panel with water droplets.

TROUBLESHOOTING

If the solar charger is not functioning as expected, please refer to the following:

- **No LED Indication:** Ensure the solar panel is in direct sunlight and properly connected to the battery. Check for any obstructions on the panel surface.
- **Solid Red LED:** Indicates reversed polarity or an error. Disconnect and reconnect, ensuring correct positive and negative connections.
- **Blinking Green LED but no charge:** Ensure the battery is not already fully charged. If the battery is severely discharged, it may take some time for the charger to initiate a full charge cycle.
- **Low Charging Rate:** Ensure the panel is receiving maximum sunlight exposure. Clean the panel surface if dirty.

For further assistance, please contact customer support.

SPECIFICATIONS

Feature	Detail
Brand	SUNER POWER
Model Number	BC-50W-P (Note: Product is BC-12W Pro)
Product Dimensions	16.5"D x 9.4"W x 0.6"H
Output Voltage	12 Volts (DC)
Input Voltage	18 Volts (DC)
Connector Type	DC power connector
Number of Ports	1
Color	Navy Blue

WARRANTY

Specific warranty details are not provided in the product information. Please refer to the product packaging or contact customer support for warranty information.

SUPPORT

For technical assistance, product inquiries, or support needs, please contact SUNER POWER customer service:

- **Email:** support@sunerpower.com
- **Website:** www.sunerpower.com

Thank you for choosing SUNER POWER products.

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