

AeternaSol BDQ-7.5w

AeternaSol 7.5W PWM Solar Battery Charger User Manual

Model: BDQ-7.5w | Brand: AeternaSol

1. INTRODUCTION AND OVERVIEW

The AeternaSol 7.5W PWM Solar Battery Charger is designed to maintain the charge of 12V lead-acid batteries, including wet, gel, AGM, and SLA types. This portable and waterproof solar panel acts as a trickle charger and maintainer, preventing battery discharge in vehicles and equipment that are stored or used infrequently. It is suitable for cars, automotive vehicles, motorcycles, boats, marine vessels, RVs, trailers, and snowmobiles.

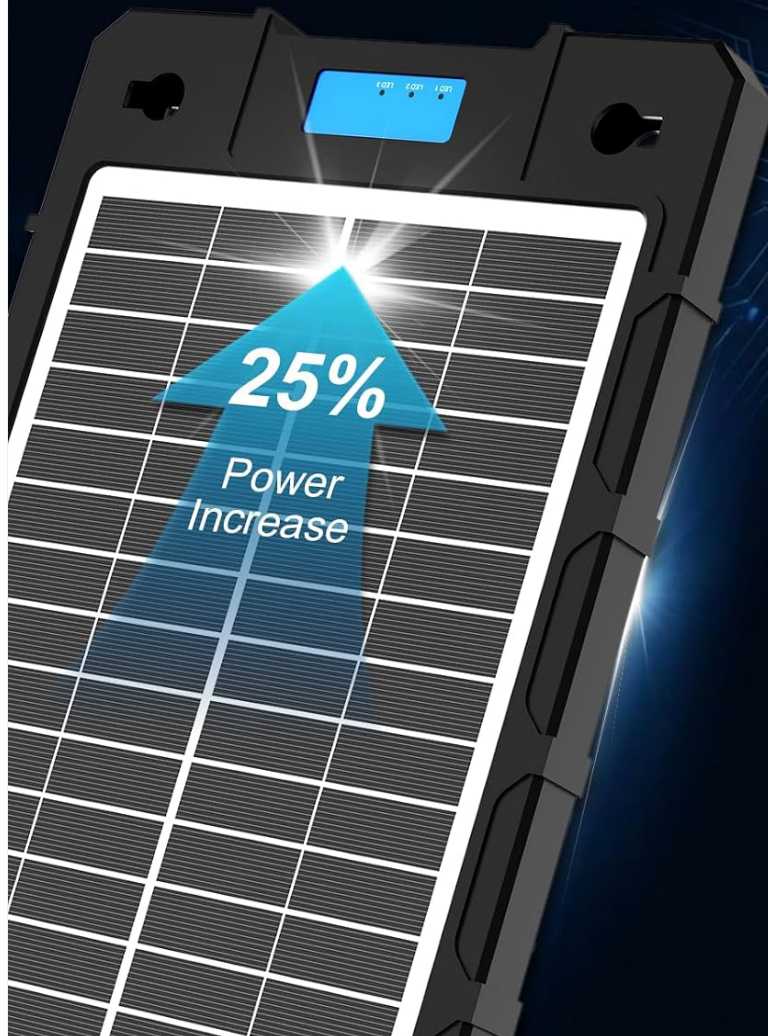
Equipped with a smart PWM controller, this charger optimizes charging efficiency and incorporates multiple protection systems to ensure safe and reliable operation. Its durable construction allows it to withstand various environmental conditions.

2. PRODUCT FEATURES

- **High-Efficiency Smart PWM Technology:** Utilizes advanced PWM technology for efficient charging and maintaining high conversion rates.
- **Multiple Protection Systems:** Features built-in safeguards against overcharging, over-discharging, overvoltage, overcurrent, overload, short circuits, reverse connection, and overheating. Automatically stops charging when the battery is full.
- **Durable and Long-Lasting Design:** Constructed with high-strength tempered glass and an ABS frame, providing impact resistance and protection against extreme weather conditions.
- **Easy Installation and Wide Compatibility:** Simple to operate with quick installation using suction cups and SAE cables. Compatible with 12V lead-acid batteries (wet, gel, AGM, SLA) and deep-cycle batteries.
- **3 LED Charging Indicators:** Provides clear status updates: Blue for sunlight reception, Red for active charging, and Green for charging complete.

Smart PWM Built-in Controller

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



Over Temperature Protection

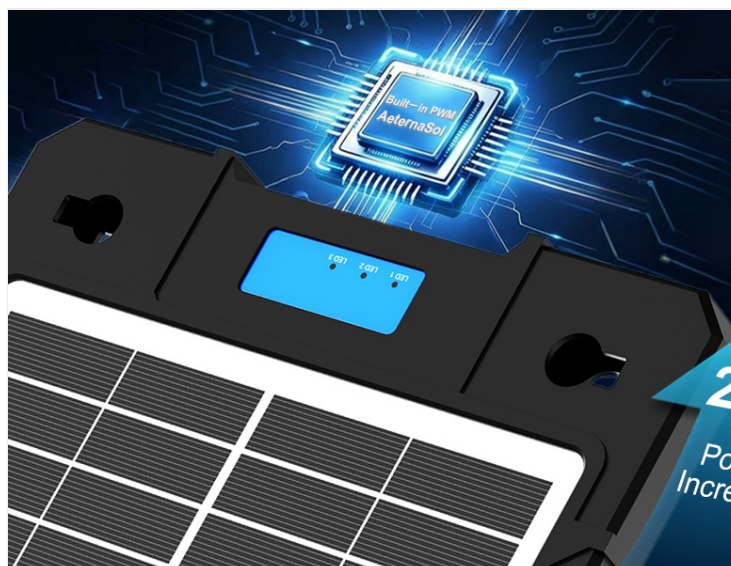


Reverse Current Protection



Over Charge Protection

Image: The AeternaSol 7.5W PWM Solar Battery Charger highlighting its Smart PWM Built-in Controller and protection features.



Smart PWM Built-in Controller

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

25%

Power Increase

3. WHAT'S IN THE BOX

- 1 x AeternaSol 7.5W PWM Solar Panel
- SAE Cables (for battery clamp and cigarette lighter connections)
- Suction Cups (for mounting)

4. SETUP INSTRUCTIONS

1. **Choose a Location:** Place the solar panel in a location that receives maximum direct sunlight throughout the day. For vehicle use, consider mounting it on the dashboard or windshield using the provided suction cups, or externally if weather conditions permit.
2. **Connect to Battery:**
 - **Option 1 (Battery Clamps):** Connect the red clamp to the positive (+) terminal of your 12V battery and the black clamp to the negative (-) terminal. Ensure a secure connection.
 - **Option 2 (Cigarette Lighter Adapter):** Insert the cigarette lighter adapter into your vehicle's 12V auxiliary power outlet. This option is suitable for maintaining batteries through the vehicle's electrical system.
3. **Verify Connection:** Once connected, the solar panel's LED indicators will provide feedback on its operation.

Set Up In A Snap

Any car, 12V batteries, The perfect charger/maintainer.



Image: A person demonstrating the easy setup of the AeternaSol solar battery charger on a car, showing the panel placed near the engine compartment.

Plug & Play

SAE connector, easy to connect and disconnect

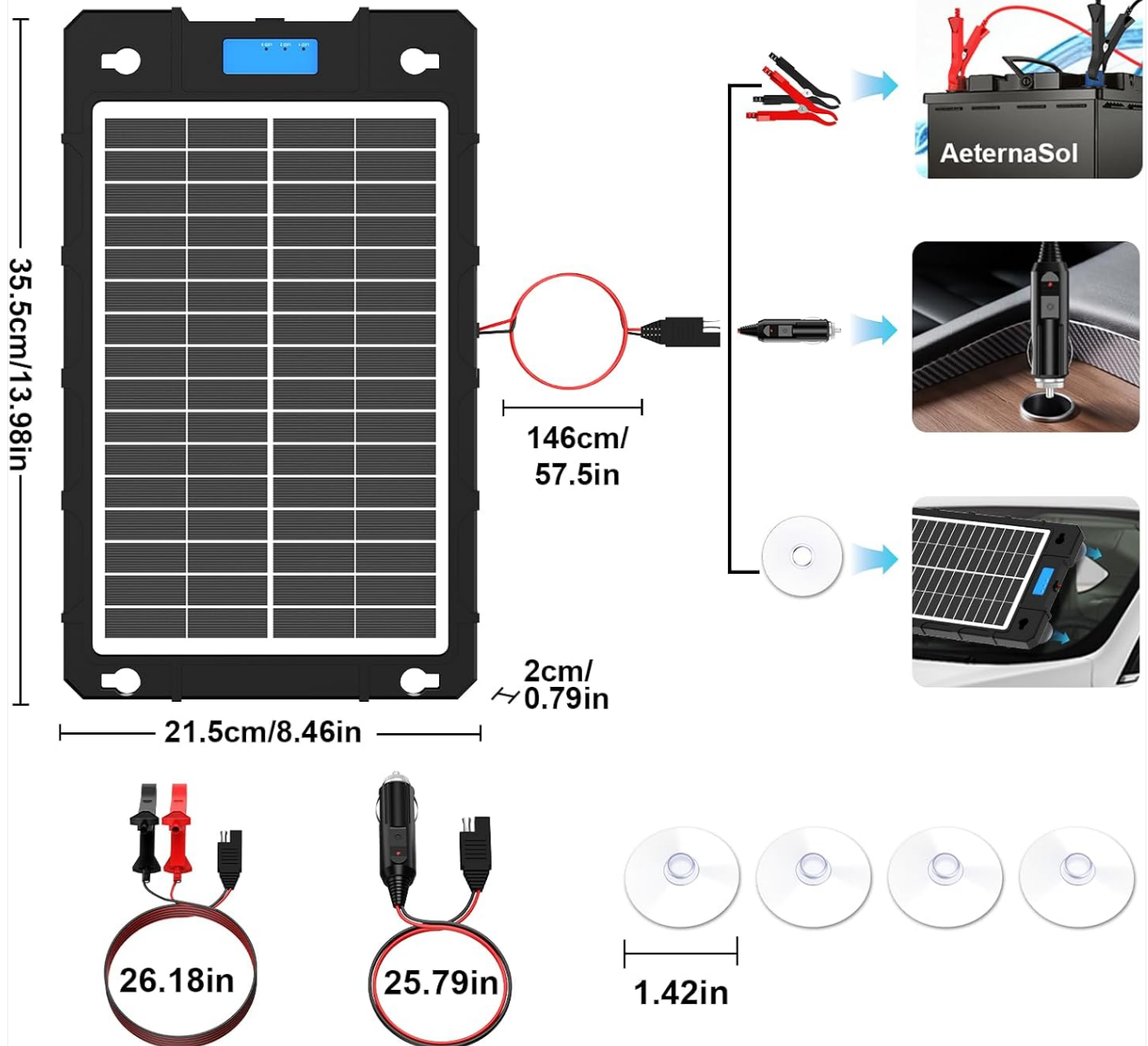


Image: Diagram illustrating the 'Plug & Play' SAE connector system, showing connections to battery clamps, a cigarette lighter adapter, and suction cup mounting.

5. OPERATING INSTRUCTIONS

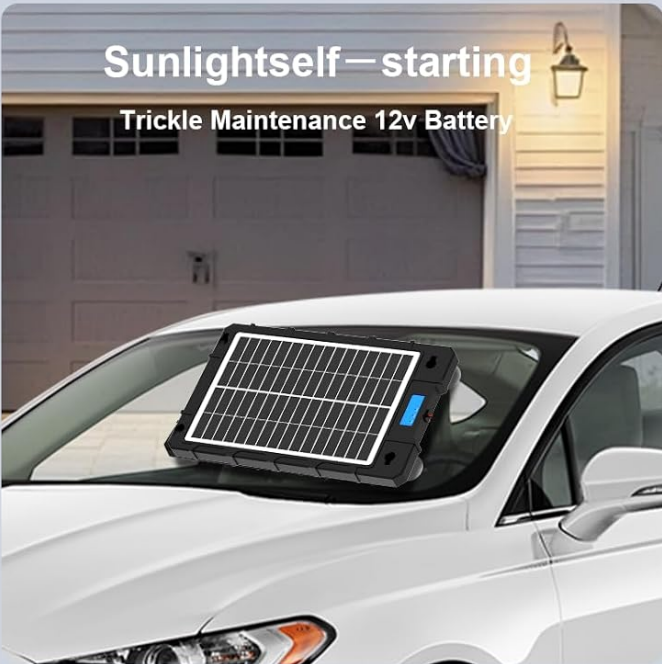
The AeternaSol 7.5W PWM Solar Battery Charger operates automatically once connected and exposed to sunlight. It is designed as a battery maintainer, providing a trickle charge to prevent discharge, rather than rapidly charging a deeply depleted battery.

LED Indicator Lights:

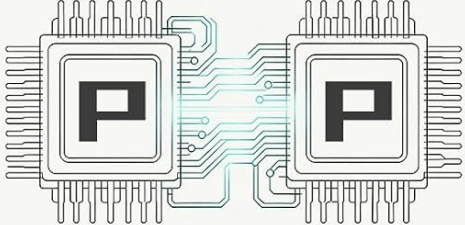
- **Blue LED:** Indicates that the solar panel is receiving sufficient sunlight and is generating power.
- **Red LED:** Indicates that the battery is connected and actively charging.
- **Green LED:** Indicates that the battery is fully charged, and the charger has stopped charging to prevent overcharging.

Automatic Nighttime Shutdown:

The charger features an automatic nighttime shutdown function. When sunlight is no longer sufficient, the unit will cease operation and will not consume battery power during the night, ensuring no reverse discharge occurs.



Sunlightself — starting
Trickle Maintenance 12v Battery



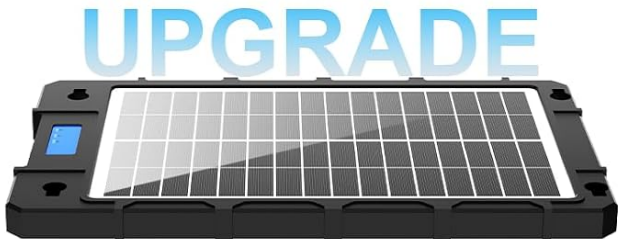
Built-in Protection
Overcharge and Backflow Prevention



Suitable for 12V
AGM, EFB, GEL, SLA



Automatic Nighttime Shutdown
No Battery Consumption



Stronger and More Long-lasting
PC+ABs frame and Low-iron Tempered Glass



Will Not Consume Battery Power

Image: Multi-panel image showing features like sunlight self-starting, built-in protection, automatic nighttime shutdown, and compatibility with 12V AGM, EFB, GEL, SLA batteries.

6. MAINTENANCE

The AeternaSol solar battery charger is designed for minimal maintenance due to its robust and waterproof construction.

- **Cleaning:** Periodically wipe the solar panel surface with a soft, damp cloth to remove dust, dirt, or debris. A clean panel ensures optimal sunlight absorption and charging efficiency.
- **Inspection:** Regularly check the cables and connections for any signs of wear, damage, or corrosion. Ensure all connections are secure.
- **Environmental Durability:** The unit is built to withstand temperatures from -40°C to 137°C and is IP65 waterproof,

making it suitable for outdoor use in various weather conditions.

Robust and Durable Materials

PC+ABS+Tempered glass material, Easily cope
with -40 to 137°C



Image: The AeternaSol solar charger highlighting its robust PC+ABS and tempered glass materials, capable of withstanding temperatures from -40°C to 137°C.

7. TROUBLESHOOTING

• **Charger Not Activating (No Blue LED):**

- Ensure the solar panel is exposed to direct sunlight. Shaded areas will significantly reduce or prevent power generation.
- Check for any obstructions on the panel surface (dirt, snow, leaves).

• **Battery Not Charging (No Red LED):**

- Verify that the battery connections (clamps or cigarette lighter adapter) are secure and correctly polarized (red to positive, black to negative).
- Confirm the blue LED is illuminated, indicating sufficient sunlight.

- Ensure the battery is a 12V lead-acid type. This charger is not designed for other battery chemistries.
- If the green LED is on, the battery may already be fully charged.

- **Overcharging Concerns:**

- The charger has a built-in smart PWM controller that automatically stops charging when the battery is full (green LED will illuminate), preventing overcharging.
- It also includes protection against overvoltage and overcurrent.

- **Reverse Connection:**

- The charger includes reverse connection protection. If connected incorrectly, it will not operate and will not damage the battery or charger. Correct the polarity.

8. SPECIFICATIONS

Brand	AeternaSol
Model Number	BDQ-7.5w
Product Dimensions (D x W x H)	0.79" x 8.46" x 13.98" (20mm x 215mm x 355mm)
Output Voltage	12 Volts DC
Input Voltage	12 Volts DC
Maximum Power	7.5W
Optimum Operating Voltage (Vmp)	16V
Optimum Operating Current (Imp)	0.44A
Open Circuit Voltage	19.2V
Connector Type	SAE
Compatible Devices	Car, Automotive, Motorcycle, Boat, Marine, RV, Trailer, Snowmobile

9. WARRANTY INFORMATION

This AeternaSol 7.5W PWM Solar Battery Charger comes with a **1-Year Manufacturer Warranty**. Please retain your proof of purchase for any warranty claims. The warranty covers defects in materials and workmanship under normal use.

10. SUPPORT

For technical assistance, troubleshooting beyond this manual, or warranty inquiries, please contact AeternaSol customer support. Refer to the product packaging or the official AeternaSol website for the most current contact information.

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.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

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