

ECO-WORTHY L02EPN7.5BB18V-1

ECO-WORTHY 7.5W Solar Car Battery Charger Maintainer (Model L02EPN7.5BB18V-1) Instruction Manual

Your guide to efficient 12V battery maintenance.

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1. INTRODUCTION

Thank you for choosing the ECO-WORTHY 7.5W Solar Car Battery Charger Maintainer. This device is designed to prevent 12V vehicle batteries from discharging, ensuring your vehicle is ready when you need it. It utilizes solar energy to provide a continuous trickle charge, extending battery life and preventing common issues associated with prolonged vehicle inactivity.

This manual provides essential information for the safe and effective use of your solar charger maintainer. Please read it thoroughly before installation and operation.

Video 1: Overview of the ECO-WORTHY Solar Trickle Charger and its benefits for various vehicles.

2. SAFETY INFORMATION

Observe the following safety precautions to prevent injury or damage to the product and your vehicle:

- Always connect the positive (+) terminal of the charger to the positive (+) terminal of the battery and the negative (-) terminal of the charger to the negative (-) terminal of the battery. Reverse polarity can cause damage.
- Ensure all connections are secure before exposing the solar panel to sunlight.
- Do not attempt to open or modify the solar panel or its controller. Refer servicing to qualified personnel.
- Keep the solar panel away from open flames, flammable materials, and excessive heat.
- Avoid dropping or subjecting the solar panel to heavy impact.

- This product is designed for 12V batteries only. Do not use with other voltage systems.
- While the panel is waterproof (IP64), avoid submerging it in water.

3. PRODUCT OVERVIEW

The ECO-WORTHY 7.5W Solar Car Battery Charger Maintainer is a compact and durable solar panel designed for maintaining 12V batteries. It features a smart charge controller with multiple protection functions and an LED indicator for real-time monitoring.

Package Contents:

- 1 x 7.5W Solar Panel
- 1 x Alligator Clip to SAE Connector Cable
- 4 x Suction Cups
- 1 x Instruction Manual



Image 1: Contents of the ECO-WORTHY 7.5W Solar Charger Maintainer package.

Key Features:

- **Smart Charger Controller:** Includes over-temperature, reverse discharge, short circuit, reverse polarity, and over-charging protection. A built-in blocking diode prevents reverse current flow.
- **Real-time Monitoring:** An LED indicator displays charging status (half lit for charging, blinking for fully charged, off for no input/battery).
- **Durable Construction:** Made with A+ grade monocrystalline silicon wafers for up to 23% conversion efficiency. Features a fiberglass surface with IP64 waterproofing and UV protection.
- **Easy Installation:** Designed for direct connection to the battery using alligator clips. Bendable panel with 4 PVC suction cups for flexible mounting.
- **Wide Compatibility:** Suitable for various 12V batteries including those in cars, motorcycles, boats, tractors, ATVs, RVs, and farm equipment.



Image 2: The ECO-WORTHY 7.5W Solar Car Battery Charger Maintainer and its accessories.

4. SETUP

Follow these steps to set up your solar charger maintainer:

1. **Choose a Location:** Select a location for the solar panel that receives maximum direct sunlight throughout the day. Common locations include vehicle dashboards, windshields, or exterior surfaces.
2. **Attach Suction Cups:** If mounting on a windshield or smooth surface, attach the provided suction cups to the designated holes on the solar panel. Ensure the surface is clean and dry for optimal adhesion.
3. **Position the Panel:** Place the solar panel in the chosen location. For optimal performance, aim for an installation angle between 30° and 45° relative to the sun's rays.
4. **Connect to Battery:**
 - Connect the SAE connector from the solar panel to the alligator clip cable.
 - Connect the **red** alligator clip to the **positive (+)** terminal of your 12V battery.
 - Connect the **black** alligator clip to the **negative (-)** terminal of your 12V battery.
 - Ensure connections are firm and secure.
5. **Alternative Connection (if applicable):** If your vehicle supports it, you may use an OBD-II port or

cigarette lighter adapter (not included with this specific model, but available from ECO-WORTHY) for easier connection. However, direct battery connection with alligator clips is generally recommended for consistent charging.

Plug and Play



Image 3: Connection methods for the solar charger maintainer.

INSTANT INSTALL, NO TOOLS NEEDED



Image 4: Attaching suction cups for easy installation.

Video 2: Demonstration of the 7.5W battery maintainer's functionality and installation.

5. OPERATION

Once properly connected and exposed to sunlight, the ECO-WORTHY 7.5W Solar Charger Maintainer will automatically begin charging your 12V battery. The integrated smart charge controller manages the charging process to prevent overcharging and ensure optimal battery health.

LED Indicator Status:

- **Half Lit:** Indicates the battery is currently charging.
- **Blinking:** Indicates the battery is fully charged, and the charger is in maintenance mode.
- **Off:** Indicates no solar input or no battery connected.

The smart controller automatically cuts off charging when the battery is fully charged, preventing overcharge and extending battery life. The built-in blocking diode prevents reverse discharge from the battery to the solar panel during periods of no sunlight.

INTELLIGENT CHARGE CONTROLLER

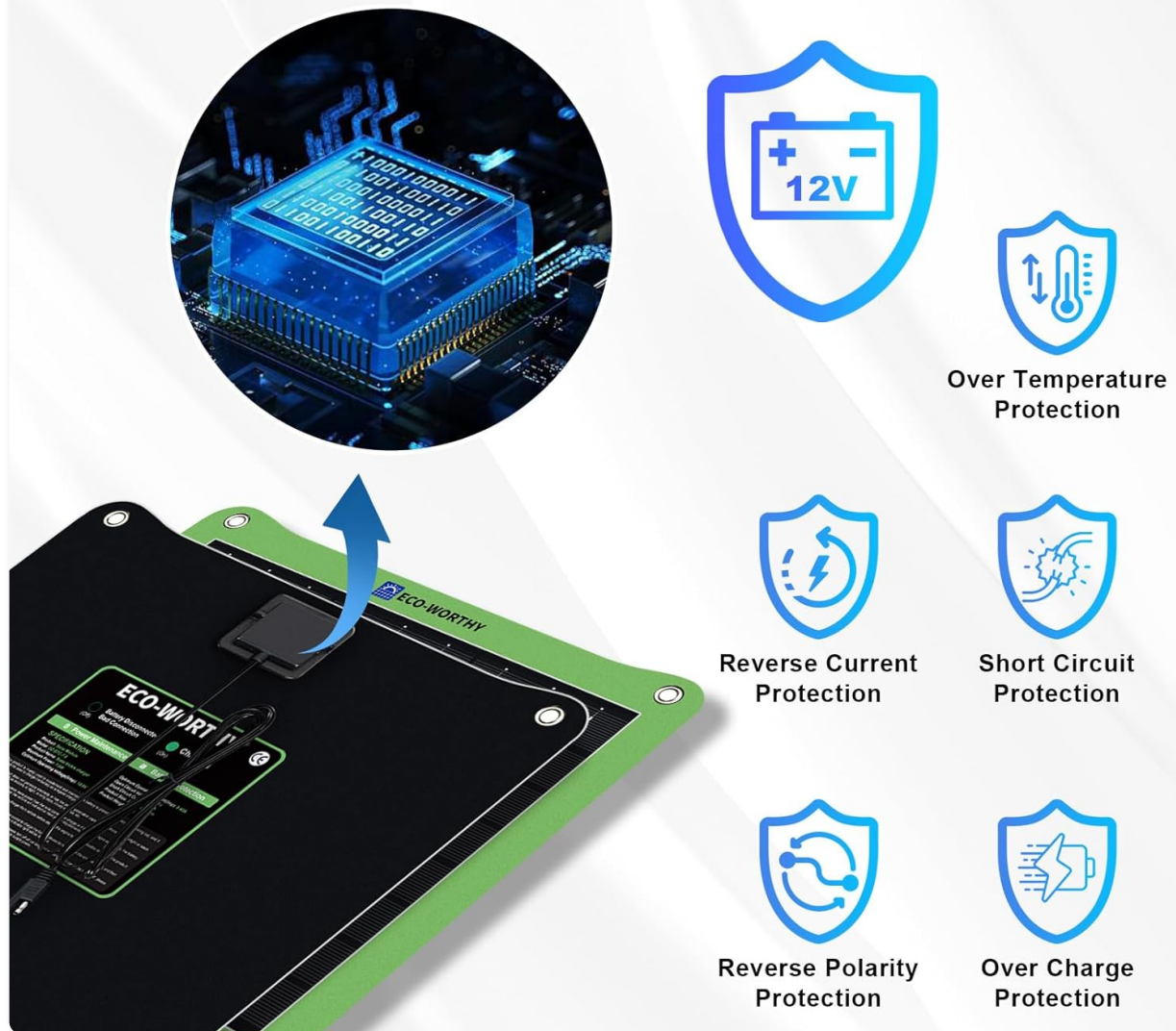


Image 5: Intelligent Charge Controller with multiple protection features.

6. MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your solar charger maintainer and your vehicle's battery.

- **Clean the Solar Panel:** Periodically wipe the surface of the solar panel with a soft, damp cloth to remove dust, dirt, or debris that may obstruct sunlight and reduce efficiency. Do not use abrasive cleaners or harsh chemicals.
- **Check Connections:** Regularly inspect the battery terminals and cable connections for corrosion, looseness, or damage. Clean any corrosion with a wire brush and ensure connections are tight.
- **Inspect Cables:** Check the cables for any signs of wear, cuts, or fraying. Replace damaged cables immediately to prevent electrical hazards.
- **Battery Health:** While the maintainer prevents discharge, it is advisable to periodically check your battery's overall health, especially if the vehicle is stored for very long periods or in extreme temperatures.
- **Storage:** If storing the solar panel for an extended period, disconnect it from the battery and store it in a cool, dry place away from direct sunlight.

SPLASH PROOF FOR OUTDOOR

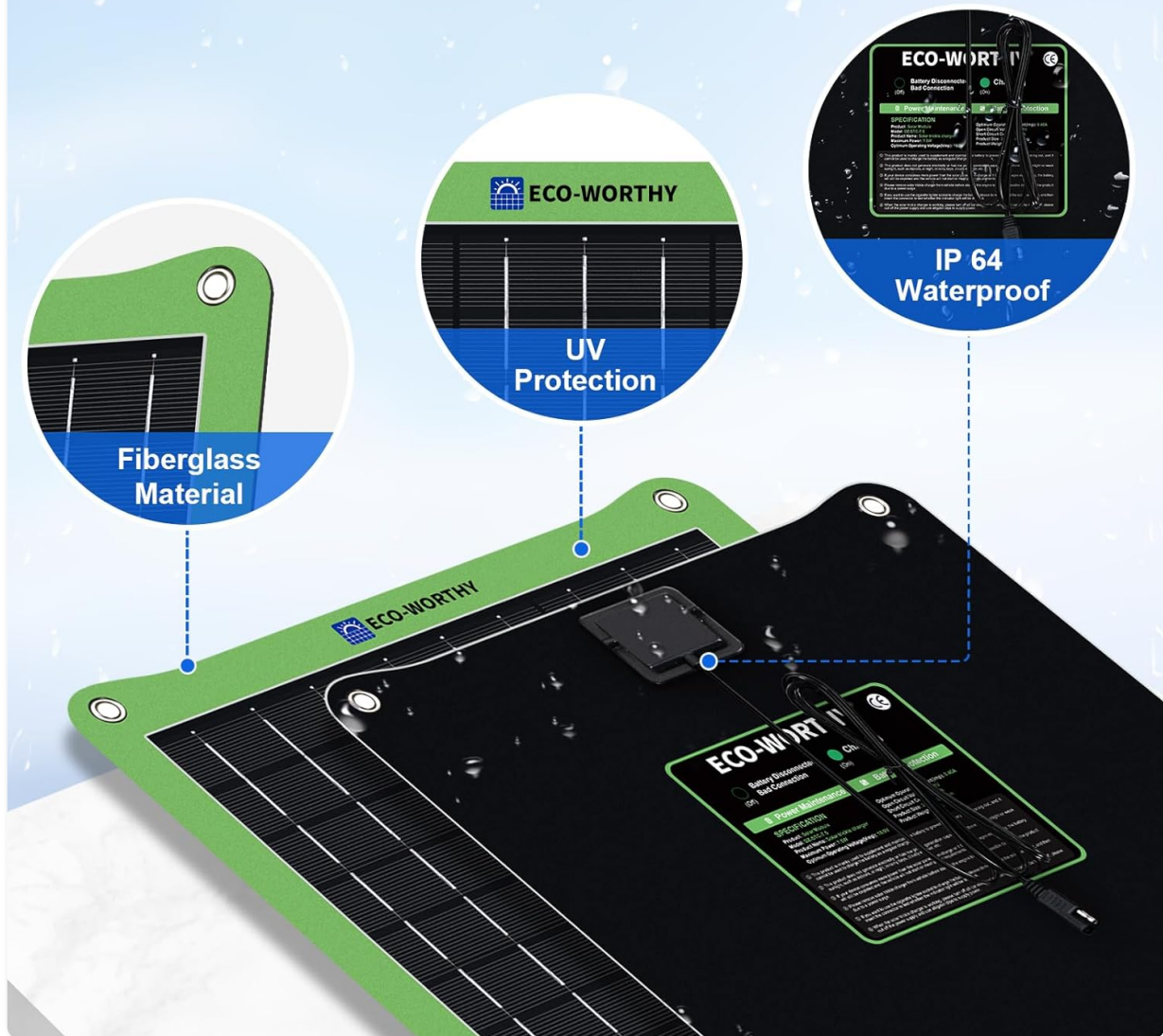


Image 6: The durable and weather-resistant design of the solar panel.

7. TROUBLESHOOTING

If you encounter issues with your ECO-WORTHY solar charger maintainer, refer to the following common problems and solutions:

- **LED Indicator is Off:**
 - **No Sunlight:** Ensure the solar panel is in direct sunlight. Move it to a brighter location if necessary.
 - **No Battery Connected:** Verify that the alligator clips are securely connected to the battery terminals.
 - **Faulty Connection:** Check all cable connections for looseness or damage.
- **Battery Not Charging (LED half lit, but battery still low):**
 - **Insufficient Sunlight:** The panel may not be receiving enough direct sunlight for effective charging. Adjust its position or angle.
 - **Dirty Panel:** Clean the solar panel surface to ensure maximum light absorption.
 - **Battery Condition:** The battery may be severely discharged or damaged. This maintainer is designed for trickle charging and maintaining, not for fully recharging a dead battery. A

professional battery charger may be needed first.

- **Output Difference:** Field tests show a difference in output between inside and outside the car. We highly recommend mounting it outside the window for better performance.
- **LED Indicator Blinks but Battery is Not Fully Charged:**
 - This indicates the battery is fully charged. If you believe it's not, verify the battery's voltage with a multimeter.
- **Panel Not Sticking with Suction Cups:**
 - Ensure the surface is clean, dry, and smooth.
 - Moisten the suction cups slightly before pressing them firmly onto the surface.

8. SPECIFICATIONS

Below are the technical specifications for the ECO-WORTHY 7.5W Solar Car Battery Charger Maintainer:

Feature	Specification
Brand	ECO-WORTHY
Model Number	L02EPN7.5BB18V-1
Rated Power	7.5W
Solar Cell Type	Monocrystalline Silicon
Maximum/Peak Voltage (Vmp)	18V
Maximum Current	0.56 Amps
Over-Charged Protection Voltage	14.5V
Over-Charged Recovery Voltage	13.0V
Product Dimensions	9.84"L x 8.66"W x 0.47"H (250*230*12mm)
Item Weight	0.05 lb (22.68 g)
Waterproof Rating	IP64
Efficiency	Up to 23% conversion efficiency
Included Components	Alligator clip cable, Suction cups

PRODUCT PARAMETERS

Rated Power	7.5W
Solar Cell	Monocrystalline
Maximum/Peak Voltage(Vmp)	18V
Maximum Current	0.56A
Over-Charged Protection Voltage	14.5V
Over-Charged Recovery Voltage	13.0V
Length of Extension Cable	150cm(4.92ft)SAE Connector
Length of Alligator Clips Cable	50cm(1.64ft)SAE Connector
Length of Cigarette Lighter Plug Cable	50cm(1.64ft)
Weight	230g
Size	250*230*12mm








Image 7: Detailed product parameters.

9. WARRANTY & SUPPORT

ECO-WORTHY products are manufactured to high-quality standards. For specific warranty details, please refer to the warranty card included with your product or visit the official ECO-WORTHY website. If you have any questions, require technical assistance, or need to report an issue, please contact ECO-WORTHY customer support through the following channels:

- **Website:** Visit the ECO-WORTHY official website for FAQs, support resources, and contact information.
- **Email:** Refer to your product packaging or the official website for the customer support email address.
- **Phone:** Contact numbers may be available on the official website for direct assistance.

Please have your product model number (L02EPN7.5BB18V-1) and purchase date ready when contacting support.

 <p>USER MANUAL SOLAR TRICKLE CHARGER- BATTERY MAINTAINER</p>	<p>ECO-WORTHY Solar Trickle Charger-Battery Maintainer User Manual</p> <p>User manual for the ECO-WORTHY Solar Trickle Charger-Battery Maintainer, detailing features, safety information, application, technical parameters, installation, wiring, testing, and included accessories.</p>
 <p>SOLAR TRICKLE CHARGER MANUAL</p>	<p>ECO-WORTHY 2.5W Solar Trickle Charger Manual: Features, Specifications, and Usage Guide</p> <p>Detailed manual for the ECO-WORTHY 2.5W Solar Trickle Charger. Covers product features, technical specifications, installation, wiring, testing, troubleshooting, maintenance, and warranty information.</p>
 <p>ECO-SOURCES</p> <p>SOLAR POWER & BATTERY EXPERTS SINCE 2007</p>	<p>ECO-WORTHY Solar & Battery Products Catalog Lithium Batteries, Solar Panels, Inverters</p> <p>Explore the comprehensive ECO-WORTHY product catalog featuring high-performance lithium batteries, efficient solar panels, versatile inverters, and solar charging solutions. Find specifications, applications, and system references for your renewable energy needs.</p>
 <p>400W SOLAR PANEL KIT</p>	<p>ECO-WORTHY 400W Solar Panel Kit Installation and User Manual</p> <p>This manual provides instructions for the installation, connection, testing, maintenance, and troubleshooting of the ECO-WORTHY 400W Solar Panel Kit, including a 40A MPPT charge controller.</p>
 <p>ECO-WORTHY APP USER MANUAL</p>	<p>ECO-WORTHY APP User Manual: Connect and Control Your Device via Bluetooth & WiFi</p> <p>Comprehensive user manual for the ECO-WORTHY APP, guiding you through app installation, Bluetooth and WiFi connection, device management, and troubleshooting. Learn to connect your ECO-WORTHY device easily.</p>

LIFEPO4
LITHIUM IRON PHOSPHATE
User Manual



[ECO-WORTHY LiFePO4 Lithium Iron Phosphate Battery User Manual](#)

User manual for ECO-WORTHY LiFePO4 Lithium Iron Phosphate batteries, covering specifications, charging methods, and troubleshooting for 12V 8Ah, 10Ah, 20Ah, 30Ah, and 50Ah models.