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ECO-WORTHY L02EP10BB18V-1

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Model: L02EP10BB18V-1

1. PRODUCT OVERVIEW

The ECO-WORTHY 10W Solar Car Battery Charger Maintainer is designed to prevent 12V vehicle batteries from discharging during periods of inactivity. It utilizes a 10W monocrystalline solar panel to provide a trickle charge, ensuring the battery remains optimally charged without overcharging. The unit features a built-in blocking diode to prevent reverse current flow at night and is waterproof for outdoor use. An indicator light on the back provides real-time charging status.

This device is suitable for maintaining batteries in various vehicles, including cars, trucks, boats, lawn mowers, motorcycles, trailers, RVs, tractors, and ATVs.

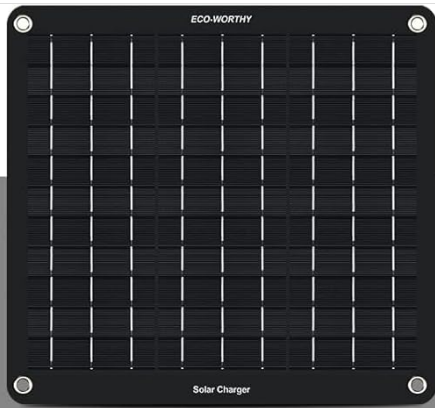


Image 1.1: ECO-WORTHY 10W Solar Car Battery Charger Maintainer with included cigarette lighter adapter and alligator clips.

Solar Trickle Charger prevents long sitting vehicle's battery drain out



Image 1.2: The solar trickle charger helps prevent battery drain in various vehicles.



10W SOLAR TRICKLE CHARGER **EXTEND BATTERY LIFE**

No need to stay aside of shore for maintaining battery



Fishing
boat



Pontoon
boat etc



Jet skis



Yacht

FISHING BOAT



PONTOON BOAT ETC



JET SKIS



Image 1.3: The 10W solar trickle charger extends battery life for marine vehicles.

2. SPECIFICATIONS

- **Maximum Power:** 10W
- **Optimum Operating Voltage (Vmp):** 18V
- **Optimum Operating Current (Imp):** 0.56A
- **Open Circuit Voltage:** 20V
- **Short Circuit Current:** 0.58A
- **Product Dimensions:** 0.47"D x 11"W x 10.2"H (280 x 260 x 12mm)
- **Item Weight:** 0.7 Pounds (300g)
- **Extension Cable Length:** 4.92 ft (150cm)
- **Alligator Clips / Cigarette Lighter Plug Cable Length:** 1.64 ft (50cm)
- **Color:** Black

COMPACT SIZE



WARM TIPS

Why you need a trickle charger?

Because the car installed consumable devices like monitor and alarm system, they will drain out battery even don't drive car. That's why after long time sitting your car can't start-up.

What will a solar trickle charger do?

It's prior function is prevent vehicle's battery from draining out and maintain battery. not for full charge your battery

Image 2.1: Product dimensions and cable lengths.

3. SETUP AND INSTALLATION

The solar charger offers two primary connection methods for ease of installation. The connection process typically takes less than 3 minutes.

3.1 Connection Methods

1. **Cigarette Lighter Port:** Plug the cigarette lighter adapter into your vehicle's 12V auxiliary power outlet. This method is convenient for interior placement.
2. **Battery Terminal Posts:** Connect the red alligator clip to the positive (+) battery terminal and the black alligator clip to the negative (-) battery terminal. Ensure a secure connection.

3.2 Placement Options

The solar panel can be placed in various locations to maximize sunlight exposure:

- **On the Windshield:** Use the included suction cups to secure the panel to the inside of your vehicle's windshield.

- **On the Sunroof:** Place the panel on the sunroof for direct overhead sunlight.
- **On the Center Console:** For temporary or interior use, the panel can rest on the center console.
- **Directly on Battery:** When connecting with alligator clips, the panel can be positioned near the battery, ensuring it receives adequate sunlight.

EASY INSTALLATION



On the windshield



Sunroof installation



On the center console



Battery charging

Image 3.1: Various easy installation methods for the solar panel.

PLUG & PLAY

2 Charging Methods



Image 3.2: Plug & Play functionality with two charging methods.



Image 3.3: Visual guide for the two wiring methods.

4. OPERATING INSTRUCTIONS

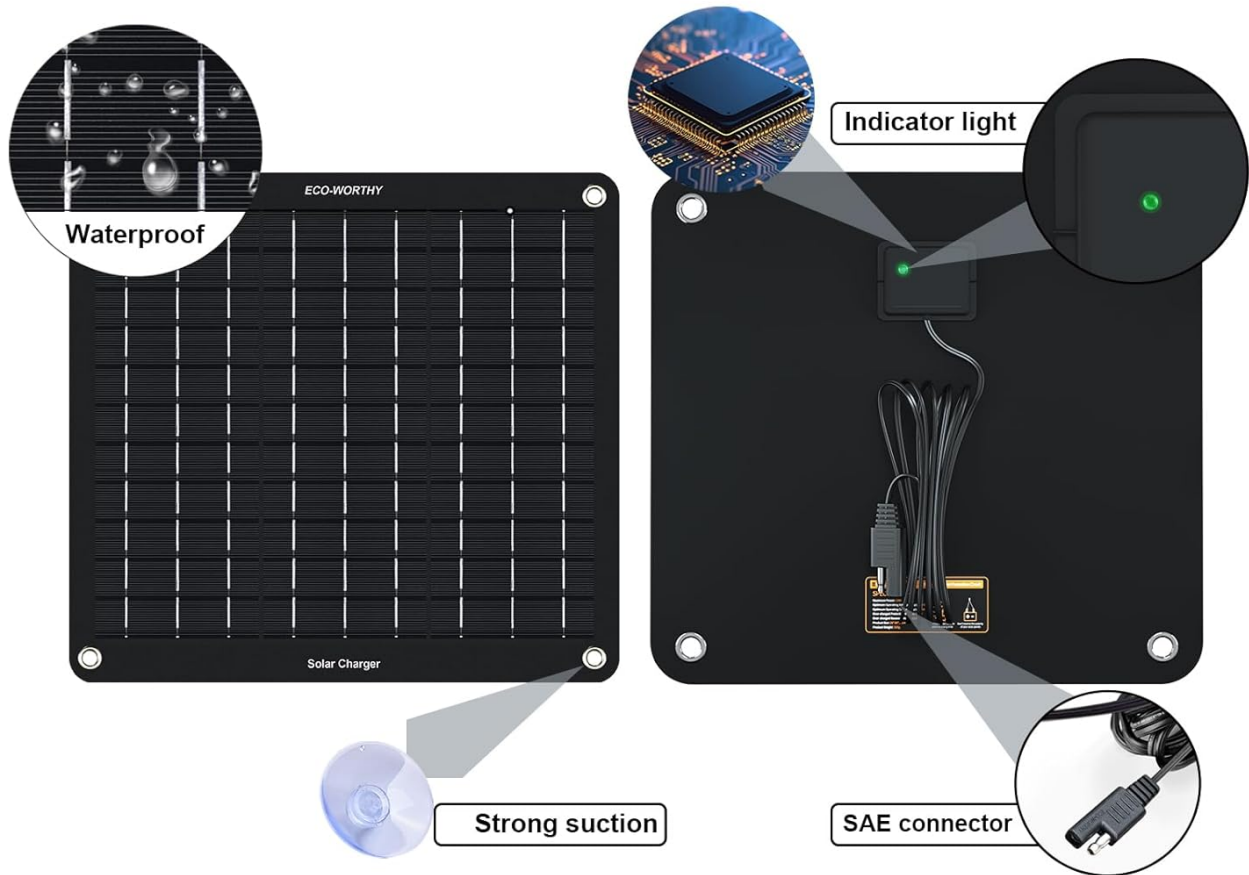
Once connected and exposed to sunlight, the solar charger will automatically begin to trickle charge your 12V battery. The integrated intelligent controller ensures safe and efficient charging.

4.1 Indicator Light Status

The indicator light on the back of the solar panel provides visual feedback on the charging status:

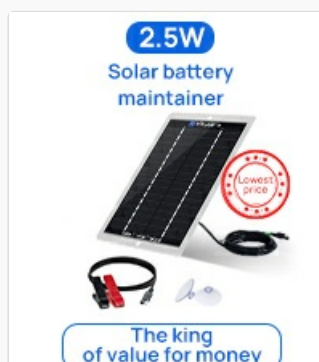
- **Green light up:** The panel is actively charging the battery.
- **Green light flash:** Charging is complete, and the panel is maintaining the battery.
- **Light off:** No PV (photovoltaic) input, meaning no sunlight is detected or the connection is interrupted.

DURABLE & INTELLIGENT



- ✓ Upgrade built-in intelligent controller
- ✓ Overcharge protection
- ✓ Reverse current protection
- ✓ Charging status indication

Image 4.1: Back of the solar panel showing the indicator light.



4.2 Protection Features

The charger incorporates advanced protection mechanisms:

- **Overcharge Protection:** Prevents the battery from being overcharged, extending its lifespan.
- **Reverse Current Protection:** The built-in blocking diode prevents current from flowing back from the battery to the solar panel during nighttime or low-light conditions.
- **Reverse Polarity Protection:** Protects against damage if the alligator clips are connected incorrectly.



Image 4.3: Intelligent protection features.

5. MAINTENANCE

The ECO-WORTHY solar panel is designed for minimal maintenance. To ensure optimal performance:

- Regularly clean the surface of the solar panel with a soft, damp cloth to remove dust, dirt, or debris that may obstruct sunlight.
- The frosted surface of the panel eliminates the need for additional film protection.
- Ensure all connections (SAE cable, cigarette lighter, or alligator clips) are secure and free from corrosion.

6. TROUBLESHOOTING

If your battery is not maintaining charge or the indicator light is off, consider the following:

6.1 Common Battery Drain Issues

Automotive batteries naturally discharge when not in use. Modern vehicles also have constant parasitic drains from various electronic modules (e.g., alarms, immobilizers, computers). These drains can discharge a battery over a week or two if the vehicle is not used.

A 12V battery not maintained above 12.4V can suffer from sulfation, which shortens battery life and is a primary cause of battery failure in vehicles left standing for extended periods.

2 WIRING WAYS



Image 6.1: Reasons to use a solar battery trickle charger maintainer.

6.2 Charger Not Working

- **No PV Input:** Ensure the solar panel is exposed to direct sunlight. Even on cloudy days, it can work, but direct sun provides optimal performance. If the indicator light is off, it suggests no solar input.
- **Loose Connections:** Verify that all cables are securely connected to the solar panel and the battery or cigarette lighter port.
- **Incorrect Polarity:** If using alligator clips, double-check that the red clip is on the positive (+) terminal and the black clip is on the negative (-) terminal. The charger has reverse polarity protection, but correct connection is essential for operation.
- **Battery Condition:** This device is a maintainer, not a full charger for a completely dead battery. If your battery is deeply discharged, it may require a dedicated battery charger before using the solar maintainer.

7. WARRANTY AND SUPPORT

For any questions or assistance regarding your ECO-WORTHY 10W Solar Car Battery Charger Maintainer, please contact our customer support. Your feedback is valuable and helps us improve our products and services.