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ECO-WORTHY US-L02AM130-CWIUS600L50-1

ECO-WORTHY 130 Watt 12V Flexible Complete Solar Panel Starter Kit User Manual

Model: US-L02AM130-CWIUS600L50-1

1. Product Overview

The ECO-WORTHY 130 Watt 12V Flexible Complete Solar Panel Starter Kit is designed to provide a reliable and efficient power solution for RVs, campers, trailers, boats, cabins, and other off-grid applications. This comprehensive kit includes a 130W flexible solar panel, a 30A charge controller, a 50Ah lithium battery, and a 600W pure sine wave inverter, ensuring a complete and scientific match for optimal power generation and usage.

Image 1.1: Overview of the ECO-WORTHY 130W Solar Panel Starter Kit components, including the flexible solar panel, charge controller, inverter, and lithium battery.

Image 1.2: Illustration of the solar panel generating 0.52 kWh per day under 4 hours of full sunshine, installed on an RV in a natural setting.

2. Components Included

- 1 x 130 Watt Flexible Monocrystalline Solar Panel
- 1 x 30 Amp PWM Solar Charge Controller
- 1 x 50Ah 12.8V Lithium Iron Phosphate (LiFePO4) Battery
- 1 x 600 Watt Pure Sine Wave Power Inverter
- Necessary connection cables (MC4 connectors, battery cables)

Image 2.1: Detailed view of the main components included in the DIY complete solar power system, showing the battery, charge controller, inverter, and solar panel.

3. Setup and Installation

Follow these steps for a safe and effective installation of your ECO-WORTHY solar panel kit. It is recommended to consult with a qualified electrician if you are unsure about any steps.

3.1 Wiring Diagram

Refer to the following diagram for the correct wiring sequence. Always connect the charge controller to the battery first, then the solar panel, and finally the load.

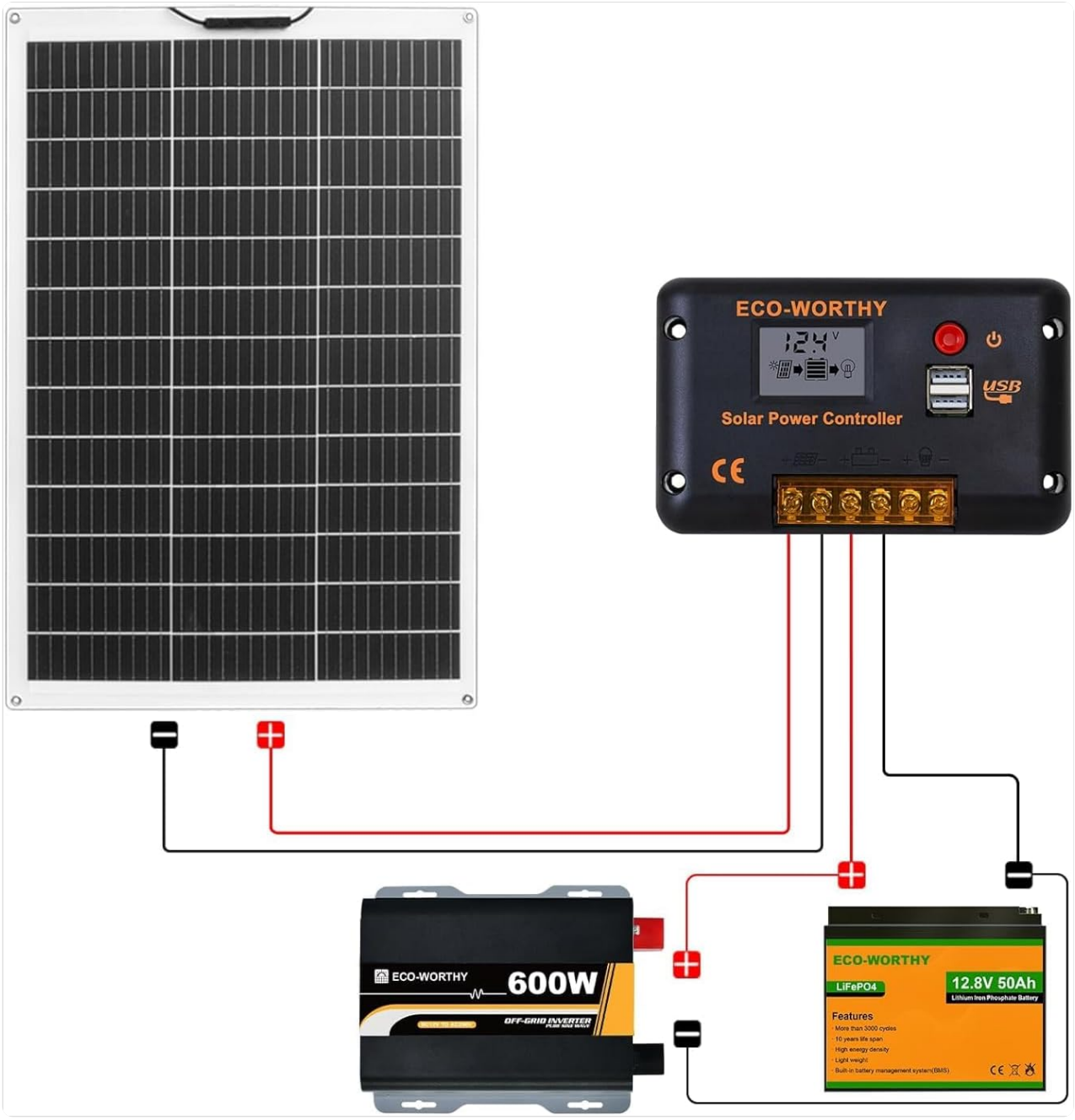

Image 3.1: A clear wiring diagram illustrating the connections between the solar panel, charge controller, inverter, and battery. Note the positive and negative terminals for each component.

3.2 Step-by-Step Installation

1. **Step 1: Connect the Charge Controller to the Battery.** Ensure the battery is fully charged before connecting. Connect the positive and negative terminals of the battery to the corresponding battery terminals on the solar charge controller.
2. **Step 2: Connect the Solar Panel to the Charge Controller.** Connect the positive and negative MC4 connectors from the solar panel to the solar panel input terminals on the charge controller.
3. **Step 3: Connect the Inverter to the Battery.** Connect the positive and negative terminals of the inverter directly to the battery terminals. Ensure proper polarity.
4. **Step 4: Connect Appliances to the Inverter.** Plug your 120VAC appliances into the AC outlets on the inverter.

Image 3.2: Visual representation of the 4-step installation process, showing the sequential connection of the charge controller, solar panel, battery, and inverter to power household appliances.

3.3 Mounting the Solar Panel

The flexible solar panel can be mounted on various surfaces and roofs, including RVs, trailers, and boats. Its flexible design allows it to adapt to different bending angles.

Image 3.3: Examples of the flexible solar panel installed on different surfaces, including a boat, a flat roof, an RV, and a residential roof, demonstrating its versatility.

4. Operating Instructions

Once installed, your ECO-WORTHY solar power system is ready to provide power. The charge controller will manage the charging of the battery from the solar panel, and the inverter will convert the battery's DC power to AC power for your appliances.

4.1 Charge Controller Operation

The 30A PWM solar charge controller features an LCD monitor for displaying status and a 5V USB interface for charging small devices. It supports multiple battery types, including Lithium, Lead-acid (VRLA), and GEL batteries.

Image 4.1: The solar charge controller displaying its compatibility with various battery types: Lithium (LiFePO4), Lead-acid (VRLA), and GEL batteries.

4.2 Powering Appliances

The 600W pure sine wave inverter provides clean and stable AC power suitable for a wide range of household appliances. The 50Ah lithium battery offers 640Wh of storage, allowing for extended use.

Image 4.2: An example setup showing the solar system powering various appliances in a kitchen setting, with estimated run times for TV, refrigerator, light bulb, and pump.

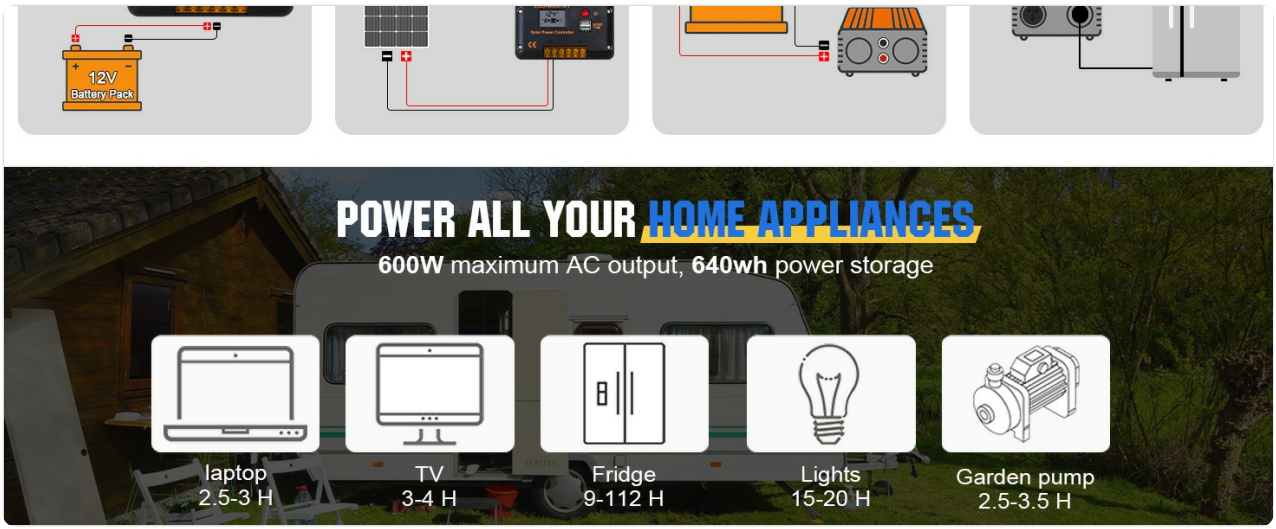

Image 4.3: A visual guide indicating the approximate run times for common appliances like laptops, TVs, fridges, lights, and garden pumps when powered by the 600W inverter and 640Wh battery storage.

5. Maintenance

Regular maintenance ensures the longevity and optimal performance of your solar power system.

- **Solar Panel:** Keep the surface of the solar panel clean from dust, dirt, and debris. Use a soft cloth and mild detergent with water if necessary. Avoid abrasive materials.
- **Battery:** The LiFePO4 battery is maintenance-free. However, ensure its terminals are clean and connections are secure. Avoid extreme temperatures.
- **Charge Controller & Inverter:** Ensure these components are kept in a dry, well-ventilated area, free from moisture and excessive heat. Periodically check connections for tightness.
- **Cables and Connections:** Regularly inspect all cables and connections for any signs of wear, corrosion, or damage. Replace any damaged components immediately.

6. Troubleshooting

Here are some common issues and their potential solutions:

Problem	Possible Cause	Solution
No power output from inverter	Inverter off; Low battery voltage; Overload; Loose connections	Turn inverter on; Check battery charge; Reduce load; Secure connections
Battery not charging	Insufficient sunlight; Dirty solar panel; Faulty charge controller/panel; Incorrect wiring	Ensure direct sunlight; Clean panel; Test components; Verify wiring per diagram
Charge controller display off	No power from battery or solar panel; Faulty unit	Check battery and solar panel connections; Contact support if persistent
Inverter beeping/error light	Overload; Over-temperature; Low/High input voltage	Reduce load; Allow cooling; Check battery voltage

If problems persist after attempting these solutions, please contact ECO-WORTHY customer support.

7. Specifications

7.1 General Product Specifications

- **Brand:** ECO-WORTHY
- **Material:** Monocrystalline Silicon

- **Product Dimensions:** 37.8"L x 27.1"W x 0.1"H (Solar Panel)
- **Item Weight:** 4.52 Pounds (Total Kit)
- **Efficiency:** High Efficiency
- **Connector Type:** MC4
- **Maximum Voltage:** 12 Volts
- **Maximum Power:** 130 Watts
- **Model Number:** US-L02AM130-CWIUS600L50-1
- **UPC:** 810127131095

7.2 Component Specifics

Component	Specification
130W Mono Solar Panel	Rated Power: 130W Solar Cell: Monocrystalline Maximum Peak Voltage (Vmp): 23.08V Open Circuit Voltage (Voc): 26.99V Short Circuit Current: 5.98A Maximum Power Current: 5.63A Output Tolerance: +/-3% Temperature Coefficient of Isc: (0.01)+/-0.01%/°C Temperature Range: -40°C ~ +85°C Length of Extension Cable: 90cm (2.95ft) Size of Extension Cable: MC4 Connector Weight: 4.63 lbs (2.1 kg) Size: 1060x690x2.5mm
12V/24V 30A Charge Controller	Battery Voltage: 12V/24V Charging Mode: PWM Max Charge Current: 30A Max Discharge Current: 30A Max Solar Input Voltage: <50V Charging Voltage: 13.7V/27.4V Discharge Stop: 10.7V/21.4V Discharge Reconnect: 12.6V/25.2V Weight: 150g Size: 138*82*30mm
600W Off-Grid Inverter	Rated PV Input Voltage: 12V Rated PV Input Current: 56A Maximum Efficiency: 92% Battery Type: Lead acid or lithium battery Rated AC Output Power: 600W Rated AC Output Voltage: 120V Rated AC Output Frequency: 60Hz AC Output Wave Form: Pure Sine Wave Dimensions (L x W x H): 305*172*75mm Weight: 1.5 kg

Component	Specification
12V 50Ah LiFePO4 Battery	Product Name: LiFePO4 Battery Rated Capacity: 50Ah/640Wh (25°C, 0.5C) Rated Voltage: 12.8V Voltage Range: 10 ~ 14.6V Maximum Continuous Charging Current: 50A Maximum Continuous Discharging Current: 50A Charging Voltage: 14.6V Dimensions: 9.1"L x 3.7"W x 8.1"H (23.2 x 9.5 x 18.1cm) Weight: 12.1 lbs (5.5 kg) Charging Temperature: 32-131°F / 0-55°C Discharging Temperature: -4-131°F / -20-55°C

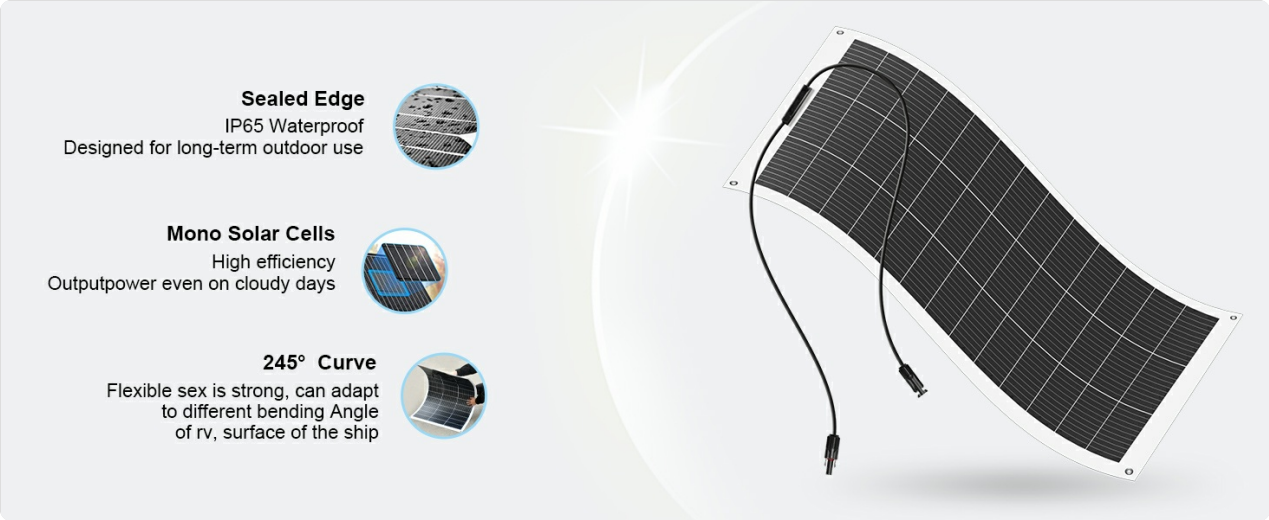

Image 7.1: Features of the flexible solar panel, highlighting its sealed edge (IP65 waterproof), mono solar cells for high efficiency, and 245° curve flexibility.

Image 7.2: Features of the solar power controller, including its expandability (12V-420W/24V-840W max solar input), 5V USB interface, and LCD monitor for status display.

Image 7.3: Details of the smart BMS (Battery Management System) protection for the LiFePO4 battery, covering overcharge, over-discharge, overcurrent, short circuit protection, and cell voltage balance.

Image 7.4: Key features of the 12V 50Ah lithium battery, emphasizing BMS protection, 3000+ cycles, and over 10 years lifetime.

Image 7.5: Diagram illustrating the all-round protection features of the inverter, including ground terminal, external fuse, built-in fuse, short-circuit, overload, and overheat protection, preventing fire and explosion.

Image 7.6: Features of the 600W inverter, highlighting its super silent cooling fan, low consumable power, and simple connection for various appliances.

8. Warranty and Support

For warranty information and customer support, please refer to the official ECO-WORTHY website or contact their customer service directly. Details regarding product registration, warranty claims, and technical assistance can typically be found on the manufacturer's support pages.
You can visit the ECO-WORTHY Store for more information:ECO-WORTHY Amazon Store

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