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ECO-WORTHY L02M100-10

ECO-WORTHY 1KW 100W Monocrystalline Solar Panel Kit User Manual

Model: L02M100-10

INTRODUCTION

This manual provides essential information for the safe and efficient installation, operation, and maintenance of your ECO-WORTHY 1KW 100W Monocrystalline Solar Panel Kit. Please read this manual thoroughly before installation and retain it for future reference.

The ECO-WORTHY 1KW Solar Panel Kit includes 10 individual 100-watt monocrystalline solar panels, designed for various applications including charging 12V or 24V battery systems, residential and commercial rooftop installations, and grid-tied systems.

SAFETY INFORMATION

- Always wear appropriate personal protective equipment (PPE) including safety glasses, insulated gloves, and protective footwear during installation.
- Do not attempt to disassemble or modify the solar panels. This can void the warranty and create safety hazards.
- Ensure all electrical connections are secure and properly insulated to prevent electric shock.
- Avoid touching the glass surface or frame of the solar panel if it is damaged.
- Do not install solar panels in areas with flammable gases or vapors.
- Consult with a qualified electrician for grid-tied installations to ensure compliance with local electrical codes.
- Keep children and unauthorized personnel away from the installation area.

PRODUCT OVERVIEW

Each 100-watt monocrystalline solar panel features a corrosion-resistant aluminum frame, designed for extended outdoor use and capable of withstanding high winds (2400Pa) and snow loads (5400Pa). The panels are equipped with by-pass diodes pre-installed in an IP-65 rated waterproof junction box to minimize power loss due to shading and ensure performance in low-light conditions. Each panel includes a 35-inch 12AWG cable with Male/Female

quick connectors for easy integration.

195W Mono Solar panel

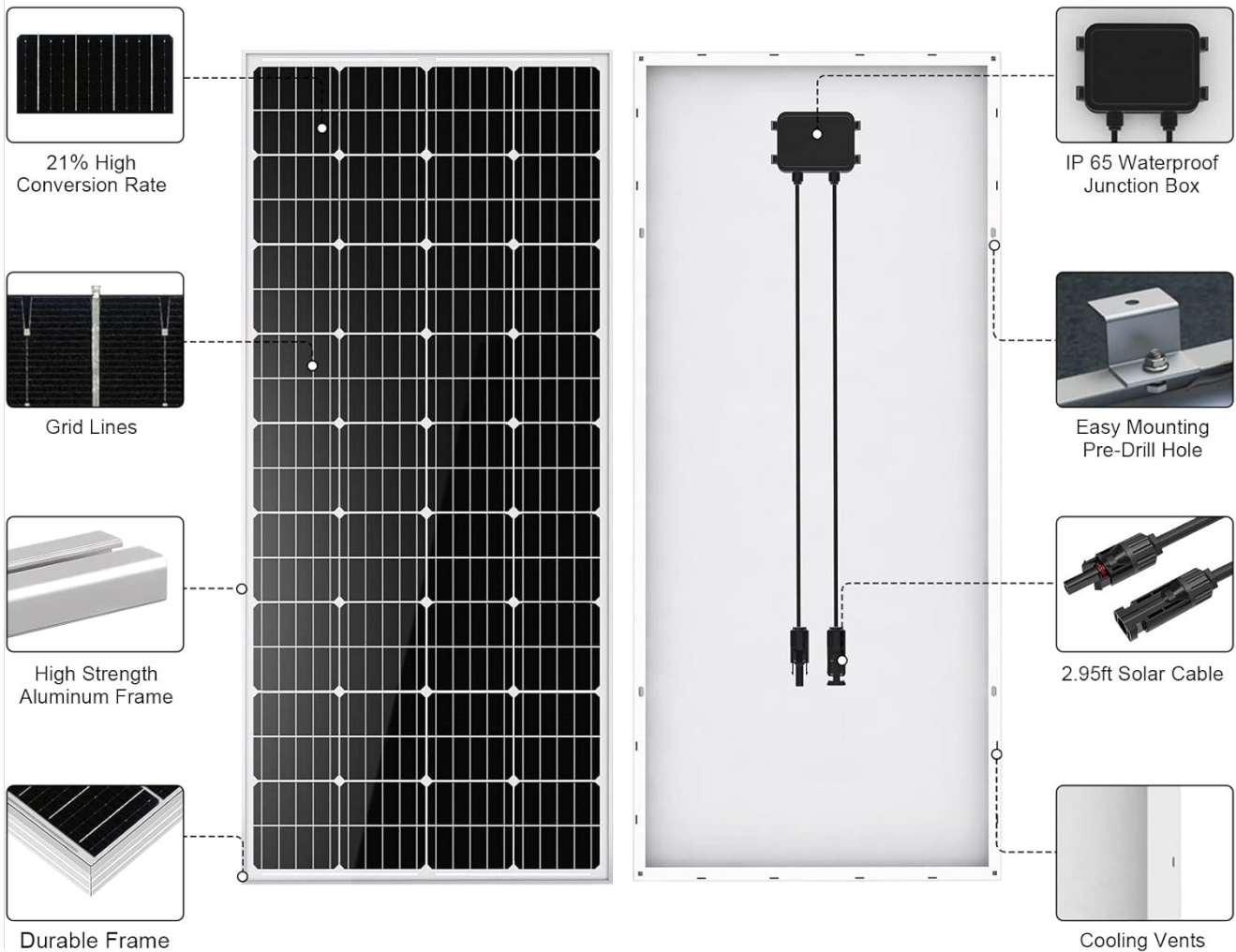


Figure 1: Detailed view of a 100W monocrystalline solar panel, highlighting its components including the IP65 waterproof junction box, grid lines, high-strength aluminum frame, and cooling vents.



Figure 2: Illustration emphasizing the waterproof and durable design of the solar module, suitable for various environmental conditions.

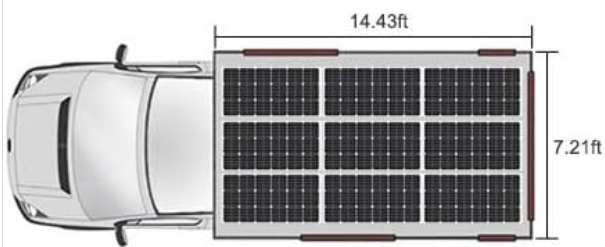
SETUP AND INSTALLATION

The ECO-WORTHY solar panels are designed for straightforward installation. Pre-drilled holes on the back of each panel facilitate quick and secure mounting. The included quick connectors simplify wiring.

Mounting the Panels

- Choose a mounting location that receives maximum direct sunlight throughout the day, free from obstructions like trees or buildings.
- Securely attach the panels to a rigid structure using appropriate mounting hardware (not included) through the pre-drilled holes. Ensure the mounting structure can support the weight of the panels and withstand local wind and snow loads.
- Consider the optimal tilt angle for your location to maximize energy harvest throughout the year.

START THE ENDLESS POWER



1~9 panels



1~4 panels



1~30 panels

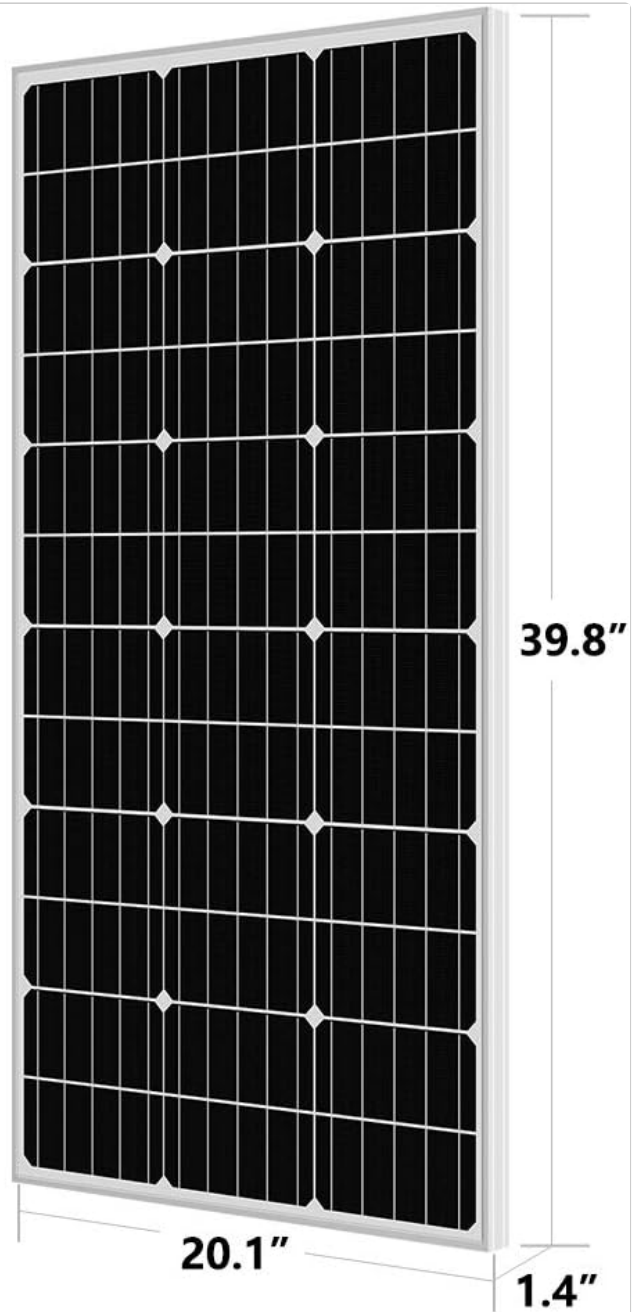


Figure 3: Examples of solar panel installations on various platforms such as vehicles, boats, and residential rooftops, illustrating potential layouts and dimensions.

APPLICATION



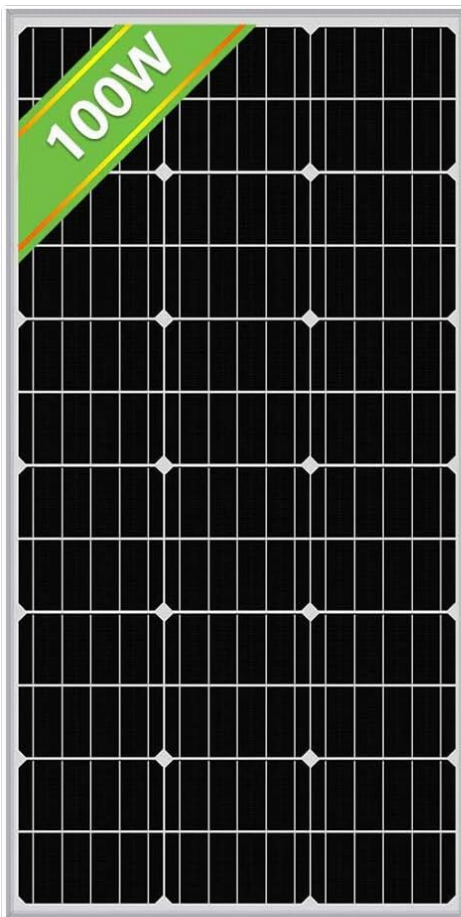
Figure 4: Visual examples of the solar panels in various application settings, including trailers, recreational vehicles (RVs), boats, and residential rooftops.



Figure 5: An aerial perspective showcasing a comprehensive solar panel installation on the roof of a residential complex.

Electrical Connections

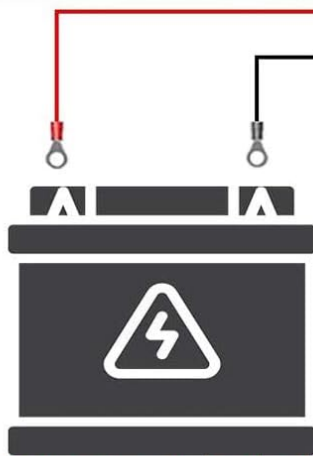
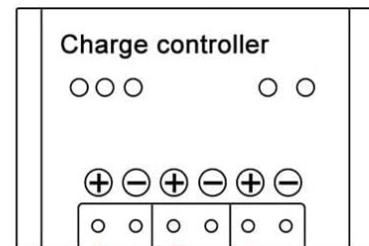
- Connect the solar panels in series or parallel configurations as required by your system voltage (12V or 24V) and current needs.
- Use the provided Male/Female quick connectors to establish secure and weather-resistant connections between panels.
- Connect the solar panel array to a compatible charge controller (not included) to regulate the charging of your battery bank.
- Ensure proper polarity (+ to + and - to -) throughout the entire system to prevent damage to components.



PLUG & PLAY

Beginner Friendly

(Controller not included)



(battery not included)



(load not included)

Figure 6: Basic wiring diagram illustrating how a 100W solar panel connects to a charge controller, a battery, and an electrical load. Note that the charge controller, battery, and load are not included with the solar panels.

OPERATING INSTRUCTIONS

Once installed and connected, your solar panel system will begin generating electricity when exposed to sunlight. The charge controller will manage the power flow to your battery bank, preventing overcharging and ensuring optimal performance.

- **Monitoring:** Regularly check your charge controller's display (if applicable) to monitor battery voltage, charging current, and system status.
- **Load Management:** Ensure your electrical loads do not exceed the capacity of your inverter and battery bank.
- **Shading:** Minimize shading on the solar panels as much as possible. Even partial shading can significantly reduce power output.

MAINTENANCE

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

- **Cleaning:** Clean the glass surface of the solar panels periodically to remove dust, dirt, leaves, and other debris that can reduce efficiency. Use a soft cloth and mild, non-abrasive cleaning solution with water. Avoid harsh chemicals or abrasive materials.
- **Inspection:** Annually inspect the panels for any physical damage, such as cracks in the glass, loose frames, or damaged cables.
- **Connections:** Check all electrical connections for corrosion or looseness. Ensure quick connectors are securely fastened.
- **Shading:** Trim any vegetation that may grow and cause shading on the panels.

TROUBLESHOOTING

If your solar panel system is not performing as expected, consider the following common issues:

| Problem | Possible Cause | Solution |
|------------------------|---|--|
| Low or No Power Output | <ul style="list-style-type: none">◦ Insufficient sunlight or heavy shading.◦ Dirty panel surface.◦ Loose or corroded electrical connections.◦ Damaged panel or wiring.◦ Faulty charge controller or inverter. | <ul style="list-style-type: none">◦ Ensure panels are in direct sunlight; remove obstructions.◦ Clean panel surfaces.◦ Check and tighten all connections; clean any corrosion.◦ Inspect panels and wiring for visible damage. Replace if necessary.◦ Test charge controller/inverter; replace if faulty. |
| Battery Not Charging | <ul style="list-style-type: none">◦ Incorrect wiring polarity.◦ Charge controller settings incorrect.◦ Battery is faulty or at end of life.◦ Overload on the system. | <ul style="list-style-type: none">◦ Verify all wiring polarities are correct.◦ Check charge controller manual for correct settings.◦ Test battery health; replace if necessary.◦ Reduce electrical load or increase system capacity. |

If you continue to experience issues, please contact ECO-WORTHY customer support.

SPECIFICATIONS

| Feature | Detail |
|---|-------------------------|
| Brand | ECO-WORTHY |
| Model Number | L02M100-10 |
| Material | Monocrystalline Silicon |
| Maximum Power (per panel) | 100 Watts |
| Maximum Voltage | 12 Volts |
| Amperage Capacity | 5.78 Amps |
| Product Dimensions (L x W x H, per panel) | 39.7" x 20.1" x 1.4" |
| Item Weight (per panel) | 18.96 Pounds |
| Connector Type | Quick Connectors |
| UPC | 765525835413 |

WARRANTY INFORMATION

ECO-WORTHY provides a transferable power output warranty for these solar panels:

- **5-year:** 95% efficiency rate
- **10-year:** 90% efficiency rate
- **25-year:** 80% efficiency rate

For detailed terms and conditions of the warranty, please refer to the official ECO-WORTHY warranty document or contact customer support.

CUSTOMER SUPPORT

For technical assistance, warranty claims, or any questions regarding your ECO-WORTHY solar panel kit, please contact our customer support team.

Please visit the official ECO-WORTHY website for contact information and additional resources.

Website: www.eco-worthy.com