

## Offgridtec 002960

# Offgridtec 5W Mono 12V Solar Panel User Manual

Model: 002960

## INTRODUCTION

Welcome to the user manual for your Offgridtec 5W Mono 12V Solar Panel. This manual provides essential information for the safe and efficient installation, operation, and maintenance of your solar panel. Please read this manual thoroughly before using the product.

## SAFETY INSTRUCTIONS

### General Safety Guidelines

- Handle the solar panel with care. Avoid dropping or subjecting it to strong impacts.
- Do not attempt to disassemble or modify the solar panel. This can void the warranty and pose safety risks.
- Ensure all electrical connections are secure and properly insulated to prevent short circuits or electric shock.
- Wear appropriate personal protective equipment (PPE) when handling and installing the panel, including gloves and eye protection.
- Do not step on the solar panel.
- Keep the solar panel away from flammable materials and sources of ignition.
- In case of damage, disconnect the panel immediately and contact customer support.

## PRODUCT OVERVIEW

### Key Features

- **High Efficiency Monocrystalline Cells:** Over 22.3% efficiency, optimized for 12V systems.
- **Durable Construction:** Features an anodized aluminum frame and extremely resistant ESG solar glass for protection against environmental conditions.
- **Integrated Bypass Diodes:** Ensures continuous power production even in shaded or low-light conditions.
- **Versatile Applications:** Suitable for 12V solar systems in garden houses, mobile applications like RVs, boats, and for powering lighting or monitoring systems.
- **Wide Temperature Range:** Operates effectively from -40 °C to +85 °C.

### Components

The Offgridtec 5W Mono 12V Solar Panel typically includes:

- Monocrystalline Solar Panel
- Junction Box with 2 cable entries and PEG screw connection
- Anodized Aluminum Frame
- Pre-installed connection cables (may vary by package)

## Besondere **MERKMALE**



**Einzigartig in dieser Leistungsklasse**

Anschlussdose mit 2 Kabeleingängen und PEG Verschraubung

Kompatibel mit 12 V-Gleichstromsystemen

Hochleistungs ESG Solarglas

Integrierte Bypass Dioden

Bewährte Technik von Offgridtec

Maximale Systemspannung 600 V DC

Robuster Rahmen aus eloxiertem Aluminium



This image illustrates the key features of the solar panel, including the unique junction box with two cable entries, compatibility with 12V DC systems, high-performance ESG solar glass, integrated bypass diodes, a maximum system voltage of 600V DC, proven Offgridtec technology, and a robust anodized aluminum frame.



This image highlights the core specifications of the ACM156 monocrystalline solar panel, emphasizing its 22.3% efficiency, 12V/5W output, heat resistance, and fast energy flow.

## SETUP

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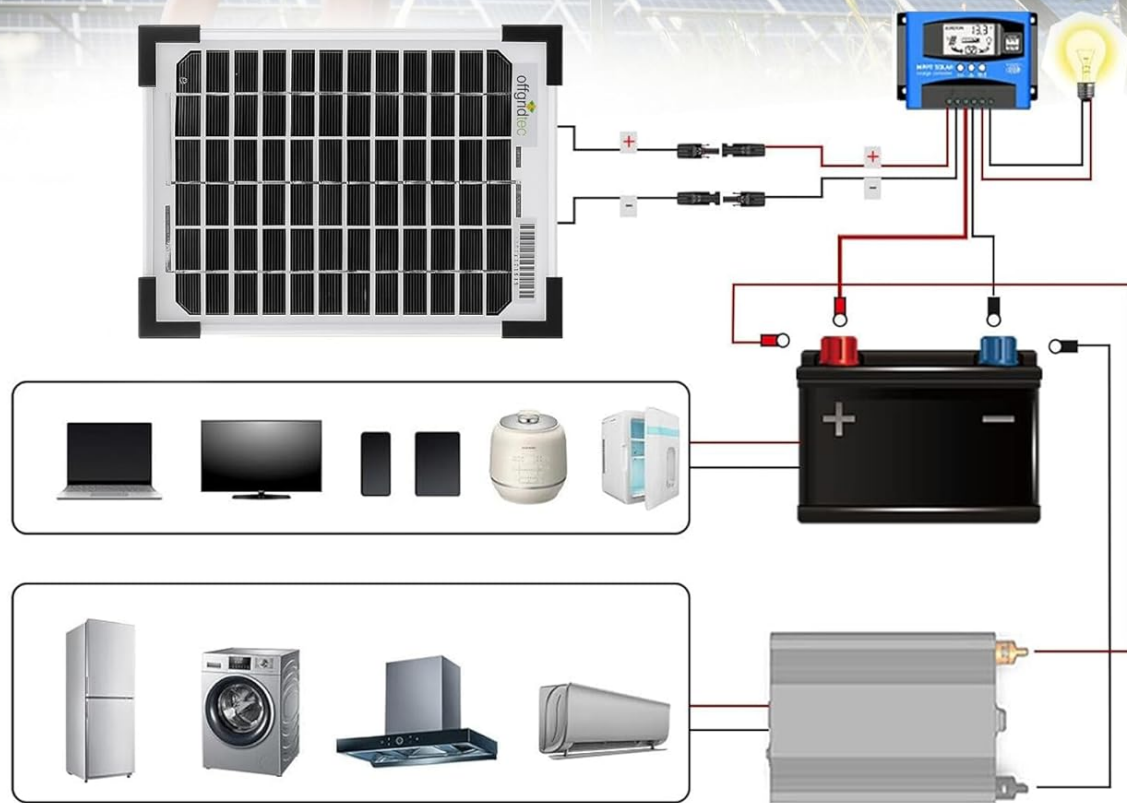
### Installation Guidelines

Proper installation is crucial for optimal performance and safety.

- 1. Choose a Location:** Select a location that receives maximum direct sunlight throughout the day, free from shadows. Consider the angle and orientation for your specific latitude.
- 2. Mounting:** Securely mount the solar panel using appropriate mounting hardware (not included). Ensure the mounting structure is robust enough to withstand wind and other environmental factors. The anodized aluminum frame provides sturdy attachment points.
- 3. Electrical Connections:**
  - Connect the positive (+) and negative (-) terminals of the solar panel to a compatible charge controller.
  - Ensure correct polarity to prevent damage to the panel or connected devices.
  - Use appropriate gauge wiring for your system to minimize power loss.
  - The integrated junction box facilitates secure cable connections.
- 4. System Integration:** Connect the charge controller to your 12V battery bank. Ensure the battery is suitable for solar charging.
- 5. Testing:** After installation, verify all connections are secure and test the system to ensure proper charging.

Ideal für das effiziente Laden von 12-V-Batterien

Höhere Effizienz als polykristalline Module



This diagram illustrates a typical 12V solar system setup, showing the solar panel connected to a charge controller, which then charges a 12V battery. The battery powers various DC devices directly and AC appliances through an inverter.



# RV Motorhome

## Mehrzweck Verwendung



Yacht



Haus



Camping

This image showcases the versatile applications of the Offgridtec solar panel, including installations on RV motorhomes, yachts, residential homes, and portable setups for camping.

## OPERATING

### Daily Operation

Once installed, the Offgridtec 5W Mono 12V Solar Panel operates automatically, converting sunlight into electrical energy.

- **Sunlight Exposure:** Ensure the panel is exposed to direct sunlight for maximum power generation.
- **Charge Controller:** The charge controller will regulate the voltage and current from the solar panel to safely charge your 12V battery and protect it from overcharging or deep discharge.
- **Bypass Diodes:** The integrated bypass diodes help maintain power output even if a portion of the panel is shaded, ensuring consistent performance.



# Breiter Temperaturbereich

(-40 °C bis +85 °C)



This image demonstrates the solar panel's ability to operate across a wide temperature range, from -40 °C to +85 °C, making it suitable for diverse outdoor environments.

## MAINTENANCE

### Care and Cleaning

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

- **Cleaning:** Periodically clean the surface of the solar panel with a soft cloth and mild, non-abrasive cleaner to remove dust, dirt, and debris. Avoid harsh chemicals or abrasive materials that could scratch the glass.
- **Inspection:** Regularly inspect the panel for any physical damage, such as cracks in the glass or frame, or loose connections.
- **Shading:** Ensure no new obstructions (e.g., growing trees, new structures) are casting shadows on the panel.
- **Connections:** Check electrical connections for corrosion or looseness. Tighten if necessary.

## TROUBLESHOOTING

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## Common Issues and Solutions

| Problem              | Possible Cause  | Solution   |
|----------------------|---|--|
| No power output      | No sunlight, shaded panel, loose connections, faulty charge controller, damaged panel | Ensure direct sunlight, clear obstructions, check and tighten all connections, test charge controller, inspect panel for damage.                     |
| Low power output     | Partial shading, dirty panel surface, incorrect panel angle, low light conditions     | Clear any shading, clean the panel surface, adjust panel angle for optimal sun exposure, note that output will naturally be lower in cloudy weather. |
| Battery not charging | Faulty charge controller, incorrect wiring, battery issues, insufficient solar input  | Verify charge controller operation, check wiring polarity and connections, test battery health, ensure adequate sunlight on the panel.               |

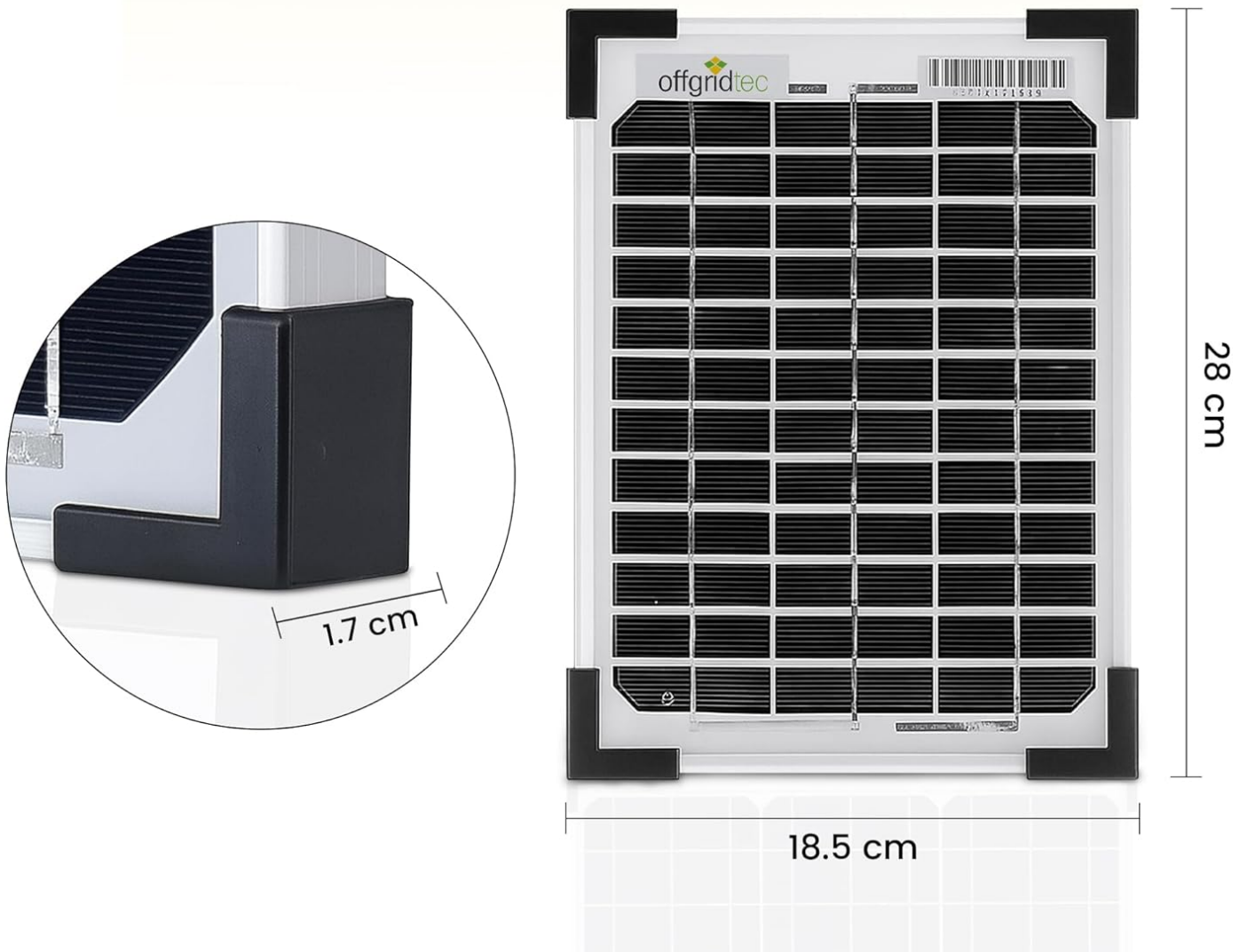
If you encounter issues not listed here or require further assistance, please contact Offgridtec customer support.

## SPECIFICATIONS

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### Technical Data

# Produktabmessungen



This image provides the physical dimensions of the solar panel, measuring 28 cm in length, 18.5 cm in width, and 1.7 cm in thickness.

| Feature           | Value   |
|-------------------|---|
| Model             | 002960  |
| Power (Watt)      | 5 W   |
| Material          | Monocrystalline Silicon                                 |
| Operating Voltage | 12 V (optimized for 12V systems, 20V operating voltage) |
| Maximum Voltage   | 17.8 V  |



| Feature                | Value  |
|------------------------|--|
| Efficiency             | Over 22.3%   |
| Dimensions (L x W x H) | 28 x 18.5 x 1.7 cm   |
| Weight                 | 600 g  |
| Special Features       | Highly efficient monocrystalline solar cells, optimized for 12V systems, extremely resistant ESG glass, anodized aluminum frame, integrated bypass diodes. |

## WARRANTY

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### Product Warranty Information

Offgridtec products are manufactured to high-quality standards. For specific warranty terms and conditions, please refer to the warranty documentation included with your purchase or visit the official Offgridtec website. Keep your proof of purchase for warranty claims.

## SUPPORT

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### Customer Support

If you have any questions, require technical assistance, or need to report an issue with your Offgridtec 5W Mono 12V Solar Panel, please contact Offgridtec customer support.

**Contact Information:**

- **Website:** [www.offgridtec.com](http://www.offgridtec.com)
- **Email:** Refer to the official website for contact details.
- **Phone:** Refer to the official website for contact details.

Please have your model number (002960) and purchase date ready when contacting support.