ACOPOWER HY-12M-3x40W

ACOPOWER 120W Portable Solar Panel Instruction Manual

Model: HY-12M-3x40W

INTRODUCTION

The ACOPOWER 120W Portable Solar Panel is a foldable, high-efficiency solar solution designed for various outdoor and off-grid power needs. Composed of three 40W monocrystalline solar panels, it offers a compact and lightweight design for easy transport and setup. This manual provides essential information for the proper setup, operation, maintenance, and troubleshooting of your solar panel.

The ACOPOWER 120W Portable Solar Panel shown in both its compact, folded state and its expanded, ready-to-use configuration.
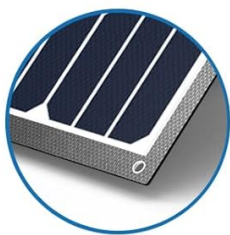
SETUP

Setting up your ACOPOWER portable solar panel is straightforward. Follow these steps for optimal performance:

1. **Unfold the Panel:** Carefully unfold the solar panel from its compact, suitcase-like form. Ensure all three sections are fully extended.

2. **Position for Sunlight:** Place the unfolded panel in a location with direct, unobstructed sunlight. Avoid shaded areas as they can significantly reduce efficiency.

3. **Adjust Kickstands:** Utilize the integrated adjustable kickstands on the back of the panel to angle it directly towards the sun. Adjusting the angle helps maximize solar energy absorption throughout the day.

4. **Secure the Panel (Optional):** For windy conditions or long-term deployment, use the integrated grommets on the panel's edges to secure it with ropes or stakes.

5. **Connect Devices:** Open the accessory pouch on the back of the panel. Retrieve the MC4 cable and connect it to your compatible power station, portable generator, or devices using the appropriate adapters.

A user setting up the portable solar panel, demonstrating the adjustable kickstands and the panel's waterproof design.

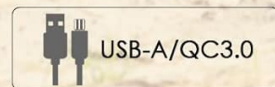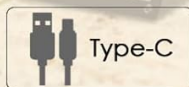Detailed view of the easy setup process for the solar panel.

OPERATING

Once set up, the ACOPOWER solar panel begins converting sunlight into electricity. It features multiple output ports for versatile charging:

- **DC Port:** Connect to compatible power stations or devices requiring DC input. The long MC4 cable provides flexibility in placing your power station away from direct sunlight.

- **Type-C Output:** Directly charge Type-C enabled laptops, tablets, and smartphones.

- **USB-A/QC 3.0 Output:** Fast charge a wide range of USB-A compatible devices, including smartphones and other portable electronics.

The panel is equipped with SunPower monocrystalline solar cells, offering up to 23% high conversion efficiency, ensuring effective power generation even in less than ideal conditions.

Wide Compatibility

DC Port | **Type-C** | **USB-A/QC3.0**

The solar panel connected to and charging a variety of electronic devices, including power stations, laptops, and mobile phones.

Fishing | **Travel** | **Camping** | **Home**

Illustration of the wide compatibility with multiple devices, showcasing different connector types like 8mm, 5.5*2.1mm, 3.5*1.35mm, 5.5*2.5mm, Type-C, and USB-A.

Visual representation of the three output methods: Type-C, USB-A, and DC.

MAINTENANCE

To ensure the longevity and optimal performance of your ACOPOWER solar panel, follow these maintenance guidelines:

- **Cleaning:** Regularly wipe the surface of the solar panels with a soft, damp cloth to remove dust, dirt, or debris. Avoid abrasive materials or harsh chemicals that could scratch the surface.

- **Storage:** When not in use, fold the panel neatly and store it in a dry, cool place away from direct sunlight and extreme temperatures. The integrated handle and velcro straps make storage convenient.

- **Inspection:** Periodically inspect the cables, connectors, and the panel's fabric for any signs of wear, damage, or corrosion. Ensure all connections are secure.

- **Waterproof Design:** The panel features an IP65 waterproof rating, making it resistant to splashes and light rain. However, avoid submerging the panel in water or exposing it to heavy downpours for extended periods.

The panel's durable and waterproof construction allows for use in various weather conditions, such as light rain.

TROUBLESHOOTING

If you encounter issues with your ACOPOWER solar panel, consider the following common troubleshooting steps:

- **No Power Output:**

  - Ensure the panel is in direct sunlight and not shaded by trees, buildings, or other objects.
  - Check all cable connections to ensure they are secure and properly inserted.
  - Verify that your connected device or power station is compatible with the panel's output specifications.
  - Inspect cables for any visible damage or kinks.

- **Low Power Output:**

- Adjust the panel's angle using the kickstands to face the sun directly. The sun's position changes throughout the day.
- Clean the panel surface to remove any dirt, dust, or debris that might be blocking sunlight.
- Cloudy or overcast conditions will naturally reduce power output.
- Ensure the ambient temperature is within the optimal operating range for solar panels.

- **Device Not Charging:**

  - Confirm that your device is turned on and ready to receive a charge.
  - Some devices may require specific charging protocols or adapters not directly supported by the panel.
  - The panel includes built-in protection functions (Short Circuit Protection, Surge Protection, Overload Protection) to prevent damage. If these are triggered, disconnect and reconnect the device.

Equipped with Protection Function

Short Circuit Protection

Surge protection

Overload protection

The panel is equipped with multiple protection functions to ensure safe operation for both the panel and connected devices.

Certifications (FC, RoHS, CE) and protection features ensure the panel's safety and reliability.

SPECIFICATIONS

Feature	Specification
Brand	ACOPOWER
Model Number	HY-12M-3x40W
Peak Power (Pmax)	3x40Wp (120W total)
Cell Type	Monocrystalline Silicon
Power Tolerance Range	±3%
Open Circuit Voltage (Voc)	23.70V
Max. Power Voltage (Vmp)	19.80V
Short Circuit Current (Isc)	3x2.22A
Max. Power Current (Imp)	3x2.02A
Maximum System Voltage	1000V DC
Product Dimensions (L x W x H)	56.7"L x 22"W x 22"H (Unfolded)
Item Weight	3.5 pounds (56 Ounces)
Efficiency	High Efficiency (up to 23% conversion rate)
Connector Type	USB, Type-C, DC
Waterproof Rating	IP65

Detailed diagram showing the excellent material layers of the solar panel, including ETFE, EVA, SUNPOWER cells, and Glass Epoxy Board.

Visual representation of the high efficiency with a 23% conversion rate, indicating strong power generation.

WARRANTY & SUPPORT

For warranty information, technical support, or any inquiries regarding your ACOPOWER 120W Portable Solar Panel, please refer to the official ACOPOWER website or contact their customer service directly. You can also find additional resources and FAQs on their brand store page on Amazon.

- Visit the ACOPOWER Store on Amazon
- Download User Manual (PDF)