sourcing map a17052600ux1645

sourcing map 4.5V 130mA Poly Mini Solar Cell Panel Module Instruction Manual

Model: a17052600ux1645

1. Introduction

This manual provides essential information for the proper installation, operation, and maintenance of your sourcing map 4.5V 130mA Poly Mini Solar Cell Panel Modules. These panels are designed for various low-power applications, including charging small devices, home lighting, science projects, and small solar power systems. Please read this manual thoroughly before use to ensure optimal performance and longevity of the product.

2. Safety Information

- Do not attempt to disassemble or modify the solar panels.
- Avoid direct contact with the exposed electrical terminals to prevent electric shock.
- Ensure proper polarity when connecting the panels to devices or other components. Incorrect connections can damage the panels or connected equipment.
- Keep the panels away from flammable materials and extreme heat sources.
- Handle the panels with care to avoid physical damage to the polycrystalline silicon surface.

3. Product Overview

The sourcing map Poly Mini Solar Cell Panel Module is a compact and efficient power source designed for small-scale solar applications. Each module provides a rated voltage of 4.5V and a current of 130mA under optimal sunlight conditions. The panels are constructed from polycrystalline silicon, offering good performance even in less ideal lighting.

Figure 3.1: A set of five sourcing map 4.5V 130mA Poly Mini Solar Cell Panels. These panels are designed for various DIY and low-power applications.

Figure 3.2: Front (solar cell side) and back (circuit board side) of a single solar panel. The back shows the positive (+) and negative (-) terminals for connection.

Figure 3.3: Dimensions of the solar panel, measuring 44mm in width and 121mm in length. The thickness is approximately 1.6mm.

4. Setup

Proper setup is crucial for maximizing the efficiency of your solar panels. Consider the following steps for installation and connection:

4.1 Placement

- Choose a location that receives maximum direct sunlight throughout the day, free from shadows cast by buildings, trees, or other obstructions.
- Orient the panel to face the sun directly. In the Northern Hemisphere, this typically means facing south; in the Southern Hemisphere, facing north. Adjust the tilt angle for optimal seasonal performance.

4.2 Electrical Connections

The panels can be connected in parallel or series depending on the voltage and current requirements of your application.

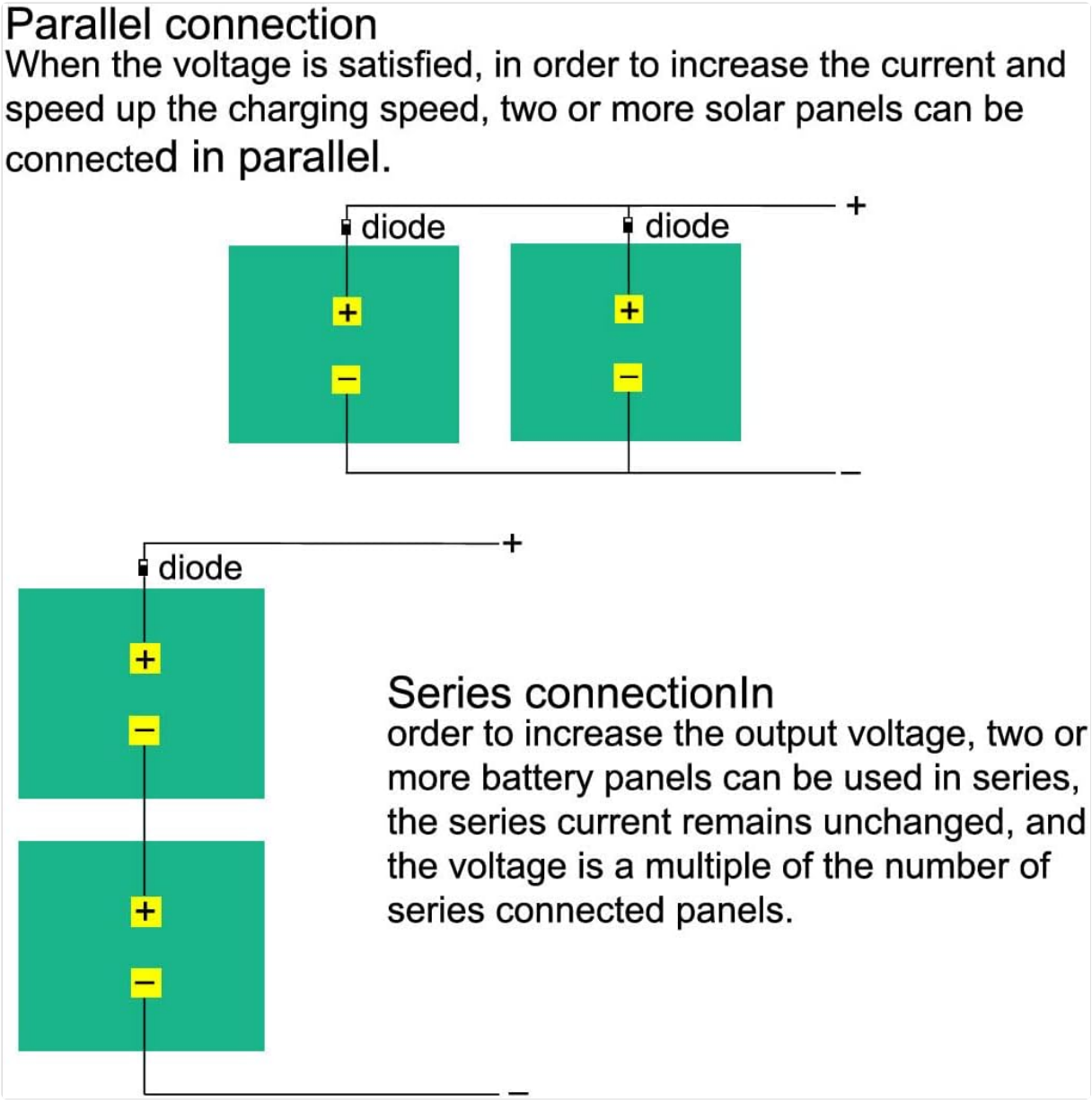

Figure 4.1: Diagrams showing how to connect solar panels in parallel (top) and series (bottom). Diodes are indicated for protection.

4.2.1 Parallel Connection

When the required voltage matches the individual panel's voltage (4.5V), but a higher current is needed, connect two or more solar panels in parallel. Connect all positive (+) terminals together and all negative (-) terminals together. This increases the total current output while maintaining the voltage.

4.2.2 Series Connection

To increase the total output voltage, connect two or more solar panels in series. Connect the positive (+) terminal of one panel to the negative (-) terminal of the next panel. This configuration increases the total

voltage output, while the current remains the same as a single panel.
Always ensure secure and insulated connections to prevent short circuits or damage.

5. Operating Instructions

Once installed, the solar panels will convert sunlight into electrical energy. For optimal operation:

- Ensure the panels are exposed to direct sunlight during daylight hours.
- Monitor the performance periodically, especially if connected to a battery charging system, to ensure efficient energy conversion.
- Avoid shading any part of the panel, as even partial shading can significantly reduce output.

6. Maintenance

Regular maintenance helps ensure the longevity and efficiency of your solar panels.

- **Cleaning:** Periodically clean the surface of the solar panels with a soft, damp cloth to remove dust, dirt, and debris. Avoid abrasive cleaners or harsh chemicals that could scratch the surface.
- **Inspection:** Regularly inspect the panels for any physical damage, such as cracks or delamination. Check electrical connections for corrosion or loose wiring.
- **Environmental Factors:** Ensure the panels are not covered by snow, leaves, or other obstructions, especially during seasonal changes.

7. Troubleshooting

If your solar panels are not performing as expected, consider the following common issues and solutions:

Problem	Possible Cause	Solution
Low or no power output	Insufficient sunlight, shading, dirty panel surface, incorrect wiring, damaged panel.	Relocate panel to direct sunlight, remove obstructions, clean surface, check wiring polarity and connections, inspect for physical damage.
Panel not charging device	Device requires higher voltage/current, faulty device, incompatible charging circuit.	Verify device's power requirements match panel output (or combined output for multiple panels). Test device with another power source. Ensure a suitable charge controller is used if charging batteries.
Physical damage to panel	Impact, improper handling, environmental stress.	Replace damaged panel. Handle with care during installation and maintenance.

8. Specifications

Detailed technical specifications for the sourcing map 4.5V 130mA Poly Mini Solar Cell Panel Module:

Specification	Value
Product Name	Solar Panel

Specification	Value
Brand	sourcing map
Material	Polycrystalline Silicon
Rated Voltage	4.5V
Rated Current	130mA
Dimensions (L x W x H)	121mm x 44mm x 1.6mm (4.72" x 1.72" x 0.06")
Item Weight	88 Grams (approx. 3.1 ounces)
Efficiency	High Efficiency
Model Number	a17052600ux1645
UPC	605322519126
Item Package Quantity	5 (for the listed product)

9. Warranty and Support

For warranty information and customer support, please refer to the purchase documentation or contact the retailer/manufacturer directly. Keep your proof of purchase for any warranty claims.