

FlexSolar FLS-2xTC60-US

FlexSolar 120W N Type Solar Panel 2 Pack (Model FLS-2xTC60-US) Instruction Manual

INTRODUCTION

Thank you for choosing the FlexSolar 120W N Type Solar Panel 2 Pack. This manual provides essential information for the safe and efficient setup, operation, and maintenance of your solar panels. Please read it thoroughly before use and retain it for future reference.

PRODUCT OVERVIEW

The FlexSolar 120W N Type Solar Panel 2 Pack (2*TC-60W) is designed for portable power generation, ideal for camping, RVs, marine use, and off-grid systems. Each panel delivers 60W, totaling 120W when connected in parallel. Key features include:

- **Superior N-Type Technology:** Achieves 25% conversion efficiency with lower light-induced degradation for sustained performance.
- **Ultra-Light & Compact Design:** Each panel weighs only 2.2 lbs, making them highly portable and easy to store.
- **Rugged Durability & IP67 Protection:** Built with 16-Busbar architecture for enhanced durability and IP67 water/dust resistance, ensuring reliable operation in harsh outdoor environments.
- **Half-Cut Cell & Shade Tolerance:** Reduces power loss and minimizes hotspot risk, maintaining stable charging efficiency even under partial shading.
- **Versatile Power Compatibility:** Designed to charge a wide range of power stations, outdoor generators, and marine electronics. *Note: A solar controller is required for direct charging of smartphones and other small electronics.*

WHAT YOU GET

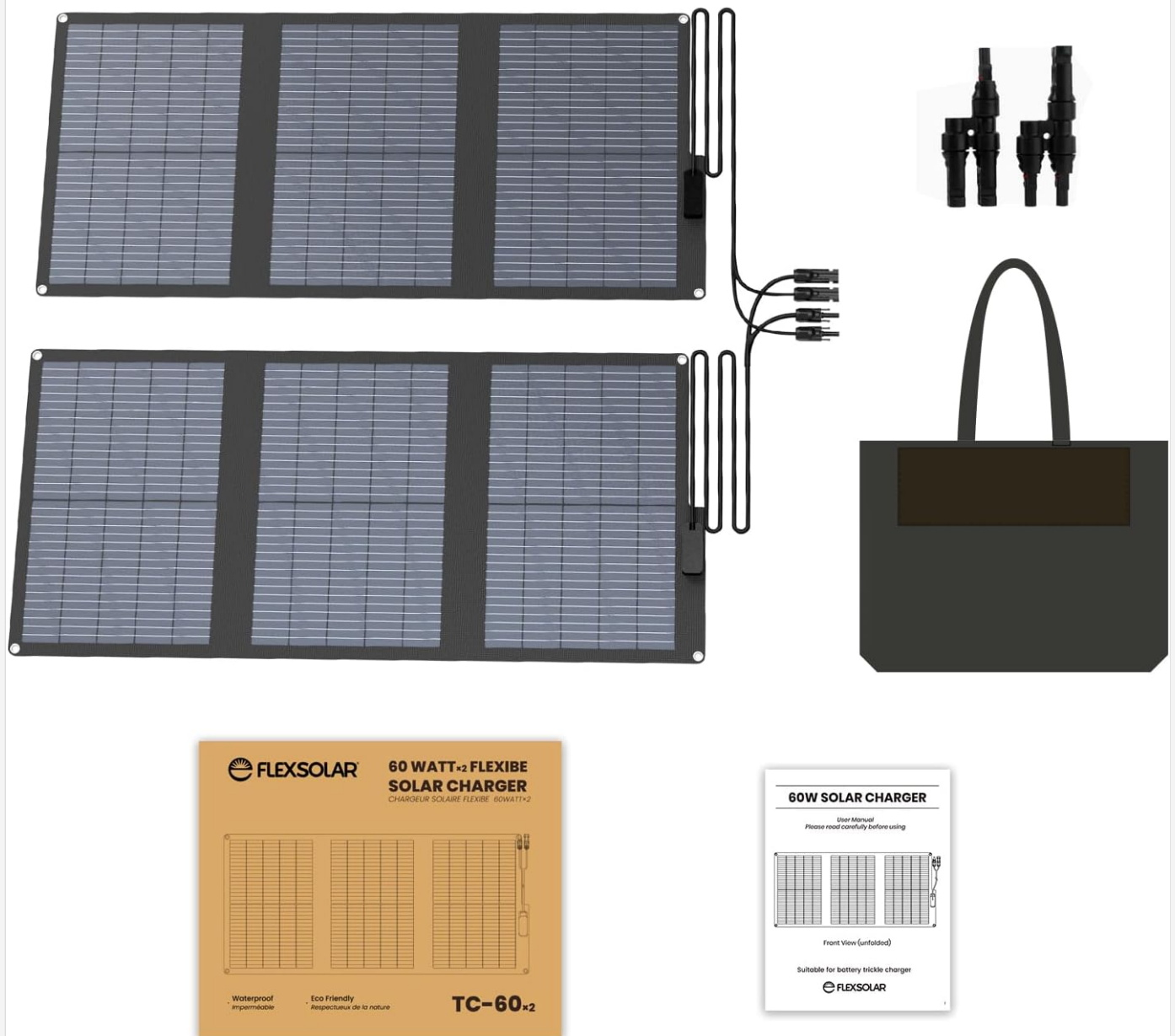


Figure 1: What's Included. The package contains two 60W solar panels, necessary connection cables (splitters for MC4 connectors), and a carrying bag.

Smaller, Stronger, More Efficient

The Evolution from PERC to N-Type Technology

N-Type Solar Cells

Higher Efficiency & Power Output

Lower light-induced degradation for sustained performance

Half-Cut Cell Design

Reduced Power Loss & Enhanced Shade Tolerance

Minimizes hotspot risk by splitting current paths

16-Busbar Architecture

Superior Durability & 30+ Year Lifespan

Thinner ribbons reduce stress, increasing cell resilience

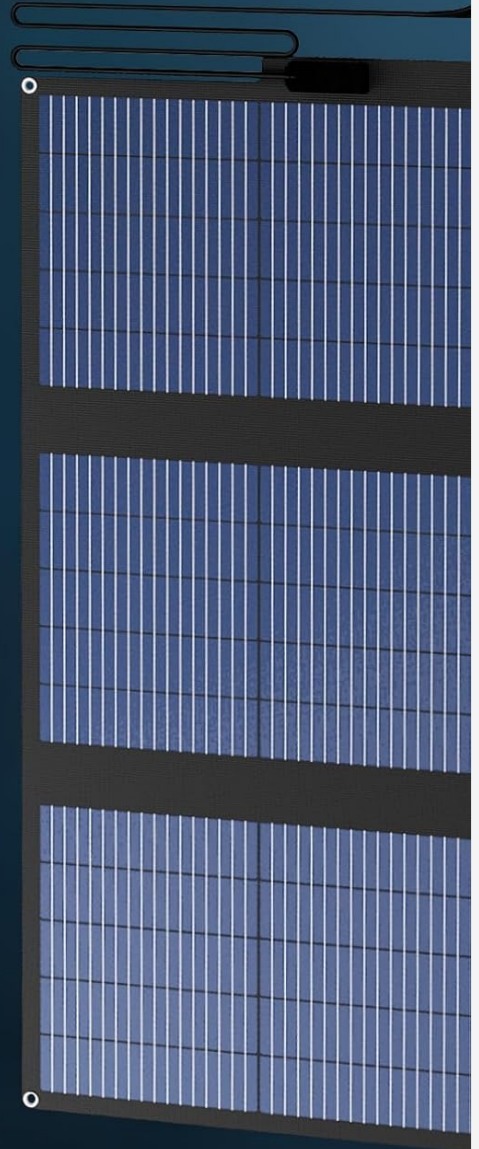


Figure 2: Advanced Solar Technology. This image highlights the N-Type Solar Cells for higher efficiency, Half-Cut Cell Design for reduced power loss, and 16-Busbar Architecture for superior durability.

SETUP INSTRUCTIONS

1. **Unpack the Panels:** Carefully remove the two 60W solar panels and accessories from the packaging.
2. **Unfold the Panels:** Each panel folds into three sections. Gently unfold both panels completely.
3. **Positioning:** Place the solar panels in a location with direct sunlight, free from shadows. For optimal performance, orient the panels towards the sun.
4. **Connect in Parallel:** Use the provided splitter cables to connect the two 60W panels in parallel. This combines their current while maintaining the voltage, resulting in a total output of 120W.
5. **Connect to Power Station/Generator:** Connect the combined output cable from the solar panels to the solar input port of your compatible power station or portable generator. Ensure the connection is secure.
6. **For Small Electronics (e.g., Smartphones):** If charging devices directly, a separate solar charge controller is

required to regulate voltage and prevent damage. Connect the panels to the controller, and then the controller to your device.

2-Piece 60W Parallel-Connected Solar Panels, Effortlessly Powering Needs



Figure 3: Deployment Example. The two 60W solar panels are shown deployed and connected in parallel on a boat deck, ready to capture sunlight.

OPERATING INSTRUCTIONS

Once set up, your FlexSolar panels will begin converting sunlight into electricity. Follow these guidelines for optimal operation:

- **Sunlight Exposure:** Maximize direct sunlight exposure. Adjust the panel's angle throughout the day to follow the sun's path for peak performance.
- **Shade Tolerance:** The half-cut cell design provides improved shade tolerance. However, significant shading on any part of the panel will reduce overall output. Try to keep the panels fully exposed to sunlight.
- **Monitoring Charge:** Most power stations or generators will display the incoming wattage. Monitor this to ensure proper charging.

- **Charging Time:** Charging times vary based on sunlight intensity, connected device capacity, and the power station's efficiency. The 120W output can provide a fast full-charge capability for many power stations within 1.7 to 2.2 hours under ideal conditions.

2-Piece 60W Set Effortlessly Powers Various Power Station Types

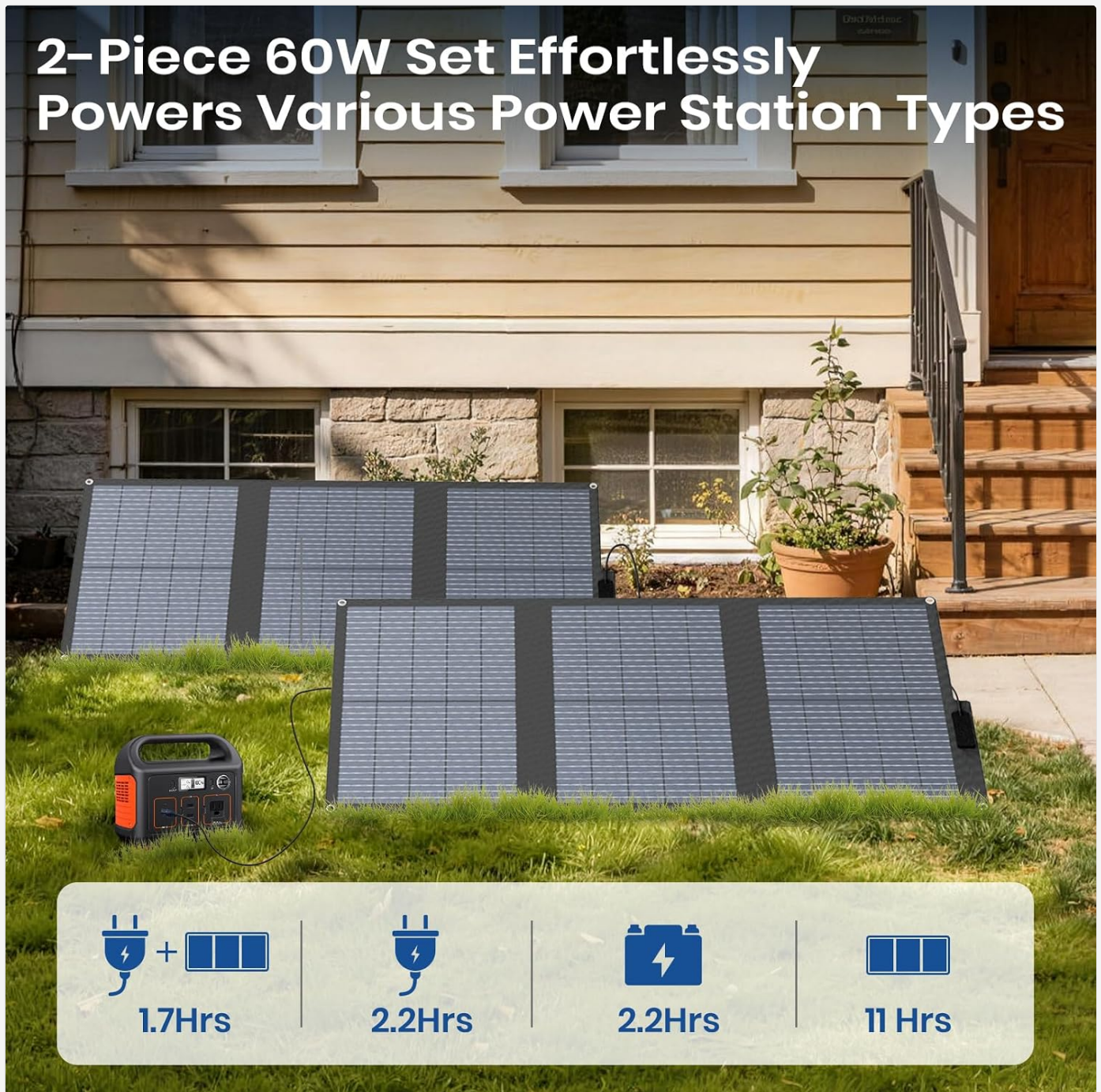


Figure 4: Charging in Action. Two 60W solar panels are shown deployed in a garden, connected to and charging a portable power station, illustrating typical usage.

MAINTENANCE

Proper maintenance ensures the longevity and efficiency of your solar panels:

- **Cleaning:** Regularly clean the surface of the solar panels with a soft, damp cloth to remove dust, dirt, and debris. Avoid abrasive materials or harsh chemicals that could scratch the surface. Ensure panels are dry before folding or storing.
- **Inspection:** Periodically inspect the panels and cables for any signs of damage, wear, or loose connections.
- **Storage:** When not in use, fold the panels and store them in the provided carrying bag in a cool, dry place, away

from direct sunlight and extreme temperatures.

- **Durability:** The IP67 rating means the panels are protected against dust ingress and immersion in water up to 1 meter for 30 minutes. While durable, avoid prolonged submersion or exposure to extreme weather conditions when possible.

TROUBLESHOOTING

If you encounter issues with your solar panels, refer to the following common solutions:

- **No Power Output:**
 - Ensure panels are in direct sunlight and not shaded.
 - Check all cable connections for security and proper insertion.
 - Verify the power station or generator is turned on and configured for solar input.
 - Inspect cables for visible damage.
- **Low Power Output:**
 - Clean the panel surfaces to remove any dirt or dust accumulation.
 - Adjust the panel angle to face the sun directly.
 - Ensure no partial shading is occurring (e.g., from trees, buildings).
 - Cloudy weather will naturally reduce output.
- **Device Not Charging (for direct connection):**
 - Confirm you are using a solar charge controller for direct charging of small electronics.
 - Check the compatibility of your device with the solar charge controller.

If problems persist after following these steps, please contact FlexSolar customer support.

SPECIFICATIONS

Max Power, Min Bulk vs. PERC 60W:

7.5%  **Smaller**

11.7%  **Lighter**

Better wind resistance, durability, & vibration handling.

**2.2
lbs**

Only 2.2lbs(1KG)/
Single weight

Expanded dimensions:
34.25*15.75*0.63in

Folded dimensions:
12.20 * 15.75 * 0.98 inches



Figure 5: Physical Dimensions. This image illustrates the expanded dimensions (34.25" x 15.75" x 0.63") and folded dimensions (12.20" x 15.75" x 0.98") of a single 60W panel, highlighting its compact and lightweight nature (2.2 lbs).

FlexSolar 120W N Type Solar Panel (FLS-2xTC60-US)

Feature	Specification
Brand	FlexSolar
Model Number	FLS-2xTC60-US
Material	Monocrystalline Silicon
Maximum Power (per panel)	60 Watts
Total Maximum Power (2 panels)	120 Watts
Efficiency	Up to 25% energy conversion

Feature	Specification
Product Dimensions (Expanded, per panel)	34.25"L x 15.75"W x 0.63"H
Product Dimensions (Folded, per panel)	12.20"L x 15.75"W x 0.98"H
Item Weight (per panel)	2.2 lbs (1 kg)
IP Rating	IP67 (Water/Dust Resistance)
Included Components	2*60W solar panels, connection cables, carrying bag

Safety Information

- Do not attempt to disassemble, modify, or repair the solar panels. This may cause damage and void the warranty.
- Avoid exposing the panels to open flames or extreme heat.
- Do not step on or place heavy objects on the panels.
- Keep the panels away from sharp objects that could puncture or damage the surface.
- Ensure all connections are dry before connecting or disconnecting cables.
- Always handle the panels with care to prevent physical damage.

Warranty and Support

FlexSolar products are designed for reliability and performance. For warranty information, technical support, or any questions regarding your FlexSolar 120W N Type Solar Panel 2 Pack, please contact FlexSolar customer service through the official FlexSolar store or your purchase platform.

Visit the official FlexSolar Store: [FlexSolar Store](#)

Ask a Question About This Manual

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page’s manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question