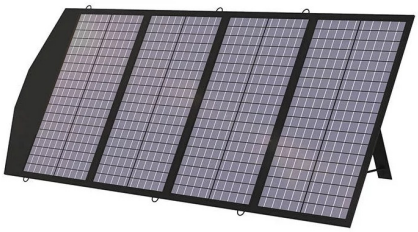
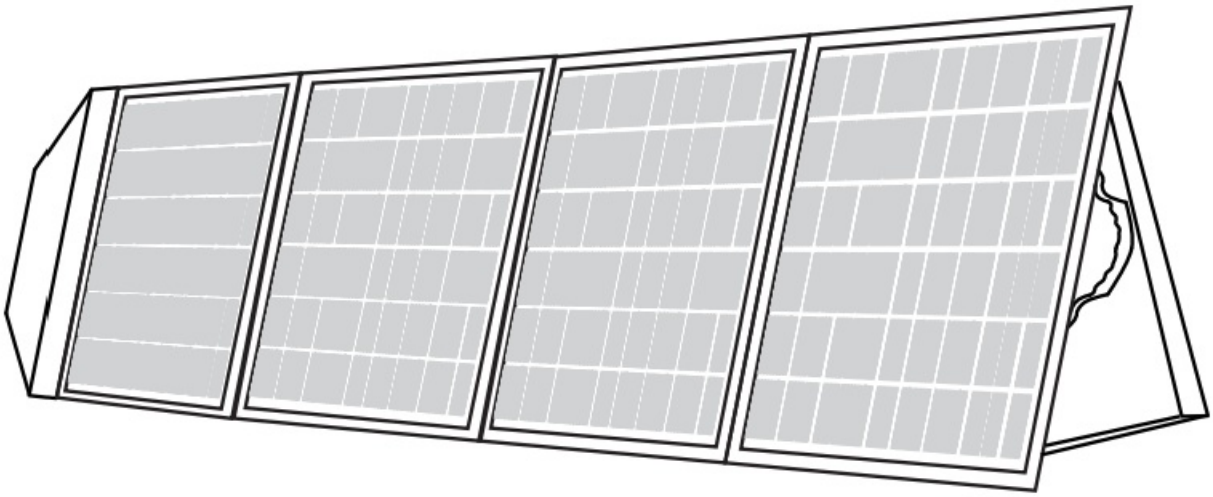


AP-SP-029 Panel Allpowers User Manual

SP-029 Panel Allpowers
User Manual



This is a fold-and-go style solar briefcase that is made for charging the most portable solar generators on the market. The efficient Solar cells belong to physical batteries which are recyclable, different from chemical ones which have a limited cycle life because of the lamination of battery material itself. Even after 5 yea, the power of solar cells still can achieve more than 80% .

Contents

Specifications

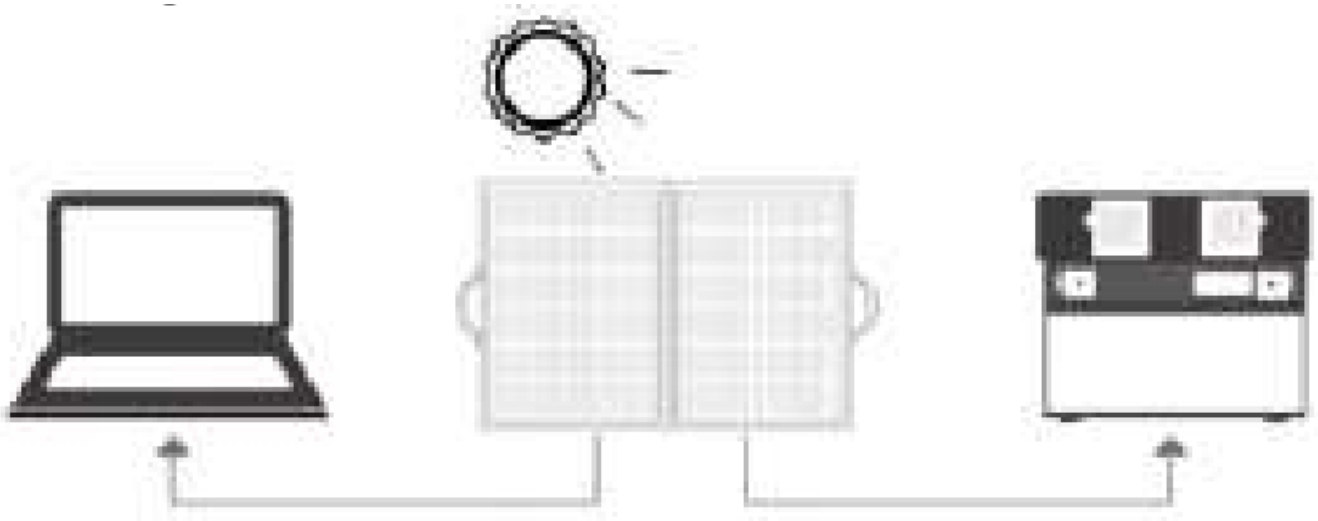
Peak Power: 120W±5%
Open Circuit Voltage (Voc): 23.5V
Short Circuit Current (Ioc): 6.7A
Maximum Power Voltage (Vmp): 19.5V
Maximum Power Current (Imp) : 6.2A
Solar energy conversion rate: 19%-22%
Operating Temperature: -20°C — 60°C
All technical data at standard test conditions (STC: E=1000W/m2 TC=25°C AM=1.5)
Unfolded Size : 158x56x1±0.5cm/62x22x0.4±0.2inch
Folded Size : 56x36x3±0.5cm/22×14.2×1.2±0.2inch
Net Weight: 4.5±0.3KG/158.0±10oz

How it works

1. Place your solar briefcase in an area where you can get the most possible sunlight and adjust the angle to the sun.

- All solar panels must be exposed to direct sunlight, and avoid any possible shelters like buildings and trees.
- Solar panels angled at 30-60 degrees from a flat surface will harvest the solar energy that is most possible.
- If your panels must adhere to another surface, you need to avoid damp or irregular surfaces as they might bring a bit of distortion after a long time of sunlight exposure. (we can rescue it after a second long time of exposure.)
- Please choose the sunny hours in the day(9:00 am to 5:00 pm)and panels operate at peak efficiency when the sun is most direct-typically around mid-day(am 12:00-1:00 pm)

2. Build a connection between the solar case and your Laptops/solar generators.



Before charging, please turn off your laptop/devices to decrease the screen’s consumption thus it can shorten the charging time.

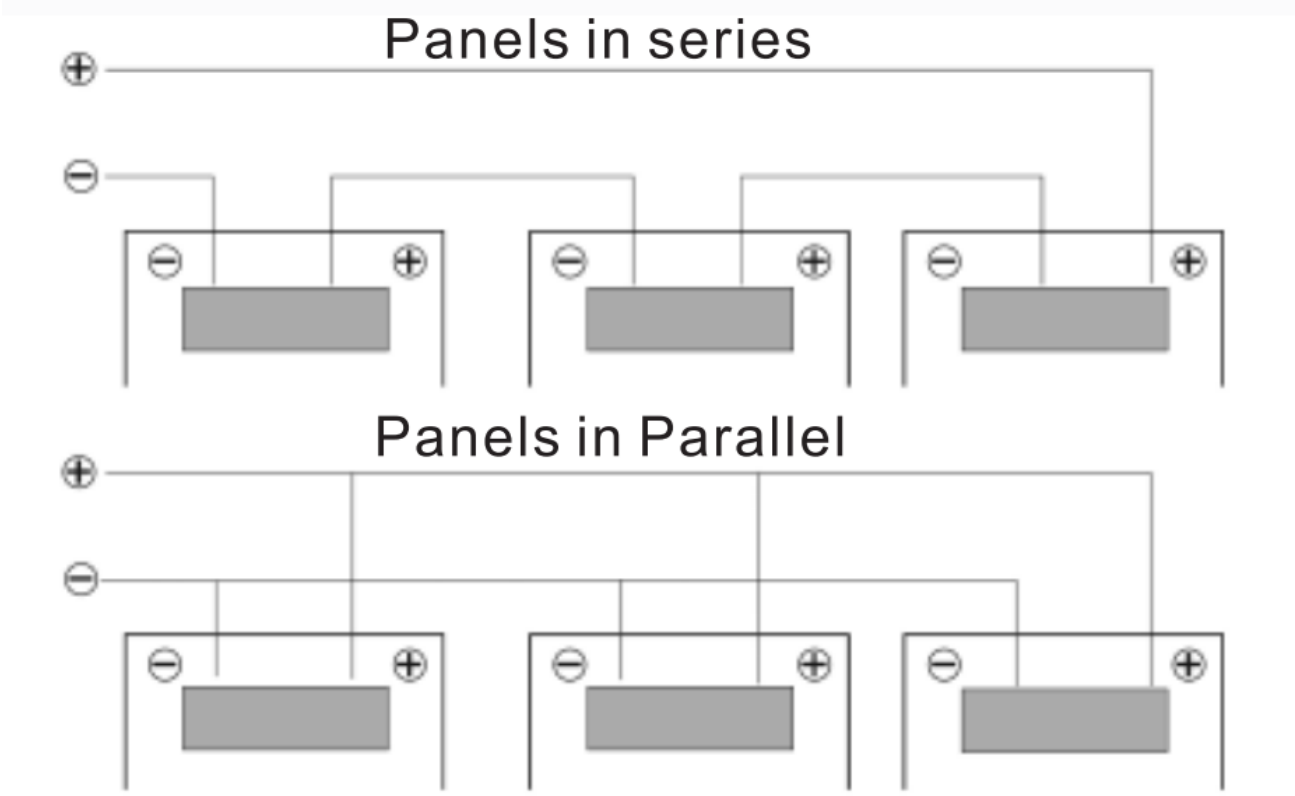
- Solar panels generate electricity when panels meet sunlight, so please protect them with clothes before you plug in a device.
- Plug in the cable to the input of your device first, then the other end of the cable goes towards the output of the solar case.
- Remove the clothes and you will find a charging sign on your laptop, if not, please build the connection again or replace another charging cable.
- If there shows up a charging sign, you can settle your device to a cool place for better heat dissipation and turn off your device to save the loss of energy during its running hours, especially for laptops.

3. How to chain multiple solar modules together

It is also designed for charging 12V/24V lead-acid batteries, including lithium and other equipment, pls do pair the charging with a solar regulator to protect the batteries system from overcharging.

- You can add more panels together with MC4 Y connectors to get the different outputs: voltages are additive when Panels are connected directly in series, and the currents are additive when panels are connected directly in parallel.
- Only panels with similar electrical output should be connected in the same string to avoid mismatch effects.
- How to build the series or parallel connection The case is equipped with two stranded, PV-rated, output MC4 cables. Wire range: 1 x 2.5mm2) The Positive connector is a male connector and the negative connector is a female connector, these wires by themselves are rated for series connections, but could be adapted to hold parallel connections with an extra MC4 branch Y connectors. Mc4 connectors(Positive to Negative, Positive to Negative)

MC4 branch Y connectors (Negative to Negative, Positive to Positive)



MC4 connectors

1. Keep connectors dry and clean, and ensure that connector caps are hand-tight before connecting the panel.
2. Do not attempt making an electrical connection with wet, soiled, or otherwise faulty connectors.
3. To better preserve its service life, please avoid sunlight exposure and water immersion of the connectors, and

avoid connectors resting on the ground or roof surface.

4. Faulty connections can result in electrical shock. Please check all electrical connections at least once every 6 months. Make sure that all locking connectors are fully fastened and locked.

Warm Tips

1. Please do not try to modify the PCB circuit inside the back junction box unless you are a professional technician, or we are not responsible for such a result.
2. Quality assurance: 3 years material and workmanship guarantee; ensure that the output power is 80% within 5 years, 50% within 10 years. There is a loss of 3% of the component's power during the period of installation.
3. The solar panel charger is built with an anti-flow resistant preventer inside, it will not occur the backflow phenomenon.

Maintenance:

1. This suitcase is mainly for emergency charging purposes, we do not suggest a long time of outdoor exposure as it may shorten the lifespan of this product.
2. Not bendable, please handle the solar panel with care, and avoid hitting it with sharp objects or knocking heavily on it.
3. If your panels must adhere to another surface, you need to avoid damp or irregular surfaces as they might bring a bit of distortion after a long time of sunlight exposure. (we can rescue it after a second long time exposure.)
4. 1t is normal that solar panels got hotter during working hours and please store them in the box after they become cool down.
5. Dirt and dust can accumulate on the surface over time, this can cause a general decrease in power output, we recommend periodic cleaning for panels with a mild, non-abrasive cleaning agent.
6. 1t is not suggested to leave it to charge any devices unguarded in vehicles, especially on hot summer days as the temperature in front of the dashboard might go up to 65-70°C.

Contact Us

Installing a solar PV system may require specialized skills and knowledge. Otherwise, it is suggested to have it designed or inquired with a qualified installer. Besides, we have 18 months warranty on our products (from the date of their original purchase), if you have any questions or problems concerning your solar system, please email us at **support@allpowers.net**, and we will offer help within 1 business day! Website: **www.allpowers.us**

ALLPOWERS

Documents / Resources

	**ALLPOWERS AP-SP-029 Panel Allpowers** [pdf] User Manual AP-SP-029 Panel Allpowers, AP-SP-029, Panel Allpowers, Allpowers Panel, Panel, Allpowers