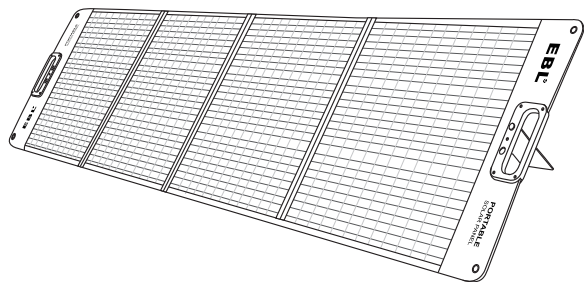


Model: ESP-200

EBL®

Portable Solar Panel



User Manual

Thanks for your purchase from EBL. For the best performance and safety purposes, please read this manual carefully before use. Please keep this manual for further reference.

Package Contents

- 1 x 200W Foldable Solar Panel
- 1 x MC-4 to 4 in 1 Solar Charge Cable (XT60/Anderson/DC 79*09mm Connector/Aviation Connector)
- 1 x User Manual

Specifications

Model	ESP-200
Solar Panel	Monocrystalline Silicon Cell
Material	1680D Oxford Fabric
Surface Treatment	ETFE
Solar Energy Conversion Rate	23%
Peak Power	200W
Output Interface	MC4
Open Circuit Voltage	23.8V
Max Load Voltage	19.8V
Max Load Current	10.1A
Operating Temperature	-20°C to 60°C
Unfolded Size	2432*536*6mm/95.75*21.1*0.23in
Folded Size	656*536*75mm/25.82*21.1*2.95in

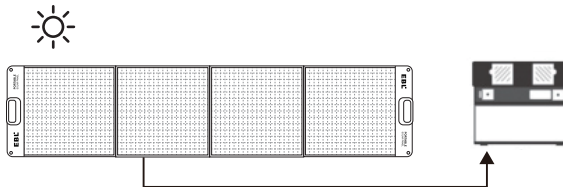
How It Works

- Place your solar panel 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 shelter 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 other surfaces, you need to avoid the 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.)
- 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 (12:00 am-1:00 pm)

2. Build a connection between the solar panel and your solar generators.



- Solar panels generate electricity when panels meet sunlight, so please protect them with a cloth 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 panel.
- Remove the cloth 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.

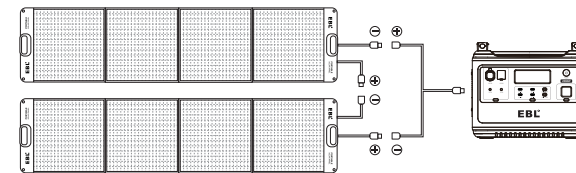
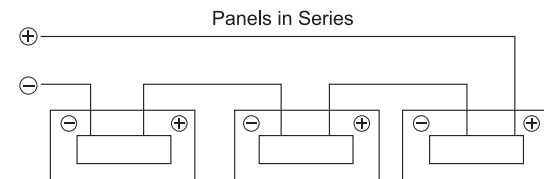
3. How to chain multiple solar panels together

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

- You can add more panels together with MC4 Y connectors to get a different output: 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 connection Every panel is equipped with One stranded, PV-rated, output MC4 cable. (Wire range: 1 x 14awg)The Positive connector is a male connector and the negative connector is a female connector, these wires by themselves are rated for] series connections. When two solar panels are used together in series, insert the MC4 male connector of the first solar panel into the MC4 female connector of the second one, and a 400 W solar panel is obtained to charge your power station.



MC4 connectors (Positive to Negative, Positive to Negative)



MC4 Connectors

- Keep connectors dry and clean, and ensure that connector caps are hand tight before connecting the panel.
- Do not attempt making an electrical connection with wet, soiled, or other faulty connectors.
- 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.
- Faulty connections will 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

- 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.
- The solar panel charger is built with an anti-flow resistant preventer inside, it will not occur the backflow phenomenon.
- 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.

Maintenance

- This solar panel 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.
- Not bendable, please handle the solar panel with care, and avoid hitting it with sharp objects or knocking heavily on it.
- It is normal that solar panels got hot during working hours and please store them in the box after they cool down.
- 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.
- Use and storage temperature conditions should be at -20°C—60°C.

Warranty

All EBL products come with a full 1-year limited warranty from the date of purchase (accessories excluded). It will be out of guarantee if damaged due to incorrect use or force majeure.
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