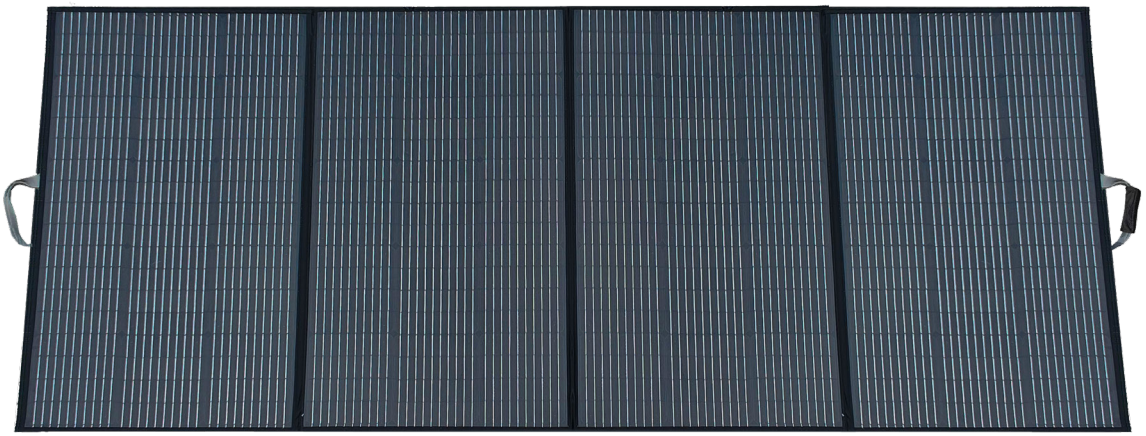
Pion Power™

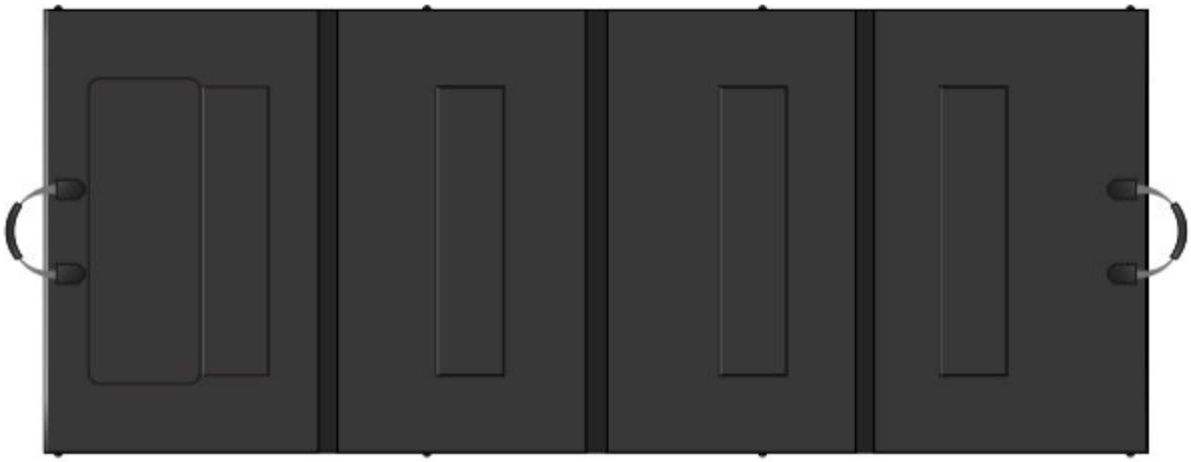


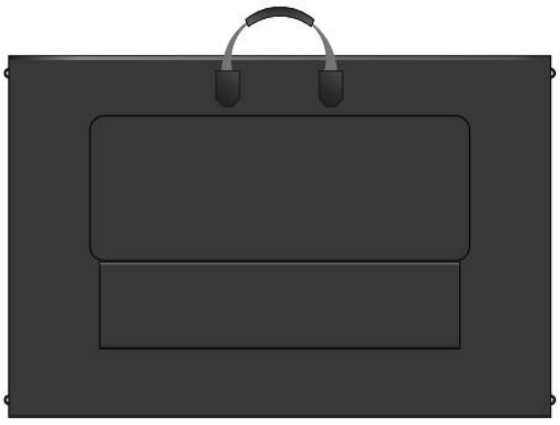
SP400W/36V

FOLDABLE SOLAR PANEL

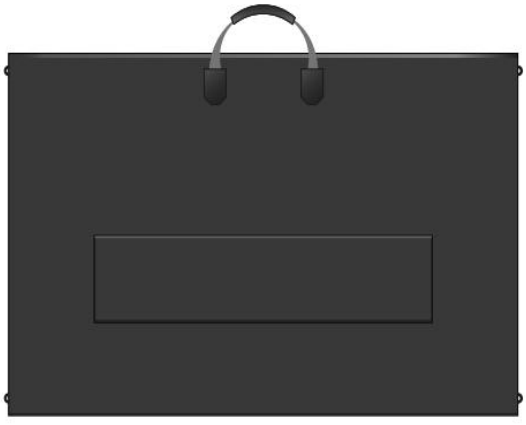
USER MANUAL

Product Name: Pion Power SP400W - 400W Waterproof Foldable Solar Panel





Folded front view 1 (Optional wire package effect)



Folded front view 2

1. Product Highlights

This product is designed for photovoltaic power generation systems, providing charging solutions for various energy storage devices under outdoor sunlight. It is specifically designed to enhance portability, improve impact resistance, and facilitate maintenance and installation.

- The foldable solar panel is lightweight, compact, and easy to open and close. It comes with a built-in support stands, making it ideal for outdoor use.
- The solar panel is manufactured using FR-4 fiberglass substrate + EVA + PET protective film lamination, ensuring a durable design with a lifespan of up to 10 years.
- Manufactured using high-efficiency A-grade monocrystalline silicon cells, achieving a photoelectric conversion efficiency of over 22%.
- The product has excellent water resistance and dirt resistance, making it easy to clean.
- This series of foldable solar panel is suitable for charging DC 12V-36V energy storage batteries (requires an additional charging protection controller).
- The product has a certain level of drop and impact resistance (can withstand falls from heights of up to 1 meter). However, to prevent damage to the internal solar cells, avoid direct impact of the front panel with sharp objects.
- Output cable: 2 meters, $2mm^2$ wire with MC4 connectors.
- Made with waterproof fabric and craftsmanship, ensuring normal operation even when exposed to rain. (Note: Do not expose the product to conductive or corrosive liquids such as seawater, as this may cause an internal short circuit and affect power generation. If exposed, rinse with clean water and dry thoroughly before use.)

2. Performance parameters

Model	SP400W
Peak power Pm(W)	400W
Open circuit voltage Voc(V)	39.6V
Max. power voltage Vmp(V)	36V
Max. power current Imp(A)	11.11A
Short circuit current Isc(A)	13.32A
Solar cells Efficiency	22.0%
Solar panel model & number	100W/18V*4pcs Two series and two parallel
Folded size	600*935*80mm
Unfolded size	2375*935*50mm
Net weight	14kg
Solar cell	High-efficiency grade A monocrystalline silicon cells
Solar panel Front cover (material)	Frosted PET monocrystalline silicon Transparent composite material on the surface of the cell enhances protection
Solar panel backboard (material)	Fiberglass board
Output port	2-meter 2mm² cable with MC4 connector
NOCT/Operating temperature	Rated Operating Temperature: 48 ± 2℃ / Operating temperature range: -40℃ - + 85℃
Storage temperature	-10℃ - +30℃
Waterproof rating	IP65
Power/voltage/current temperature coefficient	- 0.35%/℃; -0.272%/℃; +0.044%/℃
Life	Lifespan ≥ 10 years
Warranty	Warranty 1 year
STC	Irradiance: 1000W/m2, temperature: 25℃, AM:1.5
Others	25MM rubber handle

3. Warning

1: The solar panel should be placed under direct sunlight and adjusted to the appropriate angle to achieve maximum power generation efficiency.

2: This product is suitable for charging DC 12-36V portable power stations (which must have a built-in solar charging protection function) or batteries. However, do not connect the solar panel's output terminals directly to a battery. A solar charge controller must be installed to prevent overcharging or reverse polarity damage, which could harm the solar panel, battery, or even pose safety risks. For charging portable power stations, follow the manufacturer's specifications to connect to the correct solar charging ports.

3: The product can operate normally in rainy conditions. (Note: Avoid contact with conductive or corrosive liquids such as seawater, as this may cause an internal short circuit in the junction box, preventing power generation. If exposed, rinse with clean water and dry thoroughly before use.)

4: Before connecting to a device, carefully verify its specifications, power, current, and voltage requirements. Do not exceed the rated limits to prevent equipment damage and potential hazards.

5: Although the voltage of this device under sunlight does not exceed the human safety voltage, direct contact with the electrodes or short-circuiting the device should still be avoided to prevent the risk of electric shock or potential safety hazards

6: Handle with care during use. Dropping, heavy pressure, or impact is strictly prohibited, as this may severely damage the solar cells.