

# ***POWERTECH***



150W 12V Semi-Flexible Solar Panel  
with DF Technology  
User Manual  
ZM9159

Thank you for choosing this product.

This 150W solar panel is highly efficient, lightweight and versatile.

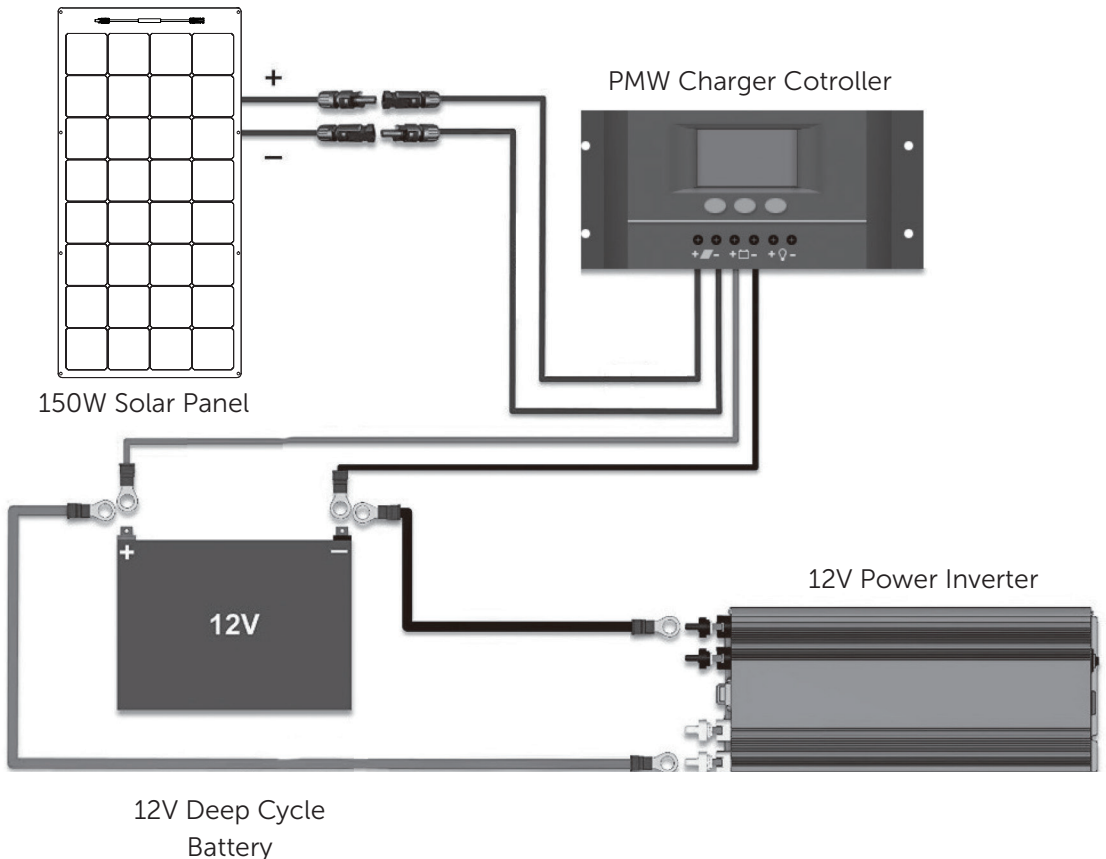
The operation guidance aims to give you a look at how this product could be used. More research is always recommended so that you can create your own solar power system that exactly meets your needs.

## Operation Guidance:

**Step 1:** Select a site to mount the solar panel. It is advised to install solar panel in a shade-free location that has sunlight most of the day.

**Step 2:** Mount and secure the panel. There are many ways to do this but what is most important is to ensure that sunlight to the solar cells is not blocked. The simplest way is to fix panel with hooks or rope via the pre-drilled mounting holes.

**Step 3:** Set up your solar panel system and connect everything. The picture below provides one example.



## Tips:

1. It is NOT recommended to connect more than 6 solar panels in series or in parallel.
2. We have tested that the panel can be safely curved up to 30 degrees' maximum. Please handle the solar panel with care and avoid over-bending it on a bumpy surface, as this may result in damage to the product.
3. Loss of efficiency (over time) is not considered a defect. It is considered normal for the efficiency of solar panel to degrade a small amount every year. External factors such as local solar intensity, shading, soiling, snow and ambient temperature all could also influence the performance of the panel.

## Warning:

1. This module produces electricity when exposed to light. Please follow all applicable electrical safety precautions.
2. Only qualified personnel should install or perform maintenance work on these modules.
3. Be aware that dangerously high DC voltages can occur when connecting multiple modules in series.
4. Do not damage or scratch the rear surface of the module.

## Product Specifications:

Solar Cell:	Monocrystalline
Max. Power (Pmax):	150W ( $\pm 5\%$ )
Open Circuit Voltage (Voc):	20.5V
Short Circuit Current (Lsc):	10.65A
Max. Working Voltage (Vmp):	18V
Max. Working Current (Imp):	8.83A
Max. System Power:	600 ~ 900W
Standard Test Condition:	AM1.5, 1000W/m <sup>2</sup> , 25°C
Operating Temperature:	-40°C ~ +85°C
Dimensions:	690(W) x 1350(H) x 2.5(D)mm

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