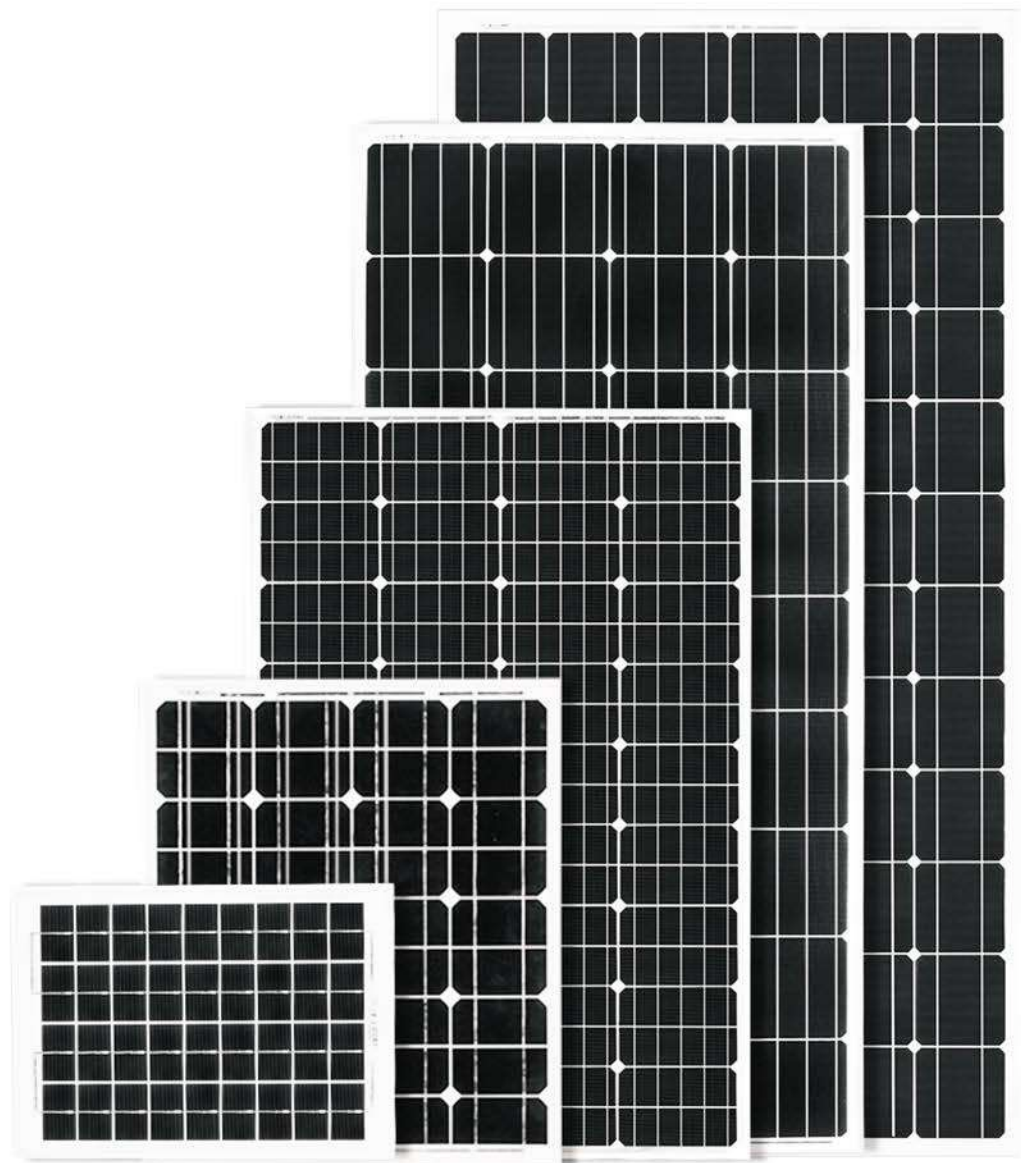




10W/60W/130W/200W/250W Solar Panel

# USER MANUAL

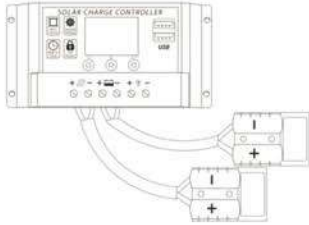


ATEM POWER, born in June, 2017, as a synonym for exciting outdoor experience, is an Australian company that specializes in solar power kits & equipment. Through 3 years of steady development, ATEM POWER has successfully secured a place in the field of solar products, possessing premium solar products, including solar panel, solar cell, charger, inverter and automotive cell, etc, which have greatly changed people's lifestyle and become an indispensable part of their daily life. At ATEM POWER, we stay true to our DNA by prioritizing technological innovations designed to improve our products and striving to provide excellent customer care. Because we are motivated to explore the limits of solar power!

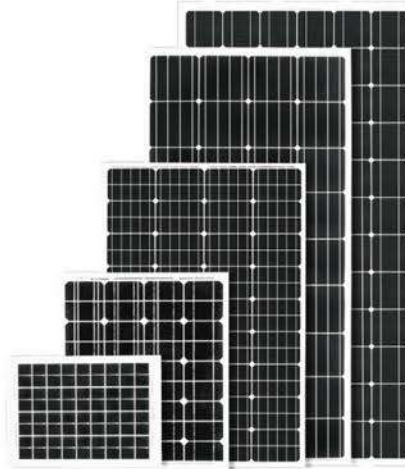
## **WARNINGS & SAFETY INFORMATION**

- Keep the solar panel and controller away from liquids and chemical solvents.
- Keep the solar panel and controller clean and check connectors before use.
- Children, adults with reduced physical or mental abilities, or those who are under the influence of drugs or alcohol are not allowed to use this product.
- This solar panel is intended to charge 12v rechargeable batteries.
- Battery should be mounted in well-ventilated area without potential ignition sources, because lead acid batteries might produce harmful and explosive gases.
- Take care when operating & setting-up the solar panel.
- Never connect the solar panel directly to a battery or other load without controller.
- Any modifications to the product will void the warranty.
- Please make sure that the solar panel is firmly secured during transportation.
- Do not use this solar panel if any of its part or accessory is damaged.

# INCLUDED IN THE KIT



Pulse Width Modulator Controller



10W/60W/130W/200W/250W(from left to right)

## INSTRUCTIONS

Solar panel will perform at its peak when it faces directly towards the sun.

### CONNECTING YOUR SOLAR PANEL

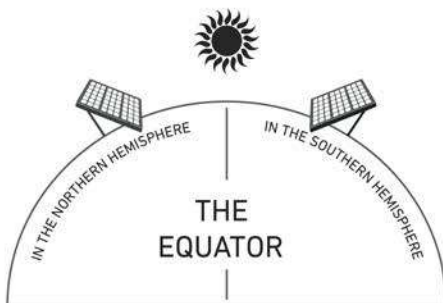
- Place your solar panel directly towards the sun, then connect the positive and negative clips to your battery.
- Please first connect the battery clips to the battery, then to the solar panel.

### DISCONNECTING & STORING YOUR SOLAR PANEL

- Disconnect your solar panel from the battery before removing battery clips.
- Place the wire neatly onto the back of the solar panel, and do not twist the wire.
- Note: Never store your solar panel with battery wire connected to the panel.

### TIP

Solar panels should be installed in a location where there is no constant shading. In the northern hemisphere, panels should ideally face south, and in the southern hemisphere, panels should ideally face north.



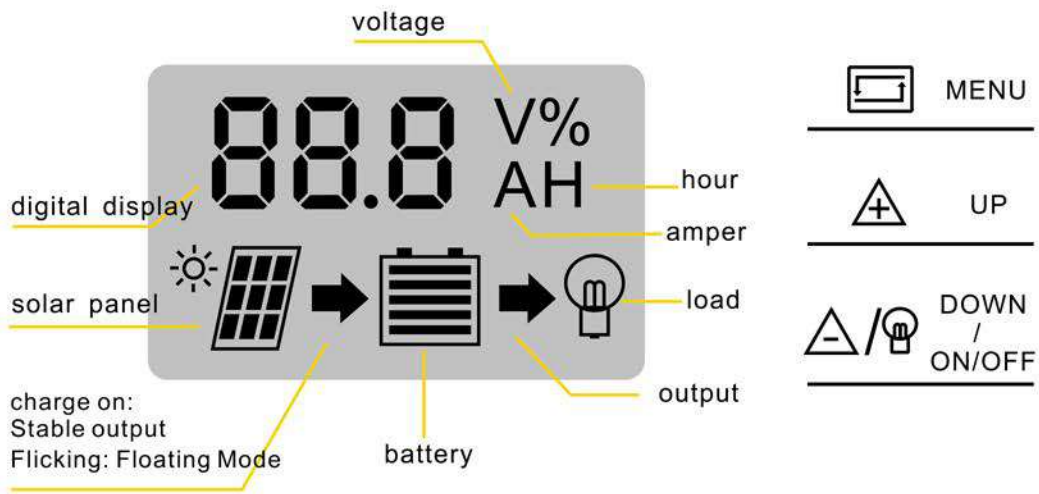
ANGLE TO SUN BETWEEN  $10^{\circ}$  &  $40^{\circ}$



# SPECIFICATION OF THE CONTROLLER

Max Solar Input	<50V
Float Charge	13.7V - Default, Adjustable
Discharge Stop	10.7V - Default, Adjustable
Discharge Reconnect	12.6V - Default, Adjustable
USB Output	5V / 2A
Dimensions	133*70*34 mm
Weight	154g

# LCD DISPLAY OF THE CONTROLLER



MENU: you can browse different settings, or long press to enter/exit certain settings.  
UP: press to increase value.  
DOWN: press to decrease value.

# MENU & FUNCTION

1. Press MENU to browse settings, which have been illustrated below.
2. Press MENU for 6 to 7 seconds to change settings.  
Use UP or DOWN to change values.
3. Press MENU again to confirm setting.

## MAIN DISPLAY

It is about the status of voltage and PWM controller.



## FLOAT VOLTAGE

Controller will enter float charging mode when voltage reaches 13.7V



## LOAD RECHARGE

The panel is ready to power the load again when voltage reaches 12.6V.



## CUT-OFF VOLTAGE

The controller will sever the connection to the load when the voltage of the battery reaches 10.7V.



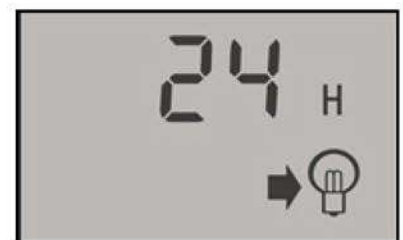
## OPERATING MODE

The controller starts operating when battery supplies power to the load.

**24H:** Power being supplied to the load .

**1-23H:** Power will be provided to the load with the hours that has been set when the solar blanket gets no sunlight.

**0H:** Power will be provided to the load automatically when the solar blanket gets no sunlight.



## BATTERY TYPE

Shows type of battery attached to the PWM controller.



# USAGE RECOMMENDATIONS

- Good ventilation is important for the controller, as it will generate much heat during operation.
- Please note that overcharging will damage your battery.
- Please note that the current rating of the cable should not be less than the rated output of the controller.
- There is a common positive pole inside the controller, if grounding is needed, please ground the positive pole.

<b>TROUBLESHOOTING</b>		
<b>Symptoms</b>	<b>Possible Cause</b>	<b>Solution</b>
Solar panel doesn't work despite sufficient sunlight.	Solar panel opened or reversed	Reconnect
Load icon doesn't on	Wrong setting	Set again
	Low Battery	Recharge
Load icon flashing slowly	Overload	Reduce load capacity
Load icon flashing fast	Short circuit protection	Remove short circuit
The screen of the controller is not on	Low battery / Reverse Polarity	Change Battery

# WARRANTY



## WARRANTY PERIOD:

Full 12 month warranty from date of purchase against all manufacturing defects.

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## WHAT DOES THE WARRANTY COVER?

Under normal usage conditions, this warranty covers:

- A. Any defect in design or manufacture which results in its failure to perform correctly as described.
- B. We will either repair or replace the product at our discretion provide that the fault is found to have been caused by a design or manufacturing defect and not misuse or tampering.

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to place or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure. The benefits provided to you as the consumer by this warranty are in addition to other rights and remedies available to you under the law.

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## THE WARRANTY DOES NOT COVER:

1. Any damage due to improper use.
2. Incorrect installation or modification during installation.
3. Cost of removing and reinstalling the product.
4. Travel and /or other expenses due to customer's location
5. Transport charges and damage in transit. It is your responsibility to deliver and pick up your product, including any costs associated with the postage of repairing or replacing your product. If you want to send the product back we recommend that you insure against loss or damage.
6. Any loss directly or indirectly associated with the product that fails to operate.
7. Damage caused by mould, insects, animals, misuse, incorrect operation, adverse weather, accidents and daily wear and tear.