

***POWERTECH***

ZM9124

# Blanket Solar Panel with Charge Controller



Instruction Manual

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## WARNINGS & SAFETY INFORMATION

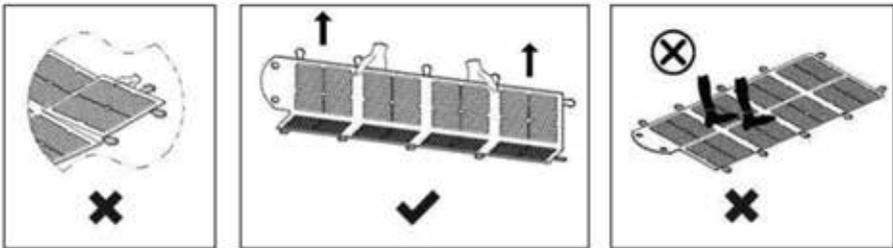
**WARNING: The manufacturer is not responsible for any potential injury from misuse**

Please ensure that you have read the product manual and instructions in full before using this product. Failure to do so may result in incorrect operation and potentially impact the performance of the product.

This product converts natural sunlight into DC electricity. It is designed to charge a 12V battery.

For optimum performance, protect the solar cell from dust, dirt, and other debris.

- Use and store the product in a dry and ventilated location.
- Do not use in flammable or explosive areas.
- Stop use immediately if any wires become loose or electronic components are exposed.
- Do not pick panel up directly by the solar cells.
- Use the gap between solar cells to pick up the panel.
- Do not stand or walk on the solar panel.



- Ensure battery has enough voltage for the solar charge controller to recognise the battery type before first installation.
- Battery cable should be as short as possible to minimise loss.
- The regulator is suitable for lead-acid batteries (Flooded, LEAD, AGM, & GEL). Not suitable for nickel metal hydride, or other battery types.
- Charge regulator is only suitable for regulating solar modules. Never connect another charging source to the charge regulator.
- The MPPT solar charge controller will be hot when working. Please install in a flat, well ventilated area.

## BEFORE FIRST USE

Prior to using your product, please read all the safety and operating instructions thoroughly. Please ensure you follow the steps below before using the product. We recommend you keep the original packaging for storing the product when not in use.

Please pay close attention to the section entitled Warnings & Safety Information. Find a safe and convenient place to keep this instruction manual for future reference.

Unpack the product but keep all packaging materials until you have made sure your new product is undamaged and in good working order. Ensure you have all accessories listed in this manual.

## BOX CONTENTS

- 1 x 200W Blanket Solar Panel
- 1 x 20A MPPT Solar Controller
- 2 x 50A Connector 10CM Lead with Rubber Cap
- 1 x 50A Connector 4.5M Extension Lead
- 1 x 50A Connector to Alligator Clips 0.5M Lead



## OPERATING INSTRUCTIONS

- Unfold the solar panel
- Place the unfolded solar panel in a position that receives direct sunlight, facing to the sun. Ensure that no shadows are covering the solar cells.
- Tilt the solar panel at a suitable angle. This can be the same as your local latitude (additional support may be necessary, not supplied).
- Connect the solar panel to the MPPT solar charge controller before connecting battery clamp lead to the solar controller.

## HOW TO CHARGE A 12V BATTERY

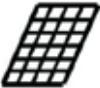
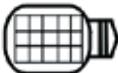
- Connect the battery to the solar charge controller.
- Connect load to the MPPT solar charge controller.
- Connect solar panel to the MPPT solar charge controller.
- Reverse this order when disconnecting.

**NOTE: Heavy loads should not be connected to the battery.**

**WARNING: The reverse order applies when uninstalling. An improper sequence order can damage the controller.**



## MPPT SOLAR CHARGER INDICATOR

INDICATOR		STATUS	MEANING
	Solar Panel	Steady on	Solar panel voltage is higher than the light control voltage
		Off	Solar panel voltage is less than the light control voltage
	Battery	Any status	Indicate battery energy left is low, right is high.
		The left is flashing	Battery is nearly or already empty.
	Load	Steady on	Load receiving power
		Off	Battery voltage is abnormal

## TROUBLESHOOTING

ISSUE	LIKELY CAUSE	SOLUTION
Charging symbol not displaying even when the solar panel is in the sun	Solar has been improperly connected to the MPPT controller	Reconnect the solar panel ensuring that the positive and negative terminals are appropriately connected
Load icon is off	Battery is low, the load will start when the battery voltage is higher than 11.5V	Charge the battery
The MPPT controller will not turn on	Battery is insufficiently charged	Check, and if necessary alter the battery's connection to the MPPT controller
	Battery has been connected improperly	Reduce load watts

## SPECIFICATIONS

### Solar Panel

<b>Solar Cell Type</b>	Monocrystalline 166 x 166mm
<b>Power Output</b>	200W
<b>Open Circuit Voltage</b>	24.7V
<b>Short Circuit Current</b>	9.06A
<b>Working Voltage</b>	20.1V
<b>Working Current</b>	8.5A
<b>Weight</b>	5.8KG
<b>Dimensions</b>	Folded: 560(W) x 390(H)mm Unfolded: 1170(W) x 1120(H)mm

### MPPT Solar Charge Controller

<b>Rated Charge Current</b>	20A
<b>Rated Discharge Current</b>	20A
<b>Rated Voltage</b>	12V
<b>MPPT Efficiency</b>	Max:99%
<b>Over Load, Short Circuit Protection</b>	$\geq 1.5$ rated current
<b>No Load Current</b>	<10mA
<b>Over Voltage Protection</b>	16V
<b>Cut off Voltage</b>	14.7V
<b>Discharge Recovery Voltage</b>	12.0V
<b>Low Voltage Cut Off</b>	10.8V
<b>USB Output</b>	5V 1A
<b>Working Temperature</b>	-35 C~+55°C
<b>Dimension Of Controller</b>	131 x 99.5 x 29.5 mm
<b>Weight</b>	300g

## WARRANTY INFORMATION

Our product is guaranteed to be free from manufacturing defects for a period of 12 Months.

If your product becomes defective during this period, Electus Distribution will repair, replace, or refund where a product is faulty; or not fit for intended purpose.

This warranty will not cover modified product; misuse or abuse of the product contrary to user instructions or packaging label; change of mind and normal wear and tear.

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement 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 failure does not amount to a major failure.

To claim warranty, please contact the place of purchase. You will need to show receipt or other proof of purchase. Additional information may be required to process your claim.

Any expenses relating to the return of your product to the store will normally have to be paid by you.

The benefits to the customer given by this warranty are in addition to other rights and remedies of the Australian Consumer Law in relation to the goods or services to which this warranty relates.

This warranty is provided by:

Electus Distribution

Address 46 Eastern Creek Drive, Eastern Creek NSW 2766

Ph. 1300 738 555