



ZM9183

160W 12V Folding Solar Panel



INSTRUCTION MANUAL

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WARNINGS & SAFETY INFORMATION

- Make sure to keep your solar panel away from any liquids at all times.
- Keep the solar panel clean at all times (always check connectors to ensure they're free of grit before plugging them in). To clean the panels, use a soft cloth or soft brush.
- Do NOT use the solar panel to charge non-rechargeable batteries, doing so may result in harm to the user and/or damage the solar panel.
- Only use the provided solar panel with suitable regulators and adapters/wiring available separately.
- All lead-acid batteries produce harmful, explosive gases. The battery should be mounted in a well-ventilated area, as far as possible from any ignition sources. Do NOT smoke or have a naked flame in the vicinity of the battery under charge.
- Never tamper with or pull any component of the solar panel or wiring apart. If you do so, you will void the warranty.
- Always store the solar panel folded, protected from the weather and with good ventilation.
- Ensure nothing sharp or heavy could potentially damage the solar panel during transport or storage.
- Ensure the solar panel is supported when setting up or packing away, avoid bending or flexing the solar panel cells, as doing so can damage or internally crack the solar cells reducing the output
- Only use the solar panel to charge 12V batteries.
- Do not place the solar panel on your vehicle's bonnet or paintwork during use.

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

WARNING: This is an unregulated solar panel - ensure you connect a suitable regulator (available separately) to prevent damage to the battery.

BOX CONTENTS



1x Folding Solar Panel
with Adjustable Legs



1x High current
connector
1x 90cm cable



1x Protective Bag

PRODUCT DIAGRAM



Solar Panel

Adjustable
Legs

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 and Operating Instructions. Find a safe and convenient place to keep this instruction manual for future reference.

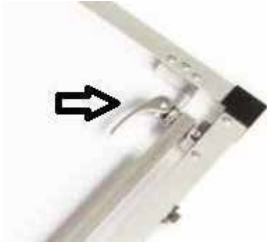
Unpack the product but keep all packaging materials until you have made sure your new product is undamaged and in good working order. Ensure you have all accessories listed in this manual.

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

CHOOSING A SUITABLE REGULATOR

- This panel is compatible with PWM and MPPT regulators and can be used on the solar input of DC-DC Chargers.
- Ensure the regulator or DC-DC Charger has an input voltage limit higher than the Open Circuit Voltage of the panel: 23.37V
- Ensure the regulator or DC-DC Charger has an input current limit higher than the Short Circuit Current of the panel: 9.27A
- Ensure the regulator or DC-DC Charger has an input power limit higher than the power rating of the panel: 160W
- Ensure the regulator or DC-DC Charger is suitable for the battery type you are charging (AGM, GEL, LiFePO4 etc)

OPERATING INSTRUCTIONS



ADJUSTABLE SUPPORT LEGS

Pull the support leg away from the Solar Panel from the foot of the leg. The support legs allow the angle of the solar panel to be adjusted for optimal performance. When the desired angle is reached, pull the latch towards the leg to lock it in position.



CONNECTING YOUR SOLAR PANEL

Now that the panel is setup facing directly towards the sun. Connect the positive and negative clips to your battery. Always connect the battery clips to the battery first, before connecting to the solar panel. The solar controller (not included) will then power up.



DISCONNECTING & STORING YOUR SOLAR PANEL

Disconnect the solar panel from the charge controller before removing the battery clips from the battery. Roll the wire neatly into the space behind the solar panel, make sure not to twist or kink the wiring. Place the battery wire separately in the front pocket of the carry bag.

Note: Never store your solar panel with the battery wire connected to the panel.



TIP: For optimal performance throughout the day, set the panel to approximately 30° from the ground. The range between 10° and 40° will gain the best power absorption throughout the course of the day.

TROUBLESHOOTING

FAULT	POSSIBLE CAUSE	SUGGESTED REMEDY
Solar not charging	Inadequate sunlight	Position panel in full sun
	Plug terminals incorrect polarity	Inspect the quick connect plug terminals, ensuring the polarity (+ and -) are correct. Change if incorrect.
	Plug terminals are not correctly seated	Ensure the terminals in the quick connect plug are firmly connected. To seat the terminals push them from the back of the plug until you hear a 'click'
	Panel has been incorrectly connected to 12V system	Ensure the panel has been connected to the correct terminals on the solar regulator
		Ensure regulator is suitable for solar and battery type.
No open Circuit Voltage recorded on panel	Use a multimeter or voltmeter to measure the voltage of the panel at the quick connect plug. The meter should display 18-21V in full sun. If there is no voltage present, there may be an internal short circuit or broken circuit. Contact customer service for further assistance.	

CLEANING, CARE, STORAGE & MAINTENANCE

- Please ensure your solar panel is cool before cleaning.
- Use a damp cloth only to remove dirt and debris from the solar panel.
- Do not use sharp or hard objects for cleaning as these may damage the product. For your panel to work as efficiently as possible you want to prevent scratches on the surface of the solar panel or panel.
- Do not use high pressure to clean the solar panel as it can damage the cells of the panel.

SPECIFICATIONS

Rated Maximum Power (PM)	160W
Power Tolerance	+/-3%
Voltage at Pmax (VMP)	18.2V
Current at Pmax (IMP)	8.79A
Open-Circuit Voltage (VOC)	23.37V
Short-Circuit Current (ISC)	9.27A
Normal Operating Cell Temp (NOCT)	47+/-2°C
Maximum System Voltage	1000VDC
Maximum Series Fuse Rating	10A
Operating Temperature	-40°C to +85°C
Application Class	Class A
Net Weight	9.38 kg
Folded Dimensions	670 x 680 x 60 mm
Unfolded Dimensions	1340 x 680 x 30 mm

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