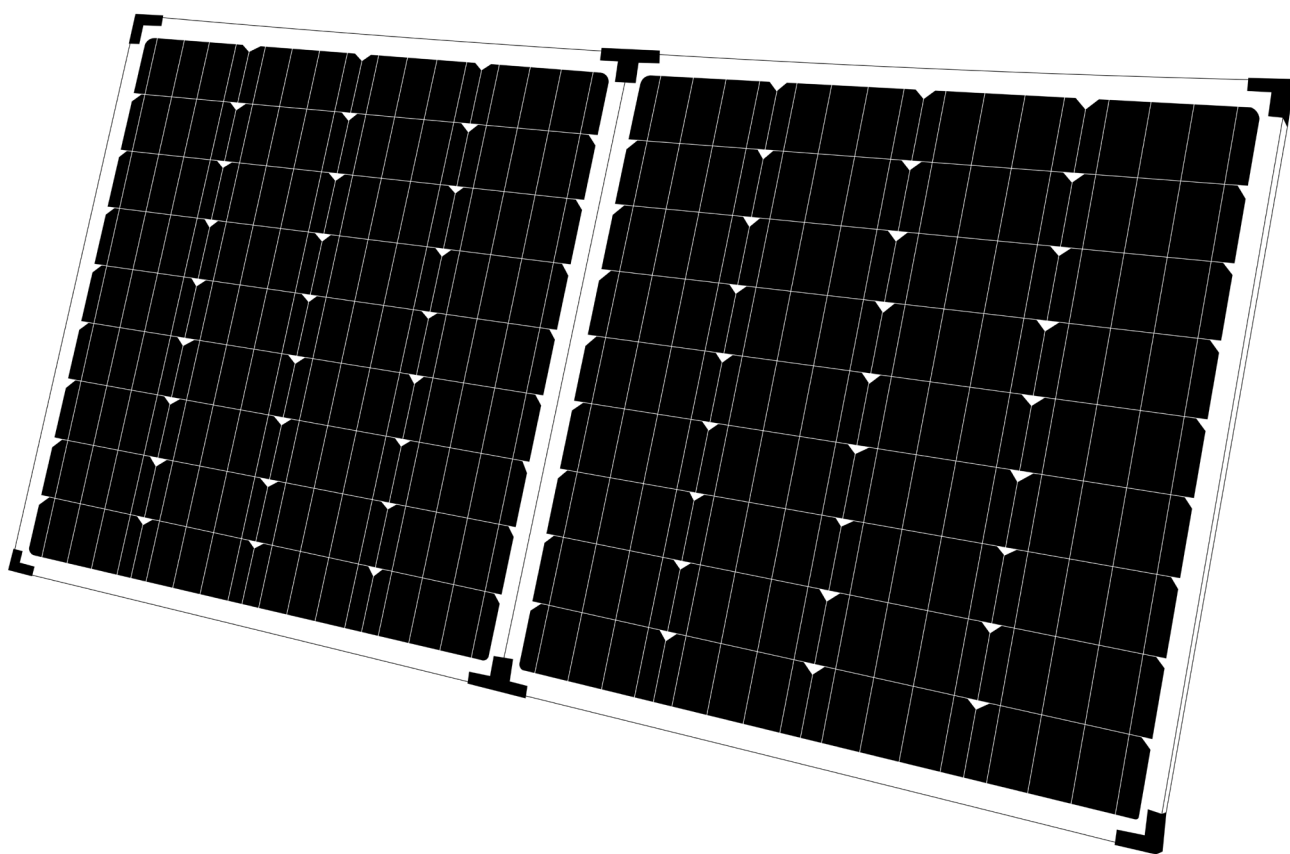




160W Folding Solar Panel **USER MANUAL**

AKSR-PN160W_04



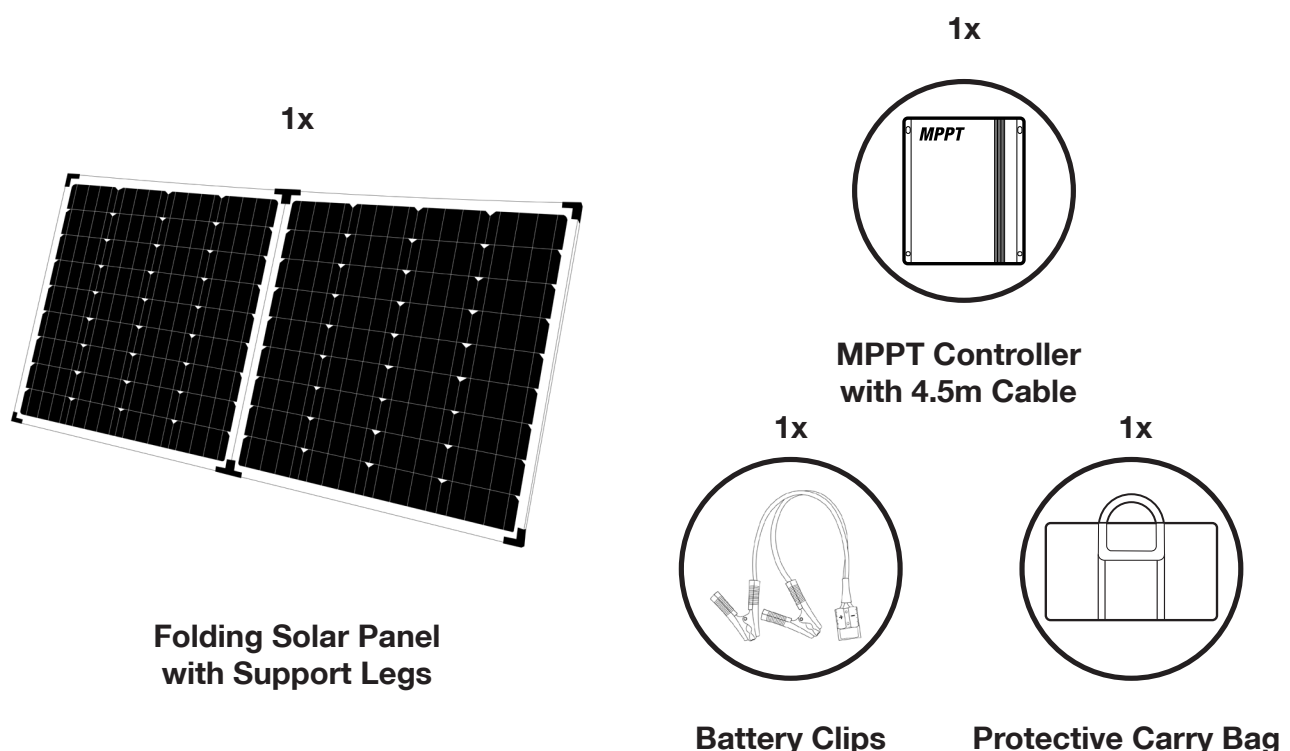
V1.2

**PLEASE READ AND UNDERSTAND THIS MANUAL
COMPLETELY BEFORE USING THIS PRODUCT.**

WARNINGS & SAFETY INFORMATION

- Keep the solar panel and controller away from liquids at all times.
- Keep the solar panel and controller clean and always check connectors for debris before connecting.
- This product is not intended to be used by children. In addition to this, adults with reduced physical or mental capabilities, or those who are under the influence of drugs or alcohol should not use the product.
- Only use the solar panel to charge 12v, rechargeable batteries.
- Lead acid batteries produce harmful explosive gases. The battery should be mounted in well-ventilated area, away from possible ignition sources.
- Take care when manoeuvring & setting-up the Solar Panel as to not damage the unit.
- Never connect the Solar Panel directly (without a controller) to a battery or other load.
- Tampering or modifying the solar panel, controller or wiring will void warranty.
- The MPPT controller is only suitable for regulating solar modules.
- The MPPT controller is only suitable for lead-acid batteries: OPEN, AGM & GEL. The Solar Blanket & Controller should not be used with nickel metal hydride, lithium ion or other batteries.
- When transporting the solar panel, firmly secure the panel so that it will not move around or collide with other objects.
- Do not use the solar panel, controller or wiring if it is damaged or compromised in any way.

INCLUDED IN THE KIT



SOLAR PANEL SPECIFICATIONS

Rated Maximum Power (PM)	160W
Tolerance	± 3%
Voltage at Pmax (Vmp)	17.6V
Current at Pmax (Imp)	9.1A
Open - Circuit Voltage (Voc)	21.0V
Short - Circuit Current (Isc)	9.96A
Normal Operating Cell Temp (NOCT)	47 ± 2°C
Maximum System Voltage	1000VDC
Maximum Series Fuse Rating	15A
Operating Temperature	-40°C to +85°C
Application Class	Class A
Connections	Anderson
Dimensions (Open)	1340 x 670 x 30mm
Dimensions (Closed)	670 x 670 x 65mm
Weight	12.5KG

MPPT SPECIFICATIONS

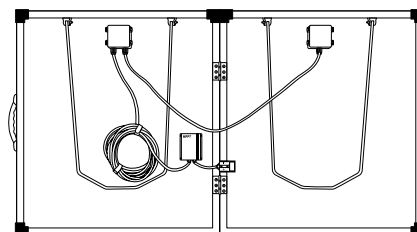
Maximum Charging Current	15A
Overcharge Protection Voltage (pre-set)	14.4V
Overcharge Recovery Voltage	13.8V
Over Discharge Protection	11V
Over Discharge Recovery Voltage	11.8V
Maximum PV Voltage (VOC)	55V
Maximum Input Power	250W
Dimensions (mm)	145 x 85.8 x 30mm
Weight	600g
Working Temperature	-35~+60

INSTRUCTIONS

160W Folding Solar Panel will perform at its peak when it faces directly towards the sun.

FOLD OUT SUPPORT LEGS

- Pull the support legs away from the Solar Panel. The support legs will then sit in the desired angle to get the most power from the sun.



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 will then illuminate



DISCONNECTING & STORING YOUR SOLAR PANEL

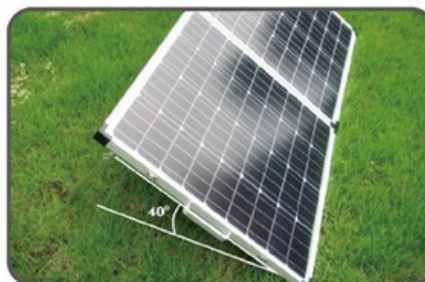
- Disconnect the solar panel off the battery before removing the battery clips off the battery.
- Roll the wire neatly into the space behind the solar panel, make sure not to twist or kink the wiring in an unnatural way.
- Place the battery wire separately in the front pocket of the carry bag.
- **Note: Never store your solar panel with the battery wire connected to the panel.**

TIP

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



ANGLE TO SUN BETWEEN 10° & 40°



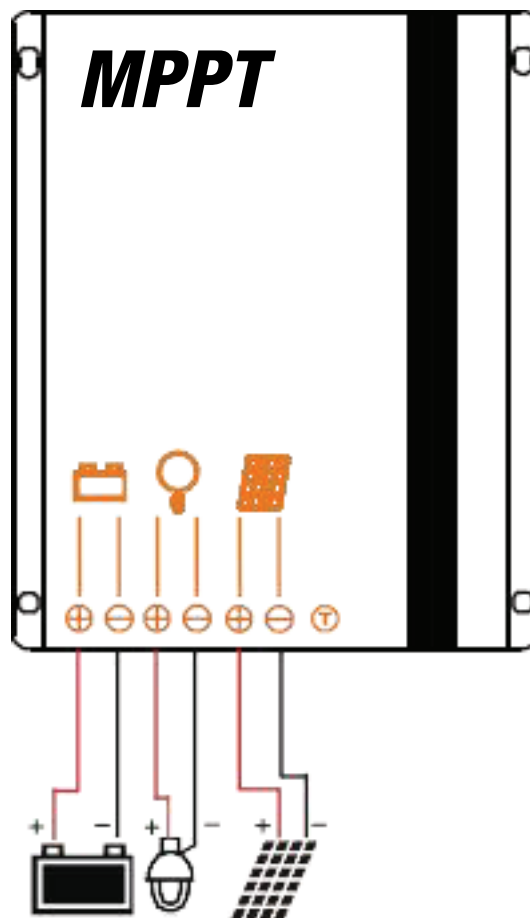
OPERATING THE MPPT CONTROLLER

Please note: not following these instructions may cause damage to the MPPT controller.

Ensure that you attach the positive (+) and negative (-) wires to the appropriate terminals.

1. Connect the positive and negative wires from the battery into the terminals with the battery icon ensuring polarity is correct.
2. The solar indicator light will turn on.
3. Connect positive and negative solar input into the two terminals with the solar icon, ensuring polarity is correct.
4. The controller is now ready to use.
5. For additional load circuit, connect positive and negative wires to the terminals with the lightbulb icon on the controller.

NOTE: Ensure a fuse is used on battery positive wiring to prevent short circuits and potential damage to the unit or your vehicle



INDICATOR	STATUS	MEANING
Green LED	Steady ON	Solar panel connected properly, no charging.
	Slow Flashing	Charging in process
Yellow LED	Steady ON	Normal Power
	Slow Flashing	Low Power
	Rapid Flashing	Low Voltage Protection
	OFF	Over Voltage Protection
Red LED	Steady ON	No power output/ fault detected
	Slow Flashing	Over Temperature Protection
	Rapid Flashing	Short circuit and over current protection
	OFF	No fault detected

TROUBLESHOOTING

PROBLEM	CAUSE	SOLUTION
Unable to charge	Battery voltage is too low	Charge the battery from a 240V charger/ replace battery
	Load over current or short circuit protection	Remove all load to clear fault, ensure the load does not exceed output
	Over temperature Protection	Remove load and allow the MPPT to cooldown
Charging indicator light not displaying even when the panel is in the sun	Panel has been improperly connect to the controller	Reconnect the solar panel to the controller, ensuring that the positive and negative terminals are connected correctly

12 MONTH LIMITED WARRANTY

WARRANTY PERIOD:

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

WHAT DOES THE WARRANTY COVER?

Under normal usage conditions, this warranty covers:

- a. Any defect in design or manufacture which results in the product failing to perform substantially as described in authorised advertising or literature.
- b. We will either repair or replace the product at our discretion providing 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 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 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.

THE WARRANTY DOES NOT COVER:

- a. Any damage resulting from improper use.
 - b. Faulty installation or modification made during installation.
 - c. The cost of removing and reinstalling the product.
 - d. Travel and /or other expenses due to customer's remote location.
 - e. 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 your repair or replacement product. If you do freight your product we recommend that you insure against loss or damage.
 - f. Any loss directly or indirectly associated with the product failing to operate.
 - g. Damage caused by mould, insects, animals, misuse, incorrect operation, adverse weather, accidents and fair wear and tear.
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TO MAKE A CLAIM, PLEASE ENSURE YOU RETAIN YOUR SALES RECEIPT OF PURCHASE

1800 88 39 64



OUTDOOR SUPACENTRE PTY LTD
2 Stanley St Silverwater NSW, 2128
PHONE: 1800 88 39 64
www.4wdsupacentre.com.au