

# KICKASS<sup>®</sup>

## PREMIUM 240W FOLDING SOLAR PANEL

# USER MANUAL



KAFSP240

V1.0

## ELECTRICAL SPECIFICATIONS

- **Rated Peak Power (Pmax W):** 240W
- **Open Circuit Voltage (Voc V):** 25.1V
- **Short Circuit Current (Isc A):** 11.9A
- **Maximum Power Voltage (Vmp V):** 20.9V
- **Maximum Power Current (Imp A):** 11.5A
- **Module Efficiency:** up to 24%
- **Solar Cell Type:** Monocrystalline
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## IMPORTANT SAFETY INFORMATION

- The solar panel must only be used by responsible, capable adults.
- Children must never play with or be left unsupervised around the solar panel.
- NEVER connect the Solar Panels directly to a battery. Always use a solar regulator with the correct input and ensure this is connected between the solar panel and the battery.
- Ensure that the solar regulator you use has the correct input rating and is compatible with the battery type being charged (for example, lithium or AGM, etc.).
- The battery should be mounted in a well-ventilated area away from any potential sparks or flames as this may cause the battery to explode. Never smoke near the battery.
- To reduce the risk of sparks, connect and disconnect the Solar Panel and the solar regulator in the shade and away from sunlight. This is to reduce the risk of electric shock, as the input/output connections will generate power in the sun.
- The Solar Panel will achieve best results when paired with a well-maintained battery.
- Do not use mirrors or other devices to artificially concentrate sunlight on the Solar Panels.
- If connecting multiple panels in series, parallel or series-parallel, make sure that all panels are the same model. Check the manufacturer's data for the regulator and you select and ensure that open circuit voltage does not exceed the recommended maximum charging voltage. You must also select an appropriately gauged cable for the high current and voltage.



## **CAUTION**

### **When connecting the Solar Panel to batteries via the regulator:**

- Wear protective clothing and eyewear.
- Avoid touching your eyes while working with a battery.
- If battery acid comes into contact with your skin or clothing, remove the affected clothing and wash the affected area of your skin immediately with soap and water. If battery acid comes into contact with your eyes, immediately flood the eye with running cold water for at least 10 minutes and seek medical assistance.

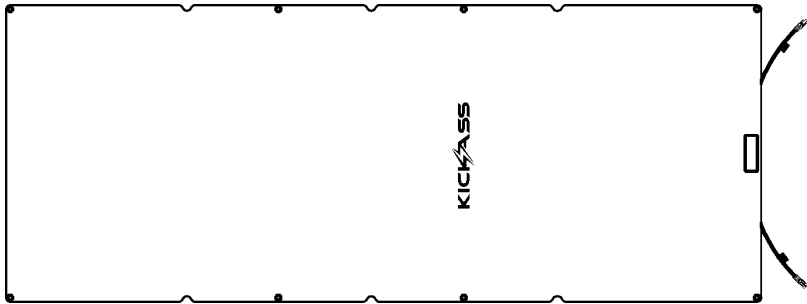
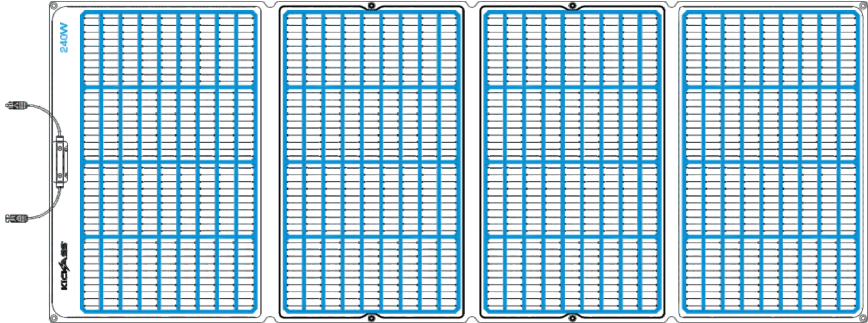
### **WARNING - RISK OF EXPLOSIVE GASES**

- Working around Lead-Acid batteries is dangerous. During normal operation batteries generate explosive gases. It is important that the battery is operated in a well-ventilated area and the Solar Panel is installed as per the instructions detailed in the manual.

### **WARNING! RISK OF INJURY AND DAMAGE DUE TO INCORRECT INSTALLATION OR SECURING OF PRODUCT**

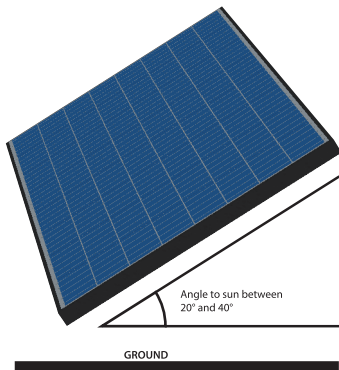
- It is very important to securely tie down your Solar Panels in windy conditions. The instructions provided in this manual are a guide and it is the responsibility of the user to ensure the product is always securely attached to a mounting surface in accordance with all local and national safety standards. In addition, any mounting devices used for installation must adhere to the manufacturer's safety instructions.

# UNDERSTANDING YOUR SOLAR PANEL



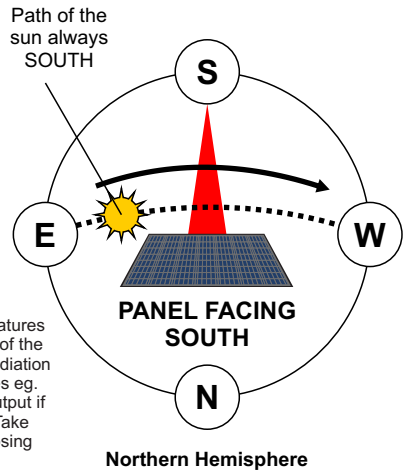
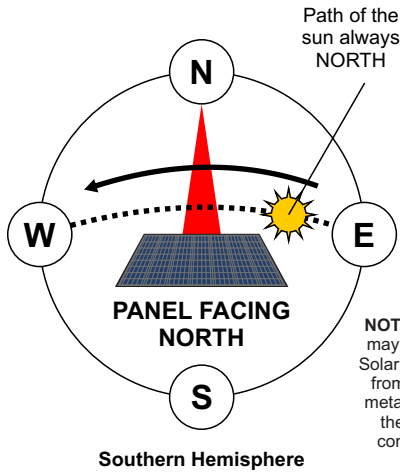
# SOLAR POSITION OPTIMISATION GUIDE

KickAss Solar Panels will perform best with the face of the panel angled directly towards the sun. KickAss recommends placing the panel at an angle of 20° to 40° from the ground. This ensures you will get the most efficient output from your Solar Panels during the day, in all seasons.



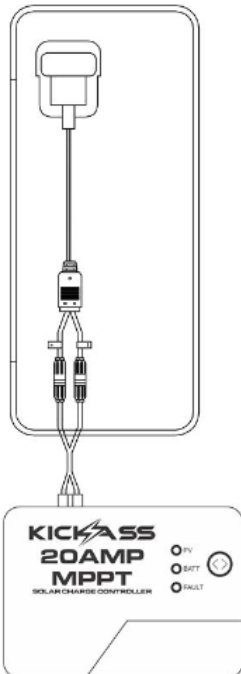
In the southern hemisphere, the sun is always in the **NORTHERN** half of the sky, and therefore you should point your solar panels **NORTH**.

In the northern hemisphere, the sun is always in the **SOUTHERN** half of the sky, and therefore you should point your solar panels **SOUTH**.



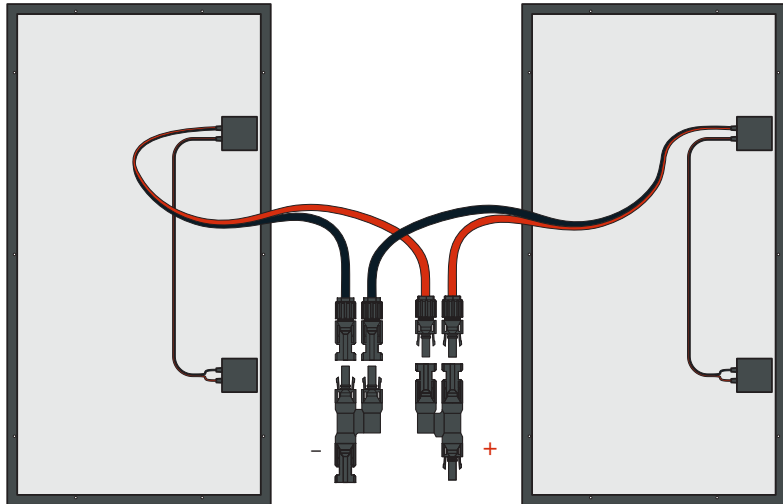
**NOTE:** High panel temperatures may reduce the efficiency of the Solar Panel output. Heat radiation from surrounding surfaces e.g. metal, may cause lower output if there is limited air flow. Take consideration when choosing mounting surfaces.

## CONNECTING THE SOLAR PANEL DIAGRAM



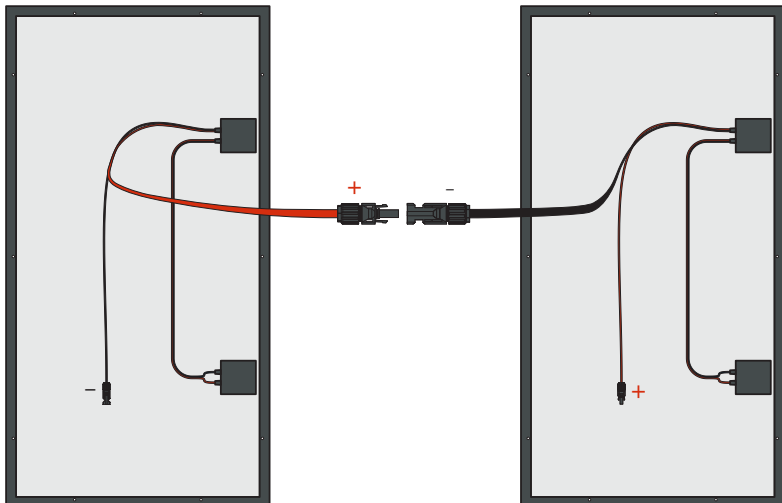
KickAss Solar Panels can be connected in Parallel or Series as per the diagrams below, or a combination of the two. Connecting two identical panels (of the same wattage) in parallel will multiply the total output current by two and keep the system voltage at the same level. Conversely, connecting two identical panels (of the same wattage) in series will multiply the system voltage by two and keep the output current at the same level. Parallel connections should be made using PV branch connectors. Quality KickAss PV two-in-one branch connectors are available and can be purchased through the store. Series connections should be made by connecting the negative connector of one panel to the positive connector of the next.

### Parallel connections



PV Connector 2 in 1 Branch  
SKU: KAPVCONN2IN1

### Series connections



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