# POWERTECH

## Folding Solar Panel User Manual

#### **INTRODUCTION:**

ZM9137 is one of the new generation of portable green energy systems. The product mainly consists of two solar panels and a charge controller/regulator. Its portability makes it ideal for vehicles, campers, boaters or trekkers, particularly in forests, mountainous areas, islands etc. where other power sources are impractical.

## **CONSTRUCTION:**

The portable folding solar kit uses top quality monocrystalline silicon solar cells, a high quality solar control regulator, heavy-duty connecting cable, and the folding stands are made of high grade aluminum alloy.

#### **SPECIFICATIONS:**

Type: Monocrystalline Solar Cells

Peak Power: 200W
Rated Voltage: 12V
Voltage @ Peak Power: 18.2V
Current @ Peak Power: 10.99A

Panel Dimensions: 895 (L) x 73 (W) x 680 (H) mm (Closed)

1790 (L) x 36 (W) x 680 (H) mm (Open)

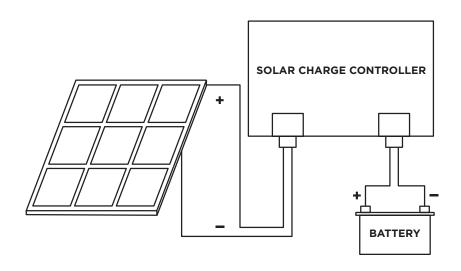
Gross Weight: 15.3kg

## THE REGULATOR HAS THE FOLLOWING FUNCTIONS:

- Battery protection: Automatically disconnects battery at night to prevent back discharge.
- Over charge, short-circuit and reversed polarity protection: When problem is corrected, system automatically returns to normal without damage.
- Over-discharge protection plus optimized charging function (fast and float) ensure maximum battery working lifetime.

#### **USAGE:**

• Connect all parts according to the following drawing, be sure polarity is correct. (That is, ensure "+" goes to "+" and "-" goes to "-" (Note the panel comes with a charge controller, only connect battery to charge controller via supplied battery cable).



#### **OPERATION:**

1. Unfold the solar panel kit and lay it out on the best angle and direction to catch maximum sun. For best results panel should face North (if North is not available, Northwest or Northeast are best options followed by Due East or Due West) and make sure the solar panel receives sunlight directly without any obstructions.

For maximum charge chase sun during day, for most applications you would get by with following above suggestion.

2. Connect the red clip on the positive pole of the 12 Volt battery, and the black one on the negative pole.

#### **INDICATOR LEDS:**

- "SUN" red light off: Solar panel is not connected or incorrectly connected, or sunshine not sufficient, so charging is inoperative.
- "SUN" red light blinking: Sunshine sufficient and battery being charged.
- "SUN" red light steady: Sunshine sufficient, battery full and charging completed.

### **ATTENTION:**

- 1. To keep your product in good condition, please don't drop it or step on it.
- 2. Keep surface of solar panel clean, this will improve conversion efficiency.

#### **DISTRIBUTED BY:**

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