200W Canvas Blanket Solar Panel with Charge Controller

ZM9124 User Manual
INTRODUCTION

Please ensure that you have read the product manual and instructions in full before using this product. Failure to do so many 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.

BOX CONTENTS

1 x 200W Canvas Blanket Solar Panel
1 x Solar Charge Controller
2 x Leads

CAUTION / WARNING

• 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.
**SPECIFICATIONS**

Solar Panel:
- Solar Cell Type: Monocrystalline 156 x 156mm
- Power Output: 200W
- Open Circuit Voltage: 23.7V
- Short Circuit Current: 9.8A
- Working Voltage: 18V
- Working Current: 9.5A
- Weight: 6.2KG
- Dimensions:
  - Folded: 512(W) x 360(H)mm
  - Unfolded: 1070(W) x 1032(H)mm

Solar Charge Controller
- System Voltage: 12/24V Auto
- Charge Current: 20A
- Discharge Current: 20A
- Max. Solar Inout: <50V
- Battery Equalisation:
  - Sealed: 14.4V
  - GEL: 14.2V
  - Flood: 14.6V
- Float Charge: 13.7V (Default, Adjustable)
- Discharge Stop: 10.7V (Default, Adjustable)
- Discharge Reconnect: 12.6V (Default, Adjustable)
- USB Output: 5V, 2A
- Self-Consumption: <10mA
- Operating Temperature: -35 ~ 60°C
- Weight: 154g

**HOW TO USE**

- 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 solar charge controller before connecting battery clamp lead to the solar controller.
SAFETY INSTRUCTIONS

- 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 (Flood, AGM, GEL), and lithium ion. 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 solar charge controller will be hot when working. Please install in a flat, well ventilated area.

HOW TO CHARGE A 12V BATTERY

1. Connect the battery to the solar charge controller.
2. Connect load to solar charge controller.
3. Connect solar panel to solar charge controller.
4. Reverse this order when disconnecting.

NOTE: Heavy loads should not be connected to the battery.
**LCD DISPLAY/KEY**

Menu: Switch between different displays, or enter/exit settings by long press.
Up: Press to increase value
Down: Press to decrease value

**DISPLAY / SETTINGS**

- **Main Display**
- **Browsing Interface**
- **Set Parameter**
- **Battery Type**
- **Work Mode**
- **Discharge Stop**
- **Float or CV Voltage**
<table>
<thead>
<tr>
<th>Issue</th>
<th>Probably Cause</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Charge icon not on when sunny</td>
<td>Solar panel closed or reversed</td>
<td>Reconnect</td>
</tr>
<tr>
<td>Load icon off</td>
<td>Mode setting wrong</td>
<td>Set again</td>
</tr>
<tr>
<td></td>
<td>Battery low</td>
<td>Recharge</td>
</tr>
<tr>
<td>Load icon slow flashing</td>
<td>Over load</td>
<td>Reduce load watts</td>
</tr>
<tr>
<td>Load icon fast flashing</td>
<td>Short circuit protection</td>
<td>Auto reconnect</td>
</tr>
<tr>
<td>Power off</td>
<td>Battery too low / reverse connected</td>
<td>Check battery / connection</td>
</tr>
<tr>
<td>Model</td>
<td>1210</td>
<td>1215</td>
</tr>
<tr>
<td>---------</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td>System Voltage</td>
<td>12V/24V AUTO</td>
<td></td>
</tr>
<tr>
<td>Charge Current</td>
<td>10A</td>
<td>15A</td>
</tr>
<tr>
<td>Discharge Current</td>
<td>10A</td>
<td>15A</td>
</tr>
<tr>
<td>Max Solar Input</td>
<td>&lt; 50V</td>
<td></td>
</tr>
<tr>
<td>Battery Type</td>
<td>b01 Sealed</td>
<td>b02 GEL</td>
</tr>
<tr>
<td>Equalization</td>
<td>14.4V</td>
<td>14.2V</td>
</tr>
<tr>
<td>Float Charge</td>
<td>13.7V (default, adjustable)</td>
<td></td>
</tr>
<tr>
<td>Discharge Stop</td>
<td>10.7V (default, adjustable)</td>
<td></td>
</tr>
<tr>
<td>Discharge Reconnect</td>
<td>12.6V (default, adjustable)</td>
<td></td>
</tr>
<tr>
<td>Battery Type</td>
<td>b04 Iron lithium 4 Strands</td>
<td>b05 Iron lithium 5 Strands</td>
</tr>
<tr>
<td>Constant Charging Voltage</td>
<td>3.6V*4/5</td>
<td></td>
</tr>
<tr>
<td>Recovery Charge Voltage</td>
<td>3.4V*4/5</td>
<td></td>
</tr>
<tr>
<td>Low Voltage Protection</td>
<td>2.6V*4/5</td>
<td></td>
</tr>
<tr>
<td>Low Voltage Recovery</td>
<td>2.9V*4/5</td>
<td></td>
</tr>
</tbody>
</table>

b04~b07 Parameters can not be set

<table>
<thead>
<tr>
<th>USB Output</th>
<th>5V/2A</th>
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</thead>
<tbody>
<tr>
<td>Self-consume</td>
<td>&lt; 10mA</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>-35 ~ +60°C</td>
</tr>
<tr>
<td>Size/Weight</td>
<td>133<em>70</em>34mm/154g</td>
</tr>
</tbody>
</table>

*All red colour voltage *2, *4 while using 28V/48 system.
*Product specifications are subject to change without prior notice.