**SAFETY INSTRUCTIONS**

1. Make sure your battery has enough voltage for the controller to recognize the battery type before first installation.
2. The battery cable should be as short as possible to minimize loss.
3. This controller is suitable for lithium batteries and all kinds of lead-acid batteries (OPEN, AGM, GEL).
4. The charge regulator is only suitable for regulating solar modules. Never connect another charging source to the charge regulator.
5. The controller will be hot when running. Please note that the controller is installed on a flat, well-ventilated surface.

**PRODUCT FEATURES**

1. Built-in industrial micro controller, all adjustable parameter.
2. Fully 3-stage PWM charge management.
4. Dual MOSFET Reverse current protection, low heating dissipation.
5. There are lithium battery and lead-acid battery switching function (at the battery type interface, 3 seconds into the switch settings), the default is lithium battery.

**SYSTEM CONNECTION**

1. Connect the battery to the charge regulator-plus and minus.
2. Connect the photovoltaic module to the regulator-plus and minus.
3. Connect the consumer to the charge regulator-plus and minus.

**TROUBLE SHOOTING**

<table>
<thead>
<tr>
<th>Situation</th>
<th>Probable cause</th>
<th>Situation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Charge icon not on when sunny</td>
<td>Solar panel open or reversed</td>
<td>Connect again</td>
</tr>
<tr>
<td>Load icon off</td>
<td>Mode setting wrong</td>
<td>Set again</td>
</tr>
<tr>
<td>Battery low</td>
<td>Load icon slow flashing</td>
<td>Recharge</td>
</tr>
<tr>
<td>Over load</td>
<td>Load icon slow flashing</td>
<td>Reduce load watt</td>
</tr>
<tr>
<td>Short circuit protection</td>
<td>Power off</td>
<td>Auto reconnect</td>
</tr>
<tr>
<td>Battery too low reverse</td>
<td></td>
<td>Check battery/connection</td>
</tr>
</tbody>
</table>

**PRODUCTS FEATURES**

**Batt voltage**: 12V / 24V auto adapt.

**Charge current**: 10A

**Discharge current**: 10A

**Max Solar Input**: <41V

**Equalization**:
- Lithium battery (Lit): 12.8V
- Lead acid battery (bAt): 14.4V
- Lead acid battery: 13.7V (defaults, adjustable range 13-15V)
- Lithium battery: 12.0V (defaults, adjustable range 11.5-12.8V)
- Lead acid battery: 10.7V (defaults, adjustable range 9.0-11.5V)
- Lithium battery: 10.7V (defaults, adjustable range 9.0-11.0V)
- Lead acid battery: 12.6V (defaults, adjustable range 11.5-13V)
- Lithium battery: 11.6V (defaults, adjustable range 11.0-11.7V)

**Standby current**: <10mA

**USB output**: 5V / 2A Max

**Operating Temperature**: -35~+60°C

**Size / Weight**: 133*70*35mm / 140g

**Contact Information**

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