



# Instruction Manual

The TPS-555 Solar Charge Regulator is designed to control the charging from the solar panel/s into the battery, and the power draw from the battery to the loads.

## Feature

- TPS555 Solar Charge Regulator is able to handle charge and discharge from a 12V battery bank.
- It provides over-charging, over-discharging, and over-load protection. Therefore keeping the whole solar system at a proper working condition.
- PWM (pulse width modulation) charging circuit is used for higher efficiency
- Big LCD display for easy monitoring

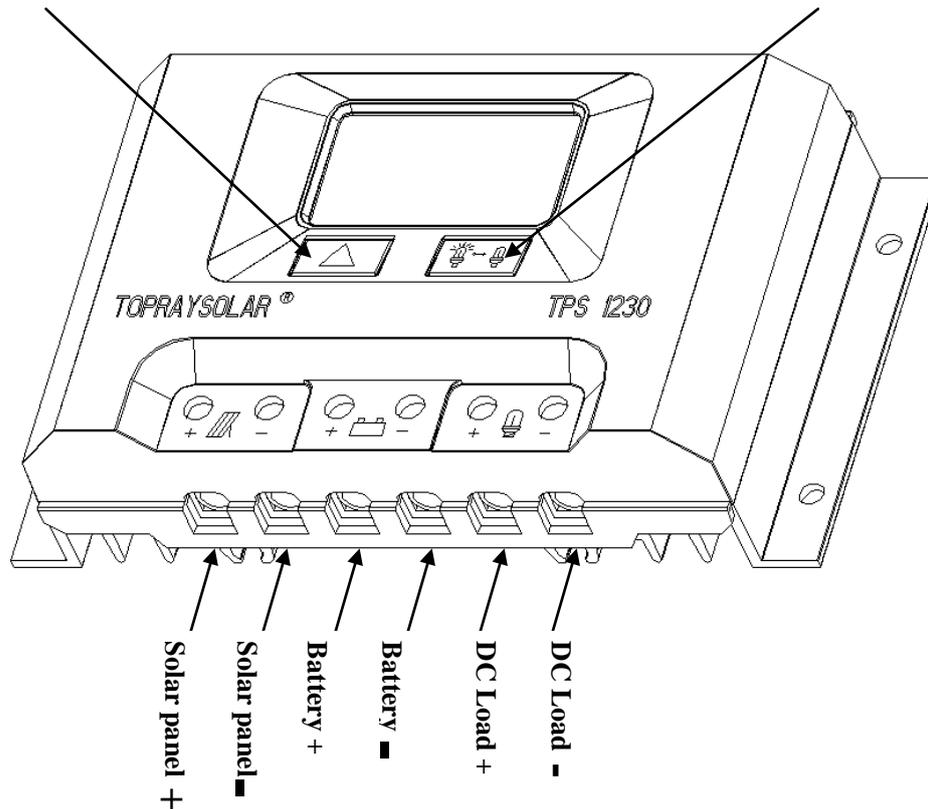
## Technical data

Item	TPS-555 12V
Max. Solar Input current	30A
Max. load current	30A
Rated Output Voltage	DC12V
Over charge voltage	14.5V±0.4V
Over discharge protection	10.7V±0.4V
No load loss	< 25mA
Control method	PWM charging
Operating temperature	( -25°C-40°C )
Open circuit voltage of panel	28Vmax
Low voltage reconnection	12.0±0.4V

## How to connect the charge controller

Display Shift Button

Load on/off switch



1. Choose multi-strand insulated copper wire not less than  $\Phi 6\text{mm}^2$ , bare strip 5mm at the end for connection to the charge regulator. Make sure that the connection is secure and tight to reduce any power loss.
2. Battery should be connected to the port where shows “+  -” Please note that “+” stands for positive pole, and “ - ” stands for negative pole. Make sure you connect with correct polarity.
3. DC load should be connected to the port where shows “+  -” Please note that “+” stands for positive pole, and “ - ” stands for negative pole. Make sure you connect with correct polarity
4. Solar panel should be connected to the port where shows “+  -” Please note that “+” stands for positive pole, and “ - ” stands for negative pole. Make sure you connect with correct polarity.
5. Finally, please make sure that all the connections are secure and correct.

### **How to disconnect and connect the charge controller**

When connecting or disconnecting the charge controller, please follow the sequence below

#### **Disconnecting**

1. First disconnect the positive and negative of solar panel.
2. Turn off the load on/off switch, then disconnect load.
3. At last, disconnect the positive and negative of the battery, do not disconnect battery before disconnecting the solar panel.

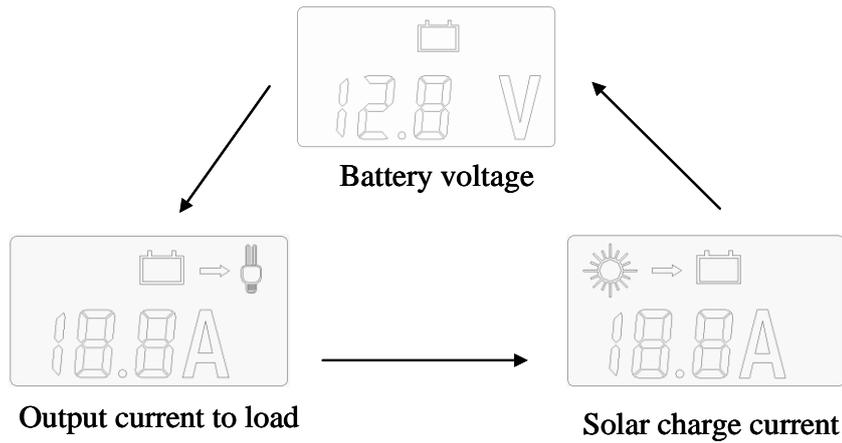
**Connecting**

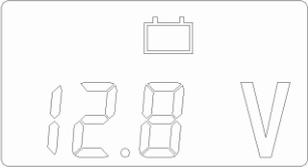
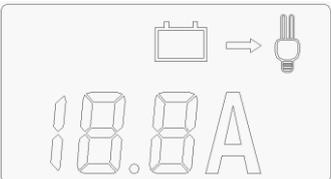
1. First connect battery wires
2. Then connect solar panel wires
3. Finally, connect load (if any)

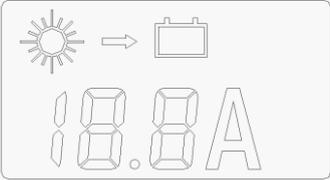
In order to ensure correct operation of the controller, the above order **MUST** be followed.

**How to use the controller**

The Display Shift Button works in a cycle pattern. By pressing the button, the LCD will switch in between the three different modes as shown below.



<p><b>Display Shift Button “▲”</b></p>	<p><b>“” Load on/off switch</b></p>
<p>Mode 1 : When you press “▲” button, the LCD screen shows the working voltage of the battery, following is an example:</p> 	<p>When the load “” button is used in this mode, it will not change what is being displayed on the LCD.</p>
<p>Mode 2 : when you press “▲” again, the LCD Screen shows the output current from battery to the load.</p> <p>Following as an example:</p> 	<p>When the load “” button is used in this mode.</p> <ol style="list-style-type: none"> <li>1. When the load output is under ON status, LCD will show output current from battery to load.</li> <li>2. When the load output is under OFF status, LCD will show 00.0A.</li> <li>3. If over discharge protection is activated,</li> </ol>

	<p>the load output will be cut off. If you press  "under such status, it is invalid and buzzer alarm will sound.</p> <p>4. When battery voltage is restored from over-discharge or over load protection, press  twice to reactivate the load output function.</p>
<p>Mode 3 : when you press "▲" again, the LCD Screen shows the charging current from the solar panel to the battery. Following as an example:</p> 	<p>When press  button in this mode, it will not change what is being displayed on the LCD screen.</p>

### Warning and Notice.

1. When designing or installing the solar system, please make sure that the voltage of battery (12VDC) and the voltage of the solar panel/s are matching. The maximum power input from the solar panels that can be used for the TPS-555 12V should be less than **360W**
2. Please do not touch or short the bare strip lead wire of the solar panel to prevent electric shock.
3. Please cover the surface of the solar panel/s during the installation process to prevent electric shock.
4. The charge controller is NOT of a waterproof design, keep away from rain, and water.
5. The charge controller is working with high power outputs, please do not touch the surface when it is working. Place the charge controller in a cool and well ventilated position and avoid direct sunshine, mounting in hot areas (kitchen area), dust and moisture.

### Trouble Shooting:

1. No Output
  - Check if the load is connected correctly
  - Current draw is within the Maximum output current limit.
  - Battery Voltage is not low.
2. Can not charge
  - Check if the connection of solar panel & battery to the controller is secure.
  - Check Battery

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