

# SOLAR BATTERY BACK-UP USER'S MANUAL

Design for solar fountain pump

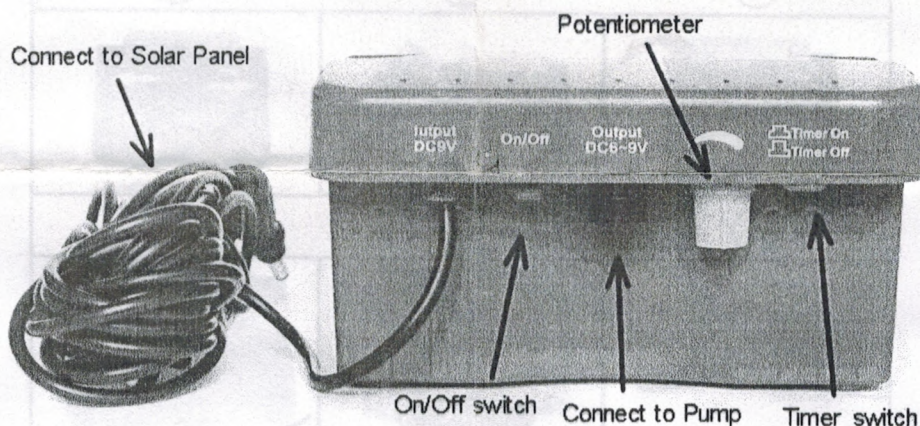
Item No.: SBB6-3.2

## 1. OVERVIEW

- 1) This special solar battery back-up is designed for solar fountain pump. It can store solar energy for day or night use.
- 2) The input power should be a solar module or DC power with output voltage of 8V-9V.
- 3) The battery back-up has built-in functions of overcharging and over discharging protection.
- 4) There is a color changing LED light indicating the working status of the battery back-up. The GREEN shows it is in normal operating status, while the RED shows the battery is in too low voltage status, which requires the battery to be recharged.
- 5) The battery back-up is equipped with the timing function to decrease the energy consumption in cloudy days or in winter. In this timing mode, the pump works 15 minutes every hour by turning the timer switch to "ON".
- 6) To get different pump performance, the output voltage can be adjusted in the range of 6V-9V through the potentiometer.



## 2. ASSEMBLING & OPERATION



- 1) Connect the INPUT cable of the battery back-up to the solar module, and tighten the screw for protection.
- 2) Insert the pump plug to the OUTPUT socket of the battery back-up, and also tighten the screw.
- 3) Make sure to place the pump fully underwater when the pump operates.
- 4) Turn the switch to the position "ON". The green LED illuminates. The solar pump is starting to operate. **The red LED may illuminate while it operates at the first time, because the battery may lose the energy in the inventory. It just needs to be charged for 2 to 3 hours in the sunshine by facing the solar panel towards the sunlight, then the LED will change to green and the pump will start to work.**
- 5) The pump will automatically stop running while the battery is discharged to its lower limit voltage, and the red LED illuminates at the meantime.
- 6) The pump will automatically operate while the battery is recharged to its starting voltage and the green LED illuminates again.
- 7) Turn the timer switch to the position "ON", the pump works 15 minutes every hour. It can save the battery energy in this operating mode.
- 8) If you want to have longer operating time in the evening, then turn the switch to "OFF" position during the day and turn it "ON" whenever you need.

**Note: The battery will be always charged in the sunlight no matter whether the switch turns to "ON" or "OFF"! And the system will automatically cut off the charging current while the battery is charged to its higher limit voltage (fully charged).**

### 3. CAUTIONS

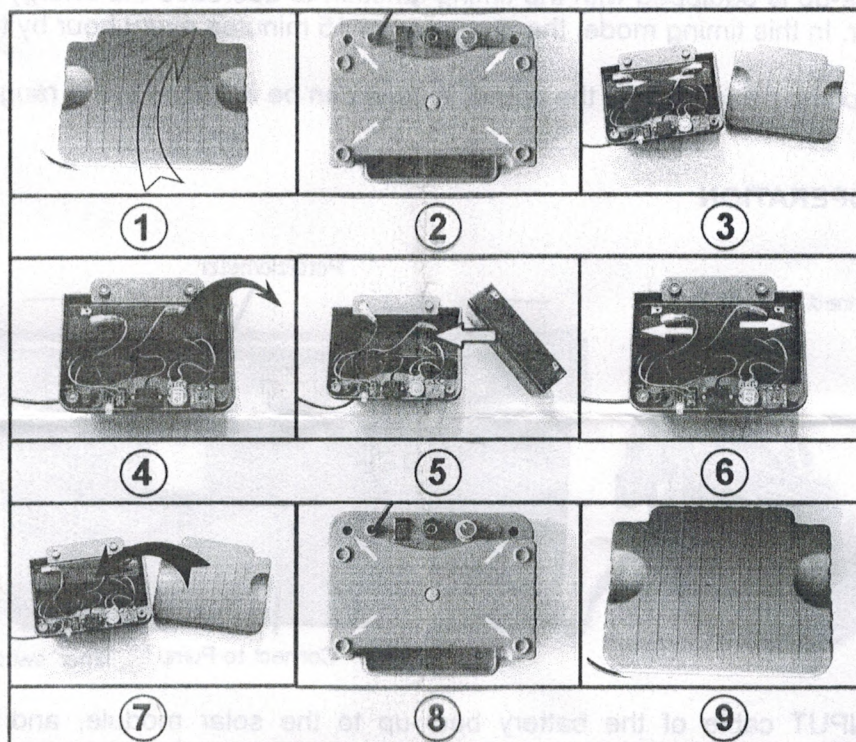
- 1) Do not connect the solar battery back-up to any AC voltage power for charging; it is ONLY for DC voltage power.
- 2) Do not leave this battery back-up in bad weather conditions or bad ambient environment.
- 3) Do not leave the battery back-up in direct blazing sunlight or expose it to extremes of heat or cold which can affect its service life.
- 4) Do not expose this battery back-up to heavy rain.
- 5) Adjusting the potentiometer to reach maximum output voltage (9V) will shorten the total pump operating time during a day. It may also shorten the battery service life if the battery station always operates at maximum output voltage (9V).

### 4. FUNCTIONALITY PROBLEMS

If after a long time the RED indicating light is always alight, and the pump does not operate even though the solar module is in full sunlight, please check the below possible failures:

- 1) No connection to the solar module—check connection to the solar module.
- 2) The battery is out of its service life and needs to be replaced.

Replace the battery by following the below steps:



### 5. TECHNICAL DATA

Lead acid battery	6V, 3.2AH
Charging voltage	DC 8V-9V
Output voltage	6V-9V
Maximum input power	5W
Maximum output power	3W
Size	14x11x8cm
Net weight	1.1 KG
Cable length	3 M



**WARNING:** Discharged batteries are still explosive and contain toxic chemicals. NEVER DISPOSE OF A BATTERY BY THROWING IT INTO THE TRASH, LANDFILL, INCINERATOR OR TRASH COMPACTOR. Take it to a service station or recycling center.

