



# 6/12 Volt - 5 Amp SLA **SOLAR BATTERY CHARGE CONTROLLER**

Part No. 1950-136



*Rated for Class 1 Div 2*

## Recommended Installation Instructions

### DO NOT CONNECT OR DISCONNECT WIRING IN A HAZARDOUS ENVIRONMENT!

1. Securely mount the 1950-136 5A SLA Solar Battery Charge Controller in an approved enclosure near the battery to be charged. The charge controller may be bolted to a back plate using the available mounting flanges, or an approved adhesive may be used to attach the charge controller to an available flat surface.
2. Run wire from the charge controller's terminals to the battery. 18 gauge wire is recommended if the solar panel provides 1 Amp or less charging current, or 14 gauge wire if it provides more than 1 Amp of charging current. Strip the wire back 3 mm (~1/8") and insert the bare portion into the terminal, then tighten the screw until it crimps down securely on the wire. An approved in-line fuse holder should be wired in series between +BAT terminal of the charge controller and the positive terminal of the battery. A 5 Amp fast-blow style fuse is recommended for circuit protection. If the battery terminals are connected backwards the LED on the charge controller will light indicating reversed wiring, and the charge controller will not charge the battery.
3. Run cable from the solar panel through the bottom of the enclosure or provided cable entrance to the +IN and GND terminals on the charge controller. Strip the wire back 3 mm (~1/8") and insert the bare portion into the terminal, then tighten the screw until it crimps down securely on the wire. If the battery enclosure is located in a potentially hazardous area, ensure use of conduit or approved cable, and properly seal all wiring entrances as required.

***"Industry Leading Low Self Consumption"***



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## WIRING

GND -Negative battery terminal  
+BAT -Positive battery terminal

GND -Negative terminal of the solar panel  
(or other source of charging power)  
+IN -Positive terminal of the solar panel  
(or other source of charging power)

## JUMPER SETTINGS

To gain access to the jumpers, remove the plug-in connectors and the four screws from the corners of the cover. There is one jumper to select between 12 and 6V.

### 12V / 6V

There are three sets of jumpers across the bottom. The leftmost set has three pins. Place the jumper across the middle and left pin for 12 Volt operation (**this is the factory default**). Place the jumper across the middle and right pin for 6 Volt operation. If this jumper is not installed, the charger defaults to 6 Volt operation.

Throughout this document “paired” voltage levels are used to describe operating parameters. The first number will represent 12V operation. The second number in parentheses ( ) will represent 6V operation.

## FAST CHARGE

The middle set of jumpers is used to enable the fast charge mode. With this jumper in place the charger will immediately go into the fast charge mode when the battery voltage falls below 12.8V (6.4V). The charger will fast charge the battery to 14.7V (7.4V) and enter a compensation mode. When the charging current falls off indicating the battery has been charged, the fast charge turns off. **This jumper in place is the factory default setting.**

## FLOAT CHARGE

The right set of jumpers is used to enable the float charge mode. With this jumper in place the charger will maintain a battery voltage of 14.1V (7.0V). This will hold the battery in a fully charged state. The charge controller enters this state automatically whenever the Fast mode shuts off. **This jumper in place is the factory default setting.**

**At least one of the jumpers for Fast/Float must be in place for the charger to operate.**

Normally, both jumpers should be left in place to enable the charge controller to select the best charging method for the battery.

## TEMPERATURE COMPENSATION

The charge controller has built-in temperature compensation. The charger should be mounted in the battery box near the battery for optimal compensation.

## REVERSE BATTERY INDICATOR

If the battery is wired with the positive and negative terminals reversed, the red Reverse Battery LED will light. The controller is internally protected from damage from reverse wiring on both the solar and battery terminals, but must be wired correctly to charge the battery.

## SPECIFICATIONS

Battery Voltage	12V/6V
Maximum	5 Amps
Charging modes	Fast (Jumper selected) Float (Jumper selected) Fast/Float (Jumper selected)
Fast/Compensation Mode ON Voltage	~12.8V (6.4V)
Fast/Compensation Mode OFF Voltage	~14.7V (7.4V)
Float Mode Voltage	~14.1V (7.0V)
Self Consumption	400 $\mu$ A (not charging), 2mA (charging)
Temperature Compensation	-3.3mV / deg C / Cell
Operating Temperature	-40 to 60 deg C
Environmental	Encapsulated
Pluggable Connectors	12 AWG Max Wire Size

## CHARGING PARAMETERS

When the battery drops below approximately 2.13 Volts per cell the charge controller will enter a fast charge mode. The charge controller will supply the maximum current possible to the battery until the terminal voltage reaches approximately 2.45 Volts per cell. As the battery approaches a fully charged state, the charge controller enters a compensation charging mode and the charging current will taper off. When the current reaches a steady state value, the charge controller will switch to the float charge mode. The charge controller will then supply current to the load and will also maintain the battery at approximately 2.35 Volts per cell as long as charging power is available.

Due to the low noise linear charge method used by this product, it is possible to overheat a unit by using a power supply or solar panel with a working voltage much higher than the battery voltage. Appropriate power dissipation in the charge controller may be best maintained by using a solar panel or power supply with a working voltage of approximately 8-9 Volts for 6 Volt batteries and 16-17 Volts for 12 Volt batteries.

*Be sure to visit our website for additional products including our 1950-253, 12/24V, 10A, SLA/flooded Solar Charge Controller and our Low Voltage Disconnect devices.*

Designed and Manufactured by **Rogue Engineering Inc.**  
in Englewood, Colorado, U.S.A.