

# GENASUN

## Maximum Power Point Tracking Solar Charge Controllers

### Models GV-6 and GV-9

Firmware versions 2.27 and up

#### Introduction

Congratulations on your purchase of the Genasun Maximum Power Point Tracking Solar Charge Controller! Genasun's controllers are the most compact and advanced controllers available for small solar installations. Genasun's controllers have been specifically designed to meet the demanding needs of marine solar power installations, but are equally at home in any solar power application.

Your tracking charger works by operating your solar panel at the voltage where it can produce the most power, resulting in increases of 10% up to 30% depending on your panel, battery state of charge, and lighting conditions. Genasun's controllers also prevent overcharging by throttling back the panel power as your batteries reach full charge. In order to get the most from your charger, please follow these instructions.

#### Connections

On the left side of your solar charge controller are three screws. The middle screw is ground, shared between the negative terminals of the battery and solar panel. On the bottom is the positive terminal for the battery. On the top is the positive terminal for the solar panel. When connecting, connect the battery first and then the solar panel. When disconnecting, disconnect the solar panel first and then the battery.

It is necessary to mount your controller where it will not become wet, as it is not waterproof. Avoid mounting it in an engine compartment or near other sources of heat.

For highest efficiency and best performance near full-charge, mount your Genasun controller as close to your battery as possible, and use heavy gauge wire (12 or 14 gauge preferable; 16 gauge acceptable for runs up to a few feet).

For a single panel installation, a blocking diode is not necessary, and would only reduce efficiency. Multiple panels may be connected in parallel up to the maximum power limit of the controller, with a blocking diode used for each panel. For optimum performance, the panels should be of the same model and facing the same direction.

When this is not possible, it is recommended to use a separate controller for each panel.

Unless otherwise noted, your charge controller float voltage has been set up for sealed lead-acid batteries such as AGM or Gel. If you wish to use your controller with flooded batteries or other chemistries, please contact Genasun to obtain a model with the appropriate float voltage.

When completing the battery circuit, a small spark may occur due to the capacitance in the charge controller. This is expected and is not a malfunction.

## Status LEDs

The Genasun Maximum Power Point Tracking Solar Battery Charger has two status LEDs. When you first connect your charger to the battery, both LEDs should come on for approximately one second, so that you can confirm that the LEDs are operational. Then, the Green LED blinks to indicate that your charger is powered and charging, and the Red LED may blink to indicate errors.

Green LED:

Short blinks every 2 seconds:	Battery connected, no panel voltage
Short blinks every 1 second:	Panel detected, but not providing power
Fast short blinks:	Charging with low current
Slower long blinks:	Charging with high current
Constant on:	Battery is Fully Charged

Red LED:

Two Blinks:	Over-Temperature
Three Blinks:	Over-Current
Four Blinks:	Battery Under-Voltage
Five Blinks:	Battery Over-Voltage
Six Blinks:	Panel Over-Voltage:
Two Long Blinks followed by short blinks:	Contact Tech Support

## Electrical Specifications

Battery Voltage	9-15v
Panel Voltage	0-27v (must be above battery to charge)
Night Time Consumption	~5mA

	<b>GV-6</b>	<b>GV-9</b>
Maximum Charge Current	6A	9A
Maximum Panel Power	70 W	110 W

## Physical Specifications

Size	5.5x2.5x1.5", 14x6.5x3.5cm
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Weight

6.5oz., 185g

## **Warranty and Service**

Your Genasun product comes with a limited lifetime warranty against defects and malfunctions. This warranty does not cover damage caused by incorrect connections, water, or other abuse. To obtain technical support, repairs, or to request a return authorization, please email us at:

*support@genasun.com*

or write us at:

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