

GENASUN

GV-10

Maximum Power Point Tracking Solar Charge Controller

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 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 is a terminal block with 4 connections: Solar Panel Positive, Solar Panel Negative, Battery Positive, and Battery Negative. To minimize the risk of damaging the charge controller, **connect the panel** to the charge controller **first**, and then connect the battery. 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) to connect your panel and battery to the GV-10.

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 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.

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.

Troubleshooting

If the GV-10 is connected with reverse battery polarity, the internal 15A automotive style fuse will be blown, and the LED's will not light. To replace the fuse, open the unit by removing the four screws on the bottom, and replace with a fast-acting 15A fuse. For other problems, refer to the LED blink codes listed below.

Status LEDs

The Genasun Maximum Power Point Tracking Solar Battery Charger has one bi-color status LED. When you first connect your charger to the battery, the LED should blink red then green. Then, the LED blinks green to indicate that your charger is powered and charging, and the LED may blink red to indicate errors.

Green LED:

Short blinks every 4-5 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
Long Blink, Short Blink	Charging at internal current limit
Constant on:	Battery is Fully Charged

Red LED:

Two Blinks:	Temperature Too High
Three Blinks:	Power Too High
Four Blinks:	Battery Too Low
Five Blinks:	Battery Too High
Six Blinks:	Panel Too High
Two Long Blinks followed by short blinks:	Contact Tech Support

Electrical Specifications

Min. Battery Voltage for Charging	8.5V
Maximum Battery Voltage	17.5V
Panel Voltage	0-34V (must be above battery to charge)
Float Voltage	13.8V
Temperature Compensation	-28mV/C
Night Time Consumption	<1mA
Rated output Current	10.5A
Rated Panel Power	140W

Physical Specifications

Size	5.5x2.5x1.5", 14x6.5x3.5cm
Weight	6.5oz., 185g

Warranty and Service

Unless otherwise specified at time of purchase, 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. For support and warranty service, please contact the company you purchased the GV-10 from.

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