

Specifications

Features

- Unique - zero battery consumption
- Protection (PV & Batt), against short-circuit & reverse polarity, overload, over temperature & battery removal
- Extreme -40°C to +85°C (-40°F to +185°F)
- Can charge a completely discharged battery
- Series design (not shunt)
- Reliable -100% solid state, quiet, completely sealed
- No radio interference
- No need to derate
- Fully encapsulated in epoxy potting
- Solid aluminum case
- 5 year warranty
- Manufactured with solar power
- Designed and built in North America

Models

S10M (Marine dual charge option)

Electrical Specifications

Voltage configurations 12 volts

(custom voltages 6 to 20 volts)

Max. PV open circuit voltage 30 volts

Max. Charging current at 85 °C (+185F) 10 amps DC

Battery consumption zero

Typical solar consumption 0.003A daylight only

Includes fuse, fuse holder and 10 gauge terminal

blocks on 12 gauge wire leads

Typical set points: Off: 14.1 Volts On: 13.3 Volts

(other set points available)

General Specifications

Temperature range: -40° to +85°C -40°F to +185°F

Case: Solid aluminum case, sealed in epoxy

Weight: 500 grams

Size (H x W x D): 9 x 14 x 4 cm (3.5 x 5.5 x 1.5 ")

Mounting: wall mountable, stainless steel mounting screws provided

Features & Options

Status Lights: 3 (solar on, charging, full)

Regulation method Low frequency On-Off series type.

Built in blocking diode. Custom voltage setpoints.

- Marine Version – charges two isolated battery banks with a single control. Perfect for boats or recreational vehicles with dual battery systems.

Full 5-Year Warranty

Warranted in entirety, except abuse, within a period of 5 years following the date of purchase. In the event a defect develops during the warranty period return the unit to eco energy, postage paid. Eco energy will repair or replace the product with a new or reconditioned unit of equivalent quality.

Eco Energy

Since 1992, Eco Energy has been in the business of designing and manufacturing solar charge controllers, battery chargers, low voltage disconnects, current boosters DC converters and battery voltage monitors.

Eco Energy controls are currently used in power systems for remote homes and cottages, recreational vehicles, boats, telecommunication and navigational systems, natural gas pipeline operations and other solar battery charging applications around the world.

Eco Energy is powered by solar power and is a member of the Canadian Solar Industry Association.



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Installation Guide

SunSport 10 Marine

10 Amp Solar Charge Controller

Intelligent Charging Solutions.



SunSport 10 Marine

Our latest innovation in solar charge controllers, the SunSport series. Tough, easy to install and practically indestructible.

This high performance solar charge controller increases battery life by preventing overcharging. Overcharging can cause corrosion and buckling of the lead plates, increased battery water loss and excess hydrogen gas.

The control also prevents power loss back into the solar modules at night, so an external blocking diode is not required.

Unique no battery drain - Battery standby power consumption is zero! In the dark they use absolutely zero power, ideal for PV systems where efficiency is important. Boaters can leave it connected all winter without draining the batteries. Some other controls which have a standby current draw will drain the battery over the winter with no solar input, reducing the freeze protection of the battery.

Efficient Design – our latest innovation; automatic nighttime shutdown with an intelligent design results in the controller using < 1/10th the power of the industry average. Other controls stay on all night, wasting precious power. Save up to 10% more power from a 5 Watt module.

Safer - SunSport controls have more built in protection and safety features than any others on the market. They feature automatic over-temperature shutdown, protection from battery removal conditions, over-current, solar and battery reverse polarity, short circuit and over-voltage protection of the inputs and outputs. Eco Energy is the first to combine all of these safety features into one controller. In remote applications, there is no need to worry about accidentally damaging the controllers.

SunSport 10 Marine - Marine option specifically designed for boats charges two isolated batteries from one panel. Completely sealed for protection from the harsh salt water environment.

Installation

WARNING

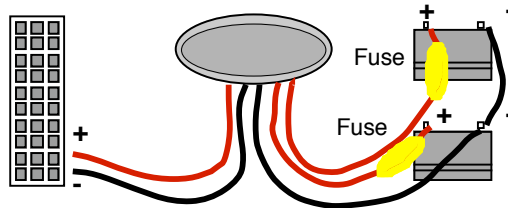
Controllers should not be installed in the same enclosure as batteries as this is a corrosive environment.

Location

The controller needs to be in a cool location in order to function properly. It should not be in direct sunlight, or mounted in a hot location such as the back of a solar module. The controller should be installed near the batteries, to ensure an accurate battery voltage measurement. The distance from the solar panels to the controller should not exceed 60 feet.

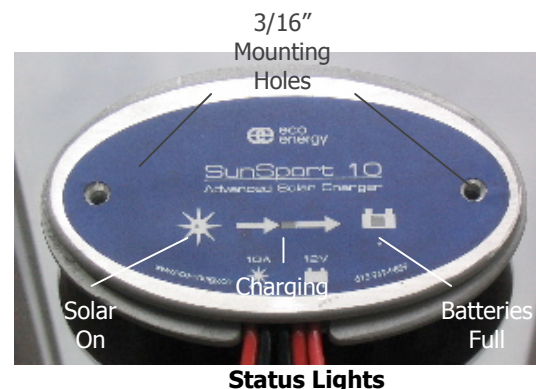
Wiring

#12 AWG or larger wire must be used.



Solar + In is Red closest to the solar on light
The negative wires are Black (both black wires are connected together inside the controller so only one negative wire can be used if it is more convenient.)

Battery 1 & 2 Out + Red closest to the battery symbol.



Status Lights

Operation

The controller protects batteries from overcharging. It allows solar power to charge the battery until the battery rises to the full voltage set point. It then shuts off the solar power until the battery voltage drops by approximately 5%.

Because the battery voltage fluctuates, it is normal for the charging and battery full lights to turn on and off as the battery approaches full charge.

At night all lights are off to save power.

Fault Conditions

All lights are off to indicate a fault during solar short circuit, solar or reversed battery. During over-temperature and battery short circuit conditions the solar light and charging light will be on with a very small charging current (approximately 30 mA).

No damage will occur if the battery is removed, leaving the control directly connected to the solar module. In this case the battery full light will come on.

The control will automatically limit the current if too many solar panels are put on the input.

Basic Testing

Connect the control directly to a solar module (in bright sunlight) without a battery. The charging light should come on briefly, and then go out. The battery full light should then turn on steady.

If this does not occur the control requires service.

Verification of the Voltage Set point

A power supply can be put on the input with the power supply current limit at or below the controller rating. The battery full light should come on when the battery voltage reaches 14.1 volts. Without a battery, the battery full light will come on at 14.4 volts on the solar input.