

SEALED LOW POWER PV CHARGE CONTROLLER

SBL-2108, 2208

Description

This series of cost effective PV Charge Controller is designed for trouble free application in coarse, high humid and large change of ambient temperature environment. The whole PCB assembly is potted with epoxy and enclosed in a poly-carbonate casing.

A microprocessor (MCU) is used to control the PWM charging in Absorption Stage and Float charge to recycle charging. The charging profile of Bulk, Absorption and Float are especially programmed for the opportunity charging condition for solar charge application.

The MCU controls the Over Temperature Protection, Over Load Protection of the unit, Reverse Polarity Protection of connections to both the solar panel and battery. The protections are normally self recoverable when the fault has been cleared and operating condition returns to normal condition. However repeated triggering of Overload or Short Circuit will call for user intervention and reset the controller.

Selection for Sealed type and Wet type of battery, Night Light Mode load connection for dusk to dawn lighting application with low voltage cut off protection for the battery are standard features of this intelligent solar charge controller .



Features

- MCU controlled program PWM charging.
- Selection of Sealed & Wet Type battery.
- Electronic protections (self -recoverable) for:
 - Controller Over Temperature.
 - Reverse Polarity for battery connection.
 - Over Load & Short Circuit.
 - Over Voltage Protection to battery at 16V of (SBL-2108) and 32V of (SBL-2208)
 - Water resistant and wide operation temperature range (-40°C to +60°C).
 - Night Light Mode with Dusk to Dawn lighting operation with battery over discharge protection.
 - Low standby current less than 9mA.
 - CE approval.

Specifications

Models	SBL-2108	SBL-2208
Battery System Voltage	12VDC	24VDC
Maximum PV Open Circuit Voltage	26VDC	52VDC
Maximum PV Short Circuit Current	10A	
Rated PV Input Current	8A	
Maximum PV Input Current (5 minutes)	10A	
Rated Load Current	8A	
Maximum Load Current (5 minutes)	10A	
Minimum Operating Charging Voltage (from Battery)	6VDC	9.5VDC
Standby Current Consumption	≤9mA	
PV Voltage to turn ON the Night Light Mode Load	≤3V for 10 minutes	≤6V for 10 minutes
PV Voltage to turn OFF the Night Light Mode Load	≥3.5V for 10 minutes	≥7V for 10 minutes
Protections		
Over Temperature Protection to shut down unit	Yes and Self recoverable	
Over Voltage Protection for Battery	16VDC Self recoverable	32VDC Self recoverable
Battery Low Voltage to disconnect load	≤11.5V ±0.2V	≤23V ±0.4V
Battery Low Voltage to Auto-reconnect load	≥12.4V ±0.2V	≥24.8V ±0.4V
Over Current for load 12A	User reset required after 2times recovers	
Battery Terminal Reverse Polarity Protection	Yes and Self recoverable	
Absorption Voltage		
Sealed type battery setting	14.5V ±0.2V	29.0V ±0.4V
Wet type battery setting	14.8V ±0.2V	29.6V ±0.4V
Float Voltage	13.8V ±0.2V	27.6V ±0.4V
Ambient Temperature Range	-40°C to +60°C	
Relative Humidity	100%	
Approvals	CE EN 61000; FCC Part 15 Subpart B Class B	
Dimensions (WxHxD)	97x46x25.5 mm 3.8x1.8x1 inch	
Weight	125 g 4.4 oz	

* All values are based on the Standard ambient Temperature 25°C and Pressure 0.1Mpa.

* SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE