

SCC600

60A MPPT SOLAR CHARGE CONTROLLER



OVERVIEW

The maximum power point tracking solar charge controller SCC600 is an innovative controller designed to efficiently charge a battery system from a solar panel array that ensures maximum conversion of solar insolation to electrical charge in the battery.

This MPPT charge controller uses a DC-DC converter to match the impedance of the solar array with the requirement of the battery at all time. The MPPT controller uses a microcontroller programmed to dynamically optimize the operating point of the solar panel array to yield maximum power. The charge regulation algorithm is designed to provide temperature compensation to extend the battery lifetime for a variety of batteries such as flooded lead acid, VRLA, Gel and Lithium polymer technologies.

FEATURES

- Extracts maximum power output from your solar panel. Ensures maximum efficiency of your solar system
- Increases PV array output upto 30%
- Automatic tracking algorithm ensures maximum power output at all times
- Automatic Temperature compensation for battery charging
- Charges any battery including new technology Lithium Batteries
- High current protection



SPECIFICATIONS

Nominal Battery Voltages	6V, 12V, 24V, 48V (Factory selectable only)
Maximum Output Current	60Amps at 45 °C ambient maximum
Power consumption	Less than 1 Watt maximum
Maximum Efficiency	97.5%
Battery Charging	Bulk, Absorption and Float
Battery Temperature Compensation	Automatic. 5mV per °C per 2V cell
Conversion Method	MPPT
DC-DC conversion mode	Buck Mode
Minimum Panel Voltage	(Panel Open Circuit Voltage must be atleast 30% higher than Battery voltage) 20% more than nominal battery voltage
Maximum Panel Voltage	For 6V and 12V batteries - 40V For 24V battery – 60 Volts For 48V battery – 80 Volts
Status Display	5 Indicating LEDs Power ON / Battery Voltage / Charging / UPS Control / Error
Operating Temperature	0 to 55 °C
Cooling System	Naturally aspirated
Storage Temperature	0 to 70 °C
Humidity	0 to 85% non condensing
Environmental Rating	Indoor Rating
Warranty Temperature	1 year

SPECIFIC TO LITHIUM BATTERIES

Minimum Cell Voltage	3V per cell Battery State indication will go off when the voltage reaches the below given calculation $3 * \text{Number of cells} + 0.5V$ (e.g.) For a 7 cell battery minimum battery indication voltage is $3 * 7 + 0.5 = 21.5 \text{ Volts}$
Maximum Cell Voltage	4V per cell Charging Voltage will be limited to $4.2V * \text{Number of cells} - 0.5V$ (e.g) For 7 cell battery maximum battery voltage limitation is $4.2 * 7 - 0.5 = 28.9 \text{ Volts}$



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