# SCC300

## 30A MPPT SOLAR CHARGE CONTROLLER

## OVERVIEW

The maximum power point tracking solar charge controller SCC300 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 | 30Amps at 45 ºC 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 ºC 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)<br>20% more than nominal battery voltage |
| Maximum Panel Voltage | For 6V and 12V batteries - 40V<br>For 24V battery – 60 Volts<br>For 48V battery – 80 Volts |
| Status Display | 5 Indicating LEDs<br>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<br>Battery State indication will go off when the voltage reaches the below given calculation<br>3 * Number of cells + 0.5V<br>(e.g.) For a 7 cell battery minimum battery indication voltage is<br>3 * 7 + 0.5 = 21.5 Volts |
| Maximum Cell Voltage | 4V per cell<br>Charging Voltage will be limited to 4.2V * Number of cells – 0.5V<br>(e.g) For 7 cell battery maximum battery voltage limitation is<br>4.2 x 7 – 0.5 = 28.9 Volts |

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