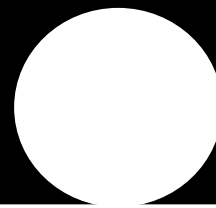


SC3/15

Specialty Concepts MARK III/15 PHOTOVOLTAIC CHARGE CONTROLLER



The Specialty Concepts Mark III/15 (SC3/15) sets the standard for reliability and style in PV battery charge controllers for RV and small residential applications. This attractive flush mount model provides efficient charging while protecting the batteries from damage due to overcharging. The SC3/15 also has metering, fuse protection and a blocking diode for reverse current protection, all in a single, cost effective unit. The SC3/15 is designed for 12 volt systems for up to 15 amps.

FEATURES

CHARGE REGULATION

- 15 amp charge current, 12 volt
- Switching shunt, pulse charging
- Remote temperature compensation (option)

LOW VOLTAGE LOAD DISCONNECT (option)

- 10 amp LVD Relay
- Contacts for gen. start or alarm

DESIGN FEATURES

- 100% solid state charge control
- Designed for rugged mobile use
- Over-current protection - battery fuse
- Reverse leakage protection - blocking diode
- Reverse polarity protection
- Lightning protection
- Input noise suppression
- Low power consumption

MONITORING

- Colored scale battery voltage meter
- Solar panel current meter
- Charging light

MOUNTING OPTIONS

- Flush mount
- Knock out box available for wall mounting (4x7 BOX accessory)



SC3/15

OPERATION

SWITCHING SHUNT REGULATION

The SC3/15 will allow maximum array current to flow into the battery through a blocking diode, lighting the "CHARGING" LED, until the battery voltage reaches the charge termination set-point. At this point, a shunt transistor will turn on, shorting out the solar array, turning off the "CHARGING" LED and halting any further battery charging.

When the battery voltage drops to the charge resumption set-point, the shunt transistor will turn off and charging will resume.

The result is that when battery capacity is low, charging will be continuous. As the battery charges up, current will pass into the battery for shorter and shorter periods, until at full charge, it will pulse current into the battery to achieve and maintain full charge.

OPTIONS DESCRIPTION

A - Temperature Compensation :

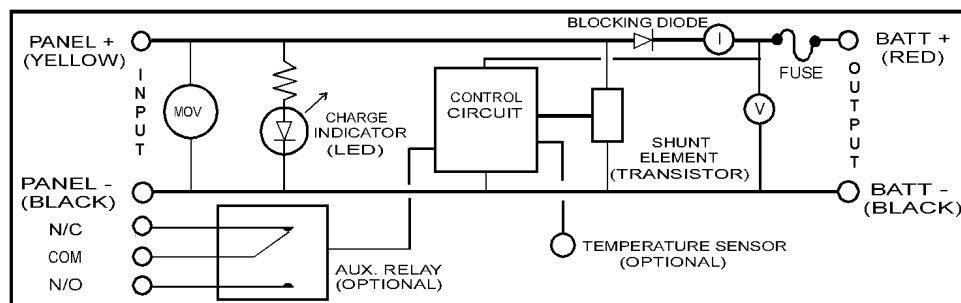
Temperature compensation is generally recommended for sealed batteries or where batteries are expected to experience temperature variations of more than $\pm 10^\circ$ from 25°C during periods of charging. A small temperature sensor on a 10 foot lead monitors battery temperature and adjusts the charging thresholds according to battery temperature. The rate of compensation is $-5\text{mv}/^\circ\text{C}$ per battery cell from 25°C .

E - Low Voltage Disconnect (LVD) / Generator Start :

The SC3/15 can be provided with an auxiliary relay. This relay can be used to protect the battery from low-voltage damage by disconnecting loads or by signaling a standby generator to start or stop battery charging. The relay is rated for 10 amps. This option provides the common, the normally open and the normally closed voltage free contacts of the relay. The relay consumes 30 ma when activated and is activated at $11.5 \pm .3$ volts and deactivated at $13.0 \pm .3$ volts.

ACCESSORIES :

4x7 BOX - Knock-out box used for wall mounting



Block diagram - SC3/15 Charge Controller

