SOLAR CHARGEMASTER SCM-N 20 & SCM-N 40

12 & 24 V solar charge controller with LCD display

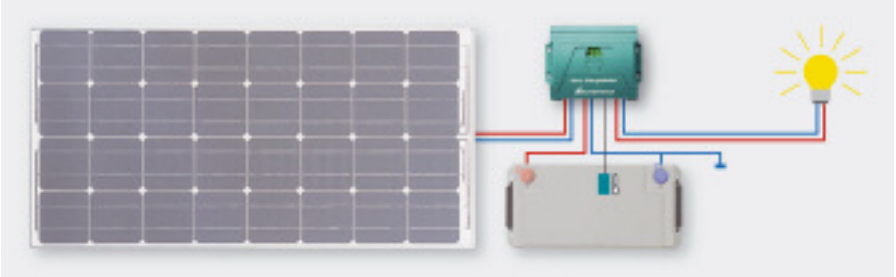
Mastervolt advanced solar charge controller

Mastervolt is pleased to announce its latest product release, the Solar ChargeMaster range, offering a 20 A and 40 A solar charge controller. This range has been developed using Mastervolt's 16 years of excellent expertise in the field of battery charging technologies.

The Solar ChargeMaster was designed specifically to meet the needs of rural solar electrification and small PV systems for telecom, remote cabins, weekend homes, and RV/caravans and boats. The new product range is a welcome addition to Mastervolt's already extended portfolio, which includes a wide variety of maintenance free batteries, sine wave inverters and inverter/charger combinations, amp hour counters, battery chargers and DC-AC distribution components.

Solar panels are increasingly becoming a first-rate energy source within an independent mobile DC system. Batteries are of vital interest if you do not want to let the setting of the sun spoil your fun, or when a lot of power is required. Mastervolt developed the Solar ChargeMaster series to guarantee an optimum charging process with cost efficiency. This highly advanced equipment converts unstable current from the solar panels into accurate charge current using microprocessor controlled PWM circuit.
The 3-step charging method guarantees that batteries will be charged safely and efficiently under all circumstances.

A battery temperature sensor is standard, designed to regulate the optimum charge voltage at each temperature, to prolong the lifespan of the battery.



- AUTOMATED 12/24 V DC DETECTION
- AUTOMATED VOLTAGE MONITORING WITH 'LOW BATTERY' SWITCH-OFF
- INDICATION OF DC LOAD
- 3-STEP CHARGING METHOD; ADJUSTABLE FOR CONDITIONS OF USE AND BATTERY TYPE
- AUTOMATED NIGHT LIGHT FUNCTION
- BATTERY TEMPERATURE SENSOR INCLUDED
- EASY TO MONITOR AND OPERATE
- LCD DISPLAY WITH CLEAR INFORMATION ABOUT POWER SUPPLY
- INCLUDES SYSTEM ALARM

Version no. EN240108.
Article no. 500004224.

Description of functions

- The charge controller protects the battery from being overcharged by the solar array and from being discharged too deeply by the load. The charging characteristics include several stages which includes automatic adoption to the ambient temperature.
- The charge controller adjusts itself automatically to 12 V or 24 V system voltage.
- The pushbutton allows switching the load on and off.
- The charge controller can be programmed for lighting applications.
- The charge controller has a number of safety and display functions.

Mounting and connecting the charge controller

The controller is intended for indoor use only. Protect it from direct sunlight and place it in a dry environment. The controller measures the ambient temperature to adopt the charging voltages, therefore it must be installed in the same room as the battery. Mastervolt recommendes sufficient ventilation to prevent power reduction due to overheating.

Grounding the solar system

Be aware that the negative terminals of the SCM-N controller are connected internally and therefore have the same electrical potential. If any grounding is required, always do this on the negative wires.

Smart installation & starting up cycles

Self test: As soon as the controller is supplied with power either from the battery or the solar array, it starts a self test routine.

System voltage: The controller adjusts itself automatically to 12 V or 24 V system voltage. As soon as the voltage at the time of start-up exceeds 20.0 V, the controller implies a 24 V system. If the battery voltage is not within the normal operation range (approx. 12 to 15.5 V or approx. 24 to 31 V) at start-up, a status display according to the section ERROR DESCRIPTION occurs.

Battery type: The controller is preset to operate with lead acid batteries with liquid electrolyte. If you intend to use a GEL or AGM battery you have to adjust the controller by the Programming Menu. The equalization charge is then deactivated.

Display mode

In normal operation mode the controller displays the state of charge (available energy) of the battery. Any change of the state of charge (SOC) to a lower status is additionally signaled acoustically. The display percentage corresponds to the available energy until Low Voltage Disconnect in relation to a fully charged battery. As long as the solar array supplies enough voltage to charge the battery, this is indicated by up-moving bars alternately to the state of charge display.

Load management

In normal operation the loads can be switched on and off by pushing the button. This is indicated in the display.

Advance features

Low voltage disconnect function: The solar charge controller has multiple modes to protect the battery from being discharged and is factory programmed to the following load settings; disconnect at 11.4 V up to 11.9 V.

Nighlight timer function: The controller comes with a sophisticated nightlight function. It controls the load output at night. The controller recognizes day and night based on the solar open circuit voltage. In the programming menu this day and night threshold settings can be modified according to the requirements of the local conditions and solar array used (management for Streetlights).

Advance programming function: The controller has an advanced programming mode for the setting of advanced features. Battery setting, low voltage disconnect setting, nightlight function and acoustic alarms can be set to customers demands. The setting can be secured by the programming lock-mode.

TECHNICAL SPECIFICATIONS

Model	SCM-N 20	SCM-N 40
Article no.	131802000	131804000
Charge current	20 A	40 A
Max. DC load	20 A	40 A
System voltage	12/24 V auto detect	12/24 V auto detect
DC grounding	negative ground (the negative terminals are connected internally)	
No load	< 4 mA	< 4 mA
Functions LCD display	---------- battery status/V/A/charge & discharge ----------	
Connections	screw terminal	screw terminal
Settings	---------- load/disconnect, 3-step charging algorithm ----------	
Dimensions (hxwxd in mm)	140x105x41	140x105x41
Protection degree enclosure	IP20	IP20
Weight	189 gr	189 gr