

# LEAD ACID BATTERY CHARGER

SBC - 2130 / 2140 / 2150

12V 3-Stage IUoU Battery Charger

with High Efficiency Zero Voltage Switching Mode Design

*Manson*<sup>®</sup>



## Description

Zero Voltage Switching design is used for good reliability, high efficiency and energy saving for this series of high current chargers.

The 3 Stage chargers have 4 specific settings for Wet , Cal-Cal, AGM, GEL type battery to ensure fast, complete and safe charging of your battery as required by the manufacturers.

Soft Start Bulk Charge an automatic pre-bulk charging for drained out battery. The charger gives 50% of full constant current charge when it detects the battery is deeply depleted at less than 9V terminal voltage. When battery voltage rises to 11V the charger will resume the normal constant full current Bulk, constant voltage Absorption and Float charge stages.

In the Power Supply mode, the charger provides a constant voltage to the external load connected to the battery and at the same time fills up the battery without over charge. This is ideal for caravan and other battery backup applications. The Power Supply Mode output voltage is the same as the selected Float Voltage.

The optional remote control panel shows the charging stage, each battery voltage and turns the output on and off as well.

A remote temperature sensor (ATS-5200) comes with every charger. It adjusts the charging voltages with the changes in ambient temperatures of the battery. This effectively prevents over and under charging the battery in hot summer days to cold wintry nights.

The charger has thermal control fan cooling (zero to full speed) and dual charging banks.

The Over Voltage protection, the output of charger will keep the voltage at less than 17.5V in the event of loss of regulation in the charger to prevent damage to the battery and connected load.

## Features

- Wide AC input tolerance 90V to 264V, 60/50Hz.
- Zero Voltage Switching (ZVS) circuit design for high reliability& efficiency.
- 3 Stage (IUoU) switching mode lead acid battery charger
- 4 Battery Type (Wet / Cal-Cal / AGM / GEL) selections
- 3 Float Voltage Settings (13.2 / 13.5 / 13.8V) selections
- Battery can be connected to charger permanently
- Power Supply Mode selection  
The power supply mode is ideal to charge battery with load and keeps battery fully charged
- Automatic Soft Start Bulk Charge to ensure a safe and gentle initial charging for deeply drained battery
- Remote temperature sensor (model ATS-5200) is included .  
It prevents over and under charging battery at high and low ambient battery ambient temperature.
- Dual LED indicators for Bulk, Absorption, Float charge stage; Fault, Power/Charger Mode and Power On.
- Power On-Off Switch
- Silent fan cool operation --- The thermal control cooling fan with variable speed moves when ambient temperature of charger at 45°C and off at 40°C.
- Protections to the charger --- Short circuit, Over Load, Over temperature, Reversed Polarity (thermal fused)
- Protection to the battery and load --- by Output Over Voltage Protection OVP

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

■ SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE

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## Specifications

Model	SBC - 2130	SBC - 2140	SBC - 2150
AC Input Voltage 100 - 240VAC, 50/60Hz~	Yes	Yes	Yes
AC Input Current at Full Load at 100/230VAC	5.9 / 2.6A	7.5 / 3.2A	9.4 / 4.0A
Output (Charge) Voltage Selections			
Absorption Voltage for GEL Battery (14.0V to 14.2V)	Yes	Yes	Yes
Absorption Voltage for AGM Battery (14.2V to 14.4V)	Yes	Yes	Yes
Absorption Voltage for WET Battery (14.3V to 14.5V)	Yes	Yes	Yes
Absorption Voltage for Calcium-Calcium Battery (15.4V to 15.6V)	Yes	Yes	Yes
Float Voltage 1 (13.2V)	Yes	Yes	Yes
Float Voltage 2 (13.5V)	Yes	Yes	Yes
Float Voltage 3 (13.8V)	Yes	Yes	Yes
Maximum Output Charging Current (continuous)	30A	40A	50A
Soft Start Bulk Charge			
Battery Voltage to Trigger (cut-in) Soft Start Bulk Charge Mode	<9V	<9V	<9V
Soft Start Bulk Charge Current Level (current limit)	15A	20A	25A
Ripple & Noise (peak-peak)	<200mV	<200mV	<200mV
Efficiency at Maximum Power (100/230V)	≥83 / 87%	≥83 / 87%	≥83 / 87%
Selectable Charger / Power Supply Mode (13.2 / 13.5 / 13.8V)	Yes	Yes	Yes
Dual Banks (Outputs) Simultaneously Charging two Batteries <i>(The two batteries must be of same chemistry, construction &amp; type)</i>	Yes	Yes	Yes
Protections			
Short Circuit Protection	Yes	Yes	Yes
Overload Protection	Yes	Yes	Yes
Reverse Polarity Protection (fused)	Yes	Yes	Yes
Over Temperature Protection	Yes	Yes	Yes
OVP (Output Over Voltage Protection)	Yes	Yes	Yes
Thermostatically Controlled Variable Speed Fan (0 - full speed)	Yes	Yes,	Yes,
Approvals	CE    EN 60335    EN 55014    EN 50366		
Charge Cycle, Protection Indication			
Separate LED for Bulk, Absorption, Float and Fault Mode	Yes	Yes	Yes
Power ON / OFF LED Indicator	Yes	Yes	Yes
Power ON / OFF Switch	Yes	Yes	Yes
Remote Control & Temperature Sensor Socket	Yes	Yes	Yes
Anodized Aluminum Casing with Mounting Flange	Yes	Yes	Yes
Dimension (WxHxD)	220x80x200 mm	220x80x261 mm	220x80x261 mm
Weight	2.4 kg	3 kg	3.2 kg
Included Accessories (spare fuse, temperature sensor)	Yes	Yes	Yes
Optional Accessories (remote control panel)	Not Included	Not Included	Not Included
Recommended Battery Capacity Range	100AH to 300AH	120AH to 400AH	150AH to 500AH

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