



Description

.EAD ACID BATTERY CHARGER

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 0.1 Mpa.
- SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE

Specifications

Absorption Voltage for GEL Battery (14.0V to 14.2V)	Model	SBC - 2130	SBC - 2140	SBC - 2150	
AC Input Current at Full Load at 100/230VAC 5.9 / 2.6A 7.5 / 3.2A 9.4 / 4.0A	AC Input Voltage 100 - 240VAC, 50/60Hz~	Yes	Yes	Yes	
Absorption Voltage for GEL Battery (14.0V to 14.2V)	AC Input Current at Full Load at 100/230VAC	5.9 / 2.6A	7.5 / 3.2A	9.4 / 4.0A	
Absorption Voltage for AGM Battery (14.2V to 14.4V)	Output (Charge) Voltage Selections				
Absorption Voltage for AGM Battery (14.2V to 14.4V)	Absorption Voltage for GEL Battery (14.0V to 14.2V)	Yes	Yes	Yes	
Absorption Voltage for Calcium-Calcium Battery (15.4V to 15.6V) Yes Yes		Yes	Yes	Yes	
Float Voltage 1 (13.2V)	Absorption Voltage for WET Battery (14.3V to 14.5V)	Yes	Yes	Yes	
Float Voltage 2 (13.5V)	Absorption Voltage for Calcium-Calcium Battery (15.4V to 15.6V)	Yes	Yes	Yes	
Float Voltage 3 (13.8V) Yes	Float Voltage 1 (13.2V)	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 Soft Start Bulk Charge Current Level (current limit) 15A 20A 25A Ripple & Noise (peak-peak) Efficiency at Maximum Power (100/230V) Selectable Charger / Power Supply Mode (13.2 / 13.5 / 13.8V) Poul Banks (Outputs) Simultaneously Charging two Batteries The two batteries must be of same chemistry, construction & type) Protections Short Circuit Protection Yes Yes Yes Overload Protection Yes Yes Yes Over Temperature Protection Yes Yes Yes Over Temperature Protection Yes Yes Yes Thermostatically Controlled Variable Speed Fan (0 - full speed) Separate LED for Bulk, Absorption, Float and Fault Mode Separate LED for Bulk, Absorption, Float and Fault Mode Yes Yes Yes Power ON / OFF LED Indicator Yes Yes Yes Power ON / OFF Switch Remote Control & Temperature Sensor Socket Anodized Aluminum Casing with Mounting Flange Oveltonal Accessories (remote control panel) Not Included Not Included Not Included Not Included Not Included Not Included	Float Voltage 2 (13.5V)	Yes	Yes	Yes	
Soft Start Bulk Charge Soft Start Bulk Charge Soft Start Bulk Charge Soft Start Bulk Charge (cut-in) Soft Start Bulk Charge Mode Soft Start Bulk Charge Current Level (current limit) 15A	Float Voltage 3 (13.8V)	Yes	Yes	Yes	
Battery Voltage to Trigger (cut-in) Soft Start Bulk Charge Mode Soft Start Bulk Charge Current Level (current limit) Soft Start Bulk Charge Current Level (current limit) Ripple & Noise (peak-peak) Soft Start Bulk Charge Current Level (current limit) Fifficiency at Maximum Power (100/230V) Selectable Charger / Power Supply Mode (13.2 / 13.5 / 13.8V) Selectable Charger / Power Supply Mode (13.2 / 13.5 / 13.8V) Selectable Charger / Power Supply Mode (13.2 / 13.5 / 13.8V) For Soft Start Bulk Charge (100/230V) Selectable Charger / Power Supply Mode (13.2 / 13.5 / 13.8V) For Soft Start Bulk Charge (100/230V) Selectable Charger / Power Supply Mode (13.2 / 13.5 / 13.8V) For Soft Start Bulk Charge (100/230V) Selectable Charger / Power Supply Mode (13.2 / 13.5 / 13.8V) For Soft Start Bulk Charge Current Level (current limit) Selectable Charger / Power Supply Mode (13.2 / 13.5 / 13.8V) For Soft Start Bulk Charge Current Level (current limit) Selectable Charger / Power Supply Mode (13.2 / 13.5 / 13.8V) For Soft Start Bulk Charge Cupon V Yes Ves Ves Ves Ves Ves Ves Ves Ves Ves V	Maximum Output Charging Current (continuous)	30A	40A	50A	
Soft Start Bulk Charge Curent Level (current limit) Ripple & Noise (peak-peak) Efficiency at Maximum Power (100/230V) Efficiency at Maximum Power (100/230V) Selectable Charger / Power Supply Mode (13.2 / 13.5 / 13.8V) Poul Banks (Outputs) Simultaneously Charging two Batteries The two batteries must be of same chemistry, construction & type) Protections Short Circuit Protection Yes Ves Yes Yes Yes Yes Yes Yes	Soft Start Bulk Charge				
Ripple & Noise (peak-peak)	Battery Voltage to Trigger (cut-in) Soft Start Bulk Charge Mode	<9V	<9V	<9V	
Efficiency at Maximum Power (100/230V) Selectable Charger / Power Supply Mode (13.2 / 13.5 / 13.8V) Selectable Charger / Power Supply Mode (13.2 / 13.5 / 13.8V) Selectable Charger / Power Supply Mode (13.2 / 13.5 / 13.8V) Sual Banks (Outputs) Simultaneously Charging two Batteries The two batteries must be of same chemistry, construction & type) Protections Short Circuit Protection Yes Ves Yes Yes Ves Ves Ves Ves Ve	Soft Start Bulk Charge Current Level (current limit)	15A	20A	25A	
Selectable Charger / Power Supply Mode (13.2 / 13.5 / 13.8V) Dual Banks (Outputs) Simultaneously Charging two Batteries The two batteries must be of same chemistry, construction & type) Protections Short Circuit Protection Yes Yes Yes Yes Overload Protection (fused) Yes Yes Yes Yes Overload Protection (fused) Yes Yes Yes Yes Over Temperature Protection Yes Yes Yes Yes OVP (Output Over Voltage Protection) Yes 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 Yes Power ON / OFF LED Indicator Yes Yes Yes Yes Anodized Aluminum Casing with Mounting Flange Yes Yes Yes Yes Optional Accessories (spare fuse, temperature sensor) Yes Yes Yes Yes Yes Optional Accessories (remote control panel) Not Included Not Included Not Included Not Included	Ripple & Noise (peak-peak)	<200mV	<200mV	<200mV	
Protections Short Circuit Protection Yes Yes Yes Yes Yes Yes Yes Yes Over Temperature Protection Yes	Efficiency at Maximum Power (100/230V)	>83 / 87%	>83 / 87%	>83 / 87%	
Protections Short Circuit Protection Short Circuit Protection Yes Yes Yes Yes Yes Yes Yes Yes Overload Protection (fused) Yes Pover Temperature Protection (fused) Yes	Selectable Charger / Power Supply Mode (13.2 / 13.5 / 13.8V)	Yes	Yes	Yes	
Short Circuit Protection Yes Ves Yes Yes Yes Yes Yes Yes	Dual Banks (Outputs) Simultaneously Charging two Batteries (The two batteries must be of same chemistry, construction & type)	Yes	Yes	Yes	
Overload Protection Reverse Polarity Protection (fused) Over Temperature Protection OVP (Output Over Voltage Protection) Thermostatically Controlled Variable Speed Fan (0 - full speed) Approvals CE EN 60335 EN 55014 EN 50366 Charge Cycle, Protection Indication Separate LED for Bulk, Absorption, Float and Fault Mode Power ON / OFF LED Indicator Power ON / OFF Switch Remote Control & Temperature Sensor Socket Anodized Aluminum Casing with Mounting Flange Ves Output Over Voltage Protection Yes Yes Yes Yes Yes Yes Yes Ye	Protections				
Reverse Polarity Protection (fused) Over Temperature Protection Yes Ves Yes Yes Yes Yes Yes OVP (Output Over Voltage Protection) Thermostatically Controlled Variable Speed Fan (0 - full speed) Approvals CE EN 60335 EN 55014 EN 50366 Charge Cycle, Protection Indication Separate LED for Bulk, Absorption, Float and Fault Mode Yes Power ON / OFF LED Indicator Yes Yes Yes Yes Yes Yes Yes Ye	Short Circuit Protection	Yes	Yes	Yes	
Over Temperature Protection Over Temperature Protection Yes Ves Yes Yes Yes Yes Thermostatically Controlled Variable Speed Fan (0 - full speed) Approvals CE EN 60335 EN 55014 EN 50366 Charge Cycle, Protection Indication Separate LED for Bulk, Absorption, Float and Fault Mode Yes Yes Yes Yes Yes Yes Yes Y	Overload Protection	Yes	Yes	Yes	
OVP (Output Over Voltage Protection) Thermostatically Controlled Variable Speed Fan (0 - full speed) Approvals CE EN 60335 EN 55014 EN 50366 Charge Cycle, Protection Indication Separate LED for Bulk, Absorption, Float and Fault Mode Power ON / OFF LED Indicator Power ON / OFF Switch Remote Control & Temperature Sensor Socket Anodized Aluminum Casing with Mounting Flange Dimension (WxHxD) Weight 2.4 kg Tes Yes Yes Yes Yes Yes Yes Yes	Reverse Polarity Protection (fused)	Yes	Yes	Yes	
Thermostatically Controlled Variable Speed Fan (0 - full speed) Approvals CE EN 60335 EN 55014 EN 50366 Charge Cycle, Protection Indication Separate LED for Bulk, Absorption, Float and Fault Mode Power ON / OFF LED Indicator Power ON / OFF Switch Remote Control & Temperature Sensor Socket Anodized Aluminum Casing with Mounting Flange Dimension (WxHxD) Weight 220x80x200 mm 220x80x261 mm	Over Temperature Protection	Yes	Yes	Yes	
Approvals Charge Cycle, Protection Indication Separate LED for Bulk, Absorption, Float and Fault Mode Power ON / OFF LED Indicator Power ON / OFF Switch Remote Control & Temperature Sensor Socket Anodized Aluminum Casing with Mounting Flange Dimension (WxHxD) Weight 220x80x200 mm 220x80x261 mm 24 kg 3 kg 3.2 kg Included Accessories (spare fuse, temperature sensor) Not Included Not Included Not Included	OVP (Output Over Voltage Protection)	Yes	Yes	Yes	
Charge Cycle, Protection Indication Separate LED for Bulk, Absorption, Float and Fault Mode Power ON / OFF LED Indicator Power ON / OFF Switch Pemote Control & Temperature Sensor Socket Anodized Aluminum Casing with Mounting Flange Dimension (WxHxD) Weight Potional Accessories (spare fuse, temperature sensor) Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye	Thermostatically Controlled Variable Speed Fan (0 - full speed)	Yes	Yes,	Yes,	
Separate LED for Bulk, Absorption, Float and Fault Mode Power ON / OFF LED Indicator Yes Yes Yes Yes Yes Yes Yes Ye	Approvals CE EN 60335 EN 55014 EN 50366				
Power ON / OFF LED Indicator Yes Yes Yes Yes Yes Yes Yes Ye	Charge Cycle, Protection Indication				
Power ON / OFF Switch Remote Control & Temperature Sensor Socket Anodized Aluminum Casing with Mounting Flange Dimension (WxHxD) Weight 2.4 kg 3 kg 3.2 kg Included Accessories (spare fuse, temperature sensor) Power ON / OFF Switch Yes Yes Yes Yes Yes 220x80x261 mm 220x80x261 mm 220x80x261 mm 220x80x261 mm Yeight Not Included Not Included Not Included Not Included	Separate LED for Bulk, Absorption, Float and Fault Mode	Yes	Yes	Yes	
Remote Control & Temperature Sensor Socket Anodized Aluminum Casing with Mounting Flange Yes Yes Yes Yes Yes Yes Yes Y	Power ON / OFF LED Indicator	Yes	Yes	Yes	
Anodized Aluminum Casing with Mounting Flange Yes 220x80x200 mm 220x80x261 mm 220x80x261 mm 220x80x261 mm 220x80x261 mm Yes Yes 220x80x261 mm Yes Yes Yes Yes Yes Yes Yes Y	Power ON / OFF Switch	Yes	Yes	Yes	
Dimension (WxHxD) 220x80x200 mm 220x80x261 mm 20x80x261 mm	Remote Control & Temperature Sensor Socket	Yes	Yes	Yes	
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	Anodized Aluminum Casing with Mounting Flange	Yes	Yes	Yes	
ncluded Accessories (spare fuse, temperature sensor) Yes Yes Yes Yes Optional Accessories (remote control panel) Not Included Not Included	Dimension (WxHxD)		220x80x261 mm	220x80x261 mm	
Optional Accessories (remote control panel) Not Included Not Included Not Included	Weight	2.4 kg	3 kg	3.2 kg	
	Included Accessories (spare fuse, temperature sensor)	Yes	Yes	Yes	
Recommended Battery Capacity Range 100AH to 300AH 120AH to 400AH 150AH to 500AH	Optional Accessories (remote control panel)	Not Included	Not Included	Not Included	
	Recommended Battery Capacity Range	100AH to 300AH	120AH to 400AH	150AH to 500AH	

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

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