

Features

- Universal input 100-240VAC
- Short Circuit Output Protected
- Approved to UKCA, CE
- LVD & EMC Class B Certified, RoHS & REACH compliant
- 48V Lead Acid 3 Stage Control (Fast/Normal/Float)
- OVP, OCP, OTP & Short Circuit
- LED Charge Indicators Included



Ideal Power's 31ACZZ48A Range of 48V Lead Acid Battery Chargers Series are certified to UKCA, CE, RoHS, REACH & EN 62368-1 Standards and comply with the relevant Efficiency Regulations. These are primarily used in ITE, Audio & Video Industries and customised solutions are available upon request.

Models	31AC0148A	31AC0248A	31AC0348A
Input Voltage	90V / 264V Auto Switch - 100-240Vac +/- 10%		
Input Frequency	47Hz ~ 63Hz / 50-60Hz +/- 5%		
Input Current	1.8~3.6A - 115Vac / 230Vac		
Output Max Current	1A	2A	3A
Output Power	48W	96W	144W
Output Voltage	54.8~58.4V DC		
Ripple & Noise	200 mVp-p		
Float Voltage Start Point	0.5A		
Isolation	Input isolate Chassis : 500M OHM		
Battery Application	Lead Acid Battery		
LED - Power	Red		
LED - Charging	Orange		
LED – Fully Charged	Green		
DC Cable	1.2M Mount clips		
Dimensions	180 x 88 x 47 (LxWxH) mm		
Weight	0.8 (Kgs)		

Specifications subject to change without notice.

Applications

Ⓞ Communication devices	Ⓞ Power generators	Ⓞ UPS	Ⓞ Power Inverters
Ⓞ Vacuums Pumps	Ⓞ Sailing boats	Ⓞ Fork-lift	Ⓞ Ambulance
Ⓞ Fire trucks	Ⓞ Emergency vehicles	Ⓞ Electrical car & bicycles	Ⓞ Mobile command centres
Ⓞ Household items	Ⓞ Communication Equipment's	Ⓞ Automobiles	

Environmental Data

	Minimum	Typical	Maximum	Units	Notes
Operating Temperature	0		45	°C	
Storage Temperature	0		70	°C	
Operating Humidity	20		90	°C	
Storage Humidity	10		95	°C	

EMC Emissions (2014/30/EU)

	Standard	Test Level	Criteria	Notes
Conducted	EN 55032	Pass	B	
Radiated	EN 55032	Pass	B	
Harmonic Current	EN 61000-3-2	Pass	A	
Voltage Flicker	EN61000-3-2	Pass		

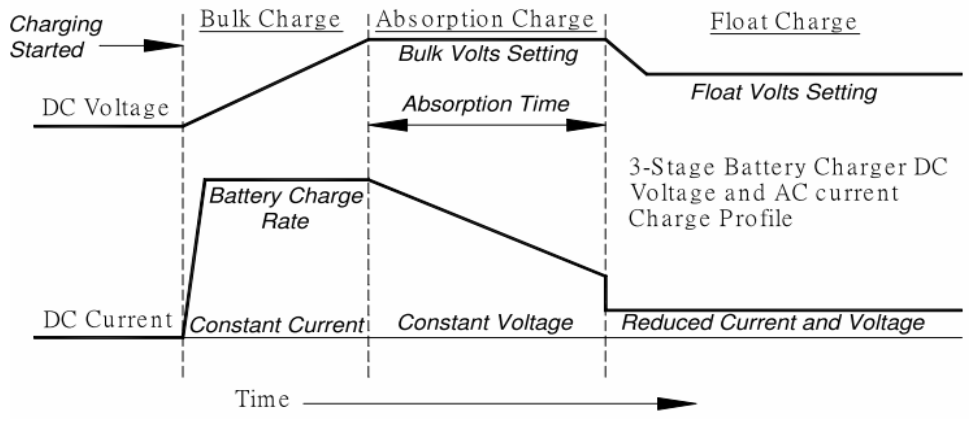
EMC Immunity (2014/30/EU)

	Standard	Test Level	Criteria	Notes
EMS	EN 55035	Pass	A	
ESD	IEC 61000-4-2	Pass	B	Contact: +/- 4KV; Air: +/- 8KV
RS	IEC 61000-4-3	Pass	A	Frequency: 80-1000MHz; Field Strength: 3V/M ' 80% AM
EFT	IEC 61000-4-4	Pass	B	1.0KV on input AC power ports
Surges	IEC 61000-4-5	Pass	B	Line to Line: +/- 1KV (peak); Line to F.G: +/- 2KV (peak)
Conducted	IEC 61000-4-6	Pass	A	150KHz to 80MHz 3Vms
PFMF	IEC 61000-4-8	Pass	A	50Hz, 60Hz, 1A/m
Dips and Interruptions	IEC 61000-4-11	Pass	Complies	0%, 70%, 0% of UT

Safety Approvals

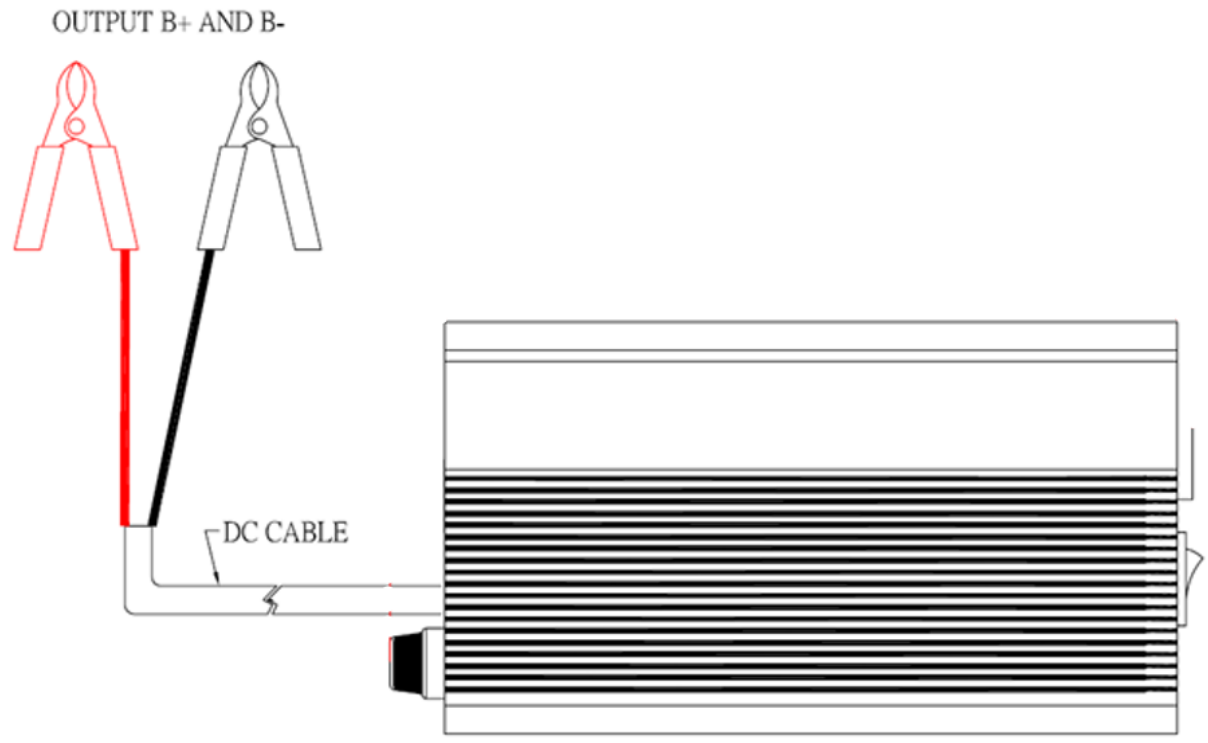
	Safety standard
CE	EMC Directive 2014/30/EU, LVD Directive 2014/35/EU, RoHS Directive RoHS (EU) 2015/863

Three Steps of Charging & Charge Curve



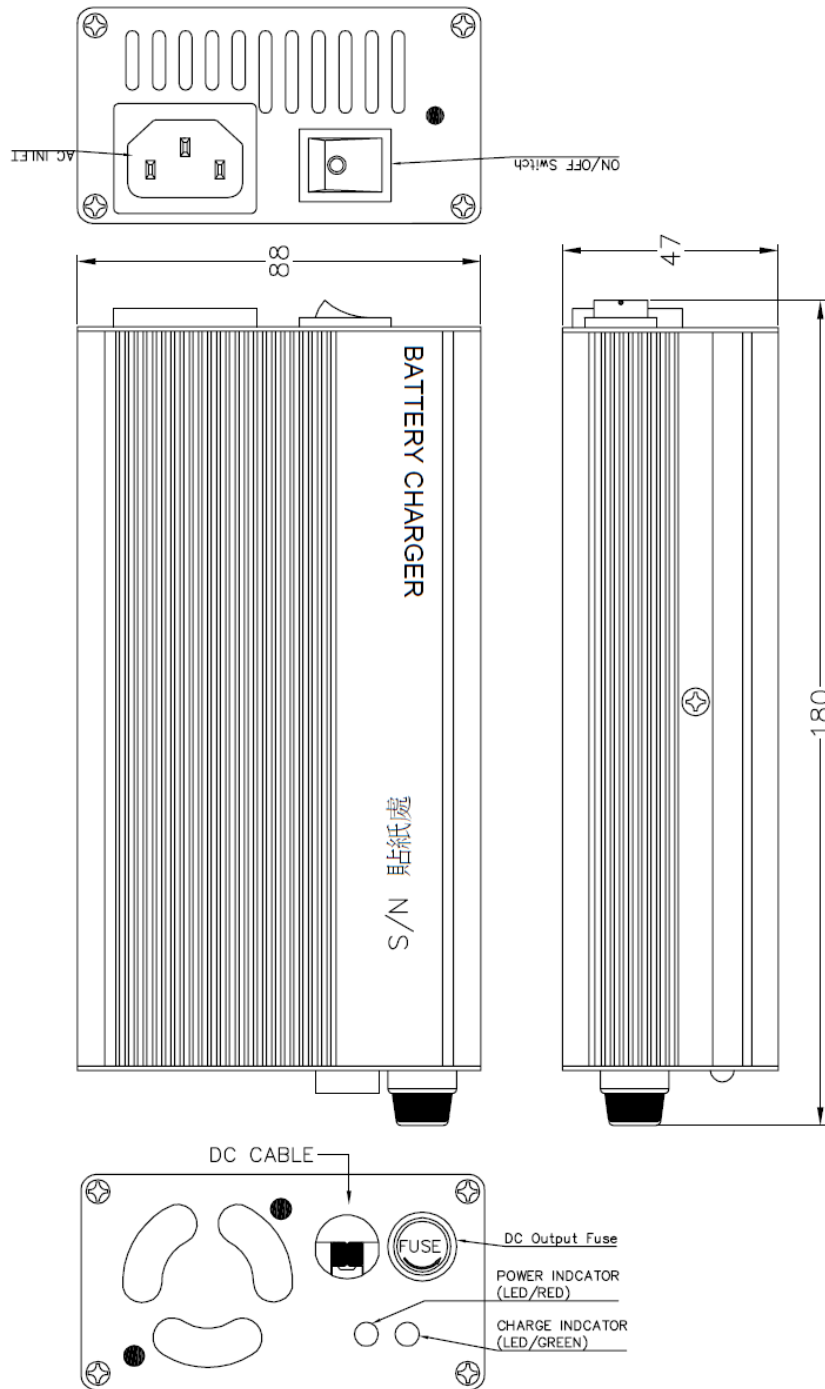
Step 1	Bulk charge – bring batteries to 75% capacity fast. During this stage charging occurs at full power, which means maximum current, until the battery voltage reached the set limit.
Step 2:	Absorption Charge, boost – slow the current flow, adjusting for maximum efficiency and gently topping off batteries. During absorption charging the current decreases as the battery approached full charge.
Step 3	Trickle Charge – for longer period, maintains fully charged batteries without harmful effects of overcharging and cooking. Trickle charge is intended to keep the battery in a fully charged state and compensates for self-discharge. When the current reaches setting point the battery switches to a maintenance charge at a constant voltage. Should the battery be in use and the charge current Subsequently exceed setting point the charger will automatically return to the beginning of the three-step charge characteristic.

Case Drawing



AC – DC

Case Drawing (continued)



AC - DC