AC – DC

Features

- Universal input 195~264V AC
- Short Circuit Output Protected
- Approved to UKCA, CE
- LVD & EMC Class B Certified, RoHS & REACH compliant
- 12-24V Lead Acid 3 Stage Control (Fast/Normal/Float)
- OVP, OCP, OTP, SCP
- LED Charge Indicators Included

Ideal Power's 31ACPP12_24 Range of 12-24V 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	31AC0512	31AC2524	31AC3024
Input Voltage	195~264V AC / 230V AC +/-15%		
Input Frequency	47Hz ~ 63Hz / 50-60Hz +/- 5%		
Input Current 230V AC	7.1A	6.9A	
Output Max Current	5A	25A	30A
Output Power	60W	600W	720W
Output Voltage	13.7~14.6	27.4~29.2	
Ripple & Noise	500 mVp-p		
Isolation	Input isolate Chassis : 500M OHM		
Battery Application	Lead Acid Battery		
Fan Control	Fan on fast speed: Bulk/Absorption charge Fan on slow speed: Float charge		
LED - Power	Red		
LED - Charging	Orange		
LED – Fully Charged	Green		
DC Cable	1.0M Mount clips		
Dimensions	372 x 180 x 76 (LxWxH) mm		
Weight	5.0 (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	ºC	
Storage Temperature	0	--	70	ºC	
Operating Humidity	20	--	90	ºC	
Storage Humidity	10	--	95	ºC	

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		

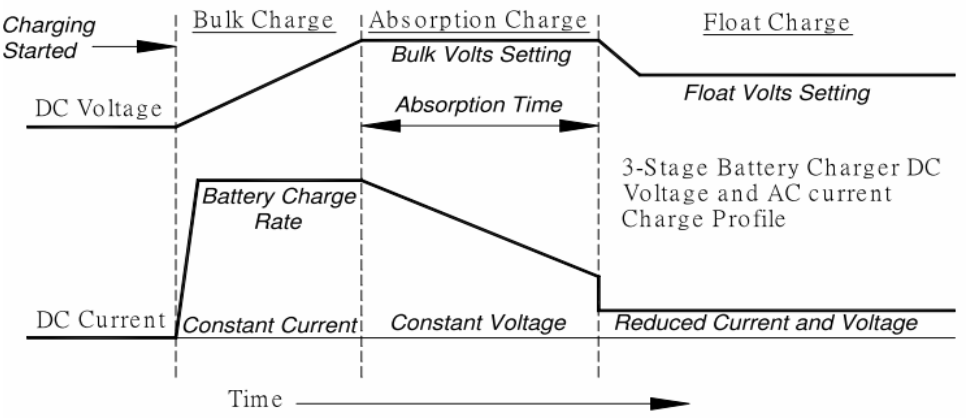
EMC Immunity (2014/30/EU)

	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(1KHz)
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