CB6012A Battery Charger



c**FL**°us

Input: Single-phase 100 - 240 - 277 Vac.

Output: 12 Vdc 5A.

It can run as Battery Charger or Battery Charger and Power

supply Function

Suited for many battery types: Open Lead Acid, Sealed Lead Acid,

Lead Gel, Ni-Cd.

Battery Care: automatic diagnosis and battery status.

Charging curve IUoU: constant current and constant voltage. 5 Charging stages: Recovery, Bulk, Absorption, Float, Refresh.

Short circuit, reversed polarity and overload protection.

Signal output (Volt-Free Contact): Battery Fault, AC Fail. Protection degree IP20.

DIN rail or Wall Mount.

Technical features

The CB series is a "Switching Technology" and "Battery Care Philosophy" that has been part of ADEL's core system know-how for years, leading to the development of this advanced, multistage, fully automatic battery charging method and Power Supply function if enabled, are suitable to meet the most advanced requirements of the battery manufacturers. The Battery Care concept is based on algorithms that implement rapid and automatic charging, optimization of battery charging over time, recovery of discharged batteries, and real-time diagnostics during installation and operation. The real-time self-diagnosis system, which monitors battery faults such as shorted elements, accidental reverse polarity connections, and battery disconnections, can be easily detected and removed with the help of the flashing code of the diagnosis LED, during installation and after sale. Each device is suitable for all types of batteries. Preset curves can be set for open lead acid, sealed lead acid, gel, Ni-Cd. The sturdy housing is developed for DIN rail and wall mounting applications.

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Nominal Input Voltage	100 - 240 - 277 Vac	
Input Voltage range	90 – 305 Vac	
Inrush Current	≤ 50 A	
Frequency	47 – 63 Hz	
Input Current	1.3 A (100 Vac)	
•	0.7 A (240 Vac)	
	0.6 A (277 Vac)	
Internal Fuse	2.5 A	
External Fuse (recommended)	10 A (MCB curve C)	

Battery Charger Output		
Fast/Boost Charging	14.1 V (Lead) 2.35 V/cel	
3 3	14.5 V (Ni-Cd) 1.45 V/cel	
Float Charging	13.38 (Open Lead) 2.23 V/cel	
3 3	13.50 (AGM) 2.25 V/cel	
	13.80 (Gel) 2.30 V/cel	
	14.00 (Ni-Cd) 1.40 V/cel; 20 cell.	
Recovery Charging	2 – 10.5 V	
Battery types	Lead, Open Lead, AGM, Gel, Ni-Cd	
Charging curve	5 stages: Recovery, Bulk, Absorption, Float, Refresh	
Charging Current In (Ta ≤ 40°C)	5 A max	
gg (4.5 A (UL rating)	
Min. time Bulk Charging (typ. At In)	2 minutes	
Max. time Bulk-Absorption Charging	16 hours	
(typ. At In)		
End of charging current (Absorption to	300 mA	
Float)		
Refresh Battery duration	85 minutes	
	(Fast Charge only)	
Refresh Battery period	12 days	
	(Fast Charge only)	
Battery Tester		
Battery with shorted cells	Yes	
Reverse polarity protection	Yes	
Battery Disconnection (Protection No Sp	oark) Yes	
Wrong Battery Voltage	Yes	
End of charging control	Yes	
Power Supply (If enabled by progra	mming function)	
Output voltage (at In)	11 – 14.1 Vdc	
Nominal current In = Iload	5 A ± 5% In	
Generic Output Data		
Quiescent Current (Input main Voltage C	ON) ≤ 5 mA	
Quiescent Current (Input main Voltage C	OFF) 0mA (Vbat < 13 V)	
Power Supply function	Yes	
Efficiency (50% of In)	84%	
Dissipation Power load max	9.6 W	
Ripple and Noise (20 MHz Bandwidth)	80 mV _{pp} (max)	
Short-circuit protection	Yes	
Overload protection	Yes	
Overheating Thermal Protection	Yes	

ignal Input			
Contact rating	1A 125Vac / 24Vdc		
Type of Signal Output Contact	Volt-Free		
Battery Fault	Yes		
Low Battery	Yes		
AC Fail	Yes		
ignal Output			
Over Voltage Output protection	(Typ. 35 Vdc)		

Fast charge	ON/OFF Terminal Block	
General Data		
Insulation voltage (In / Out)	4000 Vac	
Protection Class (IEC/EN 60529)	IP20	
Protection class	II	
Reliability: MTBF (IEC 61709)	> 300.000 h	
Pollution Degree Environment	2	
Connection Terminal Blocks screw Type	2.5 mm ² (24–14AWG)	
Housing material	Polycarbonate	
Dimensions (w-h-d) according to DIN 43880	72x90x55 mm	
_ Weight	0.30 Kg approx.	
Climatic Data		
Ambient temperature Operation	-25 ÷ +70 °C	
De-rating Tamb>40°C	-1.6 % (In) / °C	
Ambient temperature Storage	-40 ÷ +85°C	
Humidity at 25 °C no condensation	95% to 25°C	
Cooling	Auto Convection	
Vibration IEC 60068-2-6	15-150 Hz: 1g	
	1 oct/min X,Y,Z axes	
Shock IEC 60068-2-27	10g 6ms	

Norms and Certifications

Conforming to Low Voltage Directive (LVD) 2014/35/UE

Electrical safety: IEC/EN 62368-1

Conforming to Electromagnetic Compatibility (EMC) Directive 2014/30/UE

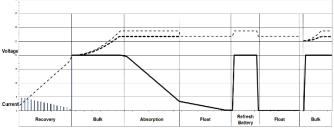
- Emission: IEC/EN 61000-6-3
- Immunity: IEC/EN 61000-6-2

UL 1236 Recognized – BBGQ2 Battery chargers (UL file: E353241)

Charging

The charging type is IUoU stabilized voltage and current according to DIN41773. The battery charging status and self-diagnosis of the systems are identified by the flashing code and color of the diagnosis LED:

	State	LED Green	LED Orange
		Charging State	Battery Fault
Chargin g Stages	Recovery	5 Blink/sec	
	Bulk	2 Blink/sec	
	Absorption	1 Blink/sec	
	Float	1 Blink/2 sec	
Auto Diagno sis	Reverse polarity		JL1Blink
	Battery not connected		- ☐ 2Blink
	Battery with shorted cells		JML 3Blink
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3 bumps / direction