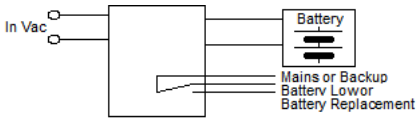
CB123A/48 Battery Charger



Input: Single-phase 48 Vdc

Output: Battery charging 12 Vdc; 3 A

Suited for the following battery types: Open Lead Acid, Sealed Lead Acid, lead Gel and Ni-Cd (option)

Automatic diagnostic of battery status. Charging curve IUoUo, constant voltage and current

Switching technology, output voltage 14.4 Vdc Three charging levels: Boost, Trickle, Recovery.

Protected against short circuit, inverted polarity, over Load.

Signal output (contact free) for fault battery state

Protection degree IP20 - DIN rail

Technical features

The CB series is a "Switching technology" and "Battery Care philosophy", since years parts of the core know-how at ADEL system, led to the development of this advanced multi-stage battery charging method, completely automatic and suited to meet the most advanced requirements of battery manufacturers. The Battery Care concept is base on algorithms that implement rapid and automatic charging, battery charge optimization during time, flat batteries recovery and real time diagnostic during installation and operation. The Real Time Auto-diagnostic system, monitoring battery faults such as, elements in short circuit, accidental reverse polarity connection, disconnection of the battery, they can easily be detected and removed by help of Blink Code of Diagnosis Led; during the installation and after sell. Each device is suited for all battery types, by means of jumpers it is possible setting predefined curves for Open Lead Acid, Sealed Lead Acid, Gel, Ni-Cd(option). They are programmed for two charging levels, boost and trickle. A rugged casing with bracket for DIN rail mounting provide IP20 protection degree. They are extremely compact and cost-effective.

General Data

Insulation voltage (In /Out)	**3000 Vac**
Insulation voltage (In / PE)	**1605 Vac**
Insulation voltage (Out / PE)	**500 Vac**
Protection Class (EN/IEC 60529)	**IP20**
Protection class	**I, with PE connected**
Reliability: MTBF IEC 61709	**> 300.000 h**
Pollution Degree Environment	**2**
Connection Terminal Blocks screw Type	**2,5mm(24–14AWG)**
Dimensions (w-h-d)	**45x100x100 mm**
Weight	**0.30 Kg approx**

Climatic Data

Ambient temperature (operation)	**-25 ÷ +70°C**
De Rating T^a > 50°C	**- 2.5%(In) / °C**
Ambient temperature Storage	**-40 ÷ +85°C**
Humidity at 25 °C no condensation	**95% to 25°C**
Cooling	**Auto Convention**

Norms and Certifications

In Conformity to: IEC/EN 60335-2-29 Battery chargers; c UL us EN60950 / UL60950-1 and CSA C22.2 No. 60950-1-07 (Information Technology Equipment) – Safety – Part1:General Requirement. Electrical safety; EN54-4 Fire Detection and fire alarm systems; 89/336/EEC EMC Directive; 2014/35/UE (Low Voltage); DIN41773 (Charging cycle); Emission : IEC 61000-6-4; Immunity: IEC 61000-6-2. CE.

Signal Output (free switch contact)

Model	**CB123A/48**
Main or Backup Power	**Yes**
Low Battery	**Yes**
Fault Battery	**Yes**

Type of Signal Output Contact

Max. current can be switched (EN60947.4.1):	
Max. DC1: 30 Vdc 1 A; AC1: 60 Vac 1A	**Resistive load**
Min.1mA at 5 Vdc	**Min load**

Input Data

Nominal Input Voltage (2 x Vdc)	**48 Vdc**
Input Voltage range (Vdc)	**35 – 72**
Inrush Current (Vn and In Load) I^2t	**≤ 7 A ≤ 5 msec.**
Input Current (48 Vdc)	**1.8 A**
Internal Fuse	**4 A**
External Fuse (recommended)	**10 A**

Battery Output (Battery Care)

Model	**CB123A**
Adjustable charging current I_{adj} (% In)	**20 ÷ 100**
Boost charge (25 °C) (typ. at In)	**14.4 Vdc**
Max. time Bust Charge (tpy. at In)	**15 h**
Min. time Bust Charge (tpy. at In)	**70 min.**
Trickle charge (25 °C) (typ. at In)	**13.75 Vdc**
Jumper Configuration battery type (V cell) Ni-Cd (optional)	**2.23;2,25;2,27;2,3; 1,41–1,5 (20 elem.)**
Recovery Charge	**2 – 7 Vdc**
Charging. Max I_{batt} (In)	**3 A ± 5%**
Efficiency (50% - In)	**81%**
Quiescent Current	**≤ 5 mA**
Charging Curve automatic: IUoUo	**3 stage**
Detection of element in short circuit	**Yes**
Short-circuit protection)	**Yes**
Over Load protection	**Yes**
Over Voltage Output protection	**Yes**

Charging

Automatic multi-stage charging and real time diagnostic allow fast recharge and recovery of deep discharged batteries, adding value and reliability to the system hosting. Type of charging it is Voltages and current stabilized IUoUo. The state of charging battery and Auto-diagnosis of the systems are identified by a flashing code on a Diagnosis LED and Fault Battery LED:

	State	**Diagnosis LED**	**Battery Fault LED**
Charging Type	Float	1 Blink/sec	OFF
	Boost	2 Blink/sec	OFF
	Recovery	5 Blink/sec	OFF
Auto diagnosis	Reverse polarity	1Blink	ON
	Battery No connect	2Blink	ON
	Element in Short C.	3Blink	ON
	Replace Battery	5Blink	ON