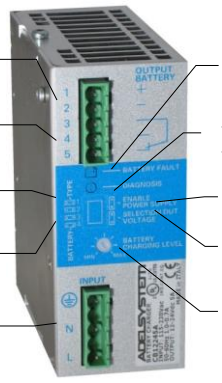
CB12245A Battery Charger

One product for the field: 12 and 24 Vdc



Input: Single-phase 115 ÷ 277 Vac

Output Jumper Selectable: 12 Vcd 6A; 24 Vdc 5 A

Power Supply Function: setting by Jumper

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

Battery Care for, automatic diagnostic of battery status, short circuit element,

Charging curve IUoU, constant voltage and current

Switching technology Semi-resonant

Four charging levels: Boost, Absorption, Float, 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" that has been part of ADEL's core system know-how for years, leading to the development of this advanced, multi-stage, 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.

Input Data

Nominal Input Voltage	**100 – 240 – 277 Vac**
Input Voltage range	**90 – 305 Vac**
Inrush Current (Vn and In Load) I^2t	**≤ 16 A ≤ 5 msec.**
Frequency	**47 – 63 Hz ±6%**
Input Current (115 – 270 Vac)	**2.4 – 1.2 A**
Internal Fuse	**4 A**
External Fuse (recommended)	**10 A (MCB curve B)**

Battery Output 24 Vdc (depend on jumper selection)

Boost charge (Typ. at In)	**28.8 Vdc**
Recovery Charge	**2 – 18 Vdc**
Charging. Max I_{batt} < 40°C(In) Input V. 230Vac	**5 A ± 5%**
Charging. Max I_{batt} < 40°C(In) Input V. 120Vac	**4 A ± 5%**
Charging. Max I_{batt} > 40°C(In)	**3.5 A± 5%**

Battery Output 12 Vdc (depend on jumper selection)

Boost charge (Typ. at In)	**14.4 Vdc**
Recovery Charge	**2 – 9 Vdc**
Charging. Max I_{batt} < 40°C (In)	**6 A ± 5%**
Charging. Max I_{batt} > 40°C (In)	**6 A ± 5%**

Power Supply Output 24Vdc (If enabled by Jumper)

Output voltage (at In)	**22 - 28.2 Vdc**
Nominal current In = Iload	**5 A ± 5% In**

Power Supply Output 12Vdc (If enabled by Jumper)

Output voltage (at In)	**11 - 14.4 Vdc**
Nominal current In = Iload	**6 A ± 5% In**

Generic Output Data

Max. time Boost Charge (typ. At In)	**15 h**
Min. time Boost Charge (typ. At In)	**4 min.**
Jumper Configuration battery type (V cell) Ni-Cd (optional); when in Float Charging mode	**2.23; 2,25; 2,3; 1,41–1,5 (20 cell.)**
Power Supply function	**By Jumper Enabling**
Select Output Voltage 12 or 24 Vdc	**By Jumper Enabling**
Select Boost or float charge	**By Jumper Enabling**
Efficiency (50% of In)	**90%**
Dissipation power load max (W)	**20.5**
Charging current limiting I_{adj}	**20 ÷ 100 % / I_n**
Quiescent Current (Input main Voltage ON)	**≤ 5mA**
Quiescent Current (Input main Voltage OFF)	**0mA Vbat <26.3**
Charging Curve automatic: IUoU	**5 stage**
Detection of element in short circuit	**Yes**
Short-circuit protection)	**Yes**
Over Load protection	**Yes**
Over Voltage Output protection	**Yes**

Connection and Monitoring

Signal Output (free switch contact)

Main or Backup Input Power	**Yes**
Low Battery	**Yes**
Fault Battery	**Yes**

Type of Signal Output Contact (free switch 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**

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)	**45x110x100 mm**
Weight	**0.30 Kg approx.**

Climatic Data

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

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

Type of charging it is Voltages and Current stabilized IUoU DIN41773 (Charging cycle). The state of charging battery and Auto-diagnosis of the systems are identified by a blinking code on a Diagnosis LED and Battery Fault LED:

	State	Diagnosis LED	Battery Fault LED
Charging Type	Float	1 Blink/2sec	OFF
	Absorption	1 Blink/sec	OFF
	Boost – Bulk	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