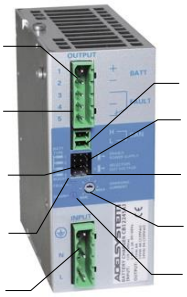
CB12245AJ Battery Charger

One product for 12 and 24 Vdc field



Input: Single-phase 115 - 230 - 277 Vac
Output Jumper Selectable: 12 Vdc 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
Charging type: 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
CANBus J1939

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	**115 – 230 – 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 Charger Output 24 Vdc (depend on jumper selection)	
Recovery Charge	**2 – 20 Vdc**
Charging Current Max I_{batt} < 40°C(In) Input V. 230Vac	**5 A ± 5%**
Charging Current Max I_{batt} < 40°C(In) Input V. 120Vac	**4 A ± 5%**
Charging Current Max I_{batt} > 40°C(In)	**3.5 A± 5%**
Battery Charger Output 12 Vdc (depend on jumper selection)	
Recovery Charge	**2 – 10 Vdc**
Charging Current Max I_{batt} < 40°C (In)	**6 A ± 5%**
Charging Current Max I_{batt} > 40°C (In)	**6 A ± 5%**
Battery Tester	
Short circuit Element Detection	**Yes**
Battery Impendency (Life test)	**No**
Reverse polarity protection	**Yes**
Battery Disconnected (Protection No Spark)	**Yes**
Battery Voltage Wrong	**Yes**
End of charge control	**Yes**
Power Supply Output 24Vdc (If enabled by Jumper)	
Output voltage (at In)	**22 - 28.2 Vdc**
Nominal current In = Iload	**3.5 - 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 Bulk charge (Typ. at In)	**15 h**
Min.Time Bulk charge (Typ. at In)	**4 min.**
Float Charge: Jumper Configuration battery type	**2.23;2.25; 2.3; V/cell**
Float Charge Ni-Cd	**1.2 V/cell**
Float Charge Li-ion	**3.45 V/cell**
Fast Charge - Boost Charge (Lead Acid)	**2.4 V/cell**
Fast Charge - Boost Charge (Ni-Cd)	**1.5 V/cell**
Fast Charge - Boost Charge (Li-ion)	**3.65 V/cell**
End of charging current (Bulk & Absorption charge)	**6% charging current**
Charging current limiting I_{adj}	**20 ÷ 100 % / I_n**
Quiescent Current	**≤5mA**
Remote Charge Input Control	**Bulk / Float**
Power Supply function	**By Jumper Enabling**
Output Voltage 12 or 24 Vdc Selection	**By Jumper Enabling**
Boost charge Enabling	**By Jumper Enabling**
Efficiency (50% of In)	**90%**
Dissipation Power load max	**20.5W**
Residual Ripple	**≤ 60 mVpp**
Quiescent Current (No input main Voltage)	**≤ 5mA /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**
Overheating Thermal Protection	**Yes**
Over Voltage Output protection	**(Typ. 35Vdc)**
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):	
Resistive load:	**Max. DC: 30 Vdc 1 A; AC: 60 Vac 1A**
Min. load:	**Min.1mA at 5 Vdc**
Can (connection)	
CanBus	**J1939**
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)	**45x110x105 mm**
Weight	**0.30 Kg approx.**
Safety Standard Approval	**CE**
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**
Auto Derating	**Yes Up to 50 °C**
Accessory	
ADELViewSystem	

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