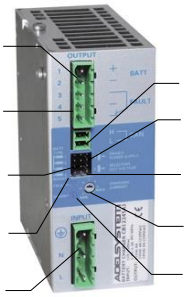
CB12245AJ Battery Charger

One product for 12 and 24 Vdc field

Pending



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", 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 based 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 and Li-ion. A rugged casing with bracket for DIN rail mounting.

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**

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	**9 W**
Residual Ripple	**≤ 60 mVpp**
Quiescent Current	**≤ 5 mA**
Charging Curve automatic: IUoU	**4 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):	
Max. DC1: 30 Vdc 1 A; AC1: 60 Vac 1A	**Resistive load**
Min.1mA at 5 Vdc	**Min. load**
Can (connection)	
CanBus J1939	**Yes**

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 T° > 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

ADELView Graphic	
ADELView System	

Norms and Certifications

Conforming to: Electrical safety, EMC directive 2014/30/UE, Low voltage directive 2014/35/UE, Safety EN IEC 62368-1, DIN41773 (Charging cycle), Emission: IEC 61000-6-3, Immunity: IEC 61000-6-2. CE

Charging

Type of charging it is Voltages and current stabilized IUoU. 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

CB Charging Diagram