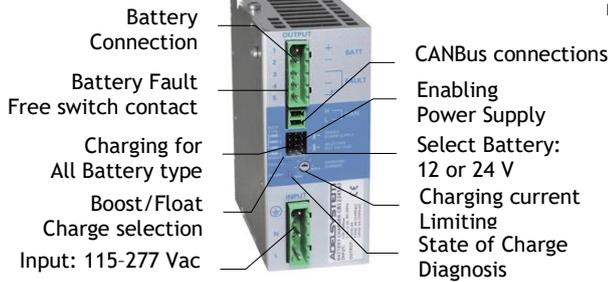


# CB12245AJ Battery Charger

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", 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 <sup>2</sup> t	≤ 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 <sub>batt</sub> < 40°C(In) Input V. 230Vac	5 A ± 5%
Charging Current Max I <sub>batt</sub> < 40°C(In) Input V. 120Vac	4 A ± 5%
Charging Current Max I <sub>batt</sub> > 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 <sub>batt</sub> < 40°C (In)	6 A ± 5%
Charging Current Max I <sub>batt</sub> > 40°C (In)	6 A ± 5%

## Battery Tester

Short circuit Element Detection	Yes
Battery Impedency (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 <sub>adj</sub>	20 ± 100 % / I <sub>n</sub>
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 (No input main Voltage)	≤ 5mA / 0mA Vbat<26.3
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
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## 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 <sup>3</sup> > 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

