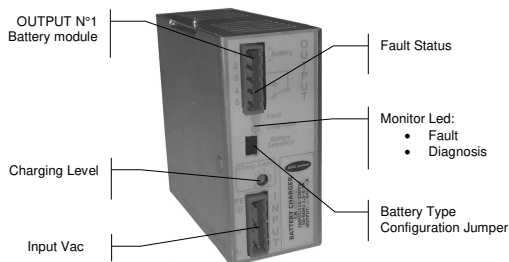


## CB243A

## Intelligent Battery Charger

Thank you for having chosen one of our products for your work. We are certain that it will give the utmost satisfaction and be a notable help on the job.

## General Description:



## Application

CB battery charger is a range of microprocessor-power supplies which correctly charge sealed lead-acid batteries at all time maximizing performance and life span. Charge the battery in multi-stage principle, Fast and Trickle and automatically the device, check the battery quality in a lifetime to prevent any risk of damage to the battery and allow leaving the charger permanently connected. Before begin the operations of installation consult the manual.

## Mains Characteristic

- Nominal Input Voltage: 115-230-277 Vac
- OUTPUT 1: for connection to Battery
- Fast and trickle battery charge in according to DIN 41773
- Signaling: fault status of the battery
- Overload and short circuit protections
- Power limited Battery output
- Safety isolation in according with EN 60950
- Degree of protection IP20
- Rail DIN mounting

## Instruction Manual

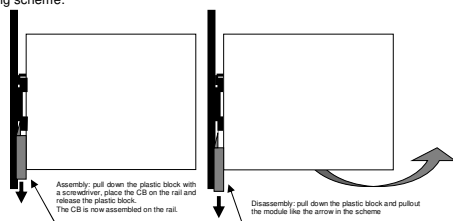
ADEL system srl Via L. Barchi 9/B, 42124 Reggio Emilia (Italy) – Tel. ++39-0522-345518  
Fax. ++39-0522-345551 – Internet: www.adelsystem.com

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Battery Charger

## Rail mounting:

- The module must be mounted in vertical position.
- Other modules must have a minimum vertical distance of 10 cm to this power supply in order to guarantee sufficient auto convection.
- Mounting scheme:



**Caution:** Switch off the system before connecting the module. Never work on the machine when it is live.

## Functional Characteristics

**Charging Level Current:** With trimmer from 20% to 100% of In. Select the max. battery charge current estimated from 10 to 20% of the nominal capacity

**Battery Module (Output 1) 1-2 Pin:** Battery input.

**Low Battery or Battery replacement:** In normal condition with battery in good status:  
led fault off and contact close (3-4),  
Any fault status of the battery: led fault on and contact open (3-4)

## Diagnosis LED

- Normal conditions:
  - Very fast blinking = recovery charging (when the battery is too low, Under 13 Vdc)
  - Fast blinking = fast charge
  - Slow blinking = trickle charge (floating charge)
- Error conditions, Led Fault on and Led Diagnosis:
  - 1 blinking = Battery Reverse polarity battery; Bad input voltage battery.
  - 2 blinking = Battery not connected.
  - 3 blinking = Short circuit battery element
  - 5 blinking = Bad battery. (Internal impedance Bad or Bad battery wire connection)



## Battery Type Configurations



**Caution:**  
Switch off the system before Setting the jumper.

## Posizionamento jumper per la carica:

0. Open Lead (Charge): Trickle =2.23 Fast=2.40/cell



1. Sealed Lead (Charge): Trickle =2.25 Fast=2.40/cell



2. Sealed Lead (Charge): Trickle =2.27 Fast=2.40/cell



3. Gel Battery (Charge): Trickle =2.30 Fast=2.40/cell



## Cable connection

The following cable cross-sections may be used:

**At the Input:** 0.2÷2.5 mm<sup>2</sup> rigid / flexible

**At the Output:** 0.2÷2.5 mm<sup>2</sup> rigid / flexible

Strip the connection ends: 7mm

**Input:** The input connection is made by the screw connections L, N, PE.

## Protection

**On the primary side:** the device is equipped with an internally fuse T 4 A. If the internal fuse is activated, it is most probable that there is a fault in the device. If happen, the device must be checked in the factory

**On the secondary side Battery and load:** The device is electrically protected against short circuits and overload

**Inversion polarity:** the module is protected against inversion of battery polarity.

**Over current and output short circuit:** the unit limits the output power at max. 72W in normal rating.

**Battery Test:** Automatic. Check polarity and battery. Every 4 hours in trickle charge, make the test of the battery quality. The fault is signaled with relay commutation and diagnosis led blinking.

## Short circuit and overload

The output current to the battery is selected with the Charge Level trimmer. The maximum power – load of 72W limits the current to the battery.

## Thermal behavior

The device supplies the nominal output current at ambient temperature of up to 50°C. For ambient temperature of over 50°C, the output current must be reduced by 2.5 % per °C increase in temperature. Max 70°C. The unit is auto-protected to the unexpected increase of temperature.

## Standards and Certifications

## Electrical safety

The device must be installed in according with EN60950. The device must have a suitable isolating facility outside the power supply unit, via which can be switched to idle.

## General Standard

Emission : EN61000-6-4

Immunity: EN61000-6-2

All specification are subject to change without notice



Battery Charger

## Features

## Input Data

|                                       |                 |
|---------------------------------------|-----------------|
| Nominal Input Voltage (2 x Vac)       | 115-230-277 Vac |
| input voltage range                   | 93 ÷ 305 Vac    |
| Inrush Current (Vn – In)              | ≤ 7 ÷ 5 msec    |
| Frequency                             | 47 ÷ 63 Hz      |
| Input Current (Nominal input Voltage) | 1 – 0.7 A       |
| Internal Fuse                         | 4 A             |
| External Fuse (recommended)           | 10 A            |

## Output Data

|                                                         |                    |
|---------------------------------------------------------|--------------------|
| Output Voltage Battery Bulk Charge / Nominal Current    | Max 28.8 Vdc / 3 A |
| Output Voltage Battery Trickle Charge / Nominal Current | Max 27.5 Vdc / 3 A |
| Adjustment range of charge (In adj.)                    | 20 ÷ 100% In       |
| Type of charging characteristic                         | U/I                |
| End of charging voltage (Bulk charge)                   | Max 28.8 Vdc       |
| Recommended battery for charging from 10 to 14 hours    | 30 Ah              |
| Switching on after applying mains voltage               | 1.8 sec. Max       |
| Current max                                             | 3 A                |
| Efficiency                                              | ≥ 81 %             |
| Over Load protection                                    | Yes                |
| Reverse battery protection                              | Yes                |
| Minimum Load                                            | No                 |
| Short-circuit protection                                | Yes                |
| Over Voltage Output protection                          | Yes                |
| Fault relay contact characteristics                     | 1 A – 30 Vdc       |
| Derating at 115 Vac                                     | 60 W Max           |

## Climatic Data

|                                    |               |
|------------------------------------|---------------|
| Ambient Temperature (operation)    | -10 ÷ +50 °C  |
| Ambient Temperature (Storage)      | -25 ÷ +55 °C  |
| Humidity, no moisture condensation | 95 % at 25 °C |

## General Data

|                                  |                     |
|----------------------------------|---------------------|
| Isolation Voltage (Input/output) | 3000 Vac            |
| Input ground insulation          | 1605 Vac            |
| Electrical safety                | EN 60950            |
| Degree of protection             | IP 20               |
| Protection class                 | I with PE connected |
| Dimension (w-h-d)                | 45x110x105          |
| Weight                           | 0.3 Kg approx       |

In according to 89/338/EEC Electromagnetic Compatibility and  
2014/35/EU Low Voltage



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