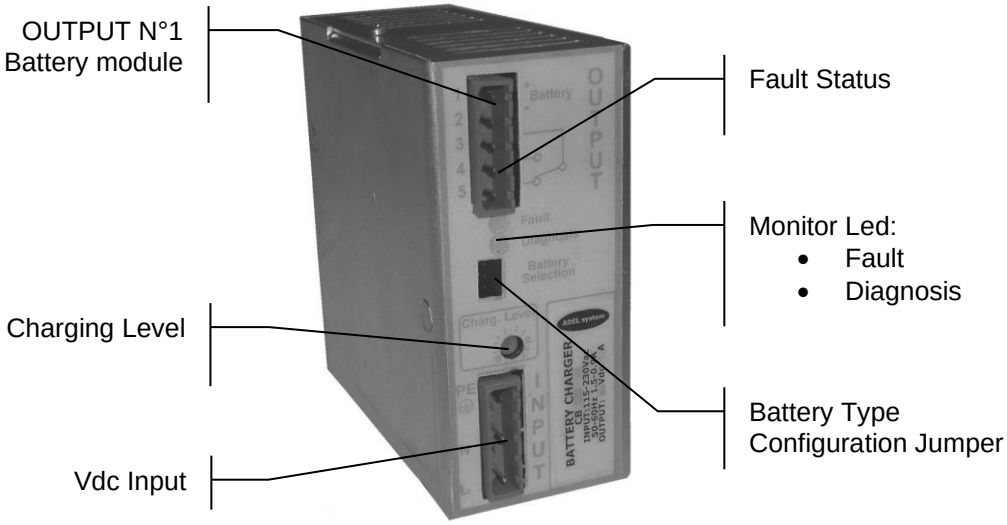
ADEL system

CB123A/48

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 witch correctly charge sealed lead-acid and nickel-cadmium 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: 48 Vdc
- 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

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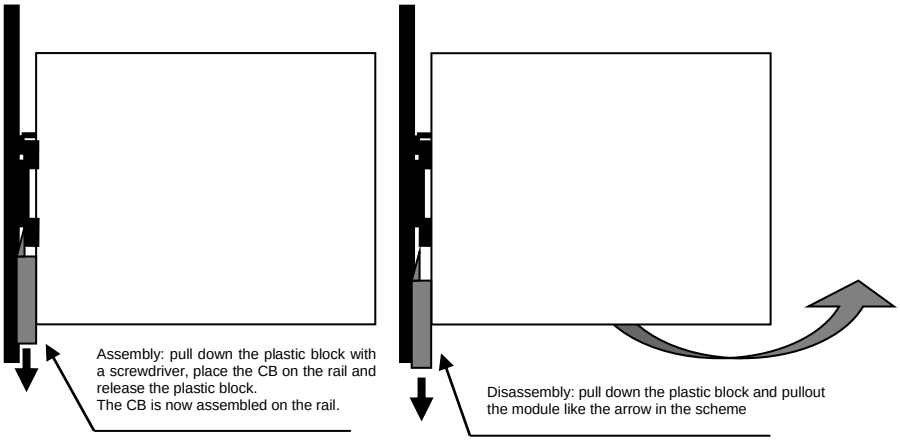
Rail mounting:

- 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.
- Mountig 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 (3-5)

Diagnosis LED

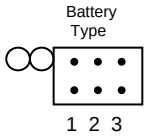
- Normal conditions:
  - Very fast blinking = recovery charging (when the battery is too low, Under 7 Vdc)
  - Fast blinking = fast charge
  - Slow blinking = trickle charge (floating charge)
- Error conditions, Led Fault on and Led Diagnosis:
  - 1 blinking = Reverse polarity battery; Bad input voltage 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

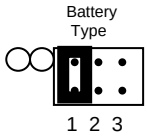
Caution:
Switch off the system before Setting the jumper.

Jumpers positions for charging:

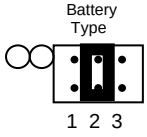
0. *Open Lead*: Fast=2.40V/cell Trickle=2.23V/cell
   NiCd: Fast=Imax, 16 hours max Trickle=20% Imax



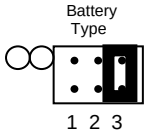
1. *Sealed Lead*: Fast=2.40V/cell Trickle=2.25V/cell
   NiCd: Fast=Imax, 12 hours max Trickle=15% Imax



2. *Sealed Lead*: Fast=2.40V/cell Trickle=2.27V/cell
   NiCd: Fast=Imax, 8 hours max Trickle=10% Imax



3. *Gel Battery*: Fast=2.40V/cell Trickle=2.30V/cell
   NiCd: Fast=Imax, 4 hours max Trickle=5% Imax



Cable connection

The following cable cross-sections may be used:
At the Input: 0.2÷2.5 mm^2 rigid / flexible
At the Output: 0.2÷2.5 mm^2 rigid / flexible
Strip the connection ends: 7mm
Input: The input connection is made by the screw connections -, +, ⏚.

Protection

On the primary side: the device is equipped whit a 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. 36W 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 signalized 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 36W limits the current to the battery.

Thermal behavior

The device supplies the nominal output current at ambient temperature of up 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.

Standards and Certification

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. Safety EN IEC 62368-1

General Standard

Emission : EN61000-6-4
Immunity: EN61000-6-2

Features

Input Data

Nominal Input Voltage (Vdc)	48 Vdc
Input voltage range	35 ÷ 60 Vdc
Inrush Current (Vn – In)	≤ 7 ≤ 5 msec.
Input Current (Nominal input Voltage)	1.8 A
Internal Fuse	4 A
External Fuse (recommended)	10 A

Output Data

Output Voltage Battery Bulk Charge / Nominal Current	Max 14.4 Vdc / 3 A
Output Voltage Battery Trickle Charge / Nominal Current	Max 13.75 Vdc / 3 A
Adjustment range of charge (In adj) (No for CB123ALC)	20 ÷ 100% In
Type of charging characteristic	U/I
End of charging voltage (Bulk charge)	Max 14.4 Vdc
Switching on after applying mains voltage	2.5 sec. Max
Current max	3 A
Efficiency	≥ 81 %
Over Load protection	Yes
Minimum Load	No
Short-circuit protection	Yes
Over Voltage Output protection	Yes
Reverse battery protection	Yes
Fault relay contact characteristics (No for CB123ALC)	1 A – 30 Vdc

Climatic Data

Ambient Temperature (operation)	-10 ÷ +50 °C
Ambient Temperature (Storage)	-25÷ +85 °C
Humidity; no moisture condensation	95 % a 25°C

General Data

Isolation Voltage (Input/ output)	3000 Vac
Input ground insulation	1605 Vac
Electrcal 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 89/336/EEC Electromagnetic Compatibility and 2006/95/EC Low Voltage. Safety EN IEC 62368-1	CE