

The CB 520 switch-mode battery charger has been expressly designed for the caravanning and boating sector and can automatically charge 12V  $\text{---}$  lead batteries.

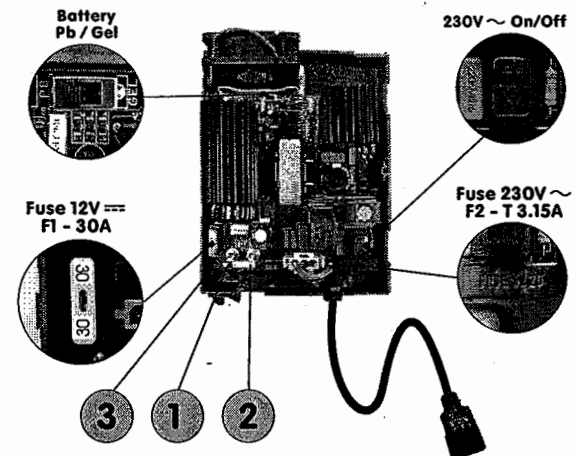
The battery charger is protected against overtemperature and the 12V  $\text{---}$  outputs are protected against short circuit and polarity inversion.



The charging system is carried out in 4 stages:


- 1) **battery charging** with maximum current until the end-charge voltage is reached:  
*Note: the end-charge voltage is reached only if the battery is efficient.*
- 2) when the **end-charge** threshold is reached the charger continues to operate for 90 minutes (lead batteries) or 8 hours (gel batteries) with constant voltage.
- 3) **Constant voltage holding** 13.8V  $\text{---}$  (gel batteries) or 13.5V  $\text{---}$  (lead batteries)
- 4) After 10 hours, the battery charger reaches the **stand-by** mode and begins to operate again only when the battery voltage is lower than 13V  $\text{---}$ .

The high frequency switching technology allows to have high performances with small dimensions and limited weight.

CONNECTIONS



1	+12V 	<b>12V <math>\text{---}</math> CONNECTION</b> + 12V $\text{---}$ supply
2	-12V 	<b>12V <math>\text{---}</math> CONNECTION</b> - 12V $\text{---}$ supply

3 	<b>SIGNAL</b> Net signal (+12V $\text{---}$ )
--	--

**NB: FACTORY SETTING OF THE SELECTOR IS ON "Pb" (ACID)**

- Technical data are indicated also in the label inside the cover -

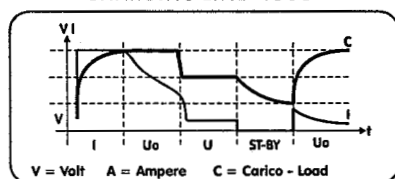
## SPECIFICATIONS

INPUT TECHNICAL DATA	
Nominal voltage	230V ~ ±10%
Frequency	50 Hz
Maximum power	300 W
Protection fuse ref. F2	T 3.15A (glass 5x20)
Security switch	230V ~ luminous

OUTPUT TECHNICAL DATA	
Maximum voltage	14,3 V $\approx$ (Pb-Gel) - 14,1V $\approx$ (Pb-Acldo)
Maintenance voltage	13,8 V $\approx$ (Pb-Gel) - 13,5V $\approx$ (Pb-Acldo)
Maximum output current	20A
Charge line	IUoU
Battery type selector	Pb-Acldo / Pb-Gel
Short circuit and inversion polarity protected ref. F1	30A (lama)
Thermal protection	Yes
Net presence signalling (S)	12V $\approx$ ; 50 mA

GENERAL TECHNICAL DATA	
Efficiency	86 %
Room temperature	0 - +50 °C
Ventilation	Automatic regulation variable
Security directives	2006/95/CE
EMC directives	2004/108/CE
Net connection	IEC plug
Battery connection	"M6" screw
Net signal connection	Faston "6,3"
Dimensions	180 x 140 x 85 (mm)
Weight	1kg

### CHARGING LINE "IUoU"



## INSTALLATION

Fig.1 - DIMENSIONS (mm):

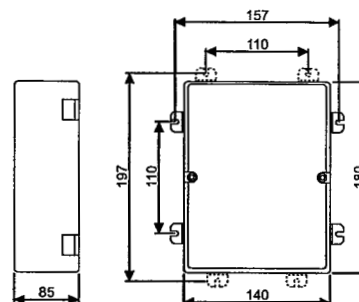
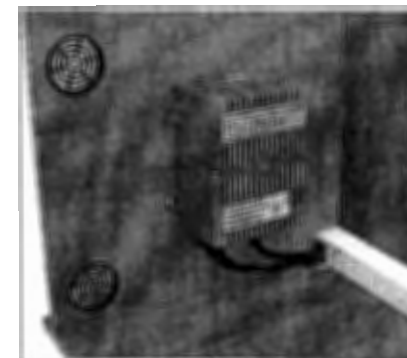


Fig.2 - VERTICAL INSTALLATION



- IMPORTANT:** - The installation of this device must be carried out by specialized technicians.-
- Caution, do not connect the battery charger:
    - when a generator set with non stabilised output voltage is employed
    - with power mains voltage exceeding the rated value (230V ~ ±10%)
  - Do not carry out any maintenance when the battery charger is connected to the 230V ~ power supply net.
  - In case of battery charger's misuse, the guarantee falls off and the manufacturer declines all responsibility for damages to people and things.

### BATTERY CHARGER

- Install the battery charger in an appropriate housing, dry and ventilated; maximum efficiency can be obtained when the battery charger is installed in vertical position (see figure 2), keeping the front side at minimum distance of 300 mm and the bottom and top side at a minimum distance of 100 mm from the housing sides.
- Do not cover air intakes.
- To guarantee a proper change of air the installation of two air intakes (one placed on the top and one on the bottom, see figure 2) ensuring a working temperature inside the housing not exceeding 50 °C.
- Make sure that the 230V ~ safety switch can be easily reached.
- The connection to power supply mains shall be made in accordance with national installation rules.
- Before disconnecting the battery charger from 230V ~ power supply, turn the safety switch off.
- The installation requires the fixing of no. 4 pins that can be easily placed on the 4 sides.
- The battery charger can be installed together with CBE 12V and 230V distribution panels, using the appropriate modular joints.

### CABLES

- Use cables with appropriate section, minimum cross section area 4 mm<sup>2</sup>.
- Protect cables from any possible damage.

### BATTERY

- Lead-acid batteries shall be positioned in a well ventilated place.
- Use only 12V  $\approx$  rechargeable lead batteries (capacity >40Ah).

### Warning:

- Do not use "not rechargeable" batteries.
- Exhausted batteries shall be disposed in accordance with existing environmental protection regulations.