

# **USER MANUAL**

**CH1 (6V/12V 1A)**

AUTOMATIC CHARGER

## INTENDED USE

The product is designed to charge and maintain 6 or 12-V lead-acid batteries. The charger has been optimised to maintain the battery of your motorcycle or car when it is not being used over longer periods of time, for example over the winter. The charger is fully automatic with a 6 step charging cycle. It is designed to charge Gel, AGM, and standard lead-acid batteries.

Any use other than that described above will damage this product and involves the risk of short circuits, fire, electric shock, etc.

## PACKAGE CONTENTS

- Battery charger
- Operating instructions
- Cable with battery clamps
- Cable with o-ring connectors

## SAFETY INSTRUCTIONS

**Please read through the operating instructions completely before operating the device. They contain important information for correct operation. The warranty/guarantee will be void if damage is incurred resulting from non-compliance with these operating instructions! We assume no liability for any consequential damage! We do not assume any liability for damage to property or personal injury caused by improper use or the failure to observe the safety instructions!**

### General

- The unauthorized conversion and/or modification of the product is inadmissible for safety and approval reasons (CE).
- The battery charger may only be operated with a supply voltage of 100-240 V~/50/60 Hz.
- The product is not a toy. It is not suitable for children. Pay particular attention when children are present!
- The product may only be set up, used or stored in places that are not accessible to children. Danger to life!
- This product is only suitable for charging 6 and 12V lead-acid batteries. Never use it to charge different rechargeable batteries (e.g. NiCd, NiMH, LiPo) or even non-rechargeable batteries! There is a risk of fire and explosion!
- Maintenance, adjustments and repair work may only be carried out by a specialist/specialised workshop. Only use original spare parts to repair the device. Using other spare parts can lead to significant material damage or personal injury!
- Do not leave packaging material lying around carelessly. It might become a dangerous toy for children!
- If you notice any damage, do not use the battery charger anymore.

## Operations

- Operation under adverse ambient conditions must be avoided under all circumstances. Adverse ambient conditions include: ambient temperatures above 40 °C, flammable gases, solvents, vapours, dust, and relative humidity above 80 %.
- Do not use the battery charger inside a vehicle. The battery charger must not be used in the vicinity of flammable substances or gases.
- Ensure that there is sufficient ventilation during operation. Never cover the battery charger or the connected battery.
- Never charge lead-acid batteries in containers or poorly ventilated rooms. Explosive gases can be generated during the charging process!
- Keep the battery charger as well as the battery away from ignition sources. Do not smoke while handling the battery charger or the battery! There is danger of explosion!
- Never operate the device immediately after it has been taken from a cold to a warm room. The condensation generated can cause malfunctions and there is also the risk of a deadly electric shock!
- Persons (including children) who have insufficient knowledge or experience in using the device or who are physically, sensorially or mentally handicapped may only use the device under the supervision of a person responsible for their safety. Children must be kept under supervision and may not play with the device.
- Check the battery voltage before starting the charging process, only 6 and 12 Volt batteries can be recharged.

## Notes on rechargeable batteries

- Make sure you observe all safety instructions and charging instructions of the battery manufacturer.
- Before connecting the battery to the battery charger, disconnect the battery from any loads or cables (turn off the loads first!).
- Always disconnect the ground connection from the battery before disconnecting the positive terminal.
- Disconnect the battery from the battery charger before connecting any loads to the battery.
- When connecting or disconnecting the battery, sparks might be produced. Therefore, make sure there is sufficient ventilation!
- Observe the polarity when connecting the battery to the battery charger (red charger terminal = positive/+, black charger terminal = negative/-).
- Lead-acid batteries contain aggressive and corrosive acids. Avoid skin or eye contact with battery fluids! Never dismantle lead-acid batteries! On skin contact, clean the affected areas thoroughly with water and soap. On eye contact, rinse the effected eye immediately with clear and cold running water! Then consult a doctor immediately!
- Batteries must not be short-circuited or thrown into fire. Risk of fire and explosion!

## DISPOSAL

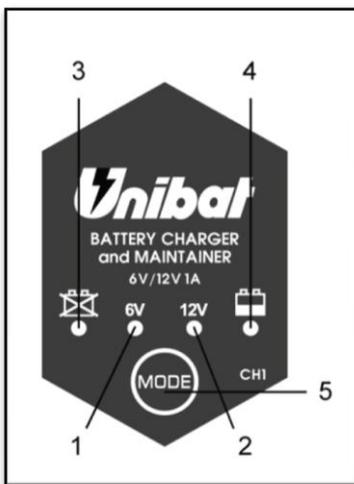


At the end of its useful life, this product must not be disposed of together with normal household waste, but has to be dropped off at a collection centre for the recycling of electrical and electronic devices. This is indicated by the symbol on the product, on the instruction manual or on the packaging.

The materials of which this product is made are recyclable pursuant to their labelling. With the reuse, the recycling of the materials or other forms of scrap usage you are making an important contribution to the protection of the environment.

Please ask your local administration office for the appropriate disposal centre.

## DESCRIPTION OF LEDS/FUNCTIONS



1	<b>6V</b>	Mode 1 - 6V mode <ul style="list-style-type: none"> <li>up to 7.2V, suitable for charging 6V small batteries</li> </ul>
2	<b>12V</b>	Mode 2 - 12V mode <ul style="list-style-type: none"> <li>up to 14.4 V, suitable for charging 12V small batteries</li> </ul>
3		LED 3 - <ul style="list-style-type: none"> <li>FAST FLASHING – The charging loop is in short circuit</li> <li>SLOW FLASHING – Battery defective</li> <li>LIT - Cables connected with reverse polarity</li> </ul>
4		LED 4 - <ul style="list-style-type: none"> <li>FLASHING – Charging in progress</li> <li>Lit – Fully charged</li> </ul>
5		MODE button

## CHARGING A LEAD-ACID BATTERY

1. First make sure your lead-acid battery is a 6V or 12V battery. Do not charge batteries with different operating voltages!
2. Disconnect all loads from the battery.  
If the battery is installed in a vehicle, turn off the ignition and any other loads.  
**Observe the instructions and safety information of the vehicle to find out how the vehicle battery should be charged. Modern vehicles are equipped with sensitive electronic parts and controls that can be damaged if you do not proceed properly!**
3. Connect the red battery clamp (+) to the positive (+) battery pole. Connect the black battery clamp (-) to the vehicle chassis or the negative (-) battery pole.
4. If the polarity is not correct, LED 3  will be lit. If the Charging loop is in short circuit, LED 3  will be fast flashing..
5. When the polarity is correct, connect the battery charger to the power supply (100-240V ~/50/60 Hz).
6. This battery charger is equipped with an automatic reset function, i.e. whenever it is connected, it starts in stand-by mode **12V** (LED 2 is lit).
7. Now you can select a function using the mode button (5) . See the next chapter for a description of the individual operating modes.
8. After the charging process, disconnect the battery charger from the mains supply.
9. First remove the clamp from the vehicle chassis or negative terminal and then from the positive terminal.

## OPERATING MODES

### Mode 1: 12V mode (14.4 V +/- 0.20 V)

- This mode is intended especially for 12V batteries
- To select this mode, press the MODE button (5)  until LED 2 (12V) lights up. The charging process starts automatically (1A+/-10%), LED 2 (12V) lit and LED 4  is flashing when the charging is in progress.
- When the battery is fully charged (14.4V +/- 0.20 V), LED 4  lights up. The device automatically switches to trickle charge.

### Mode 2: 6V mode (7.2 V +/- 0.20 V)

- This mode is intended especially for 6V batteries.
- To select this mode, press the MODE button (5)  until LED 1 (6V) lights up. The charging process starts automatically (1A+/-10%), LED 1 (6V) is lit and LED 4  is flashing when the charging is in progress.
- When the battery is fully charged (7.2V +/- 0.20 V), LED 4  lights up. The device automatically switches to trickle charge.

### Regeneration function:

- This function is designed to regenerate deep-discharged batteries. It cannot be directly selected.
- If a deep discharged rechargeable battery is connected to the charger, the regeneration mode is the first mode to start. Pulsing charging currents are used to try and bring the deep discharged rechargeable battery to a normal battery voltage again. The maximum time for regeneration is 20 minutes. If no normal battery voltage is reached in this time, the charger stops the process and LED 3  flashes slowly.

### Defective rechargeable batteries

The charger recognises defective rechargeable batteries automatically. In this case the selected charging programme will not be started. LED 3  flashes slowly.

### MODE SELECT

- Press the MODE button (5)  to activate or deactivate the selected mode.

### CLEANING

Disconnect the battery charger from the battery and the mains voltage before cleaning it.

Clean the outside of the product with a clean, dry, and soft cloth.

Do not use aggressive cleaning agents to avoid discolouration.

### SPECIFICATIONS

Operating voltage: 100-240V~/50/60Hz

Charge end voltage: 7.2V +/- 0.20V or 14.4 V +/- 0.20 V

Charging current: Max. 1A

Rechargeable battery type: Any 6V or 12V lead-acid batteries (SLA batteries, AGM, gel)