DESCRIPTION OF PARTS

1. Charger
2. Fixing holes
3. Network cable with plug
4. Plus pole terminal (red), with connection cable
5. Minus pole terminal (black), with connection cable
6. Button MODE
7. LED “Mode 1”
8. LED “Mode 2”
9. LED “Mode 3”
10. LED “Mode 4”
11. LED “Error”
12. LED “Fully charged”
13. LED “Charging”
14. LED “STANDBY”
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SAFETY INSTRUCTIONS

Read these operating instructions carefully before using the appliance for the first time. Note the warnings on the appliance and in the operating instructions.

Always keep the operating instructions close to hand. If you sell the appliance or give it away, please ensure that you also pass on these instructions.

- Never expose your charger to rain or moisture! Do not use the appliance outside!
- The appliance should not come into contact with drops or sprayed water.
- Only connect the charger to an easily reachable 230 V ~ 50 Hz socket.
- Do not cover the charger otherwise overheating and thus damage may occur.
- To avoid tripping hazards, please avoid using extension cables.
- Only use the appliance in environmental temperatures of 0-40°C.
- The appliance should not be exposed to prolonged direct sunlight.
FAULTS

- If damage occurs to the mains cable, charger or connection cable, immediately pull the mains plug from the socket.
- Never try to open and/or repair the appliance yourself. Contact our service centre or qualified personnel.
- Ensure that defective appliances or damaged mains cables are repaired immediately by a specialist workshop or contact your service centre to reduce risks.

RISK OF EXPLOSION!

- Ensure that ventilation is adequate. Charge and discharge the appliance in a well ventilated room that is protected from the weather.
- In addition ensure that there is no open flame (fire, embers or sparks) when charging or discharging the appliance! Gaseous hydrogen may flow out of the battery when charging and discharging. If there is contact with an open flame a highly explosive gas detonation may occur!

RISK OF EXPLOSION AND FIRE!

- Ensure that no explosive or flammable substances, e.g. petrol or solvent, can be ignited when using the charger!
- Connect the line at a distance from the battery and petrol line.
PROTECT YOURSELF FROM AN ELECTRICAL SHOCK!

• Only use the charger for 6 V or 12 V rechargeable lead batteries (batteries) with an electrolyte solution or gel!
• For a battery that is firmly fixed in the vehicle ensure that the vehicle is out of use and is at a protected standstill! Switch the ignition off and put the vehicle into park, e.g. with the handbrake applied (car) or with a fixed rope (boat)!
• Avoid electrical short circuits when connecting the charger to the battery. Connect the minus pole connection cable only to the battery minus pole or the bodywork. Only connect the plus pole connection cable to the battery’s plus pole!
• Before connecting to the mains ensure that the mains power is 230 V~50 Hz as per the regulations!
• When inserting into the socket, only connect the mains cable to the insulated area on the mains plug.
• Only touch the connection terminals (plus pole and minus pole) to the insulated area!
• Detach the charger from the mains before assembly, maintenance or cleaning work!
• Do not expose the charger to fire, heat or long lasting temperature effects above 50 °C! The charger’s output power falls automatically at higher temperatures.
HANDLING RECHARGEABLE BATTERIES

- Do not use the charging and maintenance process on batteries that cannot be recharged.
- Do not use frozen rechargeable batteries!
- Do not use damaged or corroded rechargeable batteries.
- Never open or cut up rechargeable cells or batteries.
- Never expose cells or batteries to great heat or fire. Avoid storage in direct sunlight.
- Never short circuit cells or batteries.
- Please note that when charging batteries a highly explosive gas detonation mixture can occur. There is a risk of explosion for improper use. Therefore please note:
  - Fire, sparks, open flames and smoking are prohibited.
  - When using cables and electrical appliances ensure that sparks do not form and there is no electrostatic discharge. Avoid short circuits.
- Caution risk of chemical burns! Battery acid can cause strong chemical burns. Use protective gloves, clothes and eye protection that withstand acids. Do not turn batteries over as acid can leak from the gas release openings.
- If a cell has become unsealed the liquid must not touch the skin or eyes.
- If it does come into contact the affected location must be washed with a large quantity of water for a long time. In addition seek medical assistance.
• Remove the leaking battery liquid with a dry, absorbent cloth and avoid contact with skin by, for example, using protective gloves that withstand acid.

• At all times observe the plus (+) and minus (-) signs on the cells, batteries and appliances. Ensure proper use.

• Store cells and batteries out of the reach of children.

• Only use the charger for 6 V or 12 V rechargeable lead batteries with an electrolyte solution or gel!

• Store the technical documentation on battery charging together with this manual for future reference.
ABOUT THIS APPLIANCE

PROPER USE

This appliance is a primary-side switched charging appliance with pulse maintenance charging. It is suitable for charging and maintaining the charge of the following rechargeable 6 V or 12 V lead batteries with an electrolyte solution or gel:

- 6 V: Capacity of 1.2 Ah to 14 Ah;
- 12 V: Capacity of 1.2 Ah to 14 Ah;
- 12 V: Capacity of 14 Ah to 120 Ah.

It can also regenerate fully discharged batteries (regeneration mode).

The appliance is not designed for commercial use.

Only use the charger to charge the battery types stated in these instructions. No other batteries may be charged with the charger. When using other types of batteries there is a risk of injury and the charger could be damaged.

The charger charges batteries automatically in several stages and can therefore recharge them up to 100% of their capacity.

You can also connect a battery that has not been used for a long time to the charger in order to recharge it.
SCOPE OF DELIVERY

UNPACKING THE APPLIANCE

• Remove all packing materials.

WARNING.
Do not let children or babies play with the plastic wrapping. There is a risk of suffocation.

When you have unpacked everything, check that the parts below have been included:

• Charger with 2 quick contact connection terminals (1 red, 1 black)
• Operating instructions and guarantee documents
**OPERATION**

**LED DISPLAYS**

The following LEDs may light up during operation:

<table>
<thead>
<tr>
<th>LED</th>
<th>Mode</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>STANDBY</strong></td>
<td>STANDBY mode</td>
</tr>
<tr>
<td><strong>6V</strong></td>
<td>Mode 1: Charging process 6 V battery</td>
</tr>
<tr>
<td><img src="image" alt="Motorcycle" /></td>
<td>Mode 2: Charging process Motor cycle battery</td>
</tr>
<tr>
<td><img src="image" alt="Car" /></td>
<td>Mode 3: Charging process Car battery</td>
</tr>
<tr>
<td><img src="image" alt="Battery" /></td>
<td>Mode 4: Charging process at a low environmental temperature</td>
</tr>
<tr>
<td><img src="image" alt="Battery" /></td>
<td>Charging process active</td>
</tr>
<tr>
<td><img src="image" alt="Battery" /></td>
<td>Maintenance charging for fully charged battery</td>
</tr>
<tr>
<td><img src="image" alt="Exclamation" /></td>
<td>Error: e.g. Reversed polarity connection terminals</td>
</tr>
</tbody>
</table>
CONNECT CHARGER TO BATTERY

**WARNING.** Before assembly and maintenance work and before cleaning the appliance always detach it from the mains power supply!

**NOTE:** Before disconnecting a car or motor bike battery first get advice from the vehicle’s instruction manual on the potential consequences of disconnecting the battery.

- If the battery that you wish to charge is connected to the vehicle, first disconnect the vehicle’s minus pole connection cable (black) from the battery’s minus pole before the charging or maintenance process. The battery’s minus pole is usually connected to the vehicle’s bodywork.
- Then disconnect the vehicle’s plus pole connection cable (red) from the battery’s plus pole.
- Then attach the charger’s plus pole terminal (red) to the battery’s plus pole and then the minus pole terminal (black) to the battery’s minus pole.
- Connect the battery charger’s mains cable to a mains socket.
SELECT CHARGING MODE

Select a charging mode depending on the battery type and environmental temperature. You can also recharge a completely discharged battery (“regeneration”). The charger’s electronics do not start the charging process directly after connecting the battery but rather only after a charging mode has been selected. This avoids sparks that often occur during the connection process.

- In order to select a charging mode press the MODE button several times. The LED for the relevant mode lights up.
- The charger recognises the modes suitable for the battery type. Therefore not every mode can be selected for every battery.
- After selecting a mode the charger implements it. If a battery remains attached to the charger after complete charging the charger automatically switches to maintenance charging. The battery is also charged with maintenance charging if another mode is selected.

Mode 1 (6 V to max. 14 Ah batteries)

Set this mode to charge 6 V lead acid batteries with a capacity under 14 Ah.

- Press the MODE button several times to select Mode 1. The LED display 6V lights up.
- If you then do not set another mode the electronics automatically start the charging process with a charging current of around 0.8 A. The LED lights up throughout
the complete charging process until the battery is charged to around 7.3 V.
- When the battery is fully charged the LED goes out and the LED lights up. Maintenance charging takes place in this status.

Mode 2 (12 V to max. 14 Ah batteries)
Set this mode to charge batteries with a capacity under 14 Ah.
- Press the MODE button several times to select Mode 2.
  The LED display lights up.
- If you then do not set another mode the electronics automatically start the charging process with a charging current of around 0.8 A. The LED lights up throughout the complete charging process until the battery is charged to around 14.4 V.
- When the battery is fully charged the LED goes out and the LED lights up. Maintenance charging takes place in this status.

Mode 3 (12 V batteries between 14 Ah and 120 Ah)
Set this mode to charge batteries with a capacity over 14 Ah and normal environmental temperatures.
- Press the MODE button several times to select Mode 3.
  The LED display lights up.
- If you then do not set another mode the electronics automatically start the charging process with a charging current of around 3.8 A. The LED lights up throughout
the complete charging process until the battery is charged to around 14.4 V.

- When the battery is fully charged the LED goes out and the LED lights up. Maintenance charging takes place in this status.

**Mode 4 (12 V batteries between 14 Ah and 120 Ah, cold temperatures)**

Set this mode to charge batteries with a capacity over 14 Ah and lower environmental temperatures. Set this mode also to load AGM batteries and a capacity of over 14 Ah.

- Press the MODE button several times to select Mode 4. The LED display lights up.
- If you then do not set another mode the electronics automatically start the charging process with a charging current of around 3.8 A. The LED lights up throughout the complete charging process until the battery is charged to around 14.7 V.
- When the battery is fully charged the LED goes out and the LED lights up. The battery is now charged on maintenance charging.

**Regenerate/recharge fully discharged batteries (regeneration mode)**

- Attach the fully discharged battery into the charger and start the charging process. The LED flashes. You can not select a different mode.
- In this regeneration mode the battery is charged until the charger measures a terminal voltage that is high enough
for a regular charging mode. The appliance then switches automatically to an appropriate charging mode and continues the charging.

**APPLIANCE PROTECTION FUNCTION**

The appliance is protected against improper use. If there is a short circuit between the terminals with the result that the power circuit is not closed (the terminals are not fixed correctly) or the battery voltage falls below 7.5 V the appliance remains in standby mode. You can not operate the appliance.

If the terminals have incorrect polarity (are connected incorrectly) the error LED also lights up 🟢.

*Over-heating cut-out*

If the appliance overheats during charging the charging power is reduced to a lower output (10-100 mA). This protects the appliance from damage.

**REMOVING THE BATTERY**

When removing the battery, use the following order:

- After charging disconnect the appliance from the mains power.
- Detach the minus pole terminal (black) from the battery’s minus pole.
• Detach the plus pole terminal (red) from the battery’s plus pole.
• Reconnect the vehicle’s plus pole connection cable to the battery’s plus pole.
• Reconnect the vehicle’s minus pole connection cable to the battery’s minus pole.

SWITCH OFF

• Switch the charger off by removing the mains plug.

TAKING OUT OF OPERATION

STORING THE APPLIANCE

• If you no longer use the appliance pull the plug out of the socket.
• Store the appliance in a dry location.
CLEANING AND CARE

• Before cleaning, remove the plug from the mains socket. Use a dry, soft cloth to clean the appliance. Avoid the use of chemical solutions and cleaning products because these may damage the appliance surface and/or markings.
• After longer periods of use also clean the connection terminals with a dry cloth to achieve ideal contact to the poles.

WALL ASSEMBLY

The appliance has fixing holes so that you can fix it to the wall.

![WARNING! Do not drill holes into areas which may contain embedded power, gas or water lines. Use a suitable search tool to locate these lines.]

• Select a suitable location on the wall. There must be adequate ventilation.
• Select two rawl plugs and screws that are suitable to the wall and size of the fixing holes.
• Mark the drill holes on the wall.
• Drill the two holes and insert the rawl plugs.
• Screw the appliance tightly.
TECHNICAL DATA

Input: 220 - 240 V ~ 50/60 Hz; 60 W
Output for batteries
with measurement voltages: 6 V or 12 V

Charging power
approx. 0.8 A/3.8 A (12 V)
approx. 0.8 A (6 V)

Subject to technical changes.
DISPOSAL

Appliance
At the end of its life, the battery charger should not be disposed of in household rubbish. Seek the advice of your local authority on correct, environmentally-friendly disposal.

Batteries
Rechargeable batteries must be disposed of properly. Retailers who stock batteries and local authority collection points have appropriate disposal containers for this purpose.

Packaging
Your battery charger is wrapped in packaging to protect it against transportation damage. Packaging is a raw material and can be re-used or added to the recycling system.