Operating instructions for battery charger LA 110 E

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1. Description

The LA 110 E battery charger is used to charge 6-cell 12V lead-acid batteries with a capacity of approx. 35 to 70Ah.

These batteries can also be installed in 12V networks, so that the battery charger takes over charge and supply.

1.1 Technical specifications

1.1.1 General data

Dimensions (H x W x D in mm)	111 x 135 x 160 including foot bracket
Weight	2.8 kg
Casing	Aluminium, Powder-coated
Housing Colour	White cover, Front light gray RAL 7035

1.1.2 Electrical data

Mains connection	* 230V (+6 / - 10%), 50Hz, protection class I
Network connection value	* 100VA
Suitable batteries	* 6-cell lead-acid batteries from 35Ah
Reverse current (without mains and with connected battery)	* <0.3mA

Note: These instructions are intended for the end customer and must be enclosed with the device.

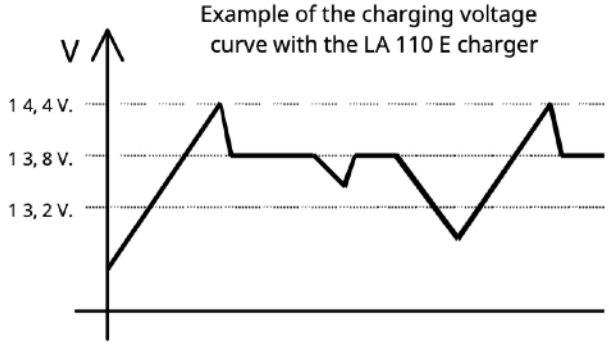
1.1.2.1 Battery charging

Charging curve	* WoU
Control principle	* Controlled by thyristor
End-of-charge voltage	* 14.4V
Charging current	* 5A arithm. Average value (7A eff.) At 230V mains voltage and a battery voltage of 13.0V. The current depends on the mains voltage
Float charge voltage	* 13.8V with automatic switching
Renewed charging cycle	* with a battery voltage <13.2V
Protection circuits	* Protection against reverse polarity connection of a battery. * Protection against short circuit. * 0.8AT fuse in the mains input * Overheating switch in the transformer

Example for the charging voltage curve:

* Charge the battery up to 14.4V,
* then automatic switchover to float charge voltage 13.8V,
* If a battery voltage of around 13.2V can no longer be maintained by the charger due to a high load, it will switch back from trickle charging to main charging.

Example of the charging voltage curve with the LA 110 E charger



2. Safety Instructions

* No changes may be made to the LA 110 E battery charger.
* The connection of the battery charger to the 230V supply network must be carried out in accordance with the national installation regulations.
* The connection of the battery charger must be carried out by trained specialists and in accordance with the operating instructions:
  See operating instructions point 3.2 'Installation' and point 4 'Electrical connection'
* In the following text, special attention should be paid to the symbols shown here:

caution !

This symbol warns of dangers from electrical current.

caution !

This symbol warns of general dangers.

3. Transport, Storage, Assembly

3.1 Transport, Storage

- The battery charger should only be transported and stored in suitable packaging and in a dry environment.
- Storage temperature range: -10° C to +50° C.

3.2 Assembly

- This battery charger is designed for operation in a dry and adequately ventilated environment with an ambient temperature range of -10° C to +40° C.
- The minimum distance to the surrounding furnishings is 5cm upwards and on all 4 sides. During operation, measured at a distance of 2.5 cm from the sides of the device, a maximum ambient temperature of +40° C must be maintained.

caution !

Risk of overheating if the distance to furnishings is too short or if the ventilation slots are blocked.

- The device is intended for floor mounting.
- It must be screwed to the 4 fixing holes provided in the foot bracket on a stable and level surface.

4. Electrical connection

- The electrical connection of the battery charger must be carried out by trained specialists.
- The device may only be operated with a connected battery.
  Note: The charger without a connected battery does not discharge any voltage.
- The connection is made on the front or the rear of the battery charger.
- The mains plug of the battery charger or the vehicle's 230V supply must be unplugged when making connections.

caution !

risk of death electrocution and/or fire hazard in the event of a defective power cord, incorrect connection and service work on the device while it is live.

4.2 230V network

- The mains connection is made via a 1m long, strain-relieved mains cable with an earthing contact plug on the back of the device and must be connected to a socket with earthing contact.
  This must be in a place accessible to the user so that the battery charger can be disconnected from the 230V mains in the event of a fault.

4.3 Battery connector

- The battery is connected via 6.3 x 0.8 plug-in lugs in the insulating housing.
  Flat receptacles with an insulated neck must be used as counterparts. The maximum possible cable cross-section is 6mm2.
- Before connection and service work, the mains plug of the battery charger must be unplugged.
- The connection to the battery must be carried out in the following order:
  8. First connect the positive charging cable to the device connection '+battery' and then to the positive terminal of the battery.
  9. First connect the negative charging cable to the device connection '- Battery' and then to the negative pole of the battery.
- The battery is disconnected in the reverse order.
- The cable cross-section for the battery connection must be at least 2.5mm2.

Line length (sum of outward and return lines):	Cable cross-section:
up to 4m	2.5mm²
up to 8m	4.0mm²
up to 12m	6.0mm²

- The supply line must be secured according to its cross-section.
- To protect the cable runs in the event of a short circuit, insert a 15A fuse directly on the positive pole of the battery.

caution !

Fire hazard due to improper connection and protection.

caution !

Under unfavourable circumstances the device can be damaged if a battery is connected with the wrong polarity.

- * The battery charger may only be used for connection to 12V vehicle electrical systems with rechargeable 6-cell lead-acid batteries.

caution !

Battery damage when charging non-intended battery types.

- * The batteries must be housed in a sufficiently ventilated place or have integrated ventilation. Please follow the installation instructions of the battery manufacturer.

caution !

Risk of explosion due to the development of explosive gas with a defective battery, defective battery charger or a battery temperature that is too high (> 30° C).

5. Commissioning,

5.1 maintenance commissioning

* The device is put into operation by connecting the mains plug to the 230V mains. See also point 4.2 '230V network'

5.2 maintenance

* The LA 110 E battery charger is maintenance-free.
* To clean the device, use a soft, slightly dampened cloth with a mild cleaning agent, do not use alcohol, thinner or the like. Liquids must not get inside the device.

6. Device malfunction

* If the device becomes too hot due to overloading, e.g. when charging an empty battery while many loads are switched on, the battery charging is switched off. After cooling down, the device switches itself on again.
* The charger does not output any voltage without a connected battery.
* Any repairs that may be necessary should be carried out by Schaudt GmbH's customer service.

  Tel. 07544 - 9577-16 or email kundendienst@schaudt-gmbh.de
* If this is impossible, for example when you are abroad, repairs may also be carried out by a specialist workshop.
* In the case of improperly carried out repairs, the guarantee of the battery charger expires and Schaudt GmbH is not liable for any consequential damage.

7. Attachment

These operating instructions must accompany the LA 110 E battery charger, item no. 910.170 should be attached. When installed in a vehicle or similar, it must be part of the operating and operating instructions for the vehicle.

7.1 EC Declaration of Conformity

Schaudt GmbH hereby confirms that the type of charger LA 110 E complies with the following regulations: EC Low Voltage Directive 73/23 / EEC as amended on July 22, 1993 89/336 / Electromagnetic Compatibility Directive EEC with amendment 92/31 / EEC
Applied standards and technical specifications, in particular:

DIN VDE 0700 part 1 /11.90 (EN 60335-1: 1988) DINVDE0700 part 29 /03.92 (EN60335-2-29: 1991) DIN VDE 0551 T1 /09.89 (EN 60742: 1989) DIN EN 50081-1: 3.1993

DIN EN 50082-1: 3.1993 DIN EN 61000-3-2: 10.1998

The original of the EC declaration of conformity is available and can be viewed at any time.

Manufacturer: Address:

Schaudt GmbH, electrical engineering & apparatus engineering

Daimlerstrasse 5 88677 Markdorf Germany