

BATTERY **charger**

Fully automatic battery charger and maintainer

For all lead acid batteries:
GEL, SLA, AGM, DRY, Ca/Ca

INSTRUCTION MANUAL



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INSTRUCTION MANUAL

FOR BATTERY CHARGER WITH MICROPROCESSOR AND LCD DISPLAY

An intelligent and fully automatic, waterproof charger for batteries with the capacity between 1.2 Ah and 120 Ah. Ideal for your car, motorcycle and boat. It will charge both a small and a large battery. It is provided with the cooling system with temperature control and compensation. The device is current-protected. It is also provided with the thermal protection and protection against reverse connection – no spark at short circuit. The charger is protected against surge current from the battery in the event of damaging the connecting cables. It is equipped with the multi-point measuring system. The charger is equipped with the LED display which enables the reading of the current voltage and amperage, as well as with the battery charge level indicator. We can select the battery charging mode using the sensor switch.

CLARIFICATION OF SYMBOLS



DESIGNATION OF INSULATION CLASS



BEFORE OPERATING THE CHARGER, READ THIS INSTRUCTION MANUAL CAREFULLY



DO NOT DISPOSE OF THE ELECTRONIC EQUIPMENT TOGETHER WITH STANDARD HOUSEHOLD WASTE

In pursuance of the European Directive 2002/96/EC on waste electrical and electronic equipment (WEEE) and its incorporation into the national law, the waste electrical and electronic equipment must be subject to separate collection and recycling. The recycling is an alternative to the return of the waste electrical equipment. In lieu of the return of the waste electrical equipment, its owner is obliged to ensure its professional recycling. The waste equipment can also be returned to an electronic waste collection point, which is involved in the disposal of the equipment in pursuance of the national recycling and waste act. By collection and recycling of waste, you can help in protecting the natural resources. Makes sure that the product has been disposed of in a manner that is both friendly to the environment and health.



Means that the electrical and electronic equipment complies with the directive No. 2011/65/EU of the European Parliament and of the Council on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

KEEP THIS INSTRUCTION MANUAL

In order to ensure the safety of use of the device, read this instruction manual carefully. Before commencement of its use, the principles of operation and use of the device must be understood. Do not introduce any modifications in the design of the device and do not repair it on your own. In the event of any doubts as to the safe and proper use of the charger, stop using it immediately.

CHECK OF THE DEVICE BEFORE EACH USE

Never use the device if it is damaged or deformed, or if the elements of the charger are cracked or damaged in any way. If any element of the charger is found by the user to be damaged, stop using the device immediately.

We recommend that the device be checked by a qualified specialist every year.

APPLICATION

The battery charger has been designed for automatic charging of the batteries with the output voltage of 6V or 12V; maintenance-free, GEL or AGM batteries filled with electrolyte intended for passenger cars and trucks, agricultural machines, boats, lawn mowers, tractors, airplanes, motorcycles, commercial vehicles, water vehicles, snow scooters, off-road vehicles, traction engines etc.

PRODUCT DESCRIPTION

The charger is provided with the automatic switch-off function, which protects the battery from overcharging. Owing to the direct charging current and automatic switching to the mode which maintains the battery in the optimal charging condition, the lifetime and power of the battery increase.





1. "+" positive pole terminal (red)
2. "-" negative pole terminal (black)
3. 230V/50Hz power cable
4. charger
5. MODE button
6. indication of readiness for operation - 6V/12V
7. indication of WINTER OPERATING MODE
8. indication of the battery charging level (each bar means 20%, if 5 bars are lit, it means that the battery is fully charged.)
9. battery polarisation change indicator
10. battery indicator
11. terminal indicator

TECHNICAL DATA

Input voltage:	220-240V 50Hz
Input current:	0.6A
Output voltage/output current:	2V/4A 6V/4A
Capacity range of charged:	1.2Ah - 120Ah 6V/12V batteries
IP protection degree:	IP65 (6- total protection against dust penetration, 5- protection against water jets from any direction)
Protection class:	<input type="checkbox"/>
Length:	180 mm
Width:	80 mm
Height:	60 mm
Weight:	0.4 kg

SAFETY GUIDELINES

1. Keep this instruction manual. This instruction manual contains operating guidelines as well as important information which have impact on the safe use of the charger.
2. Try to not expose the device to long-lasting impact of atmospheric factors.
3. While connecting the device to or disconnecting it from the mains, pull the cable by the plug, which will prevent the cable from being damaged.
4. In order to avoid any risk, if the power cable is damaged, it must be replaced by the manufacturer, service technician or other qualified person.
5. Do not use the charger, if it was hit hard, fell on the floor, or became damaged in any other way. The device must be visually examined and repaired by a qualified specialist.
6. Do not disassemble the device on your own. As a consequence of unprofessional handling of the equipment, you expose yourself to the risk of fire or electric shock.
7. Before proceeding with the repair or maintenance work, the device should be disconnected from power supply.
8. If the charger is subject to any damage during its use, disconnect the device immediately.
9. NOTE: During the charging process, explosive gases may be produced; do not use open fire and ensure appropriate ventilation during the charging process.
10. Do not charge several batteries at the same time.
11. Do not place the charger on hot surfaces.
12. While working with lead-acid batteries, the second person should always be within the calling distance in order to be able to give prompt aid. Running water and soap should be available in the near vicinity in case of contact of the battery acid with the skin, clothing or eyes. Always wear complete eye and hand protections as well as protective clothing. Avoid touching eyes while working with batteries. In case of contact of the battery acid with the skin or clothing, rinse it with water and soap immediately. In case of eye contact, rinse immediately for at least 15 minutes with clean and cool running water and seek medical aid immediately.
13. YOU MUST NOT use open fire or source of sparks by any means in the vicinity of the engine and battery.
14. In order to avoid the electrical arc, UNDER NO CIRCUMSTANCES MAY the charger clamps contact each other or touch the same surface.
15. The charger may not be used as the DC power adapter or for other purposes.
16. When the charging is finished, disconnect the charger from the power source.
17. The device is not designed for use by children or persons with limited physical ability.

METHOD OF USE

Preparation of the battery for charging

1. If it is necessary and required, disconnect the battery from the device.
2. In the case of batteries used in the water sports equipment, always disassemble the battery and bring it to the shore before the charging.

3. Clean the battery contacts.
4. If necessary, loosen the cell caps or possibly top up the electrolyte level with distilled water. Observe the charging instructions recommended by the battery manufacturer.
5. Place the charger as far away from the battery as possible.
6. Make sure that the charger is not connected to the power source.
7. Fasten the terminals around the battery contacts and move them several times in order to obtain better contact.
8. Check the battery polarity. Connect the positive charger pole ("+" – red lead) with the positive battery pole and then the negative charger pole ("–" – black lead) with the negative battery pole.
9. In the case of charging the battery without the necessity of disconnecting it from the vehicle installation, check which pole – "+" or "–" is connected as the earthing pole (in the majority of vehicles the earthing pole is "–"). As the first step, connect the appropriate charger pole with the earthed battery pole (usually "+"). Then, connect the second lead (usually with the negative pole) to the metal part of the vehicle or engine block (if possible, as far away from the battery as possible).
10. While disconnecting the charger, you must first remove the mains cable and then disconnect the terminals in the reverse sequence in relation to their connection (disconnect the first connected terminal as the last terminal).
11. If all the leads are connected to contacts, connect the charger to the power source (if nothing appears on the display after several seconds, then check the fuse placed at the bottom of the charger or possibly replace it with an identical fuse). Depending on the type of the battery and its output voltage, the display will show the battery symbol. The charger (after several seconds) will automatically recognise, if the 6V or 12V battery is connected. The charging process will start (each bar means 20%, if 5 bars are lit, then the charger is fully charged).
12. Using the MODE button, the device can be switched to the WINTER MODE. The winter mode is the programme which switches the device to the mode which maintains the battery in the optimal charging condition only after accomplishment of the voltage of 14.7V. It can be started at low temperatures and for AGM batteries.
13. If the symbol of the crossed out battery is backlit on the display, it means that there is no connection between the charger and the battery – the battery has not been detected.
14. If the battery is fully charged, the electronic system of the charger will end the charging process. The risk of overcharging or damaging the battery is eliminated.
15. In case of power failure during the charging process, the charging will be continued automatically after the power supply is provided again.
16. In order to end the charging process, first disconnect the lead from the 230V power supply source, and then disconnect the charger from the battery.
17. Note! If the improper polarity indicator is lit after connection to the power source (230V 50Hz socket), disconnect the charger from the power source and connect the leads to the battery properly.