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USER MANUAL

AUTOMATIC RECTIFIER 12/24V 10A LCD

VOLT
POLSKA

SAFETY NOTES

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- 1) Children or people who lack knowledge or experience in using the device, or whose physical or intellectual capabilities are limited should never be allowed to use the device without supervision or instructions of the person responsible for their safety. Nigdy nie należy używać prostownika do ładowania baterii jednorazowych.
- 2) When charging, the connected battery should be placed on a well-ventilated surface.
- 3) Automatic operation mode and restrictions on use are explained further in this manual.

!!! DANGER OF ELECTRIC SHOCK !!!

- 4) Do not start the appliance if the cables, power cord or plug are damaged. A damaged power cord indicates a life-threatening danger due to electric shock.
- 5) Before connecting to the power supply, make sure that the device is grounded, connected to 230V ~ 50Hz voltage and protected with a 16A RCB residual current device.
- 6) Before connecting or disconnecting the battery from the charger, disconnect the power plug.

!!! DANGER OF EXPLOSION AND FIRE !!!

- 7) The charger contains components that can cause sparks. To avoid fire and / or explosion, do not install the device in rooms containing flammable materials, or in a place where devices that cannot come into contact with fire are located. This includes

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any place where gasoline-powered machines, fuel tanks, fittings, binders, or other connections between fuel system components are stored..

- 8) Nie otwieraj / zdejmuj obudowy z prostownika. Urządzenie nie zawiera żadnych części wymagających konserwacji. Próba naprawy może doprowadzić do porażenia prądem lub pożaru.

!!! DANGER OF CHEMICAL BURNS !!!

- 9) In the event of battery acid contact with skin or clothing, immediately wash the contact area with soap and water. If acid gets into your eyes, flush your eye immediately with cold running water and seek medical attention.
- 10) Do not smoke near the battery.
- 11) Do not allow metal parts to come into contact with the battery. The resulting spark or short circuit on the battery can cause an explosion.
- 12) Remove personal items such as rings, bracelets, necklaces and watches when working with lead-acid batteries.
- 13) Lead-acid batteries produce a sufficiently high short-circuit current to weld the ring etc. to metal, causing severe burns.
- 14) To reduce the risk of injury, only recharge lead-acid batteries. Do not attempt to recharge batteries that have been in freezing for a long time.

GENERAL INFORMATION

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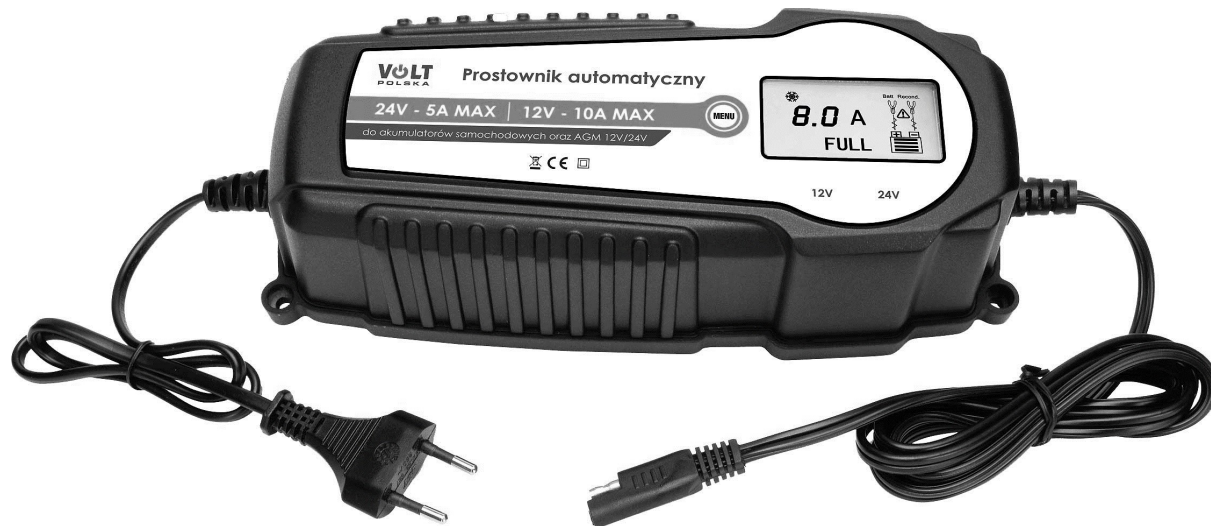
1. INTRODUCTION

Congratulations on choosing a high quality product. This manual is an integral part of the device. They contain important information regarding safety, use and disposal. Read all safety and handling information before using the product. The manual should be kept in an easily accessible place. The device should only be used in accordance with the instructions and for the specified applications. If the product is transferred to another person, make sure that the manual is included with the device. We do not take responsibility for accidents or damage resulting from the use of equipment contrary to the principles described in the instructions.

2. ZASTOSOWANIE

The product described in this manual is an automatic charger designed for charging 12V and 24V lead-acid car batteries. Such batteries include, among others: starter batteries, batteries with the START / STOP system and maintenance-free VRLA AGM batteries. The manufacturer is not liable for damages caused by improper use. The device is not intended for commercial use.

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3. CONTENTS OF THE PACKAGE

1 x Battery charger, 1 x battery cable (clamps), 1 x battery cable (eyelets), 1 x user manual

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4. TECHNICAL PARAMETERS

Input voltage	220 - 240 VAC ~ 50/60 Hz
Output voltage	12V DC or 24V DC (automatic selection)
Efficiency	>85%
Charging voltage	14.3V DC \pm 0.3V DC lub 28.6V DC \pm 0.3V DC
Charging current	2A/5A/10A dla 12V DC lub 2A/5A dla 24V DC
Permissible ambient temperature	-10°C do 40°C
Types of batteries	lead-acid batteries, e.g. AGM
Generated noise	< 50 db (tested from a distance of 50 cm)

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INFORMATION ON USE

1. BEFORE CONNECTING

Read the user's manual of the device and information on the safety of the car manufacturer and the battery being used.

Turn the ignition off in the car, then clean the battery poles. When doing this, make sure that dirt does not get into your eyes. Ensure adequate ventilation in the room in which you perform the above and the following activities.

2. CONNECTION


Connect the "+" pole (red) terminal of the charger to the "+" pole on the battery.

Connect the "-" pole (black) of the rectifier to the "-" pole on the battery.

Plug the rectifier power cord into a power outlet.

The LED corresponding to the battery voltage level (12V or 24V) will illuminate.

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If the rectifier terminals are connected to the reverse poles on the battery (reverse polarity, "+" to "-"), the display will show "Err" and an error symbol ()

3. DISCONNECTION

Unplug the rectifier power cord from the wall socket.

Disconnect the "-" (black) terminal of the charger from the "-" pole on the battery.

Disconnect the "+" pole (red) of the rectifier from the "+" pole on the battery.

4. DIAGNOSIS AND RESTORING BATTERY EFFICIENCY

After correctly connecting the charger to the network and the battery (s), it checks the battery status and illuminates the diode corresponding to the voltage level on the battery. If the voltage on the battery (s) is above $4.5\text{VDC} \pm 0.5\text{VDC}$ (for 12V) or $16\text{VDC} \pm 0.5\text{VDC}$ (for 24V), the charger will start charging the battery (s) with a low current of about 1.5A to restore its efficiency . This process ends if the battery reaches $10.5\text{VDC} \pm 0.25\text{VDC}$ (for 12V) or $21\text{VDC} \pm 0.25\text{VDC}$ (for 24V). After this process, the charger goes into normal charging mode.

4. FIRST CHARGING STAGE (BULK CHARGE)

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In this charging mode, a constant current is supplied to the battery, which is selected using the MODE button. For 12V batteries they are 2A > 5A, and for 24V batteries they are 2A > 5A > 10A. The battery during this stage will be charged to approx. 80% of its capacity. After reaching about 14VDC (for 12V) or 28VDC (for 24V), the charger will go to the next stage of charging.

5. SECOND CHARGING STAGE (ABSORPTION CHARGE)

Charging the battery for an extended period of time with high current can expose it to gassing. Therefore, after reaching the limit voltage for "Bulk charge", the rectifier goes into absorption charging mode. In this mode, the current is gradually reduced to a value of approx. 1.5 A and maintained at this value until it reaches approx. 14.3VDC (for 12V) or 28.6VDC (for 24V). In this phase, the battery is charged to virtually 100%. After this stage, the charger goes into maintenance charging mode.

6. THIRD CHARGE (MAINTENANCE CHARGE)

If the charger detects any error or incorrect operation of its own or a connected battery, it immediately switches off and then returns to the basic operating mode (standby mode). This occurs, among others, after detecting a short circuit, overload, voltage drop during charging, etc.

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If too high temperature is detected on the charger, the charging current is automatically reduced to level the high temperature until it returns to normal operation.

**ALL INFORMATION ABOUT WARRANTY AND COMPLAINTS AND
CURRENT VERSION OF THE MANUAL IS ON THE MANUFACTURER'S WEBSITE**

WWW.VOLTPOLSKA.PL

MANUFACTURER

VOLTPOLSKA SP. Z O.O.

GRUNWALDZKA 76

81-771 SOPOT



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WARRANTY CARD

DATE OF PURCHASE	
CONTACT DETAILS / SHIPPING ADDRESS	
SIGNATURE / STAMP	
Fault description	
SERVICE NOTES	

FILL IN CASE OF NEEDS

() Delete as appropriate*

I agree to the paid repair of the inverter due to * expiration of the warranty period / * damage caused by the fault of the user.

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Before starting the repair, the service will inform you by phone about the exact costs of the repair. Please attach the original or a copy of the purchase document (receipt or FV) to the sent complaints

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