

WARRANTY CARD

DATE OF PURCHASE	
SHIPPING ADDRESS	
SIGNATURE / STAMP	
DAMAGE DESCRIPTION	
SERVICE COMMENTS	

FILL IN IF NEEDED  
(\* ) Cross incorrect  
I agree to pay the cost of inverter repair due to:  
\* expiration of the warranty period / \* warranty void

Before proceeding with the repair, service will inform by phone about the exact costs of the repair.  
Please attach a copy of the purchase document (receipt or invoice) to the complaint.  
The full regulations of service repairs can be found on our website [www.voltpolska.pl](http://www.voltpolska.pl)

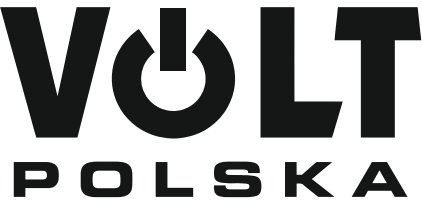
Proper disposal of the product  
(waste electrical and electronic equipment)

The marking placed on the product or in the texts related to it indicates that it should not be disposed of with other household waste at the end of its useful life. To avoid harmful effects to the environment and human health from uncontrolled disposal, please separate this product from other types of waste and recycle responsibly to promote the reuse of material resources as a continuing practice. For information on where and how to recycle this product in an environmentally safe manner, residential users should contact the retailer where they purchased the product, or their local government authority. Business users should contact their supplier and check the terms and conditions of their purchase contract. The product should not be disposed of with other commercial waste.



PRODUCT MANUAL

SMART BATTERY 12V/24V  
15A A20 BLACK



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## Overview and technical parameters

Before use, please read this manual carefully to ensure correct and safe use. After reading this manual, please keep it together with the warranty card for future reference.

### Overview

This series of switching power supply pulse charger is a 12V/24V charger professionally designed and produced by our company according to the characteristics of lead-acid storage batteries, maintenance-free batteries, water batteries and starter batteries, which adopts advanced microcomputer management system for multiple protection of the batteries, and automatically charges the batteries in four stages by using the PWM pulse width regulating technology to ensure that the batteries won't be damaged by sulphurisation, precipitation and water loss.

### Technical parameters

Rated input voltage: AC110V-250V

Rated operating frequency: 50-60HZ

Working voltage: 12V/24V

Working current: 0-15A

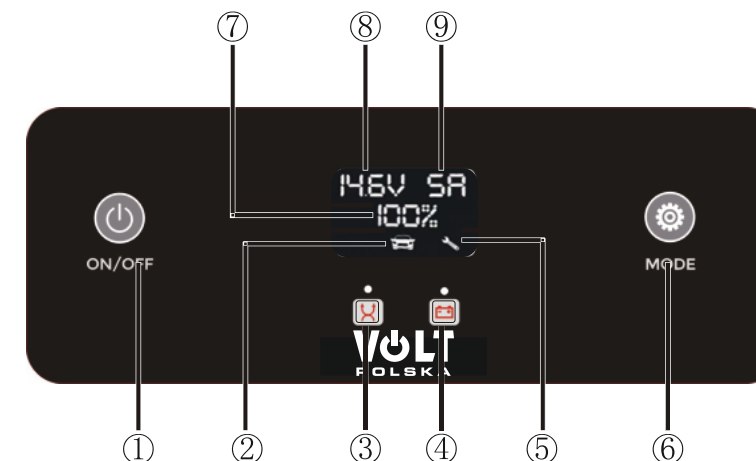
Working efficiency: 98%

Voltage identification range: 12V battery is (2-14.5V), 24V battery is (18-29V)

Operating temperature range: -30 - +50 C .

## Panel Function Description

1. Power on, power off
2. Car charging mode
3. Polarity error
4. Battery failure
5. Repair status
6. Charging mode
7. Charging progress
8. Battery voltage
9. Charging current



## Multiple protection and functional description

### Multiple protection

- Overheating protection: when the charger temperature exceeds 150 C charger protective shutdown, at this time no current output when the temperature drops to 80 C or turn off the power to wait for ten minutes to resume use.
- Short circuit protection: when the charger output occurs artificial short circuit charger automatically shut down the output, remove the short circuit, the correct connection automatically resume charging.

### Functional description

Battery charging progress has 1%-100% display, indicating the progress of battery charging power. This product full microcomputer battery voltage, current real-time large screen display. There will be sound prompts for key conversion.

When the battery capacity over discharge will issue a low voltage alarm, and the display of the battery voltage will flash prompts, the battery fault light will also light up, prompting the battery voltage over discharge. The system will automatically repair the battery and restore the normal progress display after successful repair.

When the battery is fully charged, there is a sound prompt, and the charging completion buzzer will also sound every 1 minute, prompting the battery charging is complete.

## Charging repair methods and description of charging modes

### Charging repair methods

When the 12V battery is lower than 10V can not be recognised, long press MODE for 3 seconds system automatically enters the 12V repair mode; when the 24V battery is lower than 18V can not be recognised, long press MODE for 5 seconds the system automatically enters the 24V repair mode.

When the 12V battery is fully charged, the voltage of the battery is 14V to 14.5V in good health status, 13.5V in general health status, lower than 13V indicates that the health status of the battery is poor, and at this time, the battery must be manually added to the battery liquid for maintenance.

### Description of charging modes

This product is full-automatic pulse intelligent repair type, the system automatically identifies 12V/24V, fully automatic battery repair and maintenance during charging.

## Charging operation

**Step 1:** Check whether the rated voltage of the battery to be charged and the output voltage of the charger match.

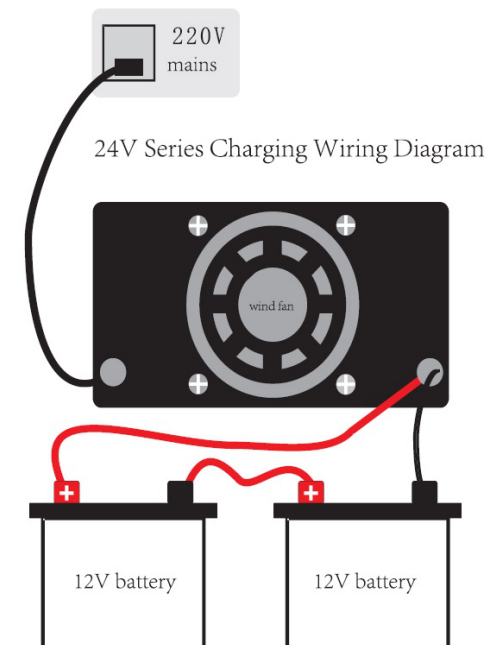
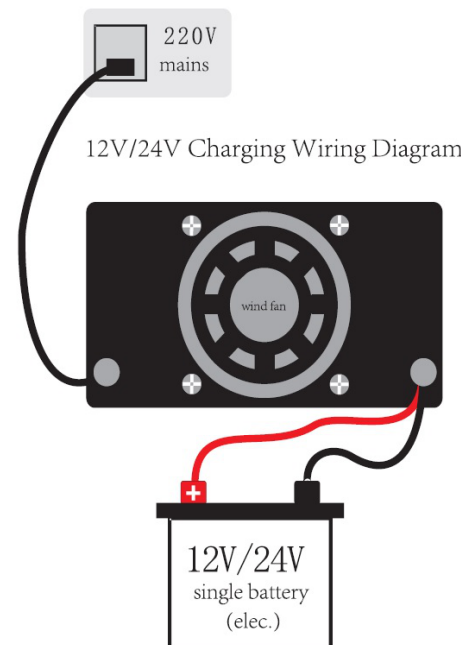
**Step 2:** Connect the charger and the battery to be charged correctly as required.

**Step 3:** Check whether the mains voltage and the rated input voltage of the charger are compatible.

**Step 4:** Connect the mains and the battery, observe whether the indicator light and LCD display are on, the cooling fan will turn fast and slow when charging, which means it is pulse charging, which is the difference with the traditional charger.

**Step 5:** If the charger can not work properly, please disconnect the mains and check the mains, battery and all the wires.

## Installation and use



## Simple troubleshooting

Fault Phenomenon	Fault Analysis
The charger charges battery or only a few minutes, or even less time, and already shows a full charge.	1. Check whether the charger is overcurrent, overheating protection or low voltage protection (the existence of incompatible voltage) to observe whether the cooling fan is working properly.
	2. Indicates that the battery has no capacity or the original has been fully charged (recommended to be discharged and retested, or choose another lack of power battery test).
	3. Check if the battery capacity is too small or damaged.
When the battery case gets hot when charging the battery or the charger still does not show full even after a long time of operation.	1. The battery already exists leakage phenomenon > 0.3A current.
	2. Battery production process, materials are not qualified, it is recommended to use good quality battery.
	3. Please check whether the battery and charger are connected and charged according to the parameter.
	4. Please check whether the battery and charger are connected and charged according to the parameter requirements.
When the battery is not durable after charging.	It should be the battery aging or damaged, it is recommended to maintain or replace the battery.
The charger has a beeping alarm or does not work at all when it is normally connected for charging.	The battery has been left for a long time to become worn out (it is an end-of-life battery), and the battery is seriously short-circuited.

## Warnings and warning tips

### Warnings

- There is high voltage and danger inside the charger, please contact the distributor or manufacturer in case of malfunction;
- It is strictly prohibited to use it in the environment of humidity, high temperature, flammable and explosive gases;
- It is strictly prohibited to use it in the state of blocking the cooling air holes of the machine or stopping the fan;
- It is strictly prohibited to rain water into the machine, so as not to cause damage;
- It is strictly prohibited for non-professionals to open the machine, or suffer the consequences.

### Warning tips

In order to better maintain your battery, please do not let the battery run out of capacity before charging the battery, lead-acid storage batteries do not belong to the memory of the battery, it is suitable for diligent charging and discharging, if the capacity of the 12V battery will run out (10V) below, first of all, the battery is a great harm, this time, the machine will sound an alarm to remind the user of the next time to use the battery correctly. The system will automatically enter the repair mode charging, repair success automatically enter the normal charging state, repair failure system automatically alarm, prompting the user to replace the battery.

For quality problems caused by the warranty, the company's responsibility is limited to the product itself, and does not assume the side of the extended responsibility.