

# WARRANTY CARD

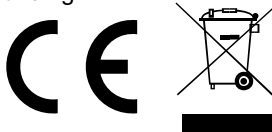
DATE OF PURCHASE	
SHIPPING ADDRESS	
SIGNATURE / STAMP	
DAMAGE DESCRIPTION	
SERVICE COMMENTS	

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.



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# PRODUCT MANUAL

## SMART BATTERY 12V/24V 20A A100



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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: 0-20A (Adjustable automatically)

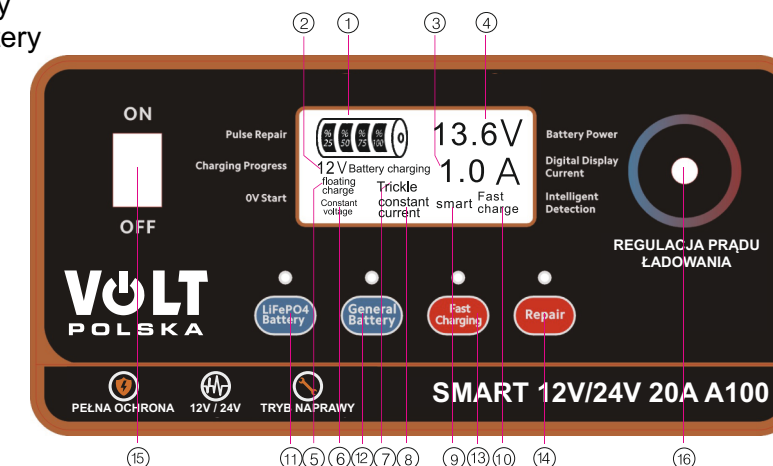
Working efficiency: 98%

Voltage identification range: 12V(8±14,5V)24V(18V±29V)

Operating temperature range: -30 - +50 C

## Panel Function Description

1. The charging percentage display
2. The battery voltage display
3. Charging current
4. Battery real voltage display
5. Floating charge display
6. Constant voltage charge display
7. Trickle current charge display
8. Constant current charge display
9. Intelligent charge modulation display
10. Fast charge modulation display
11. Charge for LiFePO4 battery
12. Charge for AGM, GEL battery
13. Fast charging mode
14. Repair charging mode
15. Power switch
16. Current controller



## Multiple protection and functional description

### Multiple protection

Short-circuit protection: When the charger output has short-circuit and automatic stop working will have the long beep alertness. Just connect it exactly, it will be automatically recharging again.

Reverse-connecting protection: When you put the reverse-connection, the charger will automatically close the output and alarm with the long beeps, after exactly to connect it will be automatically recharging again.

No load protection: When charger connects the AC power without any load, it will enter protection with no Voltage and current.

### Functional description

The battery charging progress displays 25%, 50%, 75%, and 100% indicating the battery charging level progress. This product has a fully microcomputer large screen display, and the fan starts intelligently. One fast and one slow indicates that pulse charging is in progress; External power switch control and other functions. Real time display of battery voltage and current. Use one button to transfer between intelligent mode and fast charging mode. When the button is pressed, there will be a sound reminder. If the battery capacity is too low, a low voltage alarm will be issued, and the four cells on the inner frame of the battery will flash simultaneously, indicating that the battery voltage is too low. After the battery is charged and repaired, the progress display will return to normal. When the battery is fully charged, there will be a sound prompt, and the buzzer will also emit a sound prompt every 1 minute to indicate that the battery is fully charged. This charger defaults to 12V and 24V automatic recognition.

## Repair methods and description of charging modes

### Repair methods

When the 12V battery is below 0V-2V and cannot be recognized, press and hold the key 14 for 3 seconds, and the system will automatically enter repair mode; When the 24V battery is below 18V and cannot be recognized, press and hold the key 14 for 5 seconds to automatically enter the 24V repair mode.

When the 12V battery is fully charged, the battery voltage from 14V to 14.5V is in good health condition, while the 13.5V health condition is average. If it is lower than 13V, it indicates poor health condition of the battery. At this time, the battery needs to be manually replenished with battery liquid for maintenance.

### Description of charging modes

This product defaults to intelligent charging mode, and it is recommended to use intelligent mode for battery maintenance and charging during normal charging. Press the fast charging button to automatically enter the fast charging mode.

### Attention!!!

Lithium battery mode charging is only applicable to Lifepo4 battery charging 12V batteries (4 strings 14.6V) 24V batteries (8 strings 29.2V). Incorrect batteries and mismatched string numbers may lead to the risk of battery explosion!!

## Charging operation

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

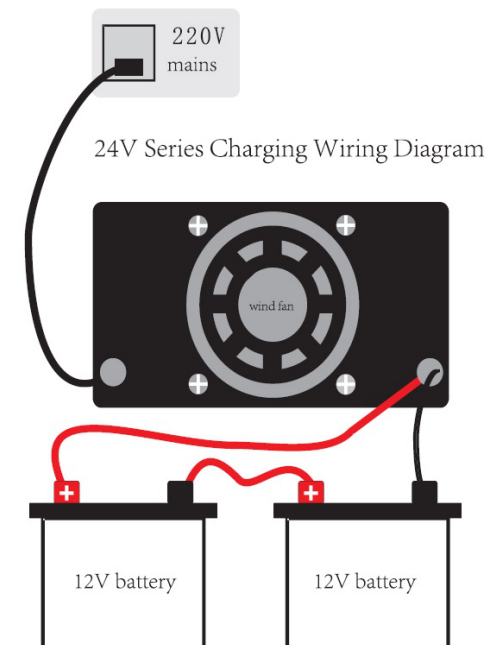
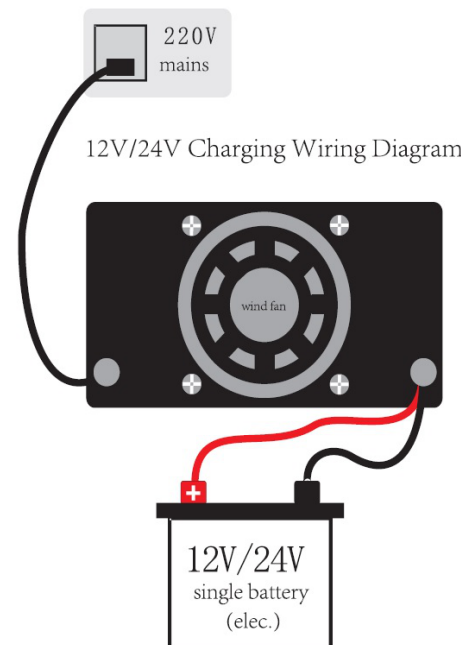
**Step 2:** Connect the charger and the battery to be charged correctly as required.

**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 charging time only has some minutes, even its shorter than some minutes, the screen already display full-charged.	1.Check if the battery voltage reference match your battery or not, and survey about the radiator fan is working or not.
	2.It means the battery has no capacity or the battery was full-charged before (We suggest that retest it after to release down the power, or use other batteries which less power to test the charger).
	3.Check if neither the battery capacity is over-small or the battery has damaged.
While the battery is charging, the surface of the battery is hot, or although it has already charged in a long time, the screen won't display full-charged.	1.Your battery has a leakage NO.3Acurrent.
	2.Because the technics of your battery is failure or the material of your battery is failure. We suggest that you should buy the battery
	3.Check if the connection which the battery to the charger is correct or not as the reference.
Even if the battery is fullcharged, it can't use durably.	Because your battery has been bum-in or already has damaged, we suggest that maintenance or change your battery.
While the charger has already normally connected the battery, the beep device alarm, even its not working totally.	Because the battery has been a long time not to use, the battery can give up to the ghost, or the battery on a terrible of short-circuit.

## Warnings and warning tips

### Warnings

- The charger inside has high-voltage and dangers, if the charger has trouble or failure, please contact the seller or manufacturer.
- Forbid that using this product in the humid, hot, FLammable and combustible environment.
- Forbid that using this product in the place where will block the radiator holes or when the fan has stopped working.
- Forbid to put water into this product to avoid a damage.
- Forbid that the unprofessional staff separate this product or you pay for the consequence