WARRANTY CARD

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

FILL IN IF NEEDEED
(*) 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**

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.

USER MANUAL

ver.2025-11-26

ELECTRONIC CONVERTERSDC/AC 230 V

IPS

VOLT POLSKA

VOLT POLSKA Sp. z o.o.
ul. Świemirowska 3
81-877 Sopot
www.voltpolska.pl

INTRODUCTION

Thank you for purchasing the IPS series 230 V DC/AC electronic inverter. Please read this user manual before operating the device.

The IPS series of electronic voltage inverters is designed to power electrical devices requiring 230 V AC voltage from batteries and 12 V or 24 V DC vehicle installations.These inverters are ideal for locations where direct connection to the power grid is not possible.

The IPS series inverters generate a so-called "modified sine wave" at the output. This is an AC voltage with a rectangular waveform, the RMS value of which is identical to the RMS value of the sinusoidal waveform found in the power grid.Thanks to the application of this voltage generation method, it is possible to significantly reduce the dimensions and increase the reliability of the entire device.

GENERAL SAFETY INFORMATIONS

THIS MANUAL IS AN INTEGRAL PART OF THE IPS SERIES DEVICES. DO NOT DISCARD IT, KEEP IT IN AN EASILY ACCESSIBLE PLACE, AND READ ITS CONTENTS BEFORE OPERATING THE DEVICE FOR THE FIRST TIME.

- Do not expose the inverter to rain, snow, dust, chemicals, oils, etc.
- It is forbidden to connect the AC output to an existing electrical installation.
- Do not cover the ventilation openings. The inverter should be installed in an easily accessible place with a minimum of 30 cm of free space around the housing to ensure free air circulation; otherwise, the device may be exposed to overheating. The minimum airflow value is 145 CFM.
- To reduce the risk of fire or electric shock, ensure that existing wiring is in good condition and that cables have proper parameters (cross-section, length, etc.). Do not operate the inverter with damaged or non-compliant wiring.
- This device contains components that may cause sparking. To avoid fire and/or explosion, do not install the device in rooms containing batteries or flammable materials, or in a place containing equipment that cannot be exposed to fire. This includes any areas where gasoline-powered machinery, fuel tanks, fittings, joints, or other connections between fuel system components are stored.
- Do not open / remove the inverter housing. The device contains no user-serviceable parts. Attempting repair may result in electric shock or fire. Capacitors inside the device remain charged after disconnecting the power supply.
- To reduce the risk of electric shock, disconnect both the AC load and the DC power supply before attempting maintenance or cleaning. Turning off the device using the button does not reduce the risk.
- The AC output must not be connected to the utility grid or a generator under any circumstances. Such a connection can cause damage more severe than a short circuit. In particular, please note that the inverter should not be used to power life support systems or other medical equipment. We do not guarantee the correct operation of the inverter with such devices; in such a setup, you use it entirely at your own risk.
- Do not overload the device. Operating under a load greater than the rated load may damage the inverter. The power supply should have approximately 15-25% more power capacity than the connected load.

APPLICATION

IPS series inverters are suitable exclusively for powering electronic and electrical devices with a resistive load characteristic, such as light bulbs, heaters, electronic power supplies, audio-video equipment, etc.

Do not connect devices equipped with transformers or inductive motors, such as: certain power tools, household appliances, fluorescent lamps with electromagnetic ballasts, transformer power supplies, pumps, etc.
Connecting this type of device may cause damage to both the device itself and the inverter. To power inductive and capacitive devices, it is necessary to use the more expensive SINUS or SINUS PLUS series inverters ("pure sine wave"), also available in the VOLT POLSKA offer.

If there is a need to measure the output voltage of the IPS inverter, a good quality electronic meter with a **True RMS (Root Mean Square)** measurement function must be used. Measurement using a simple inexpensive multimeter will yield an incorrect result.

INSTALLATION

1. Read the entire manual carefully before installing the inverter.

2.1. Connect the inverter directly to the battery:
- 2.1.1. Connect the battery cables to the inverter
- 2.1.2. Connect the red cable to the positive (+) terminal on the battery
- 2.1.3. Connect the black cable to the negative (-) terminal on the battery

2.2. Connect the inverter directly to the cigarette lighter socket:
- 2.2.1. Connect the cable with the cigarette lighter plug to the inverter
- 2.2.2. Insert the plug into the cigarette lighter socket in the vehicle

3. Switch the button on the housing to the ON (|) position

Remember to ensure correct polarity when connecting the cables to the battery (+ to + and - to -).
Reverse connection (+ to -) may cause a short circuit and damage the inverter and the connected load. After correctly connecting and starting the inverter, the green LED next to the power button should light up. If no LED lights up, check the correctness of the power cable connections. If the inverter is faulty, or if another factor causes a system error (short circuit, overload), the red LED will light up, and an audible alarm will sound from the inverter.

SELECTING THE POWER SOURCE

When operating at full power, the inverter can draw a very high current from the battery and the vehicle's alternator. This must be considered during device installation. It is essential to select the shortest possible power supply cables with appropriately large cross-sections. This is especially true for more powerful models (IPS 4000 and 5000). Incorrect cable selection will cause them to heat up and lead to a voltage drop at the inverter input. In extreme cases, when the voltage drop across the power supply cables is large, the device will shut down, treating the situation as a battery discharge. We recommend using the cables supplied with the inverter to maintain original operating parameters. If cable extension is necessary, the minimum cross-sectional area for extension is approximately 25mm for a 12 V inverter and approximately 15mm for a 24 V inverter.

If the device is connected to a battery alone (outside of a vehicle), it is crucial that the battery has an appropriately large capacity. A battery overloaded with excessive current will have a much smaller effective capacity than that stated by the manufacturer and will undergo rapid discharge or even damage. For example, a small 35Ah car battery loaded with 2000W of power will be fully discharged after just a few minutes of operation! The larger the battery, the more efficiently the inverter operates under heavy loads. For this type of connection, it is also recommended to use lead-acid batteries designed for continuous duty (deep cycle) instead of ordinary starting batteries, e.g., VPRO AGM batteries available from **VOLT POLSKA.**

Do not connect chargers and switching power supplies (e.g., solar charge controllers or pulse rectifiers/chargers) to the battery. Charging the battery using such devices while the inverter is simultaneously connected and operating may cause damage to the inverter's input circuit and void the warranty.

PROTECTION

All IPS series inverters are equipped with a series of protections guaranteeing safe and reliable operation:

- Short-circuit protection,
- Thermal protection – shuts down the device after the temperature exceeds approx. 60°C - 70°C,
- Undervoltage protection – shuts down the device if the input voltage is too low (battery discharge),
- Overvoltage protection – shuts down the device if the voltage applied to the input is too high,
- Overload protection – shuts down the device if it has been overloaded for longer than several seconds.

More information about inverters, their operating parameters, and applications, as well as our other products, can be found on our website **www.voltpolska.pl**

TECHNICAL PARAMETERS

IPS model	300	500	500 PLUS	500/1000	1000	2000	3000	4000	5000
Peak power	300 VA	500 VA	500 VA	1000 VA	1000 VA	2000 VA	3000 VA	4000 VA	5000 VA
Continuous power	150 W	350 W	350 W	500 W	700 W	1300 W	1700 W	2000 W	2500 W
Battery voltage	12V or 24V								
Input voltage	12V: 10.5 V - 15.5 V | 24V: 21 V - 31 V								
Output voltage	225 V - 235 V								
Output voltage frequency	50 Hz (+- 2 Hz)								
Efficiency at full load	~ 92 %								
Low voltage cut-off threshold	12V: 10.7 V (+- 0.3 V) | 24V: 21.4 V (+- 0.6 V)								
Operating temperature range	from -10 ºC to 40 ºC								
Included cables (*)	B	A i B	B	A i B	A				

(*)
A - cable for connecting the converter to the battery (red and black)
B - cable for connecting the converter to the cigarette lighter socket in the car

TECHNICAL PARAMETERS

IPS model	600 DUO	1200 DUO
Peak power	600 VA	1200 VA
Continuous power	300 W	600 W
Battery voltage	12V i 24V, dual version	
Input voltage	12V: 10.5 V - 15.5 V | 24V: 21 V - 31 V	
Output voltage	225 V - 235 V	
Output voltage frequency	50 Hz (+- 2 Hz)	
Efficiency at full load	~ 92 %	
Low voltage cut-off threshold	12V: 10.7 V (+- 0.3 V) | 24V: 21.4 V (+- 0.6 V)	
Operating temperature range	from -10 ºC to 40 ºC	
Included cables (*)	A	

(*)
A - cable for connecting the converter to the battery (red and black)
B - cable for connecting the converter to the cigarette lighter socket in the car