

WARRANTY CARD

DATA ZAKUPU	
ADRES WYSYŁKI	
PODPIS / PIECZĄTKA	
OPIS USTERKI	
UWAGI SERWISU	

COMPLETE IF NECESSARY

(*) Delete as appropriate

I agree to paid repair of the converter due to:

expiration of the warranty period / * damage caused by the user's fault

Before starting the repair, the service center will inform you by phone about the exact repair costs.

Please attach a copy of the purchase document (receipt or invoice) to your complaints.

Full regulations for service repairs can be found on our website www.voltpolska.pl



USER MANUAL

ELECTRONIC CONVERTERS
DC/AC 230V

IPS N

VOLT
POLSKA

VOLT POLSKA Sp. z o. o.
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81-771 Sopot
www.voltpolska.pl

ENTRY

Thank you for purchasing the 230V DC/AC electronic converter from the IPS N series. Please read this user manual before starting the device.

The IPS N series of electronic voltage converters is used to **power electrical devices requiring 230V alternating voltage from batteries and car installations with 12V or 24V direct voltage.**

The converters **are perfect for places where there is no possibility of direct connection to the power grid.** The IPS N series converters produce the so-called output. **modified sine wave.** It is an alternating voltage with a square wave whose effective value is identical to the effective value of the sinusoidal wave occurring in the power network.

By using this method of generating voltage, it is possible to significantly **reduce the dimensions and increase the failure-free operation of the entire device.**

GENERAL SAFETY INFORMATION

THE MANUAL IS AN INTEGRAL PART OF THE IPS N SERIES DEVICES. DO NOT THROW IT AWAY, KEEP IT IN AN EASILY ACCESSIBLE PLACE AND READ ITS CONTENT BEFORE USING 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 the existing electrical installation.
- Do not cover the ventilation openings. The converter should be installed in an easily accessible place with at least 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, make sure that the existing wiring is in good condition and that the wires have the correct parameters (cross-section, length, etc.). Do not operate the inverter with damaged or substandard wiring.
- This appliance contains components that may cause sparks. To avoid fire and/or explosion, do not install the device in rooms containing batteries or flammable materials or in places where there are devices that cannot come into contact with fire. This includes any location where gasoline-powered machinery, fuel tanks, fittings, binders, or other connections between fuel system components are stored.
- Do not open/remove the casing from the inverter. The device does not contain any parts requiring maintenance. Attempting to repair may result in electric shock or fire. The capacitors inside the device remain charged when the power is turned off.
- To reduce the risk of electric shock, disconnect both the AC load and the DC power supply before performing maintenance or cleaning. Turning off the device using the button does not reduce the risk.
- The output part of the AC should under no circumstances be connected to the mains or generator. Such a connection may cause damage greater than a short circuit in the circuit. In particular, please note that the converter should not be used to power life support systems or other medical equipment. We do not guarantee the correct operation of the converter with this type of devices, in such a system you use it only at your own risk.
- Do not overload the device. Operating under a load greater than the rated load may damage the converter. The power supply should have approximately 15-25% more power than the connected load.

APPLICATION

The IPS N series converters are only **suitable for powering electronic and electrical devices with a resistive load**, such as light bulbs, heaters, electronic power supplies, audio-video equipment, etc.

Devices equipped with transformers or induction motors , such as: some power tools, household appliances, fluorescent lamps with electromagnetic ballasts, transformer power supplies, pumps, etc., **must not be connected to them.**

Connecting this type of device may damage both the device and the converter itself. To power inductive and capacitive devices, it is necessary to use more expensive converters from the SINUS or SINUS PLUS series ("pure sine"), also available in the VOLT offer
POLAND.

If it is necessary to measure the output voltage of the IPS N converter, use a good quality electronic meter with a True RMS function. Measurement with a simple cheap multimeter will give an incorrect result.

INSTALLATION

1. Before installing the inverter, read the entire manual carefully.

2.1. Connect the converter directly to the battery:

2.1.1. Connect the battery cables to the converter

2.1.2. Connect the red wire to the + terminal on the battery

2.1.3. Connect the black wire to the terminal - on the battery

2.2. Connect the converter directly to the cigarette lighter socket:

2.2.1. Connect the cable with the cigarette lighter plug to the converter

2.2.2. Insert the plug into the cigarette lighter socket in your vehicle

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

Remember to connect the cables to the battery correctly (+ to + and - to -). Reverse connection (+ to -) may cause a short circuit and damage the converter and the connected load.

After correctly connecting and starting the converter, the green LED next to the power button should light up. If no LED lights up, check the correct connection of the power cables.

If the converter is faulty or another factor causes an error in the system (short circuit, overload), the red diode will light up and an audible sound signal will appear from the converter.

SELECTION OF POWER SOURCE

When operating at full power, the converter can draw very high current from the vehicle's battery and alternator. Please keep this in mind when installing the device. It is important to select the shortest possible power cables with appropriately large diameters. This applies especially to more powerful models. Incorrect selection of cables will cause them to heat up and cause a voltage drop at the converter input. In extreme cases, when the voltage drop on the power cables is large, the device will turn off, treating the situation as a battery discharge. We recommend using the cables included with the converter to maintain the original operating parameters. If it is necessary to extend the cables, the minimum extension cross-section for the 12 V converter is approx. 25 mm² and for the 24 V converter approx. 15 mm².

If the device is connected to the battery itself (outside the vehicle), it is very important that it has a sufficiently large capacity. A battery overloaded with too much current will have a much lower capacity than that specified by the manufacturer and will be quickly discharged or even damaged. For example, a small 35 Ah car battery loaded with 2000 W will be fully discharged after just a few minutes of operation! The larger the battery, the more efficiently the converter works under heavy loads. With such a connection, it is also recommended to use lead batteries intended for continuous operation, instead of ordinary starter batteries, e.g. VPRO AGM batteries available in the VOLTPOLSKA offer.

Do not connect chargers or switching power supplies, e.g. solar regulators or switching rectifiers, to the battery. Charging the battery using such devices while connecting and operating the converter may damage the inverter input system and void the warranty.

TECHNICAL PARAMETERS

All IPS N series converters are equipped with a number of protections that guarantee safe and failure-free operation:

- **Short circuit protection,**
- **Thermal protection** – turns off the device after exceeding the temperature of approx. 60°C - 70°C,
- **Undervoltage protection** – turns off the device when the input voltage is too high low (battery discharge),
- **Overvoltage protection** – turns off the device when there is voltage at the input too high,
- **Overload protection** – turns off the device if it has been overloaded by time longer than several seconds.

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

TECHNICAL PARAMETERS

Model	1200N	2000N	2600N	3400N
Instantaneous power	1200W	2000W	2600W	3400W
Continuous power	800W	1000W	1300W	1700W
Battery voltage	12V or 24V			
Input voltage	12V: 10.5V - 15.5V 24V: 21V - 31V			
Output voltage	225V - 235V			
Output voltage frequency	50Hz (+- 2Hz)			
Overload protection	>120% IPS automatically turns off			
Current drawn without load	~300 mA			
Efficiency at full load	~92%			
Undervoltage protection activation threshold	12V: 10.7V (+- 0.3V) 24V: 21.4V (+- 0.6V)			
Permissible operating temperature	-10 C - 40 C			