PS300-PV
PS300-WT
PS300-H

3-phase photovoltaic and wind on-grid inverters
3 kW – 30 kW

PS300-PV, PS300-WT, PS300-H -three-phase inverters intended for use in photovoltaic and wind turbine installations connected to the electrical grid (on-grid):

PS300-PV – photovoltaic inverters

PS300-WT – wind turbine inverters

PS300-H – inverters with the possibility of simultaneous connection of photovoltaic panels and a wind turbine.

The family of three-phase, high-efficiency and transformerless inverters type PS300 is designed for work with small photovoltaic power plants as well as wind and water based on synchronous generators with permanent magnets. These inverters enable the transmission of energy obtained from the power plant to the three-phase electrical network - the so-called "on-grid" systems.
Inverters are working fully autonomously. After being installed by an authorized person, the user's role is only to systematically check the condition of the device.

The PS300 inverters are available in following variants:

PS300-PV/3kW, **PS300-PV/5kW**, **PS300-PV/8kW**, **PS300-PV/10kW**, **PS300-PV/20kW**, **PS300-PV/30kW** – photovoltaic inverters with DC voltage inputs for installation with solar panels.

PS300-WT/3kW, **PS300-WT/5kW**, **PS300-WT/8kW**, **PS300-WT/10kW**, **PS300-WT/20kW**, **PS300-WT/30kW** – AC voltage inverters designed for small wind or water turbines with permanent magnet synchronous generators.

PS300-H/5kW, **PS300-H/8kW**, **PS300-H/10kW**, **PS300-H/20kW**, **PS300-H/30kW** – hybrid inverters with one alternating voltage (WT) and one direct voltage (PV) input: they allow simultaneous connection of solar panels and a synchronous generator. The total power of the connected solar panels and the synchronous generator may not be greater than the nominal power of the inverter, and voltages and currents may not exceed the permissible values of the given input

Photovoltaic panels are loaded on the basis of a follow-up MPPT (Maximum Power Point Tracking) algorithm, while for synchronous generators it is necessary to enter a 16-point characteristic of the generator input current as a function of its frequency. In addition, load control of a synchronous generator can be done by directly setting the load current via the MODBUS communication protocol (RTU, TCP / IP). Each of these algorithms is designed to optimally use a renewable source of electricity (RES).

The inverter is equipped with an extensive diagnostic system as well as blockades and protections protecting the inverter, and user. Moreover, Via the www.inverters.pl portal, MODBUS or Json communication protocol, you can read from the system information regarding current and historical operating parameters.

TECHNICAL DATA

Description	Nominal power					
	3 kW	5 kW	8 kW	10 kW	20 kW	30kW
WT input (AC voltage): synchronous generator with permanent magnets - *PS300-WT and PS300-H inverters*						
Working voltage range: 3 x 60..425 VAC. Nominal voltage: 3 x 400 VAC.						
Maximum input current						
PS300-WT		13 A		20 A	40 A	50 A
PS300-H	-		13 A		25 A	
PV1, PV2 inputs: photovoltaic panels - *PS300-PV i PS300-H inverters*						
MPPT voltage range: 120..850 VDC. Feed-in start voltage: 120 VDC. Nominal voltage: 650 VDC. Maximum input voltage: 900 VDC.						
Maximum input current:						
PS300-PV		13 A		2 x 13 A		2x25 A
PS300-H	-		13 A		25 A	
Maximum short circuit current:						
PS300-PV		20 A		2 x 20 A		2x40 A
PS300-H	-		20 A		40 A	
The number and types of inputs depending on the power and variant of inverter						
PS300-PV – only PV inputs:						
PV inputs (MC4) / (MPPT individual strings)		1 / (1)		2 / (2)		4 / (2)
PS300-WT – only WT input						
WT input			1			
PS300-H – PV and WT inputs:						
PV inputs (MC4) / (MPPT individual strings)	-		1 / (1)		2 / (1)	
WT inputs			1			
Nominal AC output power	3 kW	5 kW	8 kW	10 kW	20 kW	30 kW
Output voltage - the power grid side	3 x 400 V, 50 Hz					
Maximum output current	4,5 A	7,5 A	12,0 A	14,5 A	30 A	45 A

• Working mode: On-Grid. • Maximum efficiency: 97%. • Current: < 3%. • Communication: Ethernet, RS-485.
• Digital inputs: 5. • Power consumption in standby mode: 20 W. • Humidity: 85% for 40ºC.
• Ambient temperature range: -10ºC..+40ºC. • IP protection: IP65.

Relay outputs: * K4 is present in 20 kW and 30 kW inverters	K1, K4* K2, K3	K1, K4*: NO/NC, 2A 230V AC K2, K3: NO, 2A 230V AC

Internal relays (30 A, AC1) controlling the operation of breaking resistors are present in PS300-WT and PS300-H 3kW-10kW inverters.
In 20kW - 30kW PS300-WT and PS300-H inverters, an external contactor must be used, the K4 relay is dedicated to control the operation this contactor.

Protections: before the generator run-up, before working in off-grid mode – in inverters dedicated to work in on-grid mode only, electrical network parameters monitoring system, before too high inverter temperature.

Algorithm of Maximum Power Point Tracking
• WT synchronous generator input (AC): characteristic Igen=f(fgen) defined by user.
• PV input (DC): advanced MPPT global tracking system that guarantees finding the optimal operating point even with partially shaded or in series-connected panels.

Weight and mechanical dimensions	33 kg 490 x 426 x 214 mm	58 kg 454x650x287 mm

For more information, please contact us! We may make changes to specifications and product descriptions at any time, without any notice.

DESIGN – PRODUCTION – SERVICE