



Award "ELECTROTECHNICAL PRODUCT OF THE YEAR 2012" on trade show ELOSYS

95% efficiency

operation from only one or two phases

simultaneous operation from mains & battery



FIELDS OF APPLICATION

- Data Centres
- Telecommunications
- IT equipment
- Industrial systems
- Air conditioning



CHARACTERISTICS

Large tolerance of the input mains – advantage of the large range of the input mains is thrift of UPS to batteries, UPS begins to draw power from the battery only when the input voltage is out of range, **UPS can operate without batteries right from 160V but at the normal 75% load and from 130V at 50% load.**

High efficiency up to 95% - saving energy at the customer e.g. UPS 15kVA at full load saves more than 500 Euros per year compared to the older UPS (92%). Assuming a minimum period of six years of a lifetime you can save more than 3 000 Euros at current energy prices!

Powerfull charger – allows connection of the external bat. module up to 100Ah (PL40I) without need of the external charger, significantly shortens the battery charging.

High overload capacity –150% overload for 30 seconds in Online mode (and 140% continuously during operation in Bypass mode and Eco mode).

The possibility of operation from mains from only one or two phases, the possibility of simultaneous operation from mains and battery – it allows to extend backup time of UPS and battery life.

Soft start from the mains with the gradual taking over of power – it reduces power increase of GS, it prevents vibration of system GS-UPS-load at sudden changes of load.

Increase of the output power factor to 1 –i.e. UPS is able to deliver to load the same apparent as well active power, this parameter is important when powering of device with PFC on the input, it allows greater UPS efficiency.

Colour touch screen – it simplifies the access to information about device status, input mains and load; it allows you to easy control UPS.

Sophisticated data storage (monitoring) about state of the input mains, UPS and load – it allows easy identification and statistics about the state of the power supply system (it draws of the customer attention to problems with power supply system).

As standard integrated-BFP (back feed protection) – an important feature increasing the safety of service personnel.

Advanced battery management – it prolongs battery life, identifies early changes of the batteries parameters.

Possibility of device installing to less ventilated areas – small losses due to the high efficiency UPS reduces the cost of air conditioning and ventilation of premises.

Small built-up area and excellent handling – are reducing the cost during installation.

DESCRIPTION

UPS consists of an electronic module of power range 8, 10, 12, 15, 20, 30 and 40kVA and battery module located under the electronic module. Internal battery module has a capacity of batteries from 9 up to 36 Ah (for 9Ah batteries) / from 7 up to 28Ah (for 7Ah batteries) at output up to 15kVA, respectively from 9 up to 27 Ah (for 9Ah batteries) / from 7 up to 21Ah (for 7Ah batteries) at output from 20 up to 40kVA. When the extension batteries pack modules requesting, here are available modules with height 1000, 1200, 1400 mm and with capacity of up to 100Ah. These modules can be connected in parallel.

Technology ON-LINE with double conversion of energy provides power supply of devices regardless of mains outages and poor quality of mains. It shall ensure elimination of voltage spikes and overvoltage, filtration shapely distorted voltage and overcome failures and under-voltage power supply mains.

UPS is developed by use of an advanced technology:

- multiprocessor control on base of DSP - allows to implement newest control algorithm, which achieves significant increase of the quality of the system
- SMD technology and new semiconductor components (IGBT power transistors working in four-quadrant converter topology at the input and as well at the output UPS).



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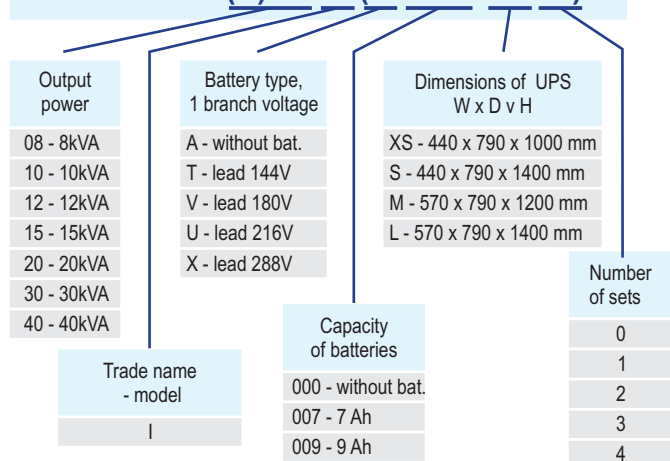
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PL I			
Nominal power			
Apparent	8 kVA	10 kVA	12 kVA 15 kVA 20 kVA 30 kVA 40 kVA
Active	8 kW	10 kW	12 kW 15 kW 20 kW 30 kW 40 kW
Input			
Nominal voltage	3x400V / 230V AC		
Min. input voltage at 50% load	3x225V / 130V AC		
Voltage range	3x(156÷476) / 90÷275V AC (back-up mode depends on the load)		
Input Power factor	≥ 0,99		
Frequency	45÷55 Hz		
Distortion of current at the THDI input at nominal power	<4%		
Initial current	Soft start (smooth start) - suitable for gensets		
System of mains at the input	TN-C, TN-S		
Output			
Load Power factor	1 - in full range of the input mains		
Nominal output voltage	3x400V / 230V AC		
Range of adjustment of the output voltage	3x(346÷416)V / 200÷240 V (in steps 1V)		
Output voltage tolerance	<0,5%		
Output voltage dyn. stability	VFI-SS-111		
Distortion of the output voltage (linear / refer. nonlinear load)	<1% / <4%		
Nominal frequency	50 Hz		
Frequency range	45 ÷ 55 Hz		
Frequency stability in asynchronous or backup mode	<0,1%		
Crest factor	3 : 1		
Overload @ 25°C	110%	30 min	
	125%	5 min	
	150%	30 s	
	200%	100 ms	
Efficiency	up to 95% (On line mode)		
	up to 94% (Back-up mode)		
	up to 98% (ECO mode)		
Bypass			
Nominal / maximum power	140%	continuous	
	200%	10min	

Battery			
internal / possibility to connect external bat. module			
charging current	up to 12A - large power reserve for ext. bat. module		
Safety			
IP cover	IP20		

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PL I	
Standard equipment	
RS232, RS485 interface, protocol MODBUS, monitoring	
USB interface, protocol MODBUS and local monitoring	
2 x programmable relay (potential free outputs)	
2 x programmable DIGITAL IN	
EPO (emergency switch of output)	
Option modules	
SNMP adapter for local and remote monitoring over ETHERNET network by SNMP or web browser, sending of e-mails and traps	
SNMP adapter contains also RS232 port for local monitoring	
4 x programmable relay (potential free outputs)	
4 x programmable DIGITAL IN	
Control and signalling	
LCD colour touch graphical display	
Acoustic signalling	
Remote monitoring	
monitoring by application PliEIMon or as a part of the monitoring system GlobMon	
configuration and control of the devices remotely	
monitoring and control of the operating conditions - statuses, alarms, measurements, history and events, etc.	
possibility to inform the user about events via e-mail or optionally by SMS notification	
monitoring available with different levels of access	
availability simultaneously from multiple access points (PC)	
Dimensions (W x D x H) / Weight (without batteries)	
PL8I-PL15I	440 x 790 x 1000mm / 95 kg
	440 x 790 x 1400mm / 120 kg
PL20I-PL40I	570 x 790 x 1200mm / 160 kg
	570 x 790 x 1400mm / 180 kg
Environmental conditions	
Operating temperature	-10 ÷ 40 °C
Recommended operating temperature	15 ÷ 25 °C
Storage temperature	-30 ÷ 50 °C
Operating relative humidity	max. 90% without condensation
Storage relative humidity	max. 90 %

TYPE	Batt. No. / cap. [pcs / Ah]	TYPE	Batt. No. / cap. [pcs / Ah]
PL08IA000XS0	0 / 0	PL12IU009S4	144 / 9
PL08IV009XS1	30 / 9	PL15IA000XS0	0 / 0
PL08IU009XS1	36 / 9	PL15IU009XS1	36 / 9
PL08IU009XS2	72 / 9	PL15IU009XS2	72 / 9
PL08IU009S3	108 / 9	PL15IU009S3	108 / 9
PL08IU009S4	144 / 9	PL15IU009S4	144 / 9
PL10IA000XS0	0 / 0	PL20IA000M0	0 / 0
PL10IV009XS1	30 / 9	PL20IX009M1	48 / 9
PL10IU009XS1	36 / 9	PL20IX009M2	96 / 9
PL10IU009XS2	72 / 9	PL20IX009L3	144 / 9
PL10IU009S3	108 / 9	PL30IA000M0	0 / 0
PL10IU009S4	144 / 9	PL30IX009M2	96 / 9
PL12IA000XS0	0 / 0	PL30IX009L3	144 / 9
PL12IU009XS1	36 / 9	PL40IA000M0	0 / 0
PL12IU009XS2	72 / 9	PL40IX009M2	96 / 9
PL12IU009S3	108 / 9	PL40IX009L3	144 / 9

Note: External battery modules are designed to extend back-up time.