ELTECO®

Three phase Uninterruptible Power Supply

PL E

suitable for co-operation with gensets

soft start — smooth start-up

FIELDS OF APPLICATION

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

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).

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 130V but at the normal 75% load and from 100V at 50% load.

High efficiency up to 95% - reduced operating costs of the customer and the possibility to install the device in less ventilated areas.

Powerfull charger – allows connection of the external bat. module up to 100Ah (PL40E) without need of the external charger.

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

Soft start from the mains with the gradual taking over of power – it reduces power increase of GS and avoids vibration of power supply system.

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.

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

ACERT ISO 9001 ISO 9001 | TÜV SÜD ISO 14001 | TÜV SÜD OHSAS 18001

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Three phase Uninterruptible Power Supply

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	PL E						
Nominal power							
Apparent	8 kVA	10 kVA	12 kVA	15 kVA	20 kVA	30 kVA	40 kVA
Active	6,4 kW	8 kW	9,6 kW	12 kW	16 kW	24 kW	32 kW

Input	
Nominal voltage	3x400V / 230V AC
Min. input voltage at 50% load	3x173V / 100V 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	<5%
Initial current	Soft start (smooth start) - suitable for gensets
System of mains at the input	TN-C, TN-S
Output	
Load Power factor	0.8 - 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/reference 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%	10 min

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

PL (X)XX X (X XXX XX X)

Output power
08 - 8kVA
10 - 10kVA
12 - 12kVA
15 - 15kVA
20 - 20kVA
30 - 30kVA
40 - 40kVA

Battery type, 1 branch voltage
A - without bat.
T - lead 144V
V - lead 180V
U - lead 216V
R - lead 240V
X - lead 288V

Dimensions of UPS W x D v H
XS - 440 x 790 x 1000 mm
S - 440 x 790 x 1400 mm
M - 570 x 790 x 1200 mm
L - 570 x 790 x 1400 mm

Trade name - model
E

Capacity of batteries
000 - without bat.
007 - 7 Ah
009 - 9 Ah

Number of sets
0
1
2
3
4

	PL E
Standard equipment	
RS485 interface, protocol MODBUS and UPSCOM3, local and remote monitoring	
USB interface, protocol MODBUS and UPSCOM3, 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 *	

* have to be ordered also an assembly kit for PLE (there will be no difference between communication features of PLE and PLI)

Control and signalling	
LCD colour touch graphical display	
Acoustic signalling	
Dimensions (W x D x H) / Weight (without batteries)	
PL8E-PL15E	440 x 790 x 1000mm / 95 kg
	440 x 790 x 1400mm / 120 kg
PL20E-PL40E	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	Num. of bat. / capacity [pcs / Ah]	TYPE	Num. of bat. / capacity [pcs / Ah]
PL08EA000XS0	0 / 0	PL15EA000XS0	0 / 0
PL08ET009XS1	24 / 9	PL15EV009XS1	30 / 9
PL08EV009XS1	30 / 9	PL15EV009XS2	60 / 9
PL08EV009XS2	60 / 9	PL15EV009S3	90 / 9
PL08EV009S3	90 / 9	PL15EV009S4	120 / 9
PL08EV009S4	120 / 9	PL20EA000M0	0 / 0
PL10EA000XS0	0 / 0	PL20ER009M1	40 / 9
PL10ET009XS1	24 / 9	PL20ER009M2	80 / 9
PL10EV009XS1	30 / 9	PL20ER009L3	120 / 9
PL10EV009XS2	60 / 9	PL30EA000M0	0 / 0
PL10EV009S3	90 / 9	PL30ER009M1	40 / 9
PL10EV009S4	120 / 9	PL30ER009M2	80 / 9
PL12EA000XS0	0 / 0	PL30ER009L3	120 / 9
PL12EV009XS1	30 / 9	PL40EA000M0	0 / 0
PL12EV009XS2	60 / 9	PL40ER009M2	80 / 9
PL12EV009S3	90 / 9	PL40ER009L3	120 / 9
PL12EV009S4	120 / 9	-	-

Output Power factor pf=0,8

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

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