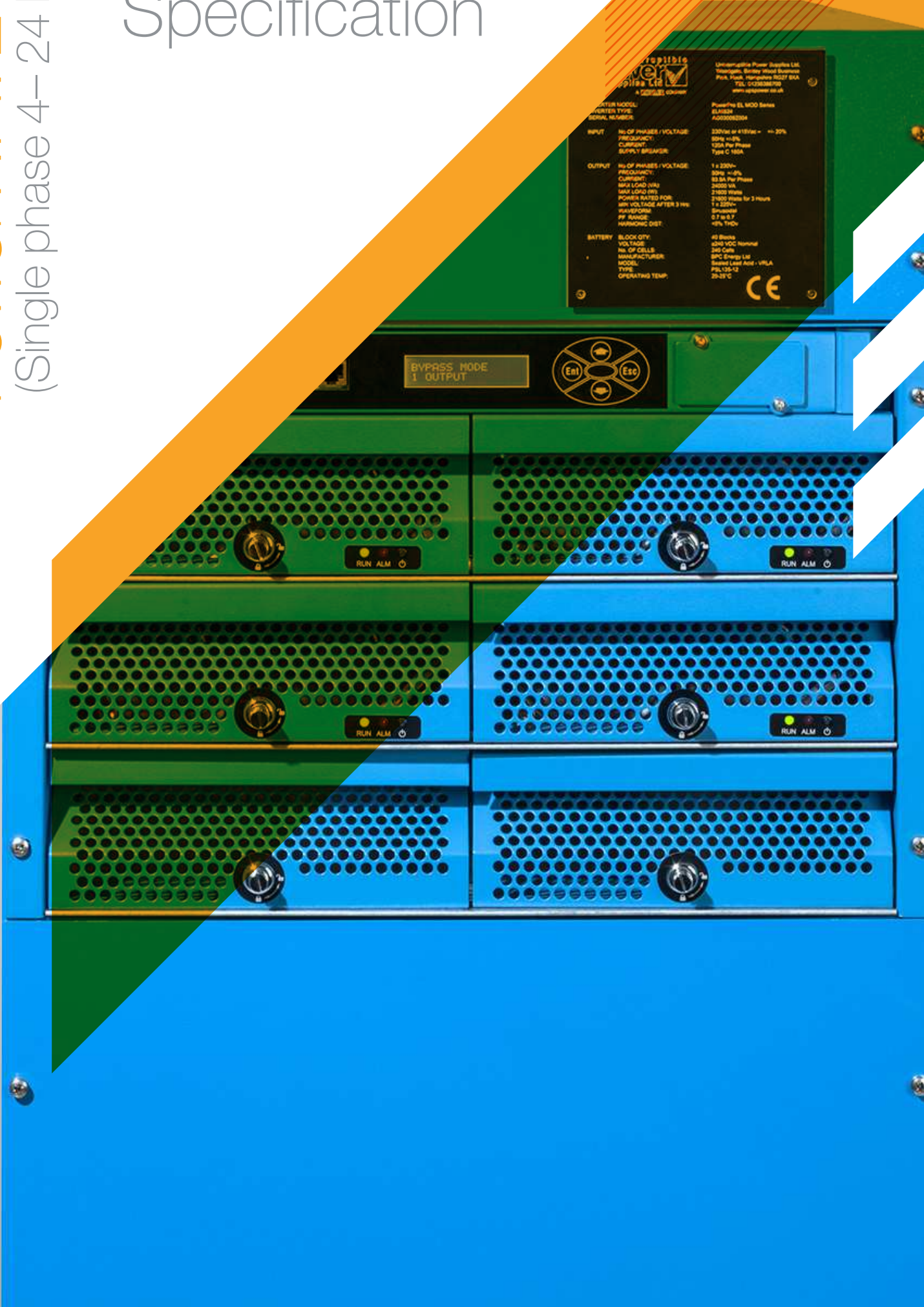


PowerWAVE EL

(Single phase 4- 24 kVA)

Technical Specification



Uninterruptible Power Supplies Ltd
The Kings, Bellerbasset Business
Park, Kesh, Hampshire RG27 8XA
TEL: 01256282790
www.uninterruptible.co.uk

PowerWAVE EL MOD Series
SL4824
AG000082004

INPUT
No. OF PHASES / VOLTAGE: 230Vac or 415Vac ~ 20%
FREQUENCY: 50Hz ~ 6%
CURRENT: 120A Per Phase
SUPPLY BREAKER: Type C 150A

OUTPUT
No. OF PHASES / VOLTAGE: 1 x 230V~
FREQUENCY: 50Hz ~ 6%
CURRENT: 83.3A Per Phase
MAX LOAD (VA): 24000 VA
MAX LOAD (W): 21600 Watts
POWER RATED FOR: 21600 Watts for 3 Hours
T x 220%
WAVEFORM: SFT in SFT
THD: 3.7 in 6.7
HARMONIC DIST: < 1% THDv

BATTERY
BLOCK QTY: 40 Blocks
VOLTAGE: 240V VDC Nominal
No. OF CELLS: 240 Cells
MANUFACTURER: APC Energy Ltd
Sealed Lead Acid - VRLA
MODEL: PA-100-12
TYPE: OPERATING TEMP: 25-52°C

CE

BYPASS MODE
1 OUTPUT



RUN ALM

RUN ALM

RUN ALM

RUN ALM

RUN ALM

RUN ALM

PowerWAVE EL 100XA

Model	EL1005XA	EL1012XA	EL1030XA
Power rating VA / W	500 / 400	1250 / 1000	3000 / 2400
Power factor	0.8		
Input			
Voltage /tolerance	230VAC single phase / 184V-285V		
Frequency	50Hz +5%		
Max. RFI	EN50091-2 CLASSA		
Output			
Voltage	230VAC Single phase		
Voltage stability	Changeover mode +10% / battery mode +3%		
Voltage recovery time	After step load 0-100%. maximum 20ms		
Frequency	50Hz		
Frequency tolerance	+1% in battery mode		
Efficiency at 100% load	>97%		
Crest factor	3:1		
Short circuit protection	Electronic short circuit		
Overload capacity	120% continuous, 150% alarm load		
Batteries			
Type	Sealed lead acid -maintenance free		
Number of 12V blocks (Internal)	4	4	4or 8
Float charging voltage	54VDC	54VDC	54VDC
End of discharge voltage	42VDC	42VDC	42VDC
Battery ambient temperature	20°C	20°C	20°C
Battery protection	Double pole DC circuit breaker		
Battery test	Automatic battery test / smart battery management		
General			
Serial communication	Drycontacts plus RS232		
Software	Optional monitoring & shutdown / optional SNMP module		
Protection degree	IP21		
Ambient operating temperature / altitude	0°C to 40°C / <1000m above sea level		
Standard	Emergency lighting EN50171		
Ventilation	Forced air cooling		
Acoustic Noise at 1m distance	<56 dbA		
Dimensions (mm) WxDxH	750 x 250 x 850	750 x 250 x 1250	750 x 400 x 1250

PowerWAVE EL MOD

Model	ELMOD 11						ELMOD 31	
Power rating kVA	4	8	12	16	20	24	12	24
Mains input								
Input mode	1-phase +N +E						3-phase +N +E	
Input voltage	220V / 230V / 240V ±25%							
Input frequency	50Hz±10%,60Hz±1%							
Maximum input current	20A	40A	60A	80A	100A	120A	60A	120A
Power walk-in (seconds)	60secs							
THDI (%)	< 3%							
Input PF	≥ 0.99							
Bypass input								
Input voltage	220V/230V/240V±20%							
Input frequency	50 Hz, 60 Hz							
Range of frequency synchro	50Hz ±4%, 60Hz ±4%							
DC input								
Rated Input voltage	±240VDC							
Max DC current	10A	20A	30A	40A	50A	60A	30A	60A
Battery charging								
Charging current limited	Yes							
Charging ability	12 hours (3 hours back up)							
Stability of charging voltage	±1%							
AC output								
Output power factor	0.9							
Output voltage	220, 230, 240VAC							
Output frequency	±4%; ±0.2% (battery supply)							
Output current	15..6A	31.3A	46.9A	62.6A	78.2A	93.9A	46.9A	93.9A
Output voltage stability	±1%							
Output voltage recovering time	20ms (load 0-100% change)							
Overload ability	120% continuous, 150% for 10 minutes, 175% for 1 minute							
Transfer from mains to battery supply	0ms							
Transfer from changeover to inverter supply	<1ms							
Peak factor	3:1							
Waveform distortion	≤ 1% (linear load), ≤ 3%(non-linear load)							
Overall efficiency	≥ 93% inverter mode, ≥ 98% changeover mode							
Load share precision	≤5%							
Environment								
Operating temperature	-5°C-40°C							
Maximum operation altitude	≤ 1000m							
Relative humidity	≤ 93% non-condensing							
Protection degree	IP30							
Cooling	Forced cooling front to back							
Applicable safety standards	EN62040-1-1:2003 IEC60950-1:2001 EN50171							
Electromagnetic compatibility	EN62040-2:2006							
Acoustic noise	≤ 55DB							
Other								
Interface	RS232, RS485, 4 dry contact, TCP/IP adapter							
Dry ports	Mains failure/common alarm /on battery/battery low							
Dimensions (mm) WxDxH	850 x 510 x 1340							

PowerWAVE EL MOD

Model	ELM-04
Capacity	4KVA
Input / Output mode	1/1
Input PF	≥ 0.99
THDI (%)	≤ 3%
Overload ability	Comply to system overload requirement
Charging power	1600W
Weight (kg)	7

Heat dissipation at 100% load and fully charged battery

Configuration	1 Module	2 Modules	3 Modules	4 Modules	5 Modules	6 Modules
Changeover mode	120W	240W	360W	480W	600W	720W
Inverter mode	280W	560W	840W	1120W	1400W	1680W
Non-maintained mode	120W	240W	360W	480W	600W	720W

PowerWAVE EL 100

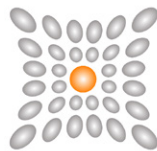
Model	EL104	EL105	EL106	EL108	EL110	EL112
Power rating kVA/kW	4 / 2.8	5 / 3.5	6 / 4.2	8 / 5.6	10 / 7	12.5 / 8.75
Power factor	0.7					
Input						
Voltage / tolerance	230 VAC single phase, +/- 15%					
By-pass voltage	230 VAC single phase					
Input frequency	50Hz +/- 5%					
Max RFI	EN50091-2 Class A					
Output						
Voltage	230 VAC single phase					
Voltage stability	Static (balanced load) +/-1%, static (unbalanced load) +/-2%, dynamic (step load 0-100%) +/-5%					
Voltage recovery time	After step load 0-100% max. 20ms					
Frequency	50Hz					
Frequency tolerance	Line synchronised +/- 1% / free running +/- 0.2%					
Efficiency at 100% load	>87-91%					
Crestfactor	3:1					
Short circuit protection	Electronic short circuit					
Overload capacity	120% continuous, 150% load 10 min. 180% 1 min, 200% for 1 sec					
Total harmonic distortion (THD)	Linear Load <3% / non linear load (75% NP and CF 3:1) <5%					
Batteries						
Type	Sealed lead acid – maintenance free					
Number of 12V blocks	16	18			20	
Float charging voltage	216Vdc	243Vdc			270Vdc	
End of discharge voltage	160Vdc	180Vdc			200Vdc	
Battery ambient temperature	20°C					
Battery protection	Circuit breaker					
Battery test	Automatic battery test once a week					
General						
Serial communication	Dry contacts plus RS232					
Software	T-Mon standard / SNMP module optional					
Protection degree	IP41					
Ambient operating temperature / altitude	0°C to 40°C / <1000m (above sea level)					
Standard	Emergency lighting EN 50171					
Ventilation	Forced air cooling					
Acoustic noise at 1m distance	<56 dbA					
Weight (kgs)	85	95	110	125	150	155
Dimensions (mm) WxDxH	500 x 300 x 1220					

PowerWAVE EL 200

Model	EL210	EL215	EL220
Power rating kVA/kW	10 / 8	15 / 12	20 / 16
Power factor	0.8		
General			
Serial communication	Dry contacts plus RS232		
Software	T-Mon standard / SNMP module optional		
Protection degree	IP41		
Ambient operating temperature / altitude	0°C to 40°C / <1000m (above sea level)		
Standard	Emergency lighting EN 50171		
Ventilation	Forced air cooling		
Relative humidity	90% max (non-condensing)		
Acoustic noise at 1m distance	<56 dbA		
Input			
Voltage / tolerance	230/400 VAC 3phase, 4wires, +ground, +/- 15%		
By-pass voltage	230 VAC single phase		
Input frequency	50Hz +/- 5%		
Max RFI	EN50091-2 Class A		
Output			
Voltage	230 VAC single phase		
Voltage stability	Static (balanced load) +/-1%, Static (unbalanced load) +/-2%, dynamic (stop load 0-100%) +/-5%		
Voltage recovery time	After step load 0-100% max. 20ms		
Frequency	50Hz		
Frequency tolerance	Line synchronised +/- 1% / free running +/- 0.2%		
Efficiency at 100% load	>87-91%		
Crest factor	3:1		
Short circuit protection	Electronic short circuit		
Overload capacity	120% continuous, 150% load 10min. 180% 1min, 200% for 1 sec		
Total harmonic distortion (THD)	Linear load <3% / non linear load (75% NP and CF 3:1) <5%		
Batteries			
Type	Sealed lead acid – maintenance free		
Number of 12V blocks	30		
Float charging voltage	405		
End of discharge voltage	300VDC		
Battery ambient temperature	20°C		
Battery protection	Circuit breaker		
Battery test	Automatic battery test once a week		
Weight/Dimensions			
Weight (kgs)	200	210	240
Dimensions (mm) W x D x H	520 x 715 x 1170		

PowerWAVE EL 300

Model	EL310	EL315	EL320	EL325	EL330	EL340	EL360	EL380	EL3100	EL3120	EL3160	
Power rating kVA/kW	10 / 8	15 / 12	20 / 16	25 / 20	30 / 24	40 / 32	60 / 48	80 / 64	100 / 80	120 / 96	160 / 128	
Power factor	0.8											
General												
Serial communication	Dry contacts plus RS232											
Software	T-Mon standard / SNMP module optional											
Protection degree	IP41											
Ambient operating temperature / altitude	0°C to 40°C / <1000m (above sea level)											
Standard	Emergency lighting EN 50171											
Ventilation	Forced air cooling											
Relative humidity	90% max (non-condensing)											
Acoustic noise at 1m distance	<56 dbA						<60 dbA		<65 dbA			
Input												
Voltage / tolerance	230/400 VAC three phase, 4wires, +ground, +/- 15%											
By-pass voltage	230/400 VAC three phase											
Input frequency	50Hz +/- 5%											
Max RFI	EN50091-2 Class A											
Output												
Voltage	230/400 VAC three phase											
Voltage stability	Static (balanced load) +/-1%, Static (unbalanced load) +/-2%, dynamic (stop load 0-100%) +/-5%											
Voltage recovery time	After step load 0-100% max. 20ms											
Frequency	50Hz											
Frequency tolerance	Line synchronised +/- 1% / free running +/- 0.2%											
Efficiency at 100% load	>87-91%											
Crest factor	3:1											
Short circuit protection	Electronic short circuit											
Overload capacity	120% continuous, 150% load 10min. 180% 1min, 200% for 1 sec											
Total harmonic distortion (THD)	Linear load <3% / non linear load (75% NP and CF 3:1) <5%											
Batteries												
Type	Sealed lead acid – maintenance free											
Number of 12V blocks	30											
Float charging voltage	405											
End of discharge voltage	300VDC											
Battery ambient temperature	20°C											
Battery protection	Circuit breaker											
Battery test	Automatic battery test once a week											
Weight/Dimensions												
Weight (kgs)	260	276	332	494	494	572	630	780	820	970	1160	
Dimensions (mm) W x D x H	520 x 715 x 1170			590 x 860 x 1425			730 x 840 x 1425	1120 x 840 x 1675		1215 x 910 x 1755		



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