PowerWAVE 5000/TP

Three-phase UPS for mid-size server rooms, networks, telecommunication systems and industrial processes

Uninterruptible Power Supplies Ltd
A KOHLER COMPANY

PowerWAVE 5000/TP

Compact, three-phase critical power protection up to 50 kVA/45kW.

PowerWAVE 5000/TP
Capacities from 10 kVA to 50 kVA three phase
On-line double conversion, transformerless technology for high reliability
Parallel capability of up to 20 units
Input power factor equal to 0.99
Intelligent battery management
95.5% efficiency across a wide load range
Integral batteries
Near unity input power factor
Low input harmonic distortion (THDi <3%)
Small footprint and low weight
Ergonomic design for easy serviceability
Energy saving and low carbon footprint
Extended autonomy with matching battery cabinets

For more information call 01256 386700
or visit www.upspower.co.uk

PowerWAVE 5000/TP is a true on-line, double-conversion, VFI (voltage frequency independent) UPS that provides enhanced power protection in a compact format. Its outstanding price/performance delivers the best value for money in its category with uncompromised system reliability and power availability.

Highest load availability

Key benefits

Productivity maximised

"Downtime" minimised

PowerWAVE 5000/TP offers class leading reliability by incorporating redundant critical circuits (RCC) which duplicate all of the critical components and circuitry within the UPS. Some UPS have single points of failure. PowerWAVE 5000/TP overcomes this problem and offers exceptional reliability and availability under all circumstances.

Paralleled systems are designed to ensure availability by significantly increasing system redundancy. In the case of a power failure, should a UPS unit fail, the remaining units are still able to continue to support the critical load. Redundant paralleled systems also enable regular maintenance to be carried out on the system without any requirement to remove the critical load from conditioned power.

High efficiency for lowest lifetime costs

Key benefits

High efficiency at partial and rated loads

Low carbon footprint

With a transformerless design and Energy Saving Inverter Switching (ESIS) technology, PowerWAVE 5000/TP delivers very high efficiency at partial and rated loads (up to 95.5%). This level of efficiency dramatically reduces the Total Cost of Ownership of the UPS during its lifecycle.

Ripple-free and optional temperature controlled battery chargers protect batteries and extend the life-time performance, further reducing running costs.

These benefits combine to make the PowerWAVE 5000/TP a truly ecofriendly solution for all power protection requirements.

Space saving

Key benefits

Reduced footprint

Valuable floor space maximised

With a footprint of only 0.4m^2 at 50 kVA, the PowerWAVE 5000/TP has a power density of up to 100kW/m^2. As a result, substantial and valuable space savings are achieved even at the highest power ratings.

Flexible battery configuration

Key benefits

Optimal sizing of the battery capacity

30–50 kVA can hold different battery sizes

Extended autonomy with matching battery cabinets

The 5000/TP is available in three cabinet sizes, enabling you to choose the ideal capacity and required autonomy for your critical load. The smaller 10 to 25 kVA units are available in two cabinet sizes, dependent on the required level of autonomy, with the larger units, 30 – 50 kVA, available in a third cabinet size, which is able to house both 7/9Ah and 28Ah batteries.

Additional battery cabinets that match perfectly with the UPS for scaling autonomy time.

Available in three different cabinet sizes:
Cabinet A: 10 – 20 kVA
Cabinet B: 10 – 25 kVA
Cabinet C: 25 – 50 kVA

PowerWAVE 5000/TP Range

UPS Cabinet A (10–20 kVA)

Dimensions (W x H x D)

345 x 720 x 710 mm

Weight without battery

10 kVA: 60 kg
15 kVA: 62 kg
20 kVA: 64 kg

Weight with 48 x 7/9 Ah battery

10 kVA: 180 kg
15 kVA: 182 kg
20 kVA: 184 kg

UPS Cabinet B (10–25 kVA)

Dimensions (W x H x D)

345 x 1045 x 710 mm

Weight without battery

10 kVA: 88 kg
15 kVA: 90 kg
20 kVA: 92 kg
25 kVA: 94 kg

Weight with 96 x 7/9 Ah battery

10 kVA: 328 kg
15 kVA: 330 kg
20 kVA: 332 kg
25 kVA: 334 kg

UPS Cabinet C (25–50 kVA)

Dimensions (W x H x D)

440 x 1420 x 910 mm

Weight; 7/9 Ah cabinet without battery

25 kVA: 151 kg
30 kVA: 160 kg
40 kVA: 165 kg
50 kVA: 170 kg

Weight; 28 Ah cabinet without battery

25 kVA: 135 kg
30 kVA: 145 kg
40 kVA: 150 kg
50 kVA: 155 kg

Weight with 144 x 7/9 Ah battery

25 kVA: 540 kg
30 kVA: 550 kg
40 kVA: 555 kg
50 kVA: 560 kg

Weight with 48 x 28 Ah battery

25 kVA: 605 kg
30 kVA: 615 kg
40 kVA: 620 kg
50 kVA: 625 kg

PowerWAVE 5000/TP Technical Specification

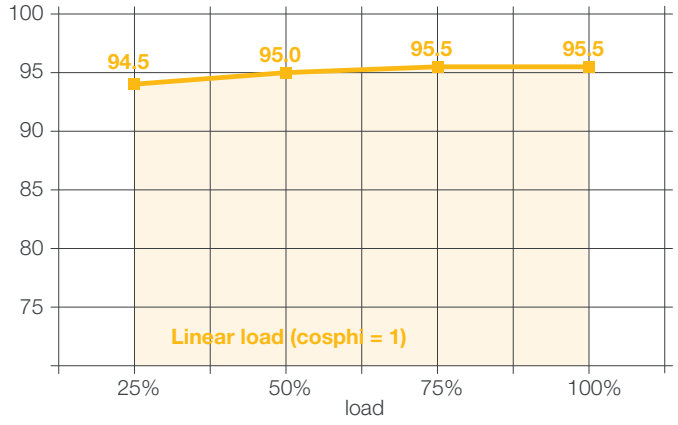
GENERAL DATA	10 kVA	15 kVA	20 kVA	25 kVA	30 kVA	40 kVA	50 kVA
Topology	True online double conversion						
Parallel configuration	Up to 20 units						
Integral batteries	Yes						
INPUT							
Nominal input voltage	3 x 380 / 220 V + N, 3 x 400 V / 230 V + N, 3 x 415 / 240 V + N						
Voltage tolerance	(-23%/+15%) 3 x 308/177V to 3 x 460/264V for <100% load						
Input distortion THDi	3.0% @ 100% load						
Frequency range	35 – 70 Hz						
Power factor	0.99 @ 100 % load						
OUTPUT							
Output rated power	9	13.5	18	22.5	27	36	45
Output power factor	0.9						
Rated output voltage	3 x 380 / 220 V + N, 3 x 400 / 230 V + N, 3 x 415 / 240 V + N						
Voltage tolerance	Synchronized with mains < +- 2%						
Voltage distortion	< 2 % with linear load, < 4 % with non-linear load						
Overload capability (0.9 p.f)	10 min: 110% load, 1 min: 130% load						
Nominal frequency	50 or 60 Hz						
Crest factor	3:1						
EFFICIENCY							
AC-AC (@ p.f = 1.0)	Up to 95.5% @ 100% load						
In eco-mode	Up to 98% @ 100% load						
ENVIRONMENT							
Protection rating	IP 20						
Operating temperature	0°C – 40°C						
Positional clearances	**Front:** 900 mm minimum						
	Left: 600 mm minimum						
	Right: 600 mm minimum						
	Rear: 200 mm minimum for cooling, 600 mm minimum for service						
Input & output power cabling accessibility	Cabled at the rear (A & B cabinets only)				–		
	–			Cabled at the front (C cabinets only)			
Relative air humidity	Up to 95% (non condensing)						
BATTERIES							
Min / Max number of 12V blocks per string*	22 – 50	32 – 50	32 – 50	40 – 50	24 – 50	32 – 50	40 – 50
Charging current	4A				6A		
Battery type	Maintainance free VRLA or NiCd						
STANDARDS							
Safety	IEC/EN 62040-1-1:2003, IEC/EN 60950-1:2001/A11:2004						
EMC	IEC/EN 62040-2:2005, IEC/EN61000-3-2:2000, IEC/EN61000-6-2:2001						
Performance	IEC/EN62040-3:2001						

Technical specifications are subject to change.

*Depending on the effective load in kW used by the system (numbers shown are for 0.8–0.9 p.f only

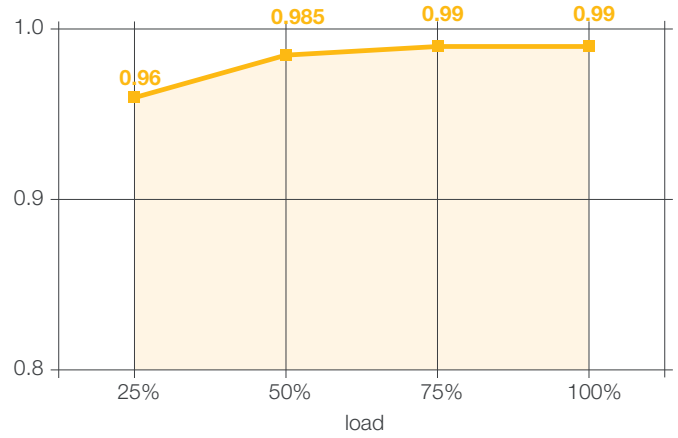
Understanding efficiency and power

AC–AC efficiency



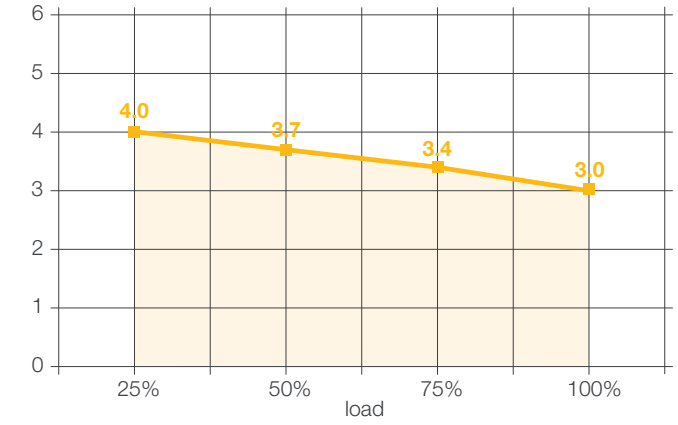
PowerWAVE 5000/TP exhibits state-of-the-art energy efficiency of up to 95.5%, reducing operating costs over the life of the UPS. The flat efficiency curve is typical for all PowerWAVE products, and helps to reduce the organisation's carbon footprint.

Input power factor versus load



The input power factor of PowerWAVE 5000/TP is near unity. This is made possible by the advance booster PFC (Power Factor Correction) circuit of PowerWAVE's transformerless technology. This reduces the size of the input cable and fuses, saving on materials and costs.

Input current total harmonic distortion (THDi)



The outstanding low THDi of <3% at 100% load eliminates possible interference with other equipment in the scheme, saving unnecessary over-sizing of gen-sets, cabling and circuit-breakers, extending the lifetime of all input components.

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UPS 369-01-04 UK PowerWAVE 5000/TP – 07/10/15