



newave



POWERWAVE 33

Master your energy challenge



POWERWAVE 33 60-300KVA

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PowerWave 33, Newave's latest three-phase UPS system, delivers the best combination of energy efficiency and overall power performance in the industry. Offering both intelligent energy management and maximum power protection PowerWave 33 helps you to use less energy, generate less CO₂, take up less space and provide significant cost savings.

Facing continuous energy cost increases, Information Technology (IT) Managers can no longer ignore the savings of using a highly efficient UPS. PowerWave 33 has been specifically developed to meet the challenges of today's IT infrastructures maximising energy cost savings while ensuring the highest level of power protection availability. PowerWave 33's exceptional design supports all organisation's requirements to build and operate energy-efficient and environmentally friendly data centres. Cost savings from using Newave's high efficiency UPS often equal the cost of energy for power and cooling within a few years.

PowerWave 33 is a double conversion UPS topology and is available from 60 to 300 kVA. PowerWave 33 supplies clean, uninterruptible power and delivers the performance according to your needs – whether you are implementing power protection equipment for data centres, banking, telecommunication, healthcare systems, industrial automation equipments and others. Furthermore, the PowerWave 33's small footprint not only facilitates easy installation but also saves space for future growth.



Even a small efficiency percentage difference can generate significant savings in operating costs during the UPS life cycle. Cost savings calculated based on a 0.10 Euro/kWh including air conditioning/ventilation costs.

Difference of efficiency	2%		3%		4%	
	3 years	7 years	3 years	7 years	3 years	7 years
Load (kW)						
100	8'240	19'227	12'495	29'154	16'841	39'297
500	41'200	96'140	62'475	145'770	84'205	196'485
1000	82'400	192'270	124'950	291'540	168'410	392'970
	COST SAVINGS (Euros)					

Overall Power Performance

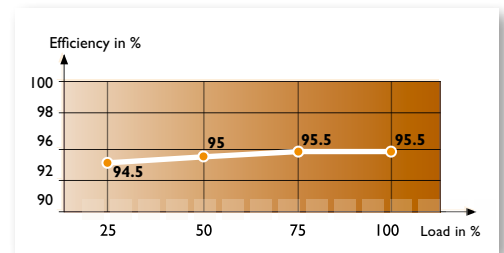
Built in batteries for up to 100 kVA

PowerWave 33 is compatible with a wide range of battery autonomies. Furthermore the ripple-free and temperature controlled battery chargers protect your batteries and extend their life time performance. PowerWave 33 is available with integrated enclosures to accommodate batteries for 60, 80 and 100 kVA power ranges. Front access facilitates installation and service of batteries.



High efficiency and minimum cost of ownership

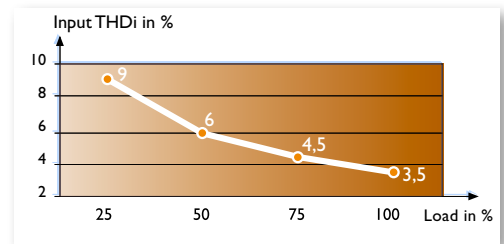
With a transformer-less design and the Energy Saving Inverter Switching (ESIS) Technology, PowerWave 33 delivers high efficiency at partial and rated loads (up to 95.5 % in double conversion mode). This level of efficiency reduces dramatically the Total Cost of Ownership of the UPS during its life cycle. In addition to lower operating costs, PowerWave 33 extends battery run times and the life of components. Overall power performance is therefore very much increased.



Low input harmonic distortion (THDi)

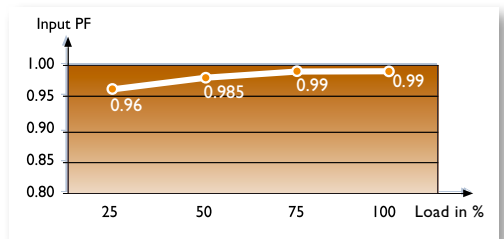
PowerWave 33 is capable of keeping the Total Input Harmonic Distortion (THDi) at a low level (3.5% at 100% load). Newave's unique technology neutralizes the emission of harmonics at the input of the UPS, provides greater reliability of operations for circuit breakers and extends the overall life of the equipment.

Low harmonic distortions saves unnecessary oversizing of gen-sets, cabling and circuit breakers, avoids extra heating of input transformers and extends the overall life time of all input components.



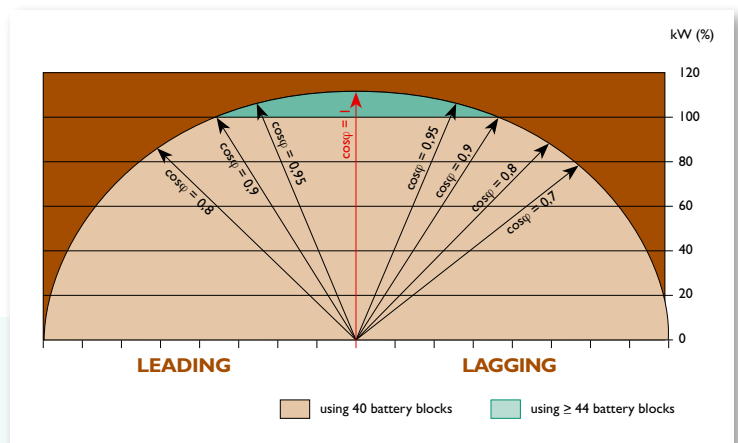
Near to unity Input power factor

The near to unity input power factor (sinewave) of PowerWave 33 reduces the input installation costs by using smaller cable sections and smaller fuse sizes. Accordingly the use of additional phase compensating devices is not needed which consequently keeps the overall UPS efficiency high.



Fully rated output power (Blade Friendly)

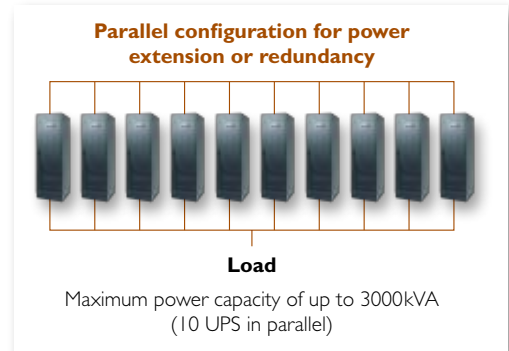
PowerWave 33 is rated at an output of 0.9 leading and delivers fully rated active power for applications in the wide range of 0.9 leading to 0.9 lagging without derating. If equipped with ≥ 44 battery blocks PowerWave 33 delivers up to 11% more active power.



Advanced scalable architecture

If additional capacity or redundancy is needed, up to 10 independent UPS units can operate in parallel configuration. Correspondingly, a single system of parallel mounted UPS units can deliver a maximum power capacity of up to 3000 kVA. In all parallel configurations, each PowerWave 33 unit operates independently but is securely synchronised with the others. This scalable architecture keeps the purchasing and operating costs of your power protection solutions exceptionally low. As your power requirements grow, the

UPS grows with you - thanks to its flexible scalability – even in the most confined spaces. Your benefits are lower capital commitment, cost-effective expansion and minimal space occupancy.



Connectivity

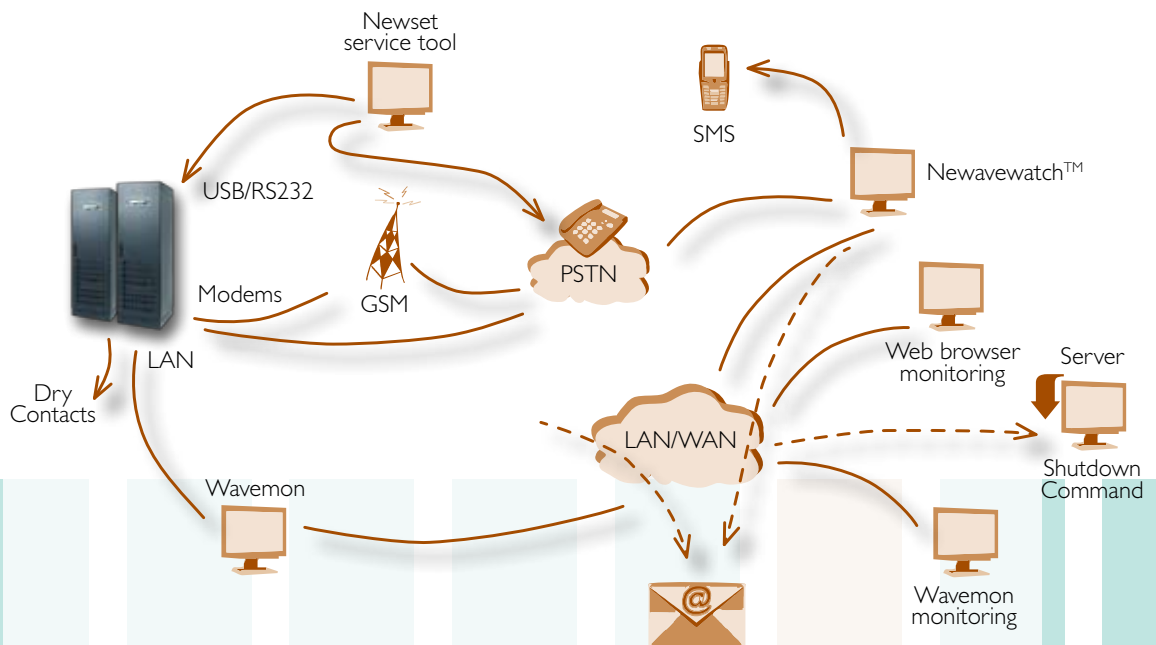
PowerWave 33 is equipped with several connection/interface types which can be used for local and remote monitoring, status signaling, control, maintenance and even FirmWare upgrade. For these operations a specific interface is foreseen for the inter-connection of several parallel UPS.

The interfaces are:

- USB, RS232 for maintenance and upgrade *Newave Service Engineer*
- Dry contacts (out) for status signals *local facility management & control*
- Dry contacts (in) for external commands *local facility management & control*
- LAN adapter (SNMP, MODBUS, PROFIBUS) for monitoring *local facility management and control*

- Modem GSM / Fixnet for remote monitoring (*Newavewatch™)
Newave service center/engineer

*Newavewatch™ is a redundant remote surveillance system and service of Newave which complements Newave's "Continuous Power Protection Availability" concept. Newavewatch™ supports Newave's service engineers with early detection/ identification of anomalies, 24/365 monitoring, analysis and diagnosis capabilities and reporting functions. Facility managers are offered real preventive maintenance and get rid of important consequences or even downtimes.



POWERWAVE 33 60-300KVA

Technical Specifications PowerWave 33 60-300 kVA



GENERAL DATA										
Output Rated Power	kVA	60	80	100	120	160	200	250	300	
Output active power \geq 44 battery blocks	kW	60	80	100	120	160	200	250	300	
Topology	True double conversion on-line (VFI-SS-111)									
Parallel configurations	Distributed Parallel Architecture DPA™ (standard up to 10 units, more on request)									
Static and Maintenance Bypass	standard									
Accessibility	Front access only for service and maintenance (no need for side or top access)									
Efficiency (Double Conversion)	Up to 95.5%									
Audible Noise With 100% Load	<65		<69				<71			
INPUT DATA										
Nominal Voltage	3x380/220V+N, 3x400/230V+N, 3x415/240V+N									
Voltage Tolerance (Ref. to 3x400/230V)	%	For loads <100% (-23%, +15%), <80% (-30%, +15%), <60% (-40%, +15%)								
Frequency	Hz	35 – 70								
Power Factor	0.99 (electrically regulated)									
Current Distortion THDI	%	< 3.5 @ 100% load (sinewave)								
Inrush Current	Soft start									
Cabling	Hardwired									
OUTPUT DATA										
Voltage	V	3x380/220V+N, 3x400/230V+N, 3x415/240V+N								
Voltage Tolerance	%	+/- 1% (linear load), +/- 3% (non-linear load)								
Voltage Tolerance (Load Jumps 0-100-0%)	%	+/- 4%								
Frequency	Hz	50 or 60								
Frequency Tolerance	%	+/- 0.1% (free-running), +/- 4% (with mains, adjustable)								
Crest Factor	3 : 1									
Overloading Capability	%	125% / 10 min., 150% / 60 s.								
Permissible Unbalanced Load	%	100% (all 3 phases regulated independently)								
COMMUNICATIONS										
Power Management Display (PMD)	With LCD, Mimic Diagram, Control									
Communication port (Smart Port)	Serial RS 232, Sub-D9 and USB (standard)									
Communication port (Dry Port)	Volt-free contacts (standard)									
SNMP	Yes (optional)									
Shutdown and Monitoring Software	Yes (Wavemon) (optional)									
Emergency Power Off (EPO)	Yes									
STANDARDS										
Safety	IEC/EN 62040-1-1, IEC/EN 60950-1									
Electromagnetic Compatibility (EMC)	IEC/EN 61000-6-4 (product standard IEC/EN 62040-2 limit A (C3 UPS)) IEC/EN 61000-6-2 (product standard IEC/EN 62040-2 Criterion A (C2 UPS)) IEC/EN 61000-4-2, IEC/EN 61000-4-3, IEC/EN 61000-4-4, IEC/EN 61000-4-5, IEC/EN 61000-4-6									
Performance	IEC/EN 62040-3									
Product Certification	CE – GOST by TUV									
Degree of protection	IP 20									
Manufacturing	ISO 9001:2000, ISO 14001:2004									
Country of origin	Switzerland									
MECHANICAL DATA										
Dimensions (WxHxD)	mm	550x1820x750			850x1820x750			1100x1920x750		
Dimension with battery enclosures (WxHxD)	mm	970 (or 1180)x1820x750								
Weight (Without batteries)	kg	230	240	245	280	290	310	390	410	

Newave Certifications & Recognitions



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Basler Versicherung
BBC (British Broadcasting Corp.)
Belgorodenergo
Betty Barclay
Blaupunkt
BLS Lötschbergbahn AG
BNFL (British Nuclear Fuels Ltd.)
Boehringer Ingelheim
British Airport Authority (BAA)
British Council
British Telecom
Bürgerspital St. Gallen
Cable and Wireless
Cambridge University
Caterpillar
Central Bank of Russian Federation
Cepsa
Coca Cola
Core Telecom
Correos de España
Credit Suisse
Dachser
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EDEKA
EDP (Electricity of Portugal)
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Meteorological Office
Metropolitano de Lisboa
Migros
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Mobistar
Motorola
NATs (National Air Traffic control)
Nestlé
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Nuffield Hospitals
O2
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