

# High Performance Power Protection



**newave**  
ups systems

**THE ENVIRONMENTALLY FRIENDLY POWER PROTECTION**



**TO PROTECT YOUR MISSION CRITICAL APPLICATIONS**

# THE COMPANY



Newave UPS-Systems was established in 1993 in Switzerland and today it enjoys a worldwide reputation built on innovative power protection technology, superior product quality and excellent technical support.

Our professional responsibility is to design Uninterruptible Power Supplies (UPS) with highest reliability to safeguard mission-critical applications and keep your business running.

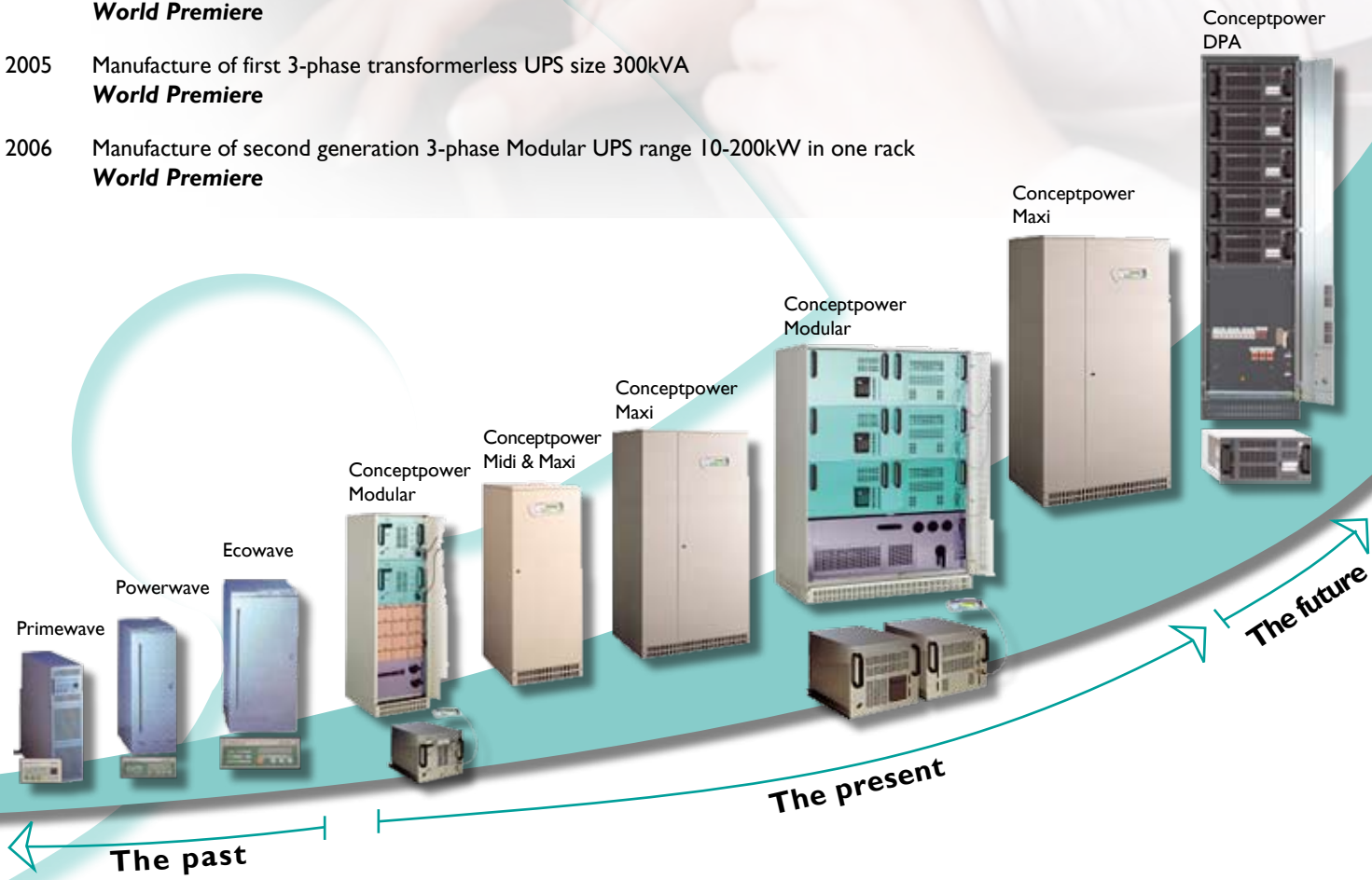
Our moral responsibility is to design UPS products that protect our environment from excessive heat, noise and harmonic emissions.





**NEWAVE Milestones 1993-today**

- 1993 Year of Establishment
- 1994 Design of first 1-phase transformerless UPS range 5-6kVA
- 1996 Manufacture of 1-phase transformerless UPS range 10-20kVA  
First NEWAVE presence at CEBIT 1996
- 1997 Manufacture 3-phase transformerless UPS range 10-60kVA  
**World Premiere**
- 1998 First Certification ISO9001
- 1998 First parallel transformerless 3-phase system  
**World Premiere**
- 2000 New Operation in Quartino
- 2001 Manufacture of first 3-phase Modular  
Module sizes 10-40kVA  
**World Premiere**
- 2002 Manufacture of 3-phase transformerless UPS range 80-120kVA  
**World Premiere**
- 2003 Manufacture of first 3-phase transformerless UPS range 160-250kVA  
**World Premiere**
- 2004 Manufacture of first 3-phase Modular  
Module sizes 60-100kVA  
**World Premiere**
- 2005 Manufacture of first 3-phase transformerless UPS size 300kVA  
**World Premiere**
- 2006 Manufacture of second generation 3-phase Modular UPS range 10-200kW in one rack  
**World Premiere**



Products Overview

Low end power protection



PrimewavePlus 5-8kVA  
Single phase (in/output 1/1-, 3/1)

Mid range power protection



PowerValue™ 7.5-40kVA  
Single phase in/output (1/1) –7.5-12kVA  
Three phase in, single phase output (3/1) – 7.5-20kVA  
Three phase in/output (3/3) –7.5-40kVA

High end power protection



Conceptpower Midi and Maxi 40-300kVA  
Three phase in/output (3/3)

PrimewavePlus

Single phase power protection solution in the range of 5-8kVA

PrimewavePlus Technology

Is not just an Uninterruptible Power Supply that achieves its basic function to provide highest power protection reliability for mission-critical applications in the event of power supply disturbances and outages. It was specifically designed to meet the rapidly changing requirements of the IT, telecom and industrial applications. Innovative high-frequency double-conversion Primewave-Plus technology means high power availability and dramatic reduction of transportation, start-up, operating and life-cycle cost - a saving which is passed on to the end user.

Why is PrimewavePlus outstanding?

- Small and light design 8kVA (w/o battery) = 37kg;
- Unique input stage design yielding PF=0,98 and THDi <10% for all single phase input models;
- User friendly LCD-Display for monitoring and control;
- 92% double-conversion efficiency and 99% in energy-efficient ecomode;
- Battery friendly ripple-free battery charger prevents shortening of battery life;
- High power supply availability through RCC (Redundant Critical Circuits);
- Comprehensive monitoring and shutdown software with hardware and software SNMP solutions.



Technical specifications:

PrimewavePlus 11 and 31

General Data				
<b>Output Rated Power</b>	kVA	5	6	8
Topology		On-Line, Double Conversion		
Output Power Factor		0.7		
Input Data				
Input Voltage single-phase		220V, 230V, 240V		
Input Voltage three-phase		3x380/220V+N, 3x400/230V+N, 3x415/240V+N		
Input Voltage Tolerance		3x400V/230V (-25% +10%)		
Input Frequency		45 - 65 Hz		
Input Power Factor		0.98 (for 1phase input models), 0.95 (for 3phase input models)		
THD of Input Current		< 10% (for 1phase input models), < 25% (for 3phase input models)		
Output Data				
Output Voltage single-phase		220V, 230V, 240V		
Output Frequency		50 / 60 Hz		
Output Voltage Tolerance				
static		+/- < 2%		
at load step (0-100-0)		+/- < 5%		
distorsion with non-linear load		+/- < 3%		
Monitoring and Control Data				
Crest Factor		3:1		
Overload Capacity		110% 10 min., 125% 30 sec.		
Communication Ports		RS 232 and volt-free contacts		
Standards		EN 60950, EN 62040, EN 50091		
Efficiency AC-AC		92% (on-line) and 99% (off-line)		
Audible Noise		48 dBA (on-line)		
Mechanical Data				
Dimensions (WxHxD)	mm	200x690x690		
Weight (UPS with standard batteries)	kg	77	87	92

Specifications are subject to change without notice.

**PowerValue 7.5-40kVA**

The Beauty of Power Protection Simplicity

Medium-sized power protection range with outstanding price / performance capability

PowerValue™ represents an accurately balanced combination of unmatched reliability, excellent electrical performance, exceptionally compact size and outstanding cost-efficiency housed in an attractive enclosure.

PowerValue™ is a third-generation transformer-less double-conversion (VFI) power protection technology designed to protect a wide area of critical applications including server rooms, networks, telecommunication systems, industrial processes and medical equipment.

Outstanding power and back-up time density

PowerValue™ addresses mid-sized server rooms, networks, telecommunication systems, industrial processes and medical equipment where higher cost parallelable or scalable power protection solutions are not required. Furthermore, as PowerValue™ provides increased protection security and efficiency it can be used instead of multiple separate, smaller units spread throughout a facility.

The uniqueness of the PowerValue™ design lies in its technical simplicity which is based on Newave's transformerless, double-conversion (VFI=Voltage Frequency Independent) technology with unmatched reliability.

PowerValue™ is available in a variety of models and input/output configurations:

- PowerValue™ (1 phase input and 1 phase output), 7.5, 10 and 12kVA
- PowerValue™ (3 phase input and 1 phase output), 7.5, 10, 15 and 20kVA
- PowerValue™ (3 phase input and 3 phase output), 7.5, 10, 15, 20, 30 and 40kVA

**Features and benefits:**

Provides more power protection value at a more affordable price

PowerValue™ has been designed to provide an optimised price/performance ratio. A number of exceptional features have been carefully selected and built into the PowerValue™ without a substantial increase of material contents in order to optimize both performance and cost benefits. The high power protection value of this new generation of medium-sized UPS's raises PowerValue™ to the best-value-in-the-category UPS.

**Continuous Uptime:**

Highest reliability is provided through mature, on-line double conversion, transformer-less technology. Built-in reliability with redundant power supply, reduced cable harness, improved cooling of critical components.

**Space Saving:**

Smallest foot-print and weight:  
 15kVA (3/3) = 0.26 m2, weight w/o batteries = 75kg  
 40kVA (3/3) = 0.37 m2, weight w/o batteries = 154kg

**Cost Saving:**

Outstanding power and back-up-time density:  
 • Cabinet A (WXHXD): 340x820x800mm: 15kVA(3/3) with batt. 10 min.  
 • Cabinet B (WXHXD): 450x1250x860mm: 40kVA(3/3) with batt. 10 min.  
 • Cabinet C (WXHXD): 550x1650x890mm: 40kVA(3/3) with batt. 20 min.  
 Additional battery cabinets will rarely be necessary.

**High Power Availability:**

Wide input voltage window (up to -40% for loads less than 60%)

and input frequency window (35-70Hz) allows high power availability even in environments where input power supply is unstable and sub-standard. Battery usage is minimised.

**Low Cost of Ownership:**

Thanks to Energy Saving Inverter Switching (ESIS) high double conversion efficiencies (up to 95%) are achieved.

Input features:

- PowerValue™ 11: PF=0.98 and THDI =7-9%
- PowerValue™ 31: PF=0.98 and THDI =7-9%\*
- PowerValue™ 33: PF=0.98 and THDI =7-9%\*

(\* Optional (standard PF=0.95 THDI <25%)

**Low Audible Noise:**

Variable load-dependent DC-fan-speed reduces the audible noise, so that the UPS can be operated in office environments.

**Integration in Networks:**

PowerValue™ has advanced monitoring and communication capabilities to keep you in constant command of your critical power protection system.

**Protects Your Environment:**

PowerValue™ protects not only critical applications but also our environment. It is a true environmentally friendly UPS with limited hardware components (saving natural resources).



Cabinet A:  
Up to 15kVA with 10min

Cabinet B:  
Up to 40kVA with 10min

Cabinet C:  
Up to 40kVA with 20min



## Interfaces:

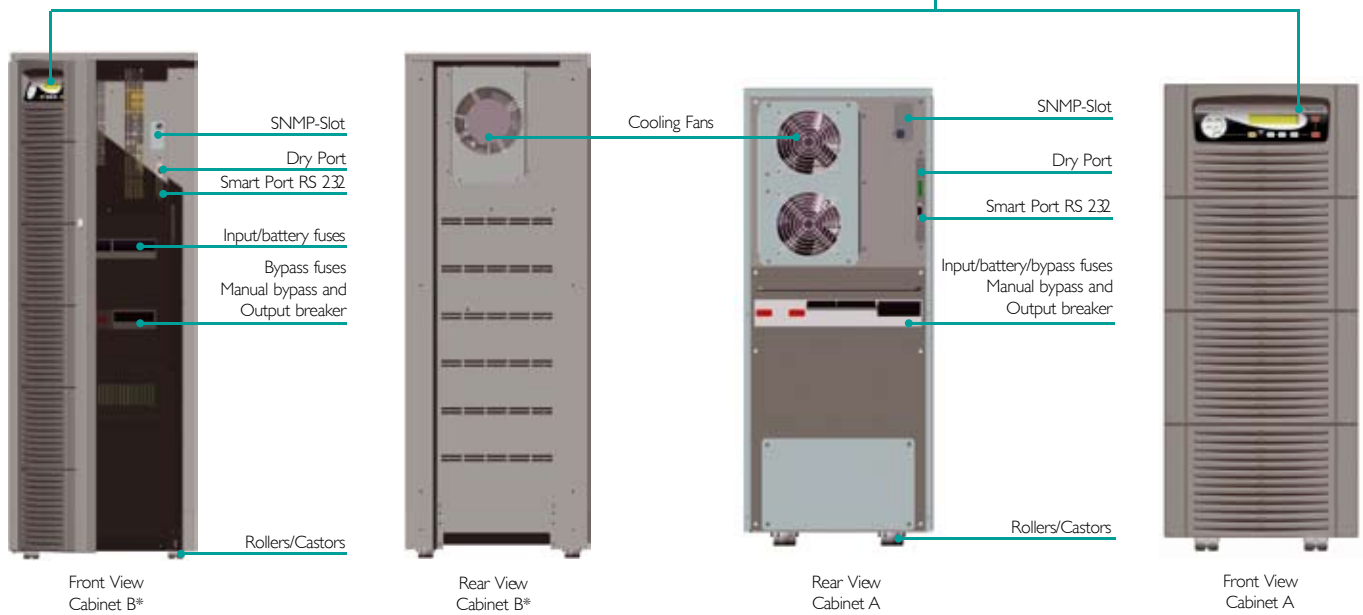
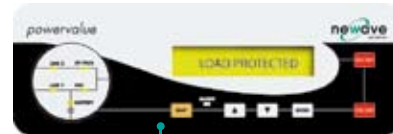
User friendly, easy to install and easy to commission

PowerValue™ is a user-friendly UPS which is easy to install and commission. In the following pictures the various interfaces of the UPS are illustrated:

## Interfaces for cabinet A, B and C

User friendly Control Panel is composed of:

- A: mimic Diagram
- B: LCD-Display
- C: keyboard



\* The position of the interfaces on the larger cabinet C are equivalent to cabinet B

## Battery flexibility:

outstanding compact size with capability of supplying longer back-up times without the need of extra battery cabinets

PowerValue™ is provided in three cabinet sizes in order to allow longer battery back-up times and therefore avoid the use of additional battery cabinets. All PowerValue™ are equipped with a 6Amp ripple-free battery charger that protects batteries and delays their aging process. Optional temperature-dependent charging function is provided, as well as a optional battery charger to reduce the recharge times.

The advanced Battery Monitoring and Management algorithm monitors the battery continuously and in the unlikely event of a battery fault an early warning will be triggered.

## Battery configurations:

Cabinet type*	Maximum Battery Configuration	Maximum Back-up (min.) with 100% load			UPS Rating (kVA)	
<b>A</b>	50x 9Ah	26 (PF=0.8)		30 (PF=0.7)	7.5	
		18 (PF=0.8)		23 (PF=0.7)	10	
		14 (PF=0.8)		18 (PF=0.7)	12	
		11 (PF=0.8)		13 (PF=0.7)	15	
<b>B</b>	3 x 48 x 9Ah	90 (PF=0.8)		103 (PF=0.7)	7.5	
		66 (PF=0.8)		78 (PF=0.7)	10	
		52 (PF=0.8)		62 (PF=0.7)	12	
		45 (PF=0.8)		46 (PF=0.7)	15	
		33 (PF=0.8)		38 (PF=0.7)	20	
			17 (PF=0.8)			30
			12 (PF=0.8)			40
<b>C</b>	2 x 40 x 28Ah		130 (PF=0.8)		10	
			82 (PF=0.8)		15	
			60 (PF=0.8)		20	
			35 (PF=0.8)		30	
			22 (PF=0.8)		40	

\* Cabinet (WxHxD): A 340 x 820 x 800mm / B 450 x 1250 x 860mm / C 550 x 1650 x 890mm

**Technical specifications:**
**PowerValue™ 11 and 31**
**General Data**

Model		1-phase in/output (11)			3-phase input / 1-phase output (31)			
<b>Output Rated Power</b>	<b>kVA</b>	7.5	10	12	7.5	10	15	20
Output Power Factor		0.7						
Topology		On-Line, Double Conversion (VFI)						
Construction		Stand-alone						
Static and Maintenance Bypass		standard						
Cable entry		Cabinet A from rear			Cabinet B and C from front			
Efficiency (Double Conversion)		Up to 95%						
Audible Noise With 100%/50% Load	dBA	50 / 48		50 / 48	50 / 48	53 / 49	53 / 49	
Standards		EN 60950, EN 62040, EN 50091						

**Input Data**

Input Voltage		1x220/230/240+N,	3x380/220V+N, 3x400/230V+N, 3x415/240V+N					
Input Voltage Tolerance (Ref. to 3x400/230V)		For loads <100% (-23%, +15%), <80% (-30%, +15%), <60% (-40%, +15%)						
Input Frequency		35 – 70Hz						
Input Power Factor ( electrically regulated)		0.98			0.95 standard (0.98 optional)			
Input Current Form		THDI = 7-9%			THDI <25% standard (THDI = 7-9% optional)			
Inrush Current		Soft start						
Input Cabling		Hardwired						

**Output Data**

Output Voltage		1x220/230/240+N						
Output Voltage Tolerance		+/- 1% (linear load), +/- 3 (non-linear load)						
Output Voltage Tolerance (Load Jumps 0-100% and 100-0%)		+/- 4%						
Output Frequency		50 or 60Hz						
Output Frequency Tolerance		+/- 0.1 (free-running), +/- 4 (with mains, adjustable)						
Crest Factor		3 : 1						
Overload		150% for 1min., 125% for 10min.						

**Monitoring and Control Data**

Power Management Display (PMD)		With LCD, Mimic Diagram, Control						
Communication port (Smart Port)		Serial RS 232						
Communication port (Dry Port)		Volt-free relays						
SNMP		Yes						
Shutdown and Monitoring Software		Yes (Wavemon)						

**Mechanical Data**

Size PowerValue Cabinet A (WxHxD)	mm	340 x 820 x 800 (for 7.5 - 15kVA)						
Weight PowerValue Cabinet A w/out batteries	kg	75 (for 7.5 - 15kVA)						
Size PowerValue Cabinet B (WxHxD)	mm	450 x 1250 x 860 (for 7.5 - 20kVA)						
Weight PowerValue Cabinet B w/out batteries	kg	154 (for 7.5 - 20kVA)						
Size PowerValue Cabinet C (WxHxD)	mm	550 x 1650 x 890 (for 7.5 - 20kVA)						
Weight PowerValue Cabinet C w/out batteries	kg	204 (for 7.5 - 20kVA)						





Technical specifications:

PowerValue™ 33

**General Data**

<b>Output Rated Power</b>	kVA	7.5	10	15	20	30	40
Output Power Factor		0.8					
Topology		On-Line, Double Conversion (VFI)					
Construction		Stand-alone					
Static and Maintenance Bypass		standard					
Cable entry		Cabinet A from rear Cabinet B and C from front					
Efficiency (Double Conversion)		Up to 95%					
Audible Noise With 100%/50% Load	dBa	50 / 48	50 / 48	53 / 49	53 / 49	59 / 51	63 / 53
Standards		EN 60950, EN 62040, EN 50091					

**Input Data**

Input Voltage		3x380/220V+N, 3x400V/230V+N, 3x415/240V+N					
Input Voltage Tolerance (Ref. to 3x400/230V)		For loads <100% (-23%, +15%), <80% (-30%, +15%), <60% (-40%, +15%)					
Input Frequency		35 – 70Hz					
Input Power Factor ( electrically regulated)		0.95 standard (0.98 optional)					
Input Current Form		THDI <25% standard (THDI = 7-9% optional)					
Inrush Current		Soft start					
Input Cabling		Hardwired					

**Output Data**

Output Voltage		3x380/220V+N, 3x400V/230V+N, 3x415/240V+N					
Output Voltage Tolerance		+/- 1% (linear load), +/- 3 (non-linear load)					
Output Voltage Tolerance (Load Jumps 0-100% and 100-0%)		+/- 4%					
Output Frequency		50 or 60Hz					
Output Frequency Tolerance		+/- 0.1 (free-running), +/- 4 (with mains, adjustable)					
Crest Factor		3 : 1					
Overload		150% for 1min., 125% for 10min.					
Permissible Unbalanced Load		100% (all 3 phases regulated independently)					

**Monitoring and Control Data**

Power Management Display (PMD)		With LCD, Mimic Diagram, Control					
Communication port (Smart Port)		Serial RS 232					
Communication port (Dry Port)		Volt-free relays					
SNMP		Yes					
Shutdown and Monitoring Software		Yes (Wavemon)					

**Mechanical Data**

Size PowerValue Cabinet A (WxHxD)	mm	340 x 820 x 800 (for 7.5 - 15kVA)				
Weight PowerValue Cabinet A w/out batteries	kg	75 (for 7.5 - 15kVA)				
Size PowerValue Cabinet B (WxHxD)	mm	450 x 1250 x 860 (for 7.5 - 40kVA)				
Weight PowerValue Cabinet B w/out batteries	kg	154 (for 7.5 - 40kVA)				
Size PowerValue Cabinet C (WxHxD)	mm	550 x 1650 x 890 (for 7.5 - 40kVA)				
Weight PowerValue Cabinet C w/out batteries	kg	204 (for 7.5 - 40kVA)				

Specifications are subject to change without notice.

**Conceptpower™ 60-300kVA**

Second generation transformerless three phase UPS in the range 60-300kVA protects your mission critical load and your environment

Large and heavy traditional UPS systems have been in the market for a long time. Big and bulky accessories like 12pulse rectifiers and input harmonic filters are used to improve the input power factor and the input current THD in order not to pollute the mains. The consequences are increased expensive floor-space, increased power losses throughout the lifecycle of the UPS and increased audible noise. In the past decade we have experienced very modest qualitative technological improvements with clear end-user benefits in the area of high power UPS's. Environmentally conscious customers today are not only demanding highest power protection availability but also systems that are environmentally friendly and ensure low cost of ownership.

Protects not only your critical load but also your environment during the entire UPS lifecycle.


Conceptpower™ is an advanced double conversion, VFI (Voltage and Frequency Independent) technology that responds fully to both highest availability and environmentally friendly requirements. In other words the Conceptpower™ simultaneously protects your critical load and your environment. Furthermore your cost of ownership will be low during the entire lifecycle of the UPS system. Thanks to the unique and highest three-phase double conversion efficiency, low mains harmonic pollution, low audible noise and optimized material contents Conceptpower™ is a true green UPS. The proven Newave double conversion technology guarantees highest reliability and unmatched electrical performance. If we add to the above features the unique Distributed Parallel Architecture (DPA) for redundancy and for extension of power capacity it will complete the picture of this exciting power protection system.

Infinitely expandable





**Features and benefits:**  
Choice of the best Power Protection Solution

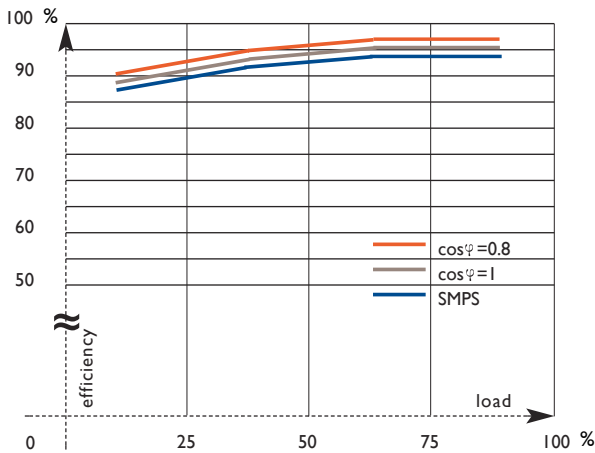
	 <b>Transformer-less Conceptpower™</b>	<b>Conventional technology</b>
Down-time Cost Saving	Advanced Double Conversion technology with Unique Distributed Parallel Architecture (DPA) without single points of failure and infinitely expandable capability guarantees highest availability.	<b>Transformer-based Traditional UPS</b>  Conventional Double Conversion technology with output transformer. Limited number of parallelable UPS-units (up to 4-9).
Transportation Cost Saving	Compact and light UPS (250kVA=660kg). Reduced freight, bringing-in and manoeuvring cost.	Typical weight of UPS 250kVA: - 1200 kg for 6 pulse models - 1800 kg for 12 pulse models
Energy Cost Saving	High Double Conversion Efficiency (up to 96%) thanks to advanced transformerless technology with ESIS (Energy Saving Inverter Switching).	Low Double Conversion Efficiency (up to 93%) resulting in higher running cost.
Floor-Space Cost Saving	Very reduced foot-print. 40kVA = 0.42 m <sup>2</sup> 80kVA = 0.435 m <sup>2</sup> 120kVA= 0.52 m <sup>2</sup> 300kVA= 0.9 m <sup>2</sup>	Typical foot-print: 40kVA = 0.64 m <sup>2</sup> 80kVA = 0.8 m <sup>2</sup> 120kVA = 0.88 m <sup>2</sup> 300kVA = 1.8 m <sup>2</sup>
Installation Cost Saving	Sinewave Input Current (THD<7%) and PF=0.98 means smaller installation cost due to reduced cable/fuse ratings.	Typical THD>30% and PF=0.8 means it is necessary to add expensive 12pulse rectifiers with bulky transformers and/or input harmonic filters.
Battery Cost Saving	Flexible Battery Management (FBM) with variable DC-voltage enabling the use of variable number of battery blocks to exactly match the requested battery autonomy. Further more the Ripple-free battery charger protects your battery from excessive temperatures.	Lack of flexibility due to a fixed number of battery blocks (typically 32 battery blocks of 12V).
Power Extension Cost Saving	Every standard unit is provided with the parallel hardware and no on-site time consuming upgrade is necessary.	Typically the standard units are not provided with the parallel hardware and therefore expensive on-site time consuming upgrade is necessary.

**Environmental concept:**

Keep a constant eye on your environment and your cost of ownership

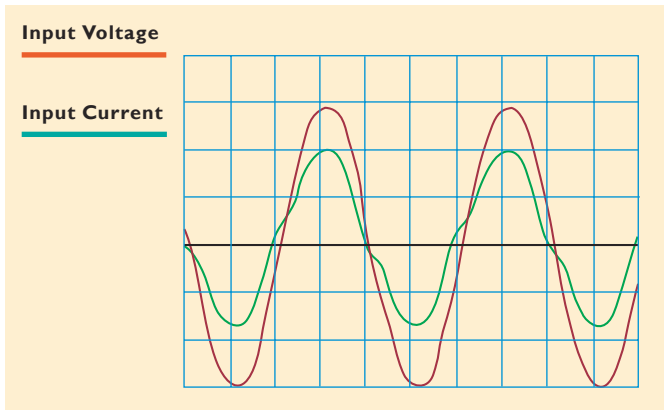
Conceptpower™ was designed to meet also important environmental demands and to focus on the cost of ownership of a power protection infrastructure. Features like low heat emission, low level of harmonic pollution or low level audible pollution are part of the Power Protection Concept (PPC) and have been built into the Conceptpower™ design.

**High Efficiency**



High Conceptpower™ efficiency means low heat emission and therefore no unnecessary overheating of our environment. In addition to that, low losses means less energy consumption, which can differ substantially from one product technology to another. Furthermore the heat must always be evacuated by cooling systems, which must be sized to the amount of losses emitted by the UPS's. That is also a cost that must be considered during the entire lifecycle of the UPS. Thanks to the transformerless technology and the unique ESIS (Energy Saving Inverter Switching) Technology the Conceptpower™ reaches double conversion efficiencies of up to 96%. This advanced high efficiency design has in average at least 5% higher efficiency than equivalent traditional double-conversion designs and has similar efficiency compared to single conversion technologies.

**High Input Power Factor/Sinewave Input Current**



The near to one input power factor of Conceptpower™ reduces the input installation cost by using smaller cable sections and smaller fuse sizes. Thanks to the low input current THDI = 7-9% (sinewave input current) the level of harmonic pollution of the Conceptpower™ is very low. The low harmonic emission into the mains saves unnecessary oversizing of the gen-sets. The near to one input power factor and the low input current THDI = 7-9% of Conceptpower™ are electronically regulated and there is therefore no need for expensive filtering or 12pulse rectification like in traditional double conversion topologies.

**Low Audible Noise**

With its low audible noise Conceptpower™ is a very comforting UPS that does not disturb the working environment. Thanks to the load dependent noise level regulation the noise level is even more reduced when the load is < 70% of the UPS's rated power.

**Battery Protection and Battery Management**

Conceptpower™ is provided with a unique ripple-free battery charger that protects the battery from overheating and consequently increases the battery lifecycle. A further battery protection feature is the temperature regulated battery charge voltage. The battery charger automatically regulates the battery charge voltage as the ambient temperature changes. The built-in Flexible Battery Management (FBM) periodically and automatically checks the fitness of the battery and alerts immediately if any anomaly appears. The FBM allows the use of various numbers (40-50) of battery blocks to provide the exact battery runtime and thus optimize battery cost.

## Technical specifications:

## Conceptpower 60-300 kVA

General Data		Midi			Maxi				
Output Rated Power	kVA	60	80	100	120	160	200	250	300
Output Power Factor		0.8							
Topology		On-Line, Double Conversion, VFI							
Parallel Technology		Distributed Parallel Architecture							
Redundancy n+1		High reliability, no limitation of paralleling							
Capacity Upgrade		Add your power as you grow (no limitation)							
Static and Maintenance Bypass		standard							
Accessibility		Front and rear accessible for service and maintenance (no need for side or top access)							
Efficiency (Double Conversion)		Up to 96%							
Audible Noise With 100%/75% Load	dB(A)	59 / 54	69 / 63	69 / 63	69 / 63	73 / 70	73 / 70	73 / 70	75 / 72
Standards		EN 60950, EN 62040, EN 50091							

Input Data	
Input Voltage	3x380/220V+N, 3x400/230V+N, 3x415/240V+N
Input Voltage Tolerance (Ref. to 3x400/230V)	For loads <100% (-23%, +15%), <80% (-30%, +15%), <60% (-40%, +15%)
Input Frequency	35 – 70Hz
Input Power Factor	0.98 (electrically regulated)
Input Current Form (Sinewave)	Sinewave THDI = 7-9% at 100% load
Inrush Current	Soft start
Input Cabling	Hardwired

Output Data	
Output Voltage	3x380/220V+N, 3x400/230V+N, 3x415/240V+N
Output Voltage Tolerance	+/- 1% (linear load), +/- 3% (non-linear load)
Output Voltage Tolerance (Load Jumps 0-100-0%)	+/- 4%
Output Frequency	50 or 60Hz
Output Frequency Tolerance	+/- 0.1% (free-running), +/- 4% (with mains, adjustable)
Crest Factor	3 : 1
Overload	150% for 1min., 125% for 10min.
Permissible Unbalanced Load	100% (all 3 phases regulated independently)

Monitoring and Control Data	
Power Management Display (PMD)	With LCD, Mimic Diagram, Control
Communication port (Smart Port)	Serial RS 232
Communication port (Dry Port)	Volt-free relays
SNMP	Yes
Shutdown and Monitoring Software	Yes (Wavemon)
Emergency Power Off (EPO)	Yes

Mechanical Data									
Size Conceptpower Frame (WxHxD)	mm	580 x	580 x	700 x 1800 x 750	1200 x 1900 x 750				
Size Additional Battery Frame (WxHxD)	mm	1400 x 750	1800 x 750	580 x 1800 x 750	(on request)				
Weight Conceptpower (Without batteries)	kg	190	240	330	350	620	640	660	735

Specifications are subject to change without notice.

Connectivity concept:

Power Management Solutions:

- Environmental Monitoring
- Integration in Network Management System
- Integration in building Management System
- ModBus interface
- Remote Monitoring System through web
- Remote Monitoring System with SNMP
- Redundant UPS Monitoring
- Integration in Multivendor/Multiplatform environments
- Extensive alarm handling/Dispatching

Integrated Power Management Solutions

Parallel Handling:

When a customer buys a UPS he buys security for a critical mission. When a customer buys a parallel redundant system, he buys even more security. Consequently a parallel system is now considered and handled as "a whole". Critical measurement values, for instance "battery autonomy", are calculated and expressed for the global system. A shutdown is not introduced as long as the parallel system is able to sustain the current load demand. Alarms are not dispatched unless the system really reaches a critical situation. This functionality is based on our multidrop solution.

Products Portfolio:

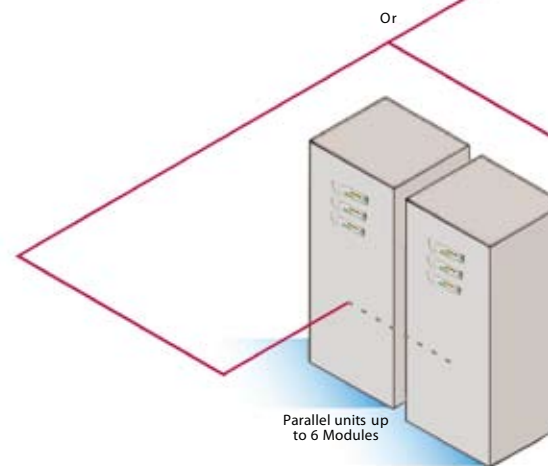
- Wavemon (UpsMan, UpsMon, RCCMD), Management and shutdown solution for Multiplatforms and heterogeneous networks, including parallel handling capability;
- UNMS (UPS Network Management System), custom solution for integrated management;
- SNMP Interfaces, available as slot Card or external Box, includes parallel handling capability;
- Modbus solution: standard via TCP/IP; as option via RS485;
- Modem interface;
- TempMan, temperature interface (AUX device);
- RSP Remote Signalling Panel, working on dry contacts;
- Switch Box, to duplicate the potential free contacts of the UPS;
- Site switch, management of 4 independent power outlets (SS4 AUX).

Events, alarms, messages dispatching:

Event Configuration									
Actions: 1 line for each event									
Log	E-Mail	RCCMD Shutdown	RCCMD Message	RCCMD Execute	RCCMD Shutdown	AUX	Dialer	RCCMD Trap	
1	0	0	0	0	0	0	0	0	1
1	0	0	0	0	0	0	0	0	1
1	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	1
1	0	0	0	0	0	0	0	0	1
1	0	0	0	0	0	0	0	0	1
1	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	1
1	0	0	0	0	0	0	0	0	0

Event Overview - Event list									
1	Powerful	16	UPS off	31	Charger on				
2	Power restored	17	UPS on	32	System Shutdown				
3	System shutdown	18	New alarm	33	System Shutdown canceled				
4	UPSMan started	19	General alarm	34	Backup on				
5	UPS connection lost	20	Overtemperature	35	Backup off				
6	UPS connection restored	21	Temperature ok	36	Battery depleted				
7	Battery low	22	Output load	37	Input fault				
8	Output Breaker warn	23	Output on	38	Fan failure				
9	Output Breaker closed	24	Overload	39	Awakening pending				
10	Maintenance Breaker closed	25	No more overload	40	Shutdown pending				
11	Maintenance Breaker warn	26	Signal lost	41	Shutdown imminent				
12	Inverter overload open	27	Signal ok	42	Und Powerfull				
13	Inverter Breaker closed	28	UPS Shutdown	43	Und Power restored				
14	Battery Breaker open	29	UPS Shutdown canceled	44	Resonance test				
15	Battery Breaker closed	30	Charger fault						



Wavemon CD:

A comprehensive set of applications. Management and Shutdown Solutions for heterogeneous networks.

**Wavemon** Communication interface (UpsMan) and graphical user interface (UpsMon) for the management of one UPS system. UpsMan has similar functionality like the SNMP interface. Includes parallel handling capability.

**UNMS** (UPS Network Management System), for Windows. Customizable solution for the management of SNMP interfaced UPS's.

**RCCMD** shutdown client, controlled by UpsMan or SNMP-interface. Available for a diversity of operating systems allowing a shutdown solution on heterogeneous networks.

**SNAP IN** for HP Openview.



Wavemon Display:



SNMP Box & Card:

Very exclusive functionality available on our SNMP-Interfaces (Card or Box) - Modbus, Environment Interface, Modem support - the new SNMP Solutions integrates the parallel handling capability.



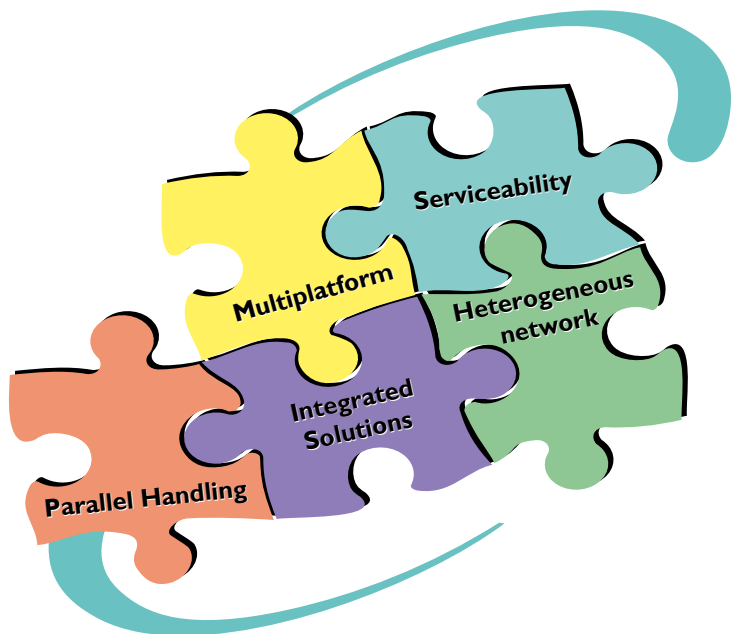
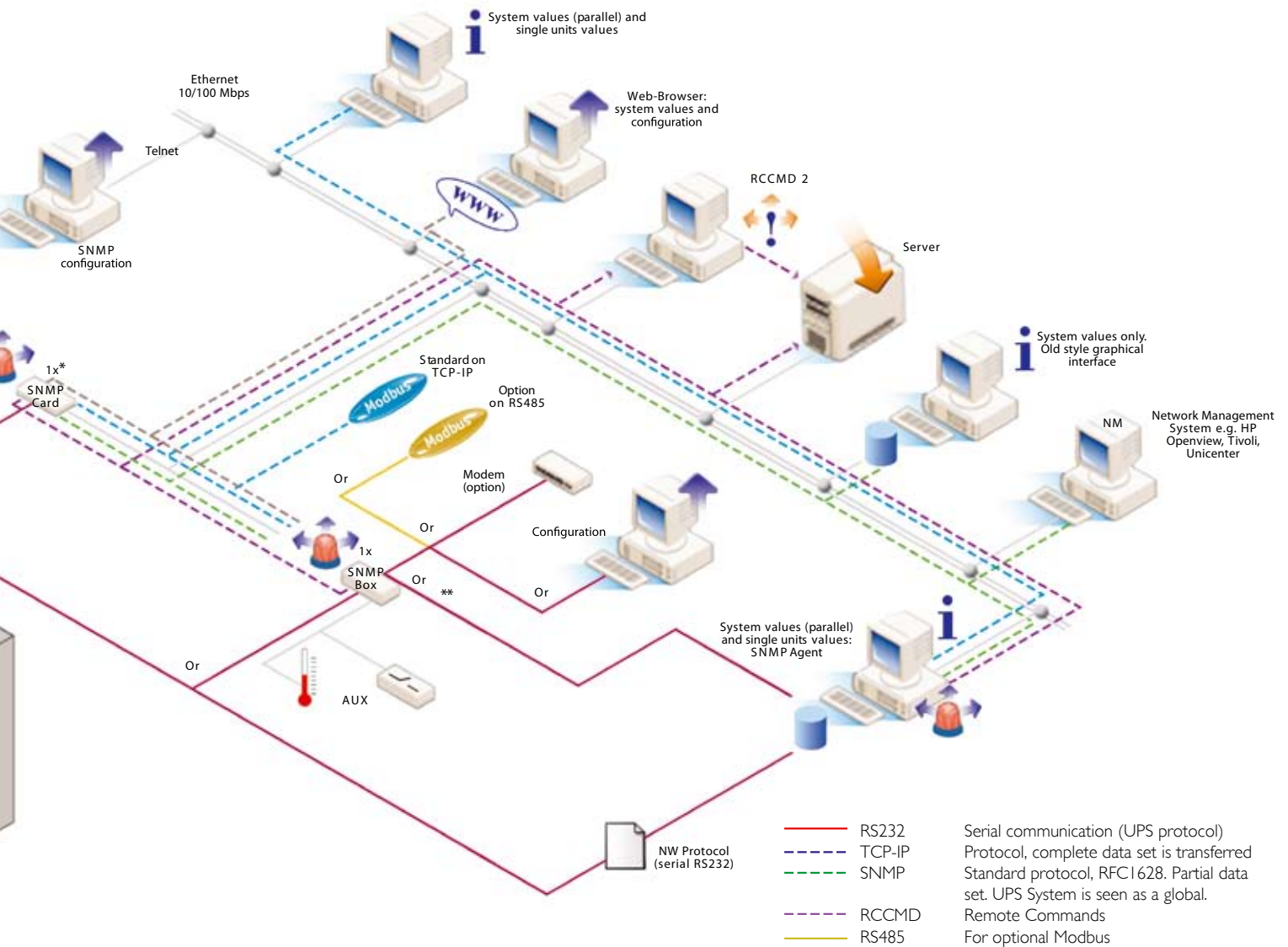
SNMP Card



SNMP Box

# SHUTDOWN AND MONITORING SOLUTIONS

## Select your connectivity solution:



- \*** It is possible to use NxSNMP Cards for redundancy, renouncing on parallel handling capability
- \*\*** Serial "duplicator" (pipe-through), with limited capabilities (only basic values are available)
- i** **UPSMon** User Interface: Graphical user interface for all Windows Oss
- U** **UPSMan** Interface Module: Data collection, event log and alarm dispatching for all common Oss
- RCCMD** Remote Console Commands: Remote execution of management commands (Cross platform). Shutdown and more
- ↑** Configuration facility for the SNMP Interface
- 🔔** Dispatching of events, alarms, messages. Based on scripts. Functionality available on the SNMP Interface and UPSMan. Based on Network services (mail server, etc.). Greatly configurable (☺)

For additional information see [www.newave.ch](http://www.newave.ch)



The following are just some of the companies using the products and services of Newave SA:

Acer	Henkel	Russian Railways
AEG SVS	Hewlett Packard	SBB Zürich
American British Racing	Hilti	Scottish Power
American Express	Hilton	Sheraton
Ansar Almojahedin	Honeywell	Siemens Schweiz AG
Asea Brown Boveri	Hyatt	Swiss Reinsurance
AXA Insurance	IBERIA	TCI (Telecommunication of IRAN)
Bank Vontobel AG	IBM	Technion
Barclays Bank	Intel	Tedjarat Bank
Basijian Institute	Iran Insurance	United Bank of Switzerland(UBS)
Basler Versicherung	Karafarin Bank	Vneshtorgbank
BBC (British Broadcasting Corp.)	Lekkerland	Vodafone
Belgorodenergo	Lloyds TSB	Williams
Benning	LuK	Winterthur-Assurance
Betty Barclay	LUKOIL	p.a. wincasa
Biz Basel	Meridien	Zürcher Kantonalbank
BNFL (British Nuclear Fuels Ltd.)	Meteorological Office	
British Airport Authority (BAA)	Metropolitana Lisboa	
British Council	Mobile TeleSystems (MTS)	
British Telecom	Mobistar	
Cable and Wireless	Motorola	
Cambridge University	NATs (National Air Traffic control)	
Caterpillar	Nestlé	
Central Bank of Russian Federation	Novartis	
Cepsa	Nuffield Hospitals	
Coca Cola	Oracle Corporation	
Core Telecom	OSCE Kosova	
Correos de España	Oxford University	
Credit Suisse	Paulaner	
Dachser	Procter & Gamble	
Danfoss	Rabo Bank	
Deutsche Bank	Radio Televisión Española	
Deutsche Post	REPSOL-YPF	
Fujitsu	Ritz	
Gestamp Corporation	Rohde & Schwarz	
Glaxo Smith Kline	ROS Telecom	
	Royal Bank of Scotland	
	Royal Scandinavia	

QUALITY SYSTEMS  

 ISO 9001 CE  
 REGISTRATION NO. 14879

**Newave SA**  
 Via Luserte Sud 9  
 6572 Quartino  
 Switzerland

Tel. +41 (91) 850 29 29 - Fax +41 (91) 840 12 54  
 info@newave.ch  
 www.newave.ch - www.newaveups.com