



newave



ABB

POWERSAVE™

Compact protection for power supply
For Continuous Power Protection Availability



Technical specifications PowerValue™ 11 and 31

GENERAL DATA		1-phase in/output (11)			3-phase input/1-phase output (31)			
Output Rated Power	kVA	7.5	10	12	7.5	10	15	20
Output Power Factor		0.7						
Topology		Double conversion (on-line)						
Construction		Standalone						
Static and Maintenance Bypass		Standard						
Cable entry		Cabinet A from rear, cabinet B and C from front						
Audible Noise With 100%/50% load	dBA	50/48	50/48	50/48	50/48	50/48	53/49	53/49
Inbuilt Batteries		Yes						
INPUT								
Voltage	V	1 x 220/230/240+N			3 x 380/220+N, 3 x 400/230+N, 3 x 415/240+N			
Voltage Tolerance (Ref. to 3x400/230 V)		For loads <100% (-23%, +15%), <80% (-30%, +15%), <60% (-40%, +15%)						
Current Form THDi	%	THDi=7-9%			THDi <25% standard (THDi=12-14% optional)			
Frequency	Hz	35-70						
Power Factor (electrically regulated)		0.98			0.95 standard (0.98 optional)			
Current Distortion	%	sinewave						
Inrush Current		Soft start						
Cabling		Hardwired						
OUTPUT								
Voltage	V	1 x 220/230/240+N						
Voltage Tolerance (Ref. to 3x400/230V)		1% (linear load), 4% (non-linear load)						
Voltage Distortion	%	<2% linear load, <4% non-linear load (IEC/EN62040-3)						
Frequency	Hz	50 or 60						
Frequency Tolerance	Hz	±0.1 (free-running), ±2 or ±4 (with mains, adjustable)						
Overloading capability	%	125% / 10 min., 150% / 60 s						
Crest Factor		3 : 1						
EFFICIENCY								
Load 100/75/50/25%	%	Up to 94.5/94.5/93/91, AC-AC on-line mode						
Eco-Mode at 100% Load	%	98						
ENVIRONMENT								
Storage Temperature	°C	-25...+70						
Operating Temperature	°C	0...+40						
Maximum Altitude	m	Up to 1000m without derating, max. 3000m						
COMMUNICATIONS								
Interfaces		LC-Display (PDM), 1x RS232 1 x RS232 (SMART PORTS), customer input interfaces (Remote shutdown, GENSET-ON), customer output interfaces (Dry Ports)						
Options		Additional COM-Cards						
STANDARDS								
Safety		IEC/EN 62040-1-1, IEC/EN 60950-1						
Electromagnetic Comp. (EMC)		IEC/EN 61000-6-4 (product standard IEC/EN 62040-2 limit A (C2 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 TÜV						
Enclosure		IP 20						
Manufacturing		ISO 9001:2000, ISO 14001:2004						
Country of origin		Italy						
WEIGHT, DIMENSIONS								
		Cabinet Type						
		A (7.5–15kVA)		B (7.5–20kVA)		C (7.5–20kVA)		
Weight	kg	75		154		204		
Dimensions (WxHxD)	mm	340x820x800		450x1250x860		550x1650x890		

Technical specifications PowerValue™ 33

GENERAL DATA		3-phase input/3-phase output (33)					
Output Rated Power	kVA	7.5	10	15	20	30	40
Output Power Factor		0.8					
Topology		Double conversion (on-line)					
Construction		Standalone					
Static and Maintenance Bypass		Standard					
Cable entry		Cabinet A from rear, Cabinet B and C from front					
Audible Noise with 100% / 50% load	dBA	50/48	50/48	43/49	53/49	59/51	63/53
Inbuilt Batteries		Yes					
INPUT							
Voltage	V	3 x 380/220+N, 3 x 400/230+N, 3 x 415/240+N					
Voltage Tolerance (Ref. to 3x400/230 V)		For loads <100% (-23%, +15%), <80% (-30%, +15%), <60% (-40%, +15%)					
Current Form THDi	%	THDi < 25% Standard (THDi=12-14% optional)					
Frequency	Hz	35-70					
Power Factor (electrically regulated)		0.95 Standard (0.98 optional)					
Current Distortion	%	sinewave					
Inrush Current		Soft start					
Cabling		Hardwired					
OUTPUT							
Voltage	V	3 x 380/220+N, 3 x 400/230+N, 3 x 415/240+N					
Voltage Tolerance (Ref. to 3x400/230 V)		±1% (linear load), ±3 (non-linear load)					
Voltage Distortion	%	<2% linear load, <4% non-linear load (IEC/EN62040-3)					
Frequency	Hz	50 or 60					
Frequency Tolerance	Hz	±0.1 (free-running), ±2 or ±4 (with mains, adjustable)					
Overloading capability	%	125%/10 min., 150%/60 s					
Permissible Unbalanced Load	%	100% (all 3 phases regulated independently)					
Crest Factor		3 : 1					
EFFICIENCY							
Load 100/75/50/25%	%	Up to 95/95/93.5/92, AC-AC online mode					
Eco-Mode at 100% Load	%	98					
ENVIRONMENT							
Storage Temperature	°C	-25...+70					
Operating Temperature	°C	0...+40					
Maximum Altitude	m	Up to 1000m without derating, max. 3000m					
COMMUNICATIONS							
Interfaces		LC-Display (PDM), 1x RS232 1 x RS232 (SMART PORTS), customer input interfaces (Remote shutdown, GENSET-ON), customer output interfaces (Dry Ports)					
Options		Additional COM-Cards					
STANDARDS							
Safety		IEC/EN 62040-1-1, IEC/EN 60950-1					
Electromagnetic Comp. (EMC)		IEC/EN 61000-6-4 (product standard IEC/EN 62040-2 limit A (C2 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 TÜV					
Enclosure		IP 20					
Manufacturing		ISO 9001:2000, ISO 14001:2004					
Country of origin		Italy					
WEIGHT, DIMENSIONS		Cabinet Type					
		A (7.5–40kVA)	B (7.5–40kVA)			C (7.5–40kVA)	
Weight	kg	75	154			204	
Dimensions (WxHxD)	mm	340x820x800	450x1250x860			550x1650x890	

PowerValue™ – The Beauty of Power Protection Simplicity

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



Cabinet A:
Up to 15kVA with 10 min.



Cabinet B:
Up to 40kVA with 10 min.



Cabinet C:
Up to 40kVA with 20 min.

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

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.

PowerValue™ addresses mid-sized server rooms, networks, telecommunication systems, industrial processes and medical equipment where the higher cost of parallelable or scalable power protection solutions are not justified. 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™ (1phase input and 1phase output), 7.5, 10 and 12 kVA
- PowerValue™ (3phase input and 1phase output), 7.5, 10, 15 and 20 kVA
- PowerValue™ (3phase input and 3phase output), 7.5, 10, 15, 20, 30 and 40 kVA

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.

Benefits	Features
Continuous Uptime	Highest reliability is provided through mature, on-line double conversion, transformerless 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 mm ² , weight w/o batteries = 75kg 40kVA (3/3) = 0.37 mm ² , weight w/o batteries = 204kg
Cost Saving	Outstanding power and back-up-time density.
High Power Availability	Wide input voltage window (up to 40% for loads less than 60%) and input frequency window (35–70 Hz) 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. PowerValue™ 11: PF = 0.98 and THDI = 7–9% PowerValue™ 31: PF = 0.98 and THDI <25% standard (THDI = 12–14% optional) PowerValue™ 33: PF = 0.98 and THDI <25% standard (THDI = 12–14% optional)
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).

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. LC-Display
- c. Keyboard

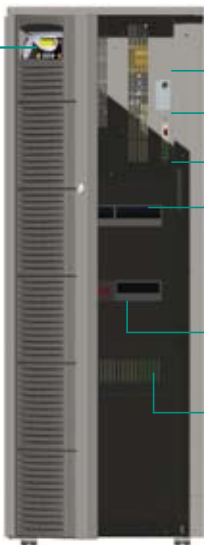


Front View
Cabinet A



Rear View
Cabinet A

- SNMP-Slot
- Dry Port
- Smart Port RS 232
- Cooling Fans
- Input/battery/bypass fuses
Manual bypass and
Output breaker
- Input/Output Terminals
- Rollers/Castors



Front View
Cabinet B*

- SNMP-Slot
- Dry Port
- Smart Port RS 232
- Input/battery fuses
- Bypass fuses
Manual bypass and
Output breaker
- Input/Output Terminals

Rollers/Castors



Rear View
Cabinet B*

Cooling Fans




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

Battery flexibility

Compact size with capability of supplying longer back-up times without extra battery cabinet

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 6 Amp ripple-free battery charger that protects batteries and delays their aging process. Optional temperature-dependent charging function is provided. 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)
	2 x 27 x 9Ah	28 (PF=0.8)	33 (PF=0.7)	7.5
		20 (PF=0.8)	23 (PF=0.7)	10
		14 (PF=0.8)	18 (PF=0.7)	12
		12 (PF=0.8)	14 (PF=0.7)	15
	3 x 48 x 9Ah	96 (PF=0.8)	110 (PF=0.7)	7.5
		66 (PF=0.8)	78 (PF=0.7)	10
		52 (PF=0.8)	62 (PF=0.7)	12
		40 (PF=0.8)	46 (PF=0.7)	15
		26 (PF=0.8)	30 (PF=0.7)	20
		16 (PF=0.8)		30
		11 (PF=0.8)		40
	2 x 40 x 28Ah	130 (PF=0.8)		10
		76 (PF=0.8)		15
		60 (PF=0.8)		20
		35 (PF=0.8)		30
		28 (PF=0.8)		40

* Cabinet (WxHxD): A 335x809x767mm / B 450x1250x830mm / C 550x1600x830mm

Options

Monitoring and control data are shown on an easy-to-understand front panel display featuring pushbutton controls, LCD readout for event logs and diagnostics and a mimic diagram for system status.

Wavemon shutdown and management software is compatible with all common operation systems.

The power protection system can be remotely monitored via RS232, volt-free relays or via SNMP Adapter.

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American Express
Ansar Almojahedin
ARGE NS Lötschberg
AXA Insurance
Bank Renaissance Moscow
Bank Vontobel AG
Barclays Bank
Basijian Institute
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
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EDEKA
EDP (Electricity of Portugal)
Elisa
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Eterra
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Lloyds TSB
Lonza AG
LUKOIL
Manor AG
Mehiläinen
Meridien
Meteorological Office
Metropolitano de Lisboa
Migros Ostschweiz

Mobile TeleSystems (MTS)
Mobistar
Motorola
NATs (National Air Traffic control)
Nestlé
Nokian Renkaat
Novartis Consumer Health Schweiz AG
Nuffield Hospitals
O2
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