Standalone UPS system

PowerValue 11/31 T
10 – 20 kVA
Single-phase UPS for critical applications

An efficient uninterruptible power supply with scalable runtime

For the owners or operators of security systems, electrical installations, building management systems, IT rooms and the like, a reliable supply of electrical power is essential.

ABB's new compact PowerValue 11/31 T UPS slots perfectly into this market segment. It incorporates all the features necessary to deliver reliable power, low running costs, long battery life, easy maintenance and full flexibility for the user.

POWERVALUE 31/11 T

Available in tower format, this UPS features double conversion, voltage and frequency independent (VFI) topology that protects against all supply failures. 10 and 20 kVA versions are available – and up to four units can be configured in parallel to boost power capability or provide redundancy. Three-phase or single-phase inputs can be accommodated and this choice is configurable in the field for maximum flexibility. Further, the PowerValue 11/31 T UPS can handle single or dual inputs – allowing the customer to manage two independent power sources.

Simple to install and with a small footprint, the PowerValue 11/31 T produces stable, regulated, transient-free, pure sine-wave AC power with extremely tight output voltage regulation.

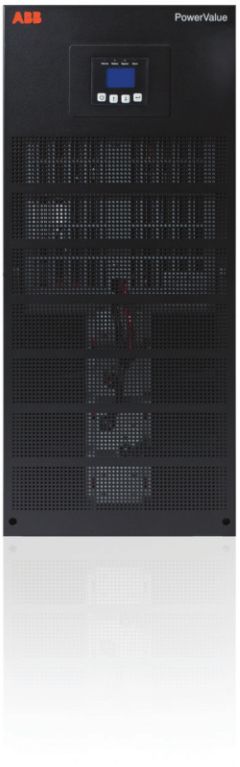
11/31
PowerValue

Highlights:

- Energy savings thanks to efficiencies up to 94% (online).
- 97% efficiency in ECO mode.
- Low harmonic distortions (< 5% THDi) and active power factor correction (0.99 input PF) eliminate interference from other equipment in the network.
- Parallelling up to 4 units allows for increase of capacity and introduction of redundancy to system to enhance availability.
- Integrated manual bypass switch simplifies maintenance and reduces need for external switchgears.
- Can operate as frequency converter (50 Hz to/from 60 Hz).
- Compact solution that can achieve 5-16 min runtime with internal batteries.
- Same model supports different wiring schemes: three-phase and single-phase input as well as single and dual input feed.

Solution flexibility

Up to 4 UPSs in parallel



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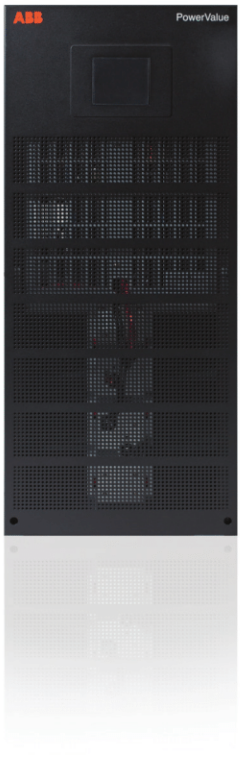


Up to 4 battery cabinets in parallel

Battery runtime

	10 kVA	10 kVA	10 kVA	20 kVA	20 kVA
UPS Internal Batteries	-	16/5	41/16	-	16/5
UPS +1 Battery cabinet	41/16	59/28	92/42	16/5	42/16
UPS +2 Battery cabinets	92/42	118/49	150/60	42/16	60/27
UPS +3 Battery cabinets	150/60	180/80	213/90	60/27	90/42
UPS +4 Battery cabinets	213/90	245/103	246/132	90/42	118/53

in minutes at half/full load

Benefits:

Scalable

- Different autonomy variations with inbuilt batteries or additional battery cabinets.
- Simple power increase (pay-as-you-grow) by paralleling up to 4 units.

Reliable

- Online double conversion topology delivers constant and stable power to the load even in the presence of severe disturbances in the utility.
- Parallelable up to 4 units to provide system redundancy.
- Programmed and automated battery tests ensure an optimized battery management, operation and lifetime.

Flexible

- Single- or three-phase input is field configurable - adaptable to installation requirements.
- Single or dual input power source compatible (field configurable).

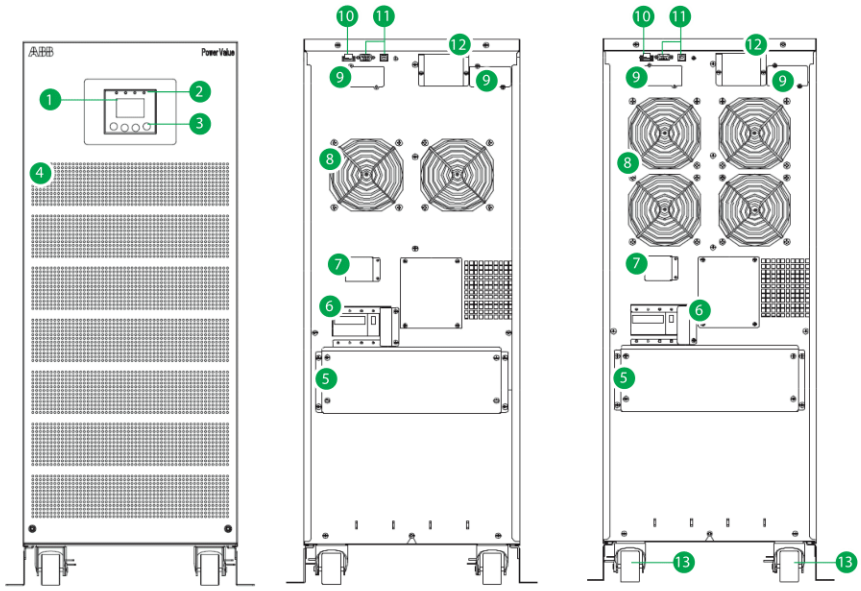
Reduced costs

- High efficiency reduces the quantity of power consumed by your installation.
- Reduced heat losses maintain a lower operating temperature, thus prolonging the lifetime of components and batteries.
- The small footprint saves space and makes installation simpler.

Technical specifications

GENERAL DATA	10 kVA	10 kVA	10 kVA	20 kVA	20 kVA
Part number	4NWP100117R0001	4NWP100117R0002	4NWP100117R0003	4NWP100118R0001	4NWP100118R0002
Output rated power [W]	9 kW			18 kW	
Output power factor	0.9			0.9	
Topology	True online double conversion			True online double conversion	
Parallel configuration	Up to 4 units			Up to 4 units	
Inbuilt batteries	No	Yes	Yes	No	Yes
INPUT					
Nominal input voltage	1ph + N: 220 / 230 / 240 VAC 3ph + N: 380 / 400 / 415 VAC				
Input voltage tolerance	1ph + N: 110 - 276 VAC 3ph + N: 190 - 486 VAC				
Input current THD	< 5% linear load, < 7% non-linear load				
Frequency range	45 - 55 Hz for 50 Hz systems / 55 - 65 Hz for 60 Hz system				
Power factor	≥ 0.99				
OUTPUT					
Rated output voltage	220 / 230 / 240 VAC				
Voltage tolerance	± 2%				
Voltage distortion	≤ 2 % linear load, ≤ 5 % non-linear load				
Overload capability (linear load)	5 min: 105 % ~ 110 %, 1 min: 110% ~ 130 %, 10 s: 130 % ~ 150 %, 100 ms: > 150 %				
Nominal frequency	50 or 60 Hz ± 0.1 Hz				
Crest factor	3:1				
EFFICIENCY					
AC-AC	Up to 93%			Up to 93.9%	
In eco-mode	≥ 97 %				
ENVIRONMENT					
Protection rating	IP 20				
Storage temperature	-15 – +60°C for UPS, 0~35°C for battery				
Operating temperature	0 - 40°C				
Relative humidity	0 - 95 % (Non-condensing)				
Altitude (above sea level)	1000 m without de-rating				
BATTERIES					
Type	VRLA, vented lead-acid				
Inbuilt batteries	-	1 x 24	2 x 24	-	2 x 24
Battery capacity	-	9 Ah	9 Ah	-	9 Ah
Charging current	4 A	4 A	4 A	4 A	4 A
Recharge time	-	3 h to 90 %	8 h to 90 %	-	8 h to 90 %
COMMUNICATIONS					
User interface	LCD display				
Communication cards (option)	Network interface (SNMP card), dry- contact card (AS400)				
STANDARDS					
Safety	IEC / EN 62040-1				
EMC	IEC / EN 62040-2				
Performance	IEC / EN 62040-3				
Manufacturing	ISO 9001:2008, ISO 14001:2004				
WEIGHT, DIMENSIONS					
Weight	56 kg	116 kg	178 kg	67 kg	190 kg
Dimensions W × H × D (mm)	350*890*715	350*890*715	350*890*715	350*890*715	350*890*175

Product features



#	Benefits	Device
1	Quick access to all important information	LCD display
2	Immediate identification of system status	LEDs
3	Simple UPS control and service	Control keys
4	High efficiencies with low losses from heating	Ventilation inlets
5	Excellent input and output performance	Connection terminals
6	Simple maintenance and serviceability	Manual bypass / input breaker
7	High level of protection	Back feed protection terminals
8	High-efficiency internal cooling	Fans
9	Several possibilities for monitoring	Network interface / AS400 slot
10	Redundant emergency protection	EPO contact
11	Easy serviceability	RS232 port / USB port
12	Parallelable up to 4 units	Parallel port
13	Simple to position and move	Wheels / support and brakes

Electrical options

- Additional battery cabinets that match perfectly with the UPS for scaling autonomy time.
- Back feed contactor.

Communication options

- Through ABB monitoring devices, any abnormal situation (events/alarms) can be detected immediately.
- Dry-contact card - relay interface card enables advanced communication between the UPS and AS400 systems.
- Network interface cards – control and monitoring of the UPS via a web browser.
- Sensors - combined with the network interface card, humidity and temperature sensors can be integrated into the system and monitored remotely via a web browser.